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Evžen Řehulka et al.

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INTRODUCTION

Solution of the Research Intent SCHOOL AND HEALTH FOR 21ST CENTURY at Faculty of Education, Masaryk University is planned for years 2005–2010 and this publication **CONTEMPORARY SCHOOL PRACTICE AND HEALTH EDUCATION** can offer a part of issues investigated within this Research Intent. The authors of contributions are members of our solution team for the Research Intent and also other Czech and foreign specialists interested in participating in the solution. Relation between “school“ and “health“ is very relevant both from standpoint of contemporary social and professional documents (first of all we mean the program of the World Health Organization “Health 21 - Health for all in the 21st Century“ and all materials based on this document plus Framework education programs that are essential for the Czech school system and significantly emphasize health topics) and also by natural needs of the contemporary society which tends toward health issues in education and cultural priorities. The inspirational health concept is that by WHO: “the state of complete physical, mental and social well-being not merely the absence of disease or infirmity“ (1947) or more briefly “ability to lead **socially and economically productive** lifestyle“ (1977), with the concept of health crossing the somatic boundary and being determined also psychologically and socially. In this concept of health significant roles are played by school and other social and cultural institutions.

The collective monograph **CONTEMPORARY SCHOOL PRACTICE AND HEALTH EDUCATION** comprises a varied set of contributions that demonstrate contemporary school activities focused on health education. The publication is continuously related with the previous research parts (see School and Health 21/1, Brno 2006, School and Health 21/2, Brno 2007 and other studies) and can be used in other phases of our future research.

Problems studied in this part are not limited locally. It is manifested in the international study prepared by the authors *B. Bajd, L. Praprotnik, J. Matyášek* who compared knowledge of future teachers from our country and from Slovenia. Understanding of health in relation with life quality was investigated by *J. Šimičková-Čížková, B. Vašina* and *P. Šišák*; it proved to be very important because young students take health often pragmatically and closely specified. From the psychology position the education aim is “healthy personality“ which can be formed also by means of motivation to learn. It is discussed in the contribution of *Z. Stránská* and *I. Poledňová*. Various aspects of education topics that could bring knowledge on building health education are discussed by *A. Sandanusová* and *J. Pavelková, J. Svobodová* and *P. Sládek* and *M. Havelková, P. Kachlík, Š. Strandová* and *A. Weisová*. Usual conclusion is here, unfortunately, that in contemporary school environment some handicaps remain in monitored spheres of professional knowledge. In the concept of Framework educational programs the heal-

th education is connected with the physical education; this subject has predominantly recreational character and does not use the projected curriculum oriented also to knowledge and skills of the health education area (*V. Mužik*). That information is completed by research results obtained by *M. Trávníček*. Moving activities of pre-school age children are studied by *A. Ondřejková* and *J. Gubricová*. *J. Vrbas* prepared basic research data on measurement of the health-oriented capability and the proper posture of children at 1st grade of elementary school.

Traffic education is another important subject of health education. Traffic accidents are usually the most frequent cause of serious injuries of young people. This issue is discussed in texts elaborated by *M. Stojan* and *P. Pecina*, from international viewpoint and with respect to teacher's preparation for this education subject.

Prevention of drug addiction is one of the most serious fields of health education. There are many applicable aspects elaborated in details but also a lot of current unsolved problems. *J. Liba* pointed out the necessity to study addictions in relation to social pathology, predominantly to groups of socially disabled children living in insufficiently stimulating environment; *T. Čech* discussed questions of the primary drug prevention at elementary schools, *P. Kachlík* and *M. Havelková* described research results for the drug scene at Masaryk University. Public often expects significant relationships among specific social groups and tendency to addiction that are not necessarily essential. So *E. Marádová* and *M. Žižka* demonstrated that drug- and piercing subcultures are not identical, and "pierced individuals are not implicitly users of addictive substances". Substantial issue of the drug addiction prevention is nicotineism; "smoking cigarettes is considered to be the main cause of untimely deaths of people worldwide". Various questions connected with those issues are solved by *J. Schlarmannová*, *L. Lengyelová* and by *L. Žáček*, *D. Hrubá* and *I. Žaloudíková*. The primary preventive program "Non-smoking is normal" was developed and checked within our project, focused on children at the 1st grade of elementary schools. School drug abuse prevention can be built from different position, also by using literary education as demonstrated by *N. Sieglová*.

The collective monograph is another publication of the series of studies developed within the project SCHOOL AND HEALTH FOR 21st CENTURY; it shows issues that should be solved in this field, with the prior focusing on problems specific for the research team members. There is a plentiful number of components of the topic School versus Health that should be studied. According to our aspiration, this publication should serve as a motive, challenge and contribution to appropriate solution.

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SCHOOL AND HEALTH FOR THE 21st CENTURY
MSM0021622421

BASIC KNOWLEDGE OF THE CARDIOVASCULAR SYSTEM: A COMPARISON BETWEEN STUDENTS OF THE FACULTIES OF EDUCATION IN LJUBLJANA (SLOVENIA) AND BRNO (CZECH REPUBLIC)

Barbara BAJD, Luka PRAPROTNIK, Jiří MATYÁŠEK

Abstract: *A basic knowledge of the structure and function of our bodies is fundamental to our everyday life and health. Such knowledge is particularly important for teachers who both disseminate it to their pupils and have responsibility for the welfare and safety of the children in their care. A basic understanding of bodily structure and function at an early age also promotes responsible, healthy behaviour and can minimise risk of disease in later life. In this study we investigated the knowledge and understanding of first-year education students about the cardiovascular system. We compared the responses of Slovene and Czech students who are training to teach in primary and lower secondary schools. In particular, we aimed to investigate how much knowledge of the circulatory system they had retained after completing upper secondary school (gymnasium), whether they understand the main roles of blood circulation through the body, the functions of the heart and why we need to breathe.*

Key words: *children's ideas about cardiovascular system, heart, blood, veins, breathing*

Introduction

One of the most important sections of the biology syllabus in primary and secondary school is that on the structure and function of the human body. Basic education should provide pupils with knowledge about their own bodies so that they are aware of behaviours that enable them to avoid some diseases and live healthily. Everyone knows that we have to eat, drink and breathe, but do we know why our body needs us to engage in these activities? We accept some facts while not necessarily understanding the main reasons for them.

Even small children know that blood is red, but very few of them know that there are two distinct red colours - light red and dark red, and the difference between them (Bajd, 2006). Most children will draw a heart as for Valentine's day and many are aware of the link between the heart and romance, but almost all are unaware that there is a septum dividing the heart vertically into a right and left part. Why do we need two halves for the heart? Why does the heart have four chambers? Do pupils understand the function of double circulation in the human body, with blood entering the right side of the heart, being pumped into the lungs, and the oxygenated blood then being pumped from the lungs back to the left side of the heart from where it is circulated to the rest of the body? What is transported in the blood?

While the great majority of young children know that we have to breathe to stay alive, they do not know the main reason. It is difficult to understand the processes at cell level, especially for young children who are not able to think abstractly. But older pupils who have completed 12 years of schooling might be expected to know the structure of the cell and cell particles, and to be aware of the processes going on in mitochondria. All living things obtain energy for life processes by breaking down food. This energy release is respiration. While the majority of living things need oxygen to release energy, many kinds of bacteria and yeast can respire anaerobically, without oxygen.

In our research we wished to investigate the extent of students' knowledge and understanding of the human body. In particular, we wanted to explore how much future teachers have learned in school about bodily structure and function, and how much knowledge they have retained when they enter the University. Do they know the structure and understand the function of their body? Conversely, if their knowledge is incomplete, we wanted to explore the reasons for such insufficient knowledge.

Slovene and Czech education systems and students

Pupils meet with the structure and function of human body twice within Slovenian compulsory education: the first occasion is in year four, the second time in year nine. In upper secondary school they refresh their knowledge of cells and the human body again, extending and deepening the information acquired from primary school. In the Czech Republic pupils also learn about the human body twice during compulsory schooling: the first occasion is in year five, the second in years eight or nine, so that in upper secondary school they also meet with this content again, at a more demanding level.

One of the aims of our research was to find out if there is any difference in the answers of Slovene and Czech students. We suggest that differences in the responses of Slovene and Czech students may relate to differential representation of these topics in the upper secondary syllabus and in approaches to teaching the subjects in the two national education systems.

We expected that students starting university will have basic knowledge of the human body –for example, why we have a heart, that it contains four chambers, and is structured into left and right halves. We predicted that students will know:

– the colour of blood, since they will have experience of seeing it when they were injured

- that blood has two different colours, depending on oxygen content,
- why we have blood in the body
- the main roles of blood and the heart, because they learned this in school
- the necessity for and primary purpose of breathing, since they will have learned in school about cells and cell processes
- the main source(s) of their knowledge about bodily structure and function.

Methods

In our inquiry we included 132 students – 82 from the Faculty of Education, University of Ljubljana (Slovenia), and 50 students from the Faculty of Education, Masaryk University in Brno (Czech Republic). All were students of the first year of study who had not yet had any university teaching on the human body in their program. Consequently, all their knowledge and understanding of human bodily structure and function derived from their previous schooling.

Students received a questionnaire with 7 open questions. They first have to draw a heart from memory, and then attempt the following questions.

- Why do we have a heart?
- Why do we have blood in our body?
- What colour is our blood?
- How does the blood flow in our body?
- Why do we breathe?
- What we are breathing?
- Where did you get the information to answer the above questions?

There was no time limit on completing the questionnaire. The questionnaire for Brno students was translated into Czech from the original Slovene version, while the answers of Czech students were again translated back into the Slovene language. The responses were analysed by Excel program and are presented as tables for comparison.

Results

Drawing the heart was difficult for most of the students. Some drew it as in cartoons or on post cards, and very few depicted it realistically, as it is in our body. We categorise the drawing in five groups based on the completeness and accuracy of the representation. In the first category were the drawings of the heart with four chambers and veins. In the second category were drawings with four chambers but without or not correctly positioned veins. In the third group were the pictures of those who drew only the interventricular septum, with or without veins. In the last group were pictures without chambers, incorrect shape with wrongly positioned veins (table 1).

Table 1

	Characteristics	Number of students' answers		% of students' answers	
		SLO	CZ	SLO	CZ
1.	Four chambers and veins	7	6	8	12
2.	Four chambers without veins or not correctly positioned	17	26	20	52
3.	Only interventricular septum	18	2	22	4
4.	Only the shape of the heart	7	2	8	4
5.	No chambers, no septum, no correct shape	33	14	40	28

The majority of the pictures represented the heart from inside although the instruction was not specific. The drawings of a substantial proportion of Slovene students (40 %) were without chambers, septum and veins, while more than half of Czech students draw the heart with four chambers.

Why do we have a heart?

On this question most of the students answered that the heart pumps the blood in the body. 83 % of Slovene students and 70 % of Czech students gave this answer. Some also mentioned that we need a heart to live (9 % of Slovene and 20 % of Czech students).

Why do we have blood in our body?

While a substantial number (43 %) of Slovene students think that blood transports food, only 4 % of Czech students gave this answer (Table 2). 24 % of Czech students stated that blood transports oxygen compared with 11 % of Slovenes, while nearly equal percentages of both students (24 % and 27 %) mentioned that blood transports oxygen, carbon dioxide and nutrients. Only few students mentioned the blood's function in protecting against harmful microorganisms and other substances. A small proportion of Czech replies (6 %) mentioned erythrocytes, leukocytes and thrombocytes, but no Slovene students did so.

Table 2

Why do we have blood in our body?	SLO	CZ
Transporting nutrients in the body	43 %	4 %
Transporting oxygen, carbon dioxide and nutrients	27 %	24 %
Transporting oxygen	11 %	28 %
Do not know	5 %	-
For functioning some processes	4 %	2 %
That we can live	2 %	4 %
For protection	1 %	6 %

What colour is our blood?

Most Slovene students (82 %) and 26 % of Czech students answered this question by stating that we have red blood (Table 3). A substantial proportion of Czech students were more precise, and stated that blood may be dark or light red (44 %), while only 11 % of Slovene students gave this answer. Only a few Slovene students (4 %) mentioned that blood is dark red, while the percentage of Czech students was appreciably higher (24 %).

Table 3

What colour is your blood?	SLO	CZ
Red	83 %	26 %
dark and light red	11 %	44 %
dark red	4 %	24 %

How does the blood flow in our body?

The answers of Slovene and Czech students to this question were very similar: 72% of Czech and 78 % of Slovene students said that blood flows in blood vessels, and 26 % of Czech and 21 % of Slovene students said that blood flows through the whole body.

Why do we breathe?

The answers were very similar (Table 4). 57 % of Slovene and 70 % of Czech students think that we breathe to get oxygen and some (23 % and 18 %) that we breathe to live. Only 15 % of Slovene students and 4 % of Czech students mentioned that we breathe to produce energy.

Table 4

Why do we breath?	SLO	CZ
to get oxygen	57 %	70 %
To live	23 %	18 %
to get energy	15 %	4 %
to exchange gases	-	8 %

What we are breathing?

The greatest proportions of students think that we breath air, 46 % of Slovene and 50 % of Czech students (Table 5). It is interesting that Slovene students answered air without further comment or qualification, but all Czech students who answered air also mentioned that air is a mixture of oxygen, carbon dioxide and other gasses. Sizeable proportions of students (44 % Slovene and 22 % Czech) only mentioned that we breathe oxygen. However, the proportions of responses stating that we inspire oxygen and

expire carbon dioxide, while low, were nearly the same between Czech and Slovene students.. Some Czech students are also aware of polluted air, and mentioned that during inspiration we may take in different gasses and various dirty particles.

Table 5

What are we breathing?	SLO	CZ
Air	47 %	50 %
Oxygen	44 %	22 %
We inspire oxygen and expire carbon dioxide	10 %	12 %
Mixture of gasses and polluted air	-	8 %

Where did you get all this information?

Most students (68 % in Slovenia and 58 % in the Czech Republic) stated that they acquired their information at school (Table 6). Family, books and television influenced fewer students from both countries, while a small number of Czech students (5 %) also cited their own interest.

Table 6

Where did you get all this information?	SLO	CZ
In school	68 %	58 %
Family	11 %	18 %
Books	11 %	14 %
TV	8 %	6 %
My own interest	-	5 %

Discussion

While the numbers of Czech and Slovene students differed, both comprise sizeable samples and we therefore consider their different responses to be reliable indicators of the national groups from which they are drawn. The drawings provided by Czech students contain more information than those by Slovene students: more Czech students know that the heart has four chambers and a smaller proportion of them drew the heart without any details. For whatever reasons, the pictures indicate that Czech students are better informed about the structure of the heart.

Whilst a high percentage of the students were clearly aware of the heart's primary function it is nonetheless surprising – and disappointing – that some university students, even after completing upper secondary-school, still were not aware of the heart's primary function. The answer that 'we have a heart to live' does not describe its function. We anticipated better results for this question, especially since the pulse and heart beat are evident when running or being otherwise physically active.

In relation to blood function, most Slovene students (70 %) stated that blood transports nutrients around the body, whereas 28 % Czech students gave this response. Nearly one quarter of each group of students stated that blood transports oxygen, carbon dioxide and nutrients, pointing to similarity of knowledge in this aspect. However, only one Slovene student mentioned that blood also has a protective function compared with 6 % of Czech students. Students of both groups are evidently unaware of the blood's important role of blood in transporting not only gases and nutrients, but also hormones, enzymes and waste products. Blood also has an important role in regulating clotting to stop bleeding, and in regulating the body's acid-base balance (pH) through the distribution of buffers. A further crucial role is that the blood contains white blood cells, proteins and antibodies contributing to the inflammatory and immune responses. Very few replies (only 6 % of Czech students and none of the Slovene ones) differentiated between the various types of blood cells- erythrocytes, leukocytes and thrombocytes. While students undoubtedly learned about these in school, it is very likely that they never examined them microscopically, and that accordingly they do not associate blood cells and other inclusions with the blood's functions.

Czech students were more precise in mentioning two different reds, dark and light, for the colour of blood, and we think that they are probably aware that oxygenated blood is different from deoxygenated blood carrying more carbon dioxide. About two thirds of both groups stated that blood flows in blood vessels, and one third that blood circulates around the body. We think that these latter students also know about blood vessels but gave less precise answers that didn't enable us to confirm the extent of their knowledge.

We do not usually differentiate between inhalation and breathing or respiration - in everyday life we say that we breathe with lungs and that fish breathe with gills. But lungs and gills are only the organs which bring the air from the surroundings to the body. In fact respiration occurs at a cellular level, when the oxygen transported by blood is accepted by mitochondria which convert the energy stored in carbon-containing molecules, especially glucose, into high-energy bonds of ATP. The percentage of students who stated that we breathe to obtain energy is low, especially among the Czech sample. During their school years students evidently do not receive sufficient information about the importance of breathing, the respiratory process and its role in energy release. It is somewhat surprising that after learning about cell structure and function students do not remember the main reason why living organisms respire, and that bacteria and yeast use another process to obtain the energy they need for life.

Everybody knows that we breathe air containing oxygen. In response to the question 'What do we breathe?' a sizeable number of students answered 'air' and did not name the primary gas, but the question was an open one and the students were not required to be specific. It is interesting that some Czech students mentioned polluted air, clearly aware of pollution and its influence on their health and perhaps acquainted with pollution and environmental issues more generally.

The main problem hindering school pupils' understanding appears to be that they cannot visualise the processes involved, and so connect up the various components of the system. It is difficult to present them with meaningful information on the internal body organs since they do not have direct experience of the circulatory, digestive or

respiratory systems. Students may learn about these from books and pictures and yet have no concrete experience of what they are learning about. The typical outcome is that they will simply memorise things (or not) but without gaining an overview and understanding of the entire system. So in many cases their ideas are inexact or even plain wrong. If they, as young teachers, do not have a firm grasp of the fundamentals of the structure and functions of the human body it will be very difficult, if not impossible, for them to teach even younger children and provide them with simple but correct knowledge of their body. Our findings suggest that in many cases students have learned and memorised the content of these important topics and concepts but without understanding them.

According to our survey school is the primary source of students' knowledge of these topics in both Slovenia and the Czech Republic. Some students obtained information from family members and from books, but it is surprising that very few students mentioned TV, and not one the internet. Television and the internet are increasingly very popular as information sources and can also be highly effective learning devices and means of providing better visual explanations. New media techniques especially can provide excellent images and appropriate animation to help visualise, and so understand, bodily processes that we cannot observe directly. We should therefore make greater use of new IT visualisation techniques more often in schools. Reliance on broadcasting as a substitute for this is certainly ineffective since there are not enough programs with educative content, and students may well not be interested to watch them in their own 'free' time.

We expected better results from our survey. We conclude that both Slovene and Czech students have similar problems in understanding the structure and function of the human body. What might we do to improve their knowledge? Should we be spending more time teaching the human body in school? Should we change and improve our didactic approach to the subject, or can we better motivate the pupils as learners of this topic?

In our view the problem is not about representation of the human body in the curriculum or the number of hours spent teaching the topic. The main problem is that students are still learning by rote memorisation without visualisation of the organs and understanding the function of the system. Models of organ systems (such as the cardiovascular system) can help students in visualisation (Bajd, Praprotnik 2004), while highlighting the relationship between basic understanding of bodily structure and function and the improved health and disease avoidance for the individual should improve students' motivation in learning about these topics.

Our inquiry shows that both Slovene and Czech students have some basic knowledge of their own bodies but often without sufficient understanding of the functions of different body systems at the stage when they enter university and start studying to become schoolteachers. Our results point to some differences of detail in Slovene and Czech student responses (eg in oxygenated/deoxygenated blood; in obtaining energy and in gas exchange; in inspired pollutants) that *may* reflect differential representation of these topics in the upper secondary syllabus and in approaches to teaching the subjects in the two countries. Investigation of this possibility will require larger student samples and more comprehensive questionnaires, as well

as a detailed comparison of biological science teaching and its place in the curriculum of the two countries.

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SROVNÁNÍ ZÁKLADNÍCH ZNALOSTÍ STUDENTŮ PEDF UNIVERZITY LUBLAŇ (SLOVINSKO) A PEDF MU BRNO (ČR) O KARDIOVASKULÁRNÍM SYSTÉMU

Souhrn: Poznání základních struktur a funkcí našeho těla je nutností pro každodenní život, zvláště pro budoucí učitele, kteří budou předávat své znalosti žákům ve školách a ponesou odpovědnost za blaho a bezpečí dětí, které budou mít ve své péči. Základní znalost struktury a funkcí našeho těla v raném věku podporuje prevenci nemocí a pomáhá nám chovat se odpovědně vůči našemu zdraví v pozdějším věku. V naší studii jsme pokládali studentům 1. ročníku obou pedagogických fakult otázku, jaké jsou jejich představy o kardiovaskulárním systému. Porovnávali jsme odpovědi českých a slovinských studentů, kteří budou učiteli základních a nižších středních škol. Chtěli jsme si ověřit, kolik vědomostí o oběhovém systému si udrželi po absolvování všeobecné střední školy (gymnázia), zda rozumějí hlavním funkcím systému krevního oběhu, funkce srdce a zda pochopili, proč potřebujeme dýchat.

Klíčová slova: představa dětí o kardiovaskulárním systému, srdce, krev, cévy, dýchání

HEALTH AS AN ASPECT OF QUALITY OF LIFE OF UNIVERSITY STUDENTS

Jitka ŠIMÍČKOVÁ-ČÍŽKOVÁ, Bohumil VAŠINA, Petr ŠIŠÁK

Abstract: *This study aims to determine the relation between the perception of study-related stress at university and students' awareness of quality of life. Quality of life was evaluated using the SEIQoL method (Schedule for the Evaluation of Individual Quality of Life). The method does not pre-define criteria, but instead draws on respondents' personal views of what they consider to be important in their own lives. Among the values mentioned, particular attention was devoted to the significance attributed by university students to health. Study-related stress was evaluated using a questionnaire developed by D. J. Abramis, which uses scales of 4 – 7 ranks to determine respondents' stress levels and to evaluate their consequences in a standard week of study during the semester. Students' social integration was determined using J. A. Blumenthal's Perceived Social Support Scale (PSSS).*

Key words: *health, quality of life, hardiness, social support*

Introduction

The school year 2007-8 has seen the implementation of a number of changes to primary education in the Czech Republic, based around the idea of improving the interrelatedness of education and practical applications. Schools have been given a considerable degree of autonomy to create their own curricula. Teachers can now influence not just the form, but above all the content of their lessons. However, these changes have also given teachers more responsibility over the outcomes of their work.

The basic principles underlying this new conception of education are set out in the Framework Educational Programme. This national document defines nine 'key areas' of education. Apart from language teaching and mathematics, all of these areas consist of several thematically related subjects. The creation of broader content-based units, each leading to specific practical knowledge and skills, places new demands on the university training of future teachers. In response to these demands, some faculties of education are launching new degree subjects – such as Education for Health, which is designed to cover the subject matter of the Framework document's key area 'People and Health'.

Research questions and methodology

The design of the Bachelor degree in Education for Health and the follow-up Master's degree in Teaching Education for Health at Primary Schools led to three main questions: the place occupied in teacher training students' value systems by the concept of health, which other values and goals these future teachers consider important, and how these values are connected with health care.

The aim of this study was to determine the relationship between university students' perception of study-related stress, their social integration into the new university environment, and their quality of life.

“Quality of life is defined with regard to the individual's satisfaction with achieving goals determining the direction of his/her life. These life-directional goals are evaluated according to a hierarchy of values (the spiritual aspect). This hierarchy concerns goals towards which the individual's life efforts are directed.” (J. Křivohlavý 2001, p. 40)

Students' quality of life was evaluated using the SEIQoL method (Schedule for the Evaluation of Individual Quality of Life – J. Křivohlavý 2001, p. 243), which does not pre-define criteria, but instead draws on respondents' personal views of what they consider to be important in their own lives. Respondents are asked to list five life goals that they consider important, and to evaluate their level of satisfaction with their achievement of these goals in percentage terms (0 % - 100 %). The next step is the respondents' judgement of the relative importance to them of each of the five goals, with the total set of five goals representing 100 %. This allows a calculation to be made expressing respondents' positioning on a scale measuring their overall satisfaction with their own lives (QLG).

University study-related stress was evaluated using a questionnaire by D. J. Abramis, which uses scales of 4 – 7 ranks to determine the level of stressors: role of uncertainty, internal conflict, external conflict, depression, anxiety, anger, technical performance, social performance, and study-related stress. The second test of study-related stress was the hardiness questionnaire (C. Kolbasa), which is based around scales of control – lack of control, identification – alienation, and challenge – threat. The social integration of the students was determined on the basis of J. A. Blumenthal's Perceived Social Support Scale (PSSS).

Data set, results of research, discussion

The data set consisted of teacher training students from the Faculty of Education, University of Ostrava, Czech Republic, and students of Social Pathology from the Faculty of Arts and Sciences, Silesian University, Opava, Czech Republic. The basic data is contained in Table 1.

Table 1: Description of data set

Faculty	Number	Male	Female	Age
Ostrava	108	13	95	19 – 23
Opava	68	20	48	20 – 26

The quality of life measured using the SEIQoL method shows a positive correlation with the factor of quality of life measured using the QLG graphic scale in both groups of respondents: the first group +0.348, the second group +0.384. It was here that the closest positive relationship was found. The quality of life of the first group of students as evaluated using the graphic scale shows a negative correlation with the role of uncertainty -0.3668 , anxiety -0.6687 , depression -0.7050 , and overall study-related stress -0.7657 . The SEIQoL value shows a negative correlation with external conflict -0.219 and anxiety -2.217 . In the second group of students, the SEIQoL value shows a positive correlation with support from friends $+0.249$ and with the hardiness stress factors challenge – threat $+0.243$.

The hierarchy of life goals measured by the SEIQoL method are shown in the tables and graphs below.

Table 2: Preferred values of teacher training students

Value	2. N 108	3. ranking	4. % of 108	5. evaluation of 100 %	6. ranking	7. satisfaction in %	8. ranking
Health	84	1	77.8	27.25	2	78.63	2
Family	77	2	71.3	25.88	4	74.17	3
Education	68	3	63.0	17.63	5	69.67	5
Partner	66	4	61.1	26.45	3	73.00	4
Friends	58	5	53.7	15.38	7	79.47	1
Job	45	6	41.7	14.04	8	53.29	10
Life com- fort	26	7	24.1	15.42	6	62.46	7
Material comfort	24	8	22.2	9.17	10	54.71	9
Freedom	19	9	19.6	10.37	9	56.00	8
Religious faith	12	10	11.1	36.25	1	63.00	6

Graph to Table 2

1 – health, 2 – family, 3 – education, 4 – partner, 5 – friends, 6 – job, 7 – life comfort, 8 – material comfort, 9 – freedom, 10 – religious faith

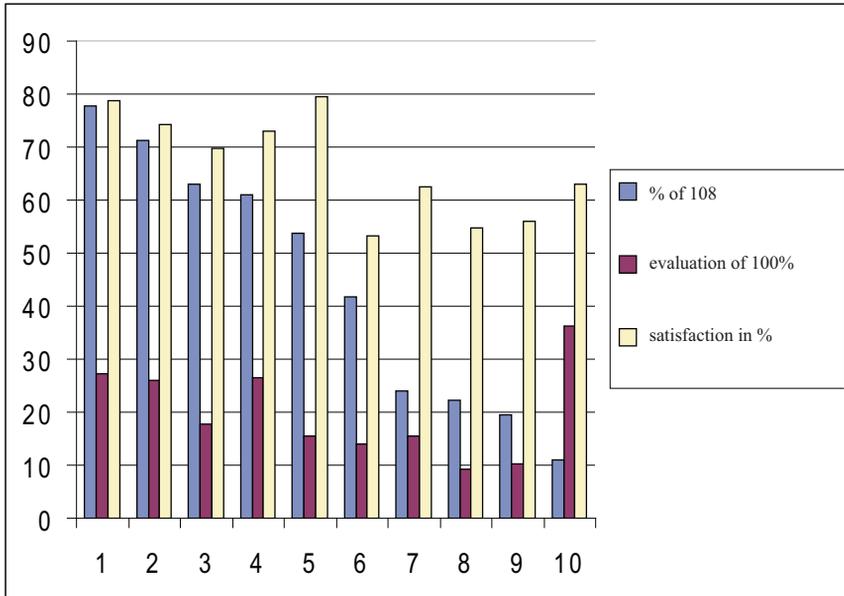
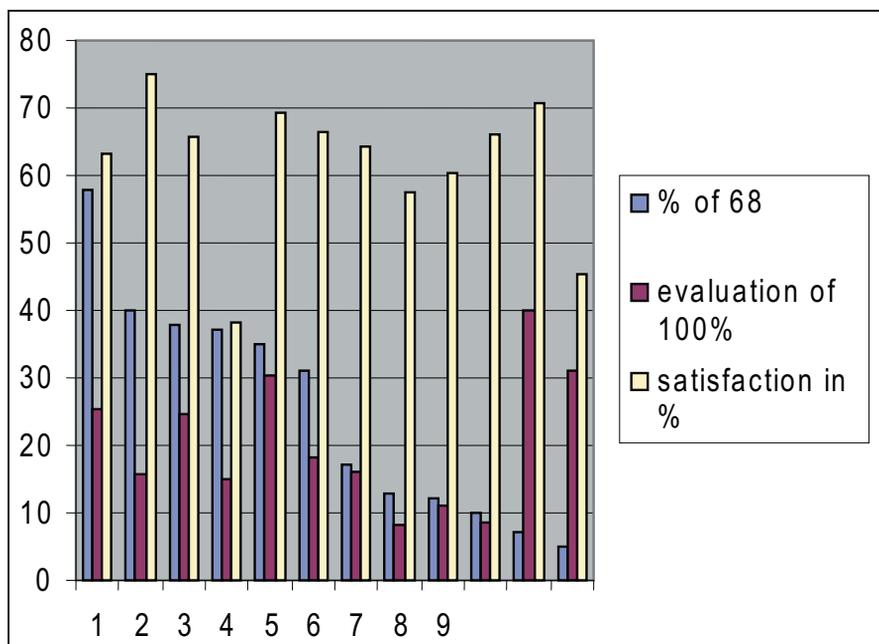


Table 3: Preferred values of social pathology students

Value	2. N 68	3. ranking	4. % of 68	5. evaluation of 100 %	6. ranking	7. satisfaction in %	8. ranking
Family	58	1	85.3	25.46	4	63.07	8
Friendship	40	2	58.8	15.87	8	75.07	1
Love	38	3	55.9	24.48	5	65.72	6
Job	37	4	54.4	15.00	9	38.24	12
Health	35	5	51.5	30.40	3	69.37	3
Education	31	6	45.6	18.37	6	66.29	4
Life comfort	17	7	25.0	16.00	7	64.41	7
Financial comfort	13	8	19.1	8.07	12	57.50	10
Hobbies	12	9	17.6	11.17	10	60.42	9
Sport	10	10	14.7	8.50	11	66.00	5
Religious faith	7	11	10.3	40.00	1	70.71	2
Helping others	5	12	7.4	31.00	2	45.42	11

Graph to Table 3

1 – family, 2 – friendship, 3 – love, 4 – job, 5 – health, 6 – education, 7 – life comfort, 8 – financial comfort, 9 – hobbies, 10 – sport, 11 – religious faith, 12 – helping others



The values preferred by at least 5 respondents were subjected to a basic statistical frequency analysis (2. – absolute frequency, 3. – ranking according to absolute frequency, 4. – relative frequency, 5. – calculation of importance of value, i.e. evaluation by respondent as a share of 100 %, 6. – ranking according to importance of value, 7. – degree of satisfaction with achievement of value, i.e. degree of satisfaction in %, 8. – ranking according to degree of satisfaction).

Out of the 10 values preferred by teacher training students, health is ranked first or second. Most students list health among their important life goals, and it can be considered the most important value. The overall ranking of values (goals) shows characteristic features of this age group, for whom education – i.e. training for a profession – is considered more important than employment. The overall structure of values shows strong ties to the social environment, family and friends. In addition to frequency, the degree of importance is also of interest. Respondents citing religious faith as a key value attach a high degree of importance to this value, even though its absolute frequency in both sets of respondents is only just over 10 % of respondents.

The value profile of social pathology students shows the same structure, but demonstrates a different ranking of preferences and different degrees of importance attached to the choices. Health occupies a firm position among the top three values. The importance of spiritual values – connected with religious faith – is also the same. The

greater variability of the given values may be influenced by the more advanced age of this group of students, their different choice of degree subject, and also the higher number of male respondents in the social pathology group.

The results show a considerable degree of similarity between the two groups. The priority goals of the students are health, family, and partners. The main professional values are harmony and mutual interrelationships, which create a positive psycho-social climate for the development of individuals' health. This aspect of the research was also confirmed by the calculation of the correlation coefficient between current satisfaction QLC and the quality of life measured using SEIQoL. In both groups, the SEIQoL value shows significant positive correlation with QLG (for teacher training students 0.348, for social pathology students 0.384).

We are aware that the data presented here represent merely an initial probe into the issues involved. Nevertheless, the SEIQoL method offers a basis for qualitative analysis and creates conditions allowing for the collection of information concerning the value orientation of the tested populations. It can be used to determine what the particular population considers important. The results of this study indicate that health is valued very highly by students training for the teaching profession. These results are similar to those obtained by authors investigating the evaluation of teachers' health or quality of life, or personal predispositions to satisfaction (Blatný, M., Osecká, L., Macek, P., 1998; Mareš, J., 2005; Paulík, K., 2004; Vašina, B., 2004; Řehulka, E., 2003; Mužík, L., 2003).

Conclusion

Schools play an important role – alongside the family – in promoting and developing health, primarily through the quality of the curriculum in the key area 'People and Health'. In order to develop teaching of this key area at schools, it is important to train specialists in education for health. This academic year, the Faculty of Education at the University of Ostrava launched a programme to train teachers able to actively develop physical, mental, social and spiritual health. The Faculty now has two accredited degree programmes designed to achieve this goal.

The study presented here utilized the SEIQoL method and graphic scales of QLG quality of life to investigate university students. The authors also used a questionnaire on study-related stress in an attempt to determine relationships between the role of uncertainty and conflict roles as possible sources of stress among university students, as well as determining the effects of stress that can be diagnosed via the above-mentioned questionnaire. It appears that quality of life as measured via SEIQoL does not reduce the subjective level of stress, but mobilizes forces to cope with the stress. This is indicated by the significant correlation with the sub-factor 'challenge – threat' from the hardiness questionnaire – which can be interpreted as a situation in which higher stress generates the challenge to overcome that stress, without reducing quality of life.

It is our opinion that the SEIQoL method captures the most permanent, 'core' dimension of quality of life. It appears that the more temporary aspects of quality of life – including the satisfaction or non-satisfaction of current needs – are better represented by the graphic scale. We are aware that the data presented here suggest this conclusion,

but do not prove it. This research should be seen as a probe into the issues involved, which will be investigated more thoroughly in future. The results presented here should be viewed as a positive reflection on the university student population – though with the caveat that no firm generalization can be extrapolated from the limited data collected for the purposes of this study.

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TÉMA ZDRAVÍ JAKO ASPEKT KVALITY ŽIVOTA UNIVERZITNÍCH STUDENTŮ

Souhrn: Ve studii jsme se pokusili postihnout vztah mezi vnímáním zátěže studia na vysoké škole a uvědomováním si kvality života. Kvalitu života jsme ověřovali metodou SEIQoL (Schedule for the Evaluation of Individual Quality of Life). Metoda neklade předem kritéria, vychází z osobních představ respondenta o tom, co považuje ve svém životě za důležité. Mezi uvedenými hodnotami jsme se soustředili na významnost, kterou přikládají vysokoškolští studenti zdraví. Studijní zátěž jsme sledovali použitím dotazníku D. J. Abramise, který pomocí 4 – 7 stupňových škál hodnotí zátěž respondentů a její důsledky v běžném týdnu během studijního období. Sociální integraci studenta jsme zjišťovali Škálou sociální opory PSSS J. A. Blumenthala.

Klíčová slova: zdraví, kvalita života, zátěž, sociální opora

ADEQUATE MOTIVATION FOR LEARNING – A PREREQUISITE FOR THE DEVELOPMENT OF A HEALTHY PUPILS' DEVELOPMENT

Zdenka STRÁNSKÁ, Ivana POLEDŇOVÁ

Abstract: *The contribution deals with selected issues of motivation for learning, which is an inevitable prerequisite for an educational process. Motivation for learning is here defined as both a prerequisite of learning effectiveness and as a development of motivating auto-regulating dispositions. Learning motivation in a narrower and wider conception is determined and some problems of the work of the teacher with the motivation sphere of pupils' personality are also discussed.*

Key words: *school, learning motivation for learning, diagnostics*

Learning is a live “deal” of man from the birth to the death. It is going through the whole life of the individual and belongs to the fundamental auto-regulative mechanisms, on the base of which conscience, behaviour and personality of an individual is formed. Although the society determined for learning certain time period, the school age, that follows up after the period of playing and precedes the period of work but the learning process penetrates in every play and work. Nevertheless the school age is a period, in which the maximum development of the child is possible. If these years are lost, the child can never catch up and his psychic capacities were not properly utilised in the time most suitable for the development.

With beginning the school the whole life of the child is changed. The social sphere, whose influence the children are confronted with, gets wider. The children directly and concretely compare themselves with schoolmates and on the base of it they learn how to set their personal goals and form their scale of values. Their behaviour towards adults and the members of their age group starts to change, their personal level of aspiration is formed and is influenced by the aspiration level of other members of the group. School results are always influenced by the combination of properties of the whole personality but the motivation properties play the decisive role. Although the pupils are always somehow motivated for schoolwork but the motive why they learn may vary very much. The motivation can drop from an inadequate motivation (the pupil do not

concentrate at the goals set by school but he gets easily diverted from them) through the optimum motivation, which has the most positive influence for reaching the goal, up to the second pole of excessive intensity, which interferes with an effective activity at school (Homola, 1972).

For a build-up of a motivation system of a pupil is very important the quality of his view of himself, mainly in connection to the school subjects and to the content of schoolwork where the school plays an important role. The teaching process gives the pupil an opportunity to evaluate and compare himself with his schoolmates and such formed image of himself has a motivating influence on the pupil's performance at school. A pupil can make mistakes not because of the difficulty of the task but because his own image of himself that evokes certain kind of actions. The teacher should, therefore, help the child to form positive attitude to himself because these attitudes are an important motivation factor.

Motivation is an inevitable prerequisite of teaching and of the education process and can increase the effectiveness of the educational process. It strongly influences the rate of success of pupils at school, their performance, and also the development of pupil's personality. A narrow connection between the motivation and the school successfulness of pupils is verified by many authors (e.g. Hvozdič, 1896; Dočkal, Musil, Palkovič, Miklová, 1897; Ďurič et al., 1986 and others). Motivation gives the learning activities of the pupil a subjective sense, which influences the rate of effort exerted by the pupil in learning. Motivation is one of the fundamental conditions (according some authors /e.g. Ames, 1992; McMillan, Simonetta, Singh, 1994 and others/ even the most important and basic condition) of effective learning. It has a positive impact on attention (concentration) of pupils, memory processes (store and maintaining in memory), persistence in learning, speed and deepness in learning, fatigue decreasing in teaching, etc. Motivation is also a necessary condition for the development of the pupil's abilities, on the level of which depends if the pupil will or will not exploit his ability potentials and if he will be able develop his abilities further.

The *motivation of pupils for learning* can be looked at *from two points of view*, at least: a) by means of motivation it is possible to increase the effectiveness of teaching (motivation is thus exploited for realising teaching goals); b) an independent development of motivating and auto-regulating dispositions in individual pupils is an important goal and target of school; from the second of view we mean a development of the needs, interests, will and other motivating and auto-regulating capabilities. This dual role of motivation must not be divided because the motivation of pupils for learning activity depends on the development rate of their motivation dispositions and the development of motivation dispositions depends on the ways of motivating pupils, interaction with pupils, organisation forms, etc. (Hrabal, Man, Pavelková, 1989).

It is important to look at *the motivation of pupils from both a short-term and long-term viewpoints* /in the sense of a long-term systematic work and in the sense of long-term effect/ (Rheinberg, Man, Mareš, 2001; Pavelková, 2002). In contrast to the motivation of pupils from the view of the momentary situation, when we come from the existing motivation level of the pupils (their needs, interests), we, from the long-term view, are trying to develop the motivation dispositions of the pupils, mainly. The basis of the work for a long-term effect in the sphere of motivation is, predominantly, a sys-

tematic development of the personality sphere of pupils' needs and a development of auto-regulating capabilities including an active attitude for future. In accordance with F. Rheinberg, F. Man and J. Mareš (2001) and I. Pavelková (2002) we believe that a long-term support of pupils' interests and directions, strengthening of will and a support for a deep concern for the activity (so-called flow motivation) are necessary. From long-term view it is necessary to work on all motivation levels.

In these connections let us remind another discussion initiated by F. Rheinberg (1996 a,b) and F. Rheinberg, F. Man and J. Mareš (2001) by their considerations on *learning motivation in a narrower and wider conception*. The *narrower conception* understands *the motivation for learning* as preparedness of an individual to perform certain activities because he expects a growth of learning from them (Rheinberg, 1996 a). For this narrower conception it is decisive that the pupil has an image of the target state, that the image leads his acting, initiates his effort for growths of knowledge and competence: "the pupil wants to acquire an insight into the problem, he wants to understand the teaching matter better, to see interconnections and thus he is active in a certain way" (Rheinberg, Man, Mareš, 2001: 156). This type of learning can be indicated as auto-regulating learning, as it is described by Z. Helus and I. Pavelková (1992) J. Mareš (1998), P. Pintrich (1995), D. H. Schunk and B. J. Zimmerman (1998). Auto-regulating properties come into foreground (self-consolidation, metacognitive fitness, self-monitoring, self-instructing of the individual, auto-programming of learning activities, guiding one's own attention and emotions, adequate reaction to a success or failure, etc.)

Wider conception understands *learning motivation* (Rheinberg, 1996 b, Rheinberg, Man, Mareš, 2001: 156) as "a readiness of an individual for a wide spectrum of activities"; the pupil in order to learn how to perform the activities must pass a phase of a growth of learning. This learning is performed but the pupil has no clear vision of the target state and is not conscious of any intention. Teachers actuate the pupils to do required activities without telling them the real purpose of performed activities – acquiring certain knowledge and skills. Usually the teaching process is set to be enjoyable, to be "playful" as much as possible, to be "oriented onto pupils' activities", to pass in a jolly social atmosphere. The growth of amount of learning comes from the viewpoint of the pupil unobserved, as it were in passing. It has an image of an "indirect product" and not of a goal that must be reached. This type of motivation for learning has its own importance, but it would be dysfunctional if playfulness and loveliness of the teaching process were put at the highest place and if the motivation development for learning in the narrower conception were neglected, in other words if the need of the pupil to be competent in something and the development of his auto-regulating abilities were not supported.

The teacher motivates his pupils both *knowingly*, by means of setting convenient conditions rich on complex incentives, and *unknowingly*, mainly by the way of interaction with individual pupils. The prevailing *motivation* does not have to be *positive* only. Situations may come that on the contrary the pupil is motivated *negatively* – the result is a dislike to learning activities, an effort to finish the school attendance early, if possible, and the like.

The motivation of pupils is in a direct relation with the effectiveness of the teacher's activities. It is influenced by the choice of the teaching matter, by the way of

presenting it, by the organisation of teaching, by pupils' interaction and their evaluation (Hrabal, 1988). The attitudes of pupils to the subject are expressions of their motivation. The pupil who feels aversion to a school subject and activities can hardly show good performance or performance adequate to his possibilities, and negatively approaches to school preparation. If he possesses suitable motivation dispositions, they soon disappear, if there is no motivation to an activation and application of them. The pupil, that likes the subject, has a tendency to behave in an opposite way: he is motivated to learning and he is more probable to hold the acquired dispositions and that these dispositions will positively influence his real life activities, for which he prepares at school. The motivation of the pupil is also influenced retroactively by his success at school.

Teachers should endeavour to create the optimum motivation structure in the pupil, which would enable him to master all school requirements and secure his self-realisation in the learning process. According to I. Lokšová and J. Lokša (1999) the teacher is to apply adequate ways of outer and inner motivation for creating solid fundamentals of a positive development of the pupil's personality. The teacher has to adjust the motivation according to the goal and content of the teaching process and to the age of the pupils. He must also find out what needs are dominating in the individual hierarchy of the pupil in order to be able to influence the motivation of the pupil positively and to evaluate the changes of it. From the point of view of the successfulness of the pedagogical effort, a practical exploitation of the widest spectrum of specific diagnostic apparatuses for motivation identification for learning and for the analysis of its structure and level in a teaching process is essential. On the basis of the gained knowledge the teachers can adjust or change the approach to individual pupils and thus back up the positive attitude of the pupils to learning.

The formation of a positive approach of the pupils to teaching and their positive motivation should not be accidental and spontaneous but it should react flexibly to the situation in the class. There are also special motivation programs that can be included in the teaching process. E. Marušincová (in Klindová et al., 1990) recommends to concentrate to the process feature of motivation, i.e. to a positive relation to the content and forms of activities because a high-quality motivation cannot be reached by a successful result only. A positive relation to the whole process of teaching activities and the interest in its content can compensate the de-motivating impacts of a failure. In accordance with E. Marušincová (in Klindová et al., 1990) we believe that in teaching there should be more space for pleasure and feeling of adventure from the cognising process and solving problems itself and that the learning in pupils should not be connected with feelings of duty, exerting effort or with fears and uncertainty. This is important for the pupils with poor results, mainly. In these pupils we should not only put down the fear and uncertainties in school situations but also change their unsuitable dominant motivation type.

There are many possibilities how to increase the motivation of pupils. The teacher is to decide what principles he will adhere to, what methods he will use and apply in his work, how much and what way. The problem of pupil motivation is very complicated and demanding, for many teachers it is not always easy to apply it in their work systematically. In connection with it L. Mihálik (1988) recommends the teachers to try to answer following questions that might help to evaluate to what rate they really use the possibilities of motivating pupils in the teaching process:

- In which phases of the teaching process do they apply motivation?
- What kind of motivation do I use? (Does a positive or negative motivation prevail in my work?)
- What methodological measures do I use for the stimulation the cognising interests of pupils?
- Does my subject presentation have a problem orientation?
- Do I use learning targets as an attractive motivating means?
- Do I motivate less successful pupils in such a way so that they can overcome their negative relation to learning and lack of interest in learning?
- Do the pupils know the goal and sense of learning, education, self-education and self-realisation?
- Do I utilise classification and evaluation in the way that they would act as a positive motivation element?
- Is a bad mark not a negative motivation, the cause of stress, nervousness, fear and anxiety?
- Do I apply pedagogical tact as a motivation means?
- Do I overcome the difficulties of pupils in learning and behaviour by a suitable motivation?
- Is an inner motivation for learning created in pupils? (Do pupils have in mind the importance of fulfilling the school requirements, do they feel the responsibility for filling them?)
- Do I create an optimistic mood and creative atmosphere in teaching?
- Do I exploit the methods of moral education and passages from works of art?
- Do I use didactic games as motivation means in pupils?

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ADEKVÁTNÍ MOTIVACE K UČENÍ – PŘEDPOKLAD ROZVOJE ZDRAVÉ OSOBNOSTI ŽÁKŮ

Souhrn: Příspěvek se zabývá vybranými otázkami motivace k učení, která je nezbytným předpokladem výchovně vzdělávacího procesu. Motivace k učení je v příspěvku vymezena jako předpoklad efektivity učení i jako rozvoj motivačních a autoregulačních dispozic. Vymezena je učební motivace v užším a širším pojetí a diskutovány jsou některé problémy práce učitele s motivační sférou osobnosti žáka.

Klíčová slova: škola, učení, motivace, motivace k učení, diagnostika

THE POSSIBILITIES OF UTILIZATION OF EDUCATIONAL CD IN THEMATIC PART “MAN AND ENVIRONMENT”

Anna SANDANUSOVÁ, Jaroslava PAVELKOVÁ

Abstract: *This paper is devoted to created educational CD for textbook of nature science (the 4th year-class of basic school) for thematic part “Man and Environment”. By this contribution we followed implementation of educational MS Power-Point presentations into classic lesson and post-confrontation of knowledge level of pupils, who learned this thematic part by educational CD and these, who learned it without using one.*

We prepared 9 MS Power-Point presentations for introduced theme. Presentations were evaluated at the Basic school with kindergarten in Horných Obdokoviach.

As a part of every presentation there are test questions. By their right solving, it can make possible to pupils to continue in exist thematic part. In case of wrong answer to test question pupils will see text which was bad understood by them. After repeated reading over it is hypothesized that pupils will answer the question well. From analyse of results of test, which was written by pupils after taught thematic part “Man and Environment”, follows that, pupils, who worked with educational CD, had results by 6,34 % better than pupils, which did not use educational CD.

Key words: *educational CD, man and environment, didactic test*

Introduction

Nowadays media have major force even to process of enlightenment at schools. Media bring us many information and to know how to orient and use them for own benefit it must be the base competition of a teacher (Lengyelfalusy, 2000). When we want to teach effectively and interestedly, we should include in schooling modern informational technologies. It is valid even for pupils at primary stage of basic school. The computer is modern informative even communication instrument, which can increase professionalism of teacher’s work. It is not only to provide access to technique at schools, there must be clear image, what we want to obtain from computer, how to plan teaching process with new educational programmes.

The advantage of work with computer is possibility to repeat interpretation in

case of need. The programmes can also have emphatic motivational character – graphic, colour, tone, didactic plays and clearness and by these pupils can be rope in even less attractive subject matter. Work with educational CD on lessons of nature science is one of possibilities how to improve the quality of schooling process.

Meaning of informative-communicational technologies in educational process.

Informative and communicational technologies do not undertake only a function of supporter of new way of teaching; they change present form but not methodology of teaching. New technologies are not devoted only to this to help and minimize it what is made by teachers. They must help with turning point of existing process. This change has two demands for informative-communicational technologies. It means to create motivate atmosphere and availability of information.

Satisfaction of both requirements can make possible to interested persons about education to obtain available information and to change it into knowledge. The creation of available information and setting up of motivate background is task for all pedagogical workers not only for teachers (Šimková, 2006).

In the connection with informative competences we get use to utilize two notions: **informative literacy and computer literacy.**

In context of established methods and means of electronic education into educational process, there can be showed falling of classic importance of school during data acquisition. In this respect there is needed to adopt ways, find and mainly work into information, which is demanded to make safe already at the basic level of computer literacy.

Work with IKT evolves visualization better than only using textbook. In preparation of introduced educational programmes we go out also from knowledge, which is mentioned in textbook nature science for the 4th year-class of basic schools written by Stanko, Stanková (1998). This textbook is suitable duplicate, instrumental, repeating and pro-educational learning facilitation. Simultaneously utilization of textbook and educational programme make safe quicker and more complex acquirement of curriculum, good retroaction and also serve for examination of fixed piece of knowledge. As a classic black board for using ITK we can understand monitor of computer, which allows besides redistributing, piling up and complementing figures, transparent covering and insertion of clips (Dytrtová, Sandanusová, 2005).

The more large space is for pupil, the higher is individuation of school teaching. If pupil has possibility to advance by own way, there is bigger supposition, that he or she will learn more. Own confidence will be also increasing because risk of failure is less (Kosová, 1998).

The aims of work

The main aim was to show new possibilities of ITK using in the 4th year-class at basic school in subject Nature science, in thematic part “Man and Environment”. There were created 9 MS Power-Point presentation on themes: Environment of man, Impor-

tance of air for man, Importance of water for man – excrete of fluid waste, Importance of food for man – digestion, Reproduction, Parents’ care of child after birth, Changing of development in period of puberty, Securing of basic conditions of human’s life, Health care.

Method of work

After teaching thematic part “Man and Environment” pupils wrote didactic test, which aim was to find their knowledge and compare it with results, which was obtained in test by pupils, who learned this thematic part without using of MS Power-Point presentations.

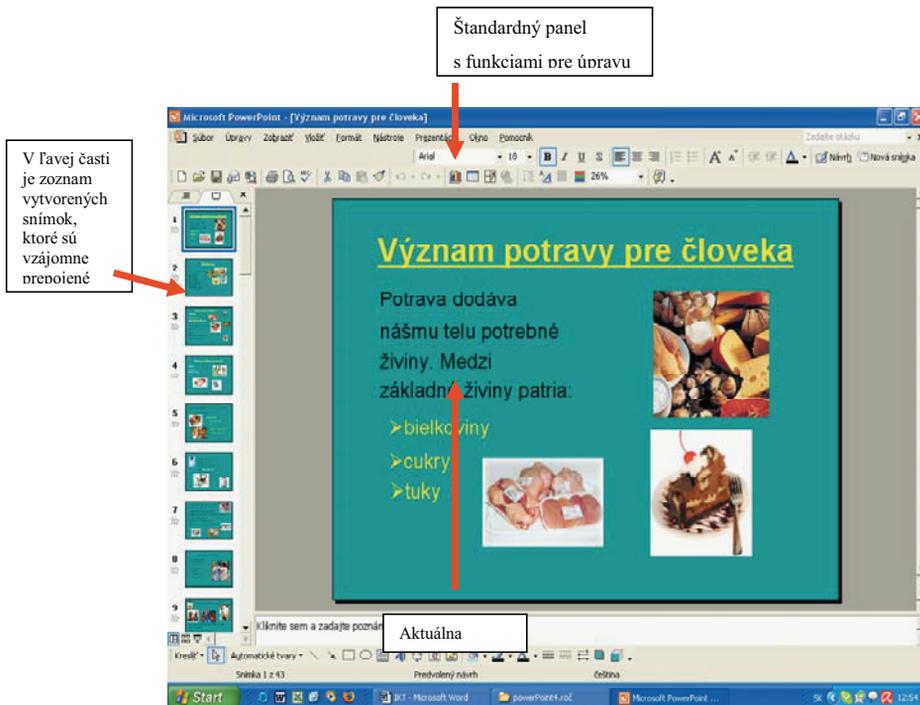
We supposed that, pupils, which are working with introduced presentations have possibility to come back to learning more times, have at their disposal more pictures and continuously can test right understanding of text, will write didactic test with better effects.

During formation of multimedia presentation we held to according to curriculum and educational standards.

The action during creation of multimedia presentation

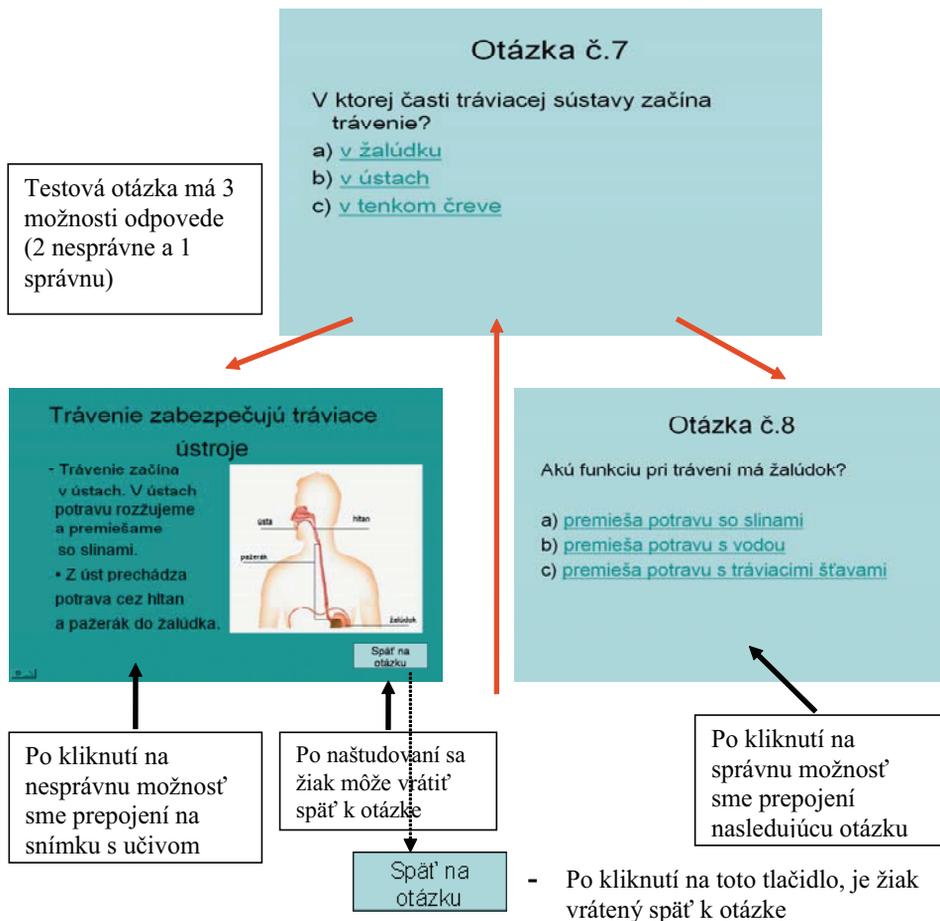
Multimedia presentation is made in programme MS Power-Point. It is divided into more pictures, which are mutually interconnected by hyper lines, what can make possible to pupil independent move in presentation without help of teacher (picture 2). Our presentation was split in expository part and test one. Pupil after passed explanation can evaluate obtained knowledge in test part. Presentation is intended for pupil, its graphic form has motivated task. Window of programme MS Power-Point is divided without usual boards into possibilities along edges for three main parts and each of them is focused on something different (**miniatures of pictures** or **outline and pictures** – Picture 1).

Picture 1: The possibilities of programme MS Power-Point



notices - under pictures in the bottom of screen

Picture 2: Principle of interconnection in presentation



The qualitative and quantitative analysis of results of pupils' work in testing of knowledge level

Pupils in the 4th year-class of Basic school in Horné Obdokovce worked out test with 10 questions from thematic part “Man and Environment”. The questions were evaluated from 1 to 7 points, what resulted from difficultness of task. Test was elaborated by 23 pupils, before this all used educational CD.

Maximum of points, which could be got by pupil, was 24 ones. From possible 552 points pupils obtained 523, which is 94,55 %, the average per pupil is 22,74 points. Spread of got points introduced value 3,84 and deviation from average was 1,96 points. Standard error in test reached value 8,62. The same test was solved also by pupils in the 4th year-class at Basic School in Ludanice, but pupils learned this theme without using IKT. Results are showed at tables 1 and 2.

Total number of points was 488, it means for 35 points fewer than in class with IKT. The averages were therefore 22,74, or more precisely 21,22. Index of fruitfulness of all pupils from whole tasks was 94,75 at school with IKT, while at school without IKT index was 88,41 %.

Significances of spread in number of points from particular test tasks were at school, where teaching was not by form of multimedia presentation, greater in all tasks. It means that there was greater disparity in number of got points. At school, where teaching was by form of multimedia presentation, significances of spread were from the same reason smaller. Standard error reached at school without IKT 0,55 and variation coefficient up to 12,47 %.

Apparently from results at school with IKT (table 3 and 4) and from results at school without IKT (table 1 and 2), results are in all directions better at school, where pupils used informative and communicative technologies during learning.

Conclusion

The results of our research show, that education by multimedia presentation excites greater interest in pupils as classic lesson. Also many pictures, animations and objective schemes make easier for pupils to understand subject matter. Impression in effectiveness of educational process has even fact, that pupil can use presentation a number of time consecutive. Own knowledge is tested by testing tasks, problems questions too (ČÍŽKOVÁ, 2002), continuously. These tasks can motivate even feeble pupil to get the best results. We believe, that similar educational CD will be used on lessons of nature science more often and variegated educational process.

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MOŽNOSTI VYUŽÍVANIA EDUKAČNÉHO CD V TEMATICKOM CELKU „ČLOVEK A JEHO ŽIVOTNÉ PROSTREDIE“

Abstrakt: V príspevku poukazujeme na vytvorenie edukačného CD k učebnici prírodovedy pre 4. ročník ZŠ, k tematickému celku „Človek a jeho životné prostredie“. Prácou sme sledovali implementáciu edukačných power-pointových prezentácií do klasickej vyučovacej hodiny a následné porovnanie vedomostnej úrovne žiakov, ktorí sa tento tematický celok učili pomocou edukačného CD a tých, ktorí sa učili

bez použitia edukačného CD.

Vytvorených bolo 9 power-pointových prezentácií k uvedenému tematickému celku. Prezentácie boli overované na Základnej škole s materskou školou v Horných Obdokovciach.

Súčasťou každej prezentácie sú testové otázky. Ich správne riešenie umožní žiakovi pokračovať ďalej v učive daného tematického celku. V prípade nesprávnej odpovede na testovú otázku sa zobrazí text, ktorý žiak nepochopil. Po opakovanom prečítaní je predpoklad, že žiak odpovie na otázku správne. Z analýzy výsledkov testu, ktorý písali žiaci po odučení tematického celku „Človek a jeho životné prostredie“ vyplýva, že žiaci, ktorí pracovali s edukačným CD mali výsledky o 6,34% lepšie, ako boli výsledky v triede, kde edukačné CD nebolo použité.

Kľúčové slová: edukačné CD, človek a životné prostredie, didaktický test

Table 1 Quantitatives analysis of results from test without using IKT

B	A										Σ	I ₁
	question 1 1 point	question 2 3 points	question 3 3 points	question 4 4 points	question 5 2 points	question 6 1 point	question 7 1point	question 8 1point	question 9 1 point	question 10 7 points		
1.	1	3	2	3	2	1	0	1	1	7	21	88
2.	1	3	3	4	2	1	1	1	0	7	23	96
3.	1	2	1	4	1	1	1	1	1	6	19	79
4.	0	1	2	3	1	1	1	0	1	5	15	63
5.	1	3	3	4	2	1	0	1	1	7	23	96
6.	1	3	3	4	2	1	1	0	1	7	23	96
7.	1	2	2	3	0	1	1	1	1	6	18	75
8.	1	3	3	4	2	1	0	1	1	7	23	96
9.	1	3	3	4	2	1	1	0	1	7	23	96
10.	1	3	3	4	2	1	0	1	1	7	23	96
11.	0	2	2	3	2	0	1	1	1	6	18	75
12.	1	3	3	4	0	1	1	1	1	7	22	92
13.	1	3	3	4	2	1	0	1	1	7	23	96
14.	1	3	3	4	2	1	1	1	1	7	24	100
15.	0	2	2	3	2	0	1	0	1	5	16	67
16.	1	3	3	4	1	1	1	1	1	7	23	96
17.	1	3	3	4	2	0	0	1	1	7	22	92
18.	1	3	3	4	2	1	1	1	1	6	23	96
19.	1	2	1	3	0	1	1	0	1	7	17	71
20.	1	3	2	4	2	1	1	1	1	7	23	96
21.	1	1	2	4	2	1	1	1	1	7	21	88
22.	1	3	3	4	2	0	1	1	1	7	23	96
23.	1	3	3	4	1	1	1	1	1	6	22	92

Table 2 Quantitatives analysis of results from test without using IKT

	question	Σ									
	1	2	3	4	5	6	7	8	9	10	Σ
Σ_{\max}	23	69	69	92	46	23	23	23	23	161	552
Σ	20	60	58	86	36	19	17	22	18	152	488
R	1	2	2	1	2	1	1	1	1	2	9
x	0,87	2,61	2,52	3,74	1,57	0,83	0,74	0,96	0,78	6,61	21,22
I_2 (%)	86,96	86,96	84,06	93,48	78,26	82,61	73,91	95,65	78,26	94,41	88,41
Mo	1	3	3	4	2	1	1	1	1	7	23
Me	1	3	3	4	2	1	1	1	1	7	23
s^2	0,12	0,43	0,44	0,20	0,53	0,15	0,20	0,04	0,18	0,43	7,00
s	0,34	0,66	0,67	0,45	0,73	0,39	0,45	0,21	0,42	0,66	2,65
V_k (%)	39,60	25,16	26,38	12,01	46,50	46,91	60,74	21,80	53,89	9,93	12,47
SE	0,07	0,14	0,14	0,09	0,15	0,08	0,09	0,04	0,09	0,14	0,55

- Σ_{\max} the number of points, which pupils could get maximum
- Σ the number of points, which pupils really got in exit task
- I_1 (%) index of fruitfulness of pupil
- I_2 (%) index of fruitfulness of task
- A represent numerical number of question and number of points, which could be get in exist question
- B represent numerical number of pupil
- x arithmetical mean of number of got dots
- R variational extent – extent of maximum and minimum significance of number of got points
- Mo modus – number of points, which pupils got most frequently in factual task
- Me median – medial value of number of points, which pupils got in factual task
- s^2 spread of number of points, which pupils got
- s standard deviation of the got points
- V_k variation coefficient
- SE standard error

Table 3 Quantitatives analysis of results from test with using IKT

B	A										Σ	I ₁
	question 1 1 point	question 2 3 points	question 3 3 points	question 4 4 points	question 5 2 points	question 6 1 point	question 7 1point	question 8 1point	question 9 1 point	question 10 7 points		
1.	1	3	2	3	0	1	1	1	1	6	19	79
2.	1	3	3	4	0	1	1	1	1	7	22	92
3.	1	3	3	4	2	1	1	1	1	7	24	100
4.	1	3	3	4	2	1	1	1	1	7	24	100
5.	1	3	3	4	2	1	1	1	1	7	24	100
6.	1	3	3	4	2	1	1	1	1	7	24	100
7.	1	3	1	4	2	1	1	1	1	7	22	92
8.	1	3	3	4	2	1	1	1	1	7	24	100
9.	1	3	3	4	2	1	1	1	1	7	24	100
10.	1	3	3	4	2	1	1	1	1	7	24	100
11.	1	3	3	3	1	1	1	1	1	7	22	92
12.	1	3	3	4	2	1	1	1	0	7	23	96
13.	1	3	3	4	2	1	1	1	1	7	24	100
14.	1	3	3	4	2	1	1	1	1	7	24	100
15.	1	3	3	4	2	1	1	1	1	7	24	100
16.	1	3	3	4	2	1	1	1	1	7	24	100
17.	1	3	3	4	2	1	1	1	1	7	24	100
18.	1	3	3	4	2	1	1	1	1	6	23	96
19.	1	3	3	4	2	1	1	1	1	7	24	100
20.	1	3	1	4	2	1	1	1	1	7	22	92
21.	1	3	1	4	0	1	1	1	0	7	19	79
22.	1	3	3	3	0	0	1	1	0	5	17	71
23.	1	2	2	4	2	1	1	1	1	7	22	92

Table 4 Quantitatives analysis of results from test with using IKT

	question 1	question 2	question 3	question 4	question 5	question 6	question 7	question 8	question 9	question 10	Σ
Σ_{\max}	23	69	69	92	46	23	23	23	23	161	552
Σ	23	68	61	89	37	22	23	23	20	157	523
R	0	1	2	1	2	1	0	0	1	2	7
x	1,00	2,96	2,65	3,87	1,61	0,96	1,00	1,00	0,87	6,83	22,74
I_2 (%)	100,00	98,55	88,41	96,74	80,43	95,65	100,00	100,00	86,96	97,52	94,75
Mo	1	3	3	4	2	1	1	1	1	7	24
Me	1	3	3	4	2	1	1	1	1	7	24
s^2	0,00	0,04	0,51	0,12	0,61	0,04	0,00	0,00	0,12	0,24	3,84
s	0,00	0,21	0,71	0,34	0,78	0,21	0,00	0,00	0,34	0,49	1,96
V_k (%)	0,00	7,05	26,92	8,90	48,66	21,80	0,00	0,00	39,60	7,19	8,62
Se	0,00	0,04	0,15	0,07	0,16	0,04	0,00	0,00	0,07	0,10	0,41

SCIENTIFIC ACTIVITIES IN SCHOOL EDUCATION

Jindřiška SVOBODOVÁ, Petr SLÁDEK

Abstract: This report outlines several options to change current teaching methods of natural sciences toward the better operational skills of students for everyday life.

Key words: educational methods in the natural sciences, scientific literacy

State of art

Strategic importance of technological innovations enforces an intensive effort for improvement in disconsolate state in science education. Lamentable public level of mathematics and poor science usage is ever before fixed star for researchers in the educational sphere. Pedagogic periodicals describe modern progress ways on enhancement mathematical, physical or generally naturalist knowledge upon years. However, these advances have influenced only negligible and time restricted the operational math or science skills. The development of effective educational methods within sciences discipline requires a redesign process of continuous long-term classroom use. Their students indeed differ in their position if the learning environments effectively assisted them for science knowledge, but most of them can't use science or math for problem solving.

Nowadays kids mostly have no possibility to run outdoor freely or to dabble in mint. Environment, where children grow up, isn't "realistic" from view of natural science. Today's style of life gives problems that don't push one to solve them with the aid of natural science questions. So the appetite and the indolence to deal with real thing go hob-and-nob with the failure of the capability of the critical thinking, with the weakening imagination, with the absence of the systematization, that are needed as well, to man complete any concrete task.

Knowledge and adventures are pestering in wholly complete status on students; the others were putting their imagination for it. Can simple fantasy and family style handyman individual compete with it? That, they can see on TV screen where everything is detailed fully-fashioned, perfect and "comfortable", is far from the reality.

Enjoyments as: "...those I don't understand, ...this is not relevant to me, ...I don't know it express" lead hereto, that curriculum recede interpretation for student, because it don't-shows nothing next for them, it don't help to pass reality "what is on".

Students are not able to assign the sense for that curriculum. So, sometimes they resign quite on this effort. In the cases when they need to obtain some special compe-

tences there are available special courses for particular subject matter, which helping participant avoid trouble, rather as though technology deprive of operation learning necessity negotiation hurdles, patience and practice will.

Realistic curriculum would bring students to their own intellectual feet: pass on them framework basic method and conception, they could have to go out at analyses his life situation. Practical scientific literacy man have try out on concrete examples how inquiry into nature, how with theory formation, test, validate and temporarily received.

The assumption of necessary scientific principle is possible verbally reach, but indeed this way access common individual inadequate toward obtaining competence, which characterize naturalist literate man in wide sense. Actual understanding theory and the capacity to use scientific knowledge, to identify questions and to draw evidence-based conclusions in order to understand and help make decisions about that natural world and the changes made to it through human activity.

All reformatory efforts have fallen short over well-meant proclamation, student's scientific skills resists. Classic curriculum didn't achieve any provable shift in operative component science, though attractive illustrations in textbooks, video or E-learning.

Hypothesis of this state

Students are faced with unused terms in the beginning of their science study, they have not inherent any motivation or life experience for using terms. The rate and extent of learning content frequently doesn't allow absorbing science ideas.

The will to clearing difficulties for well-disciplined long-term collectedness is weakening thereby, that meanwhile they were served by finished stuff or at least semi finished goods. Scientifics investigation is process worked with hypothesis, with question and their corrections and with awakening limits at „scale world” without any guarantee for glory and wealth.

It isn't indeed necessary for every generation to detect nature principle from roots, but every generation could look-in thought process, which contemporary scientist understanding mankind get.

If instead the whole ready conceptions and terms, the teachers could afford students possibility glance nature by means of concrete, though less noble, problems and confront it with their incident to skill, they would acquired required scientific skills and own insight. Good science curriculum preferred phenomena of everyday life before mysterious dictionary modern physics and chemistry, would soon reveals that teachers knowledge are in this respect nearly identical as theirs scholar.

Understanding is creating in the dialog with others by means of activities, which stay in the foundation in the previous own experience. It is starting point to the constructivistic approach educational course. This approach suggests that educators first consider the knowledge and experiences students bring with them to the learning task before student list with idea and after only with term. This conception synthesizes information from observation experience. If experiment is impossible, it uses with method analogue, observation and investigation correlation.

Methodological steps to improve the state of art

Not all scientific concepts allow to build necessary knowledge by mentioned method, indeed every education could contribute for better style thinking.

Just at the moment that is why educators need pick and choose subject matter. Graphic representation of physical relationships are frequently entire than representations by formulas. Each relationship holds just for special circumstances, whereas an experimental graph holds living reality. First of all things man perceives and saves into own memory phenomena and significances, which often encounters or which personally has experienced. He instinctively attaches a major importance at thinking to phenomena that are intimate to him.

Science education would keep affect on estimate operations. The quality estimation and the ability to decide, whether phenomenon is possible, would belong to fundamental aim. Nature constants are objectives, which are resulted from universe. Their existence shows that the nature has own regularity. We're skilful for measuring these constant, but ours ability for their explanation has limits. Nevertheless we obtain all practical prognoses outdoor with estimations. Practice proportion in these constant and common used units useful for good estimation and decision making.

People usually do the operation estimation in the everyday life so, that they determine known appreciate like a reference point and the resulting estimation acquired from some range shift and direction, which they just now account as correct. Insidiousness of that common intuitive step is just at the moment of the selection of this shift range. Man polls an extent shift very subjective and frequently ill-fitting. To pass under somebody a certain statement as reference point is frequent advertising gimmick. Psychological experiments have evidenced, that it is easy to deviate estimation of numbers upon unknown circumstances.

A good or worse estimation ability doesn't need to manifest only near numeral funds. Man at usually try to use procedure, which he already successfully used once. There are very different response rate of awakening that he cannot use it in new situation, because conditions are changed. Somebody several times repeats that mistake.

As well the adolescence complex of hazard behaviour is related to faithless estimation. Adolescent intuitive wishes for changes, hence priority of his estimation and evaluation in all options has a big preference of changes regardless of target point state. Adolescents competence to estimate the incidences of this behaviour in different situation is producing incident to life practice. Here to overcome this stadium fast, they had to carry an incidence of the mistakes. Their life estimation will accurate with longer-term orientation.

Science education can contribute in practical life skill hereby, that teacher performs with student's concrete experiential activity, prepared examples of scientific methodology and theory estimation into current practice. It is only small aid, but students they can develop their acuirements into common life.

Conclusions

An emphasis on interactions between disciplinary knowledge and pedagogical knowledge directly contradicts common misconceptions about what teachers need to know in order to design effective learning environments for their students. The misconceptions are that teaching consists only of a set of general methods, that a good teacher can teach any subject, or that content knowledge alone is sufficient.

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PŘÍRODOVĚDNÉ AKTIVITY VE ŠKOLNÍM VZDĚLÁVÁNÍ

Souhrn: Cílem této práce bylo nastínit možnosti změn ve výuce přírodních věd směrem k lepším operačním dovednostem studentů.

Klíčová slova: přírodovědná gramotnost, metody výuky přírodních věd

HEALTH EDUCATION AND TEACHING GENETICS AT ELEMENTARY SCHOOLS

*Marie HAVELKOVÁ, Petr KACHLÍK, Štěpánka STRNADOVÁ,
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Abstract: *This paper shows the results of an anonymous survey carried out amongst 73 elementary teachers in the South Moravian region. The subjects in question taught genetics as part of the natural history curriculum. Our research attempted to find out to what extent the lack of teacher training in the subjects of biology and genetics in the 1960s is apparent today. As well as that, the survey assayed the teachers' approach to teaching genetics nowadays and the use of genetics in health education.*

It was found out that a majority of teachers are motivated and enthusiastic to teach genetics; many of them make their own didactic tools for lessons. However, the handicap in teachers' specialized knowledge still remains and professional teaching of genetics is guaranteed only in 40 per cent of the schools monitored.

Keywords: *genetics, pedagogue, undergraduate education, health education, elementary school, pupil*

Introduction

Although the study of genetics originated in our country, both scientific research and teacher training (for future elementary school teachers) in this area started as late as the 1960s (cf. Havelková et al., 2007; Havelková et al., 2008). This led to a severe lack of well-trained teachers willing and motivated to teach genetics at all types of schools. Consequently, whole generations of pupils and students were brought up with little or no understanding of genetics; it is also a well-known fact that elementary school teachers of natural history complain nowadays that the knowledge and skills they acquired at universities were minimal. This state of affairs inspired us to carry out a survey of the contemporary state of elementary education, as far as genetics was concerned.

Materials and methods

The questionnaire research focused on teachers of genetics at elementary schools in the Zlín and Brno districts. A total of 236 schools were contacted and presented with

anonymous questionnaires, with the return rate of 36.5 %. The sample of respondents submitted for analysis amounted to 73 teachers (14 male, 59 female).

The non-standardized questionnaire consisted of personal information items (age, gender, length of teaching experience) and 13 question items (5 limited choice items, 5 half-open questions and 3 open questions). The questions focused on the following: textbooks used in natural history lessons, their evaluation and teachers' preferences, the position of genetics within the curriculum, the number of teaching hours devoted to teaching genetics, availability and accessibility of teaching aids, the importance of the study of genetics, its popularity amongst teachers and pupils, the topics studied and, finally, opinions relating to the transition to RVP ZV (The Educational Framework Programme for Elementary Education).

At the beginning of the questionnaire, the teachers were briefly informed about the aims of the study and were given the names of the researchers, together with their contact details. The data were recorded electronically and then processed using the following software: EpiInfo 6 En (Dean et al., 1994) and Statistica for Windows 7 Cz (StatSoft Inc., 2004). Using statistical tests (χ^2 , Fisher exact), we determined the level of statistical significance when dividing the research sample along the lines of age, gender and the subjects studied at university.

Results

The following tables and graphs present the proportional distribution of the respondents' answers. Group 1 represents the subset of respondents from the Zlín district ($n=36$), Group 2 contains respondents from the South Moravian district ($n=37$).

Table 1: Gender distribution

Group	Male (n)	Male (%)	Female (n)	Female (%)	Total (n)	Total (%)
1	9	64.3	27	45.8	36	49.3
2	5	35.7	32	54.2	37	50.7
Total	14	100	59	100	73	100

In both subsets of the research sample, female teachers dominated in number over male teachers.

Table 2: Length of relevant teaching experience with regard to gender

Experience	Male (n)	Male (%)	Female (n)	Female (%)	Total (n)	Total (%)
0–5 years	3	21.4	20	34.5	23	31.9
5–10 years	5	35.7	4	6.9	9	12.5
10–15 years	2	14.3	8	13.8	10	13.9
15–20 years	0	0	11	18.9	11	15.3
over 20 years	4	28.6	15	25.9	19	26.4
Total	14	100	58	100	72	100

Most female teachers' teaching experience ranged from 0 to 5 years, followed by the '15–20' and 'over 20' ranges. Male teachers covered all the ranges with the exception of '15–20 years'. Therefore, differences in the length of teaching experience are statistically significant ($p < 0,05$, χ^2) only in the '15–20 years' category, which contains about one fifth of all the female teachers and no male teachers.

Table 3: The popularity of genetics as a teaching subject with respect to gender

Popularity of genetics	Male (n)	Male (%)	Female (n)	Female (%)	Total (n)	Total (%)
Likes it	13	92.9	38	64.4	51	69.9
Dislikes it	1	7.1	21	35.6	22	30.1
Total	14	100	59	100	73	100

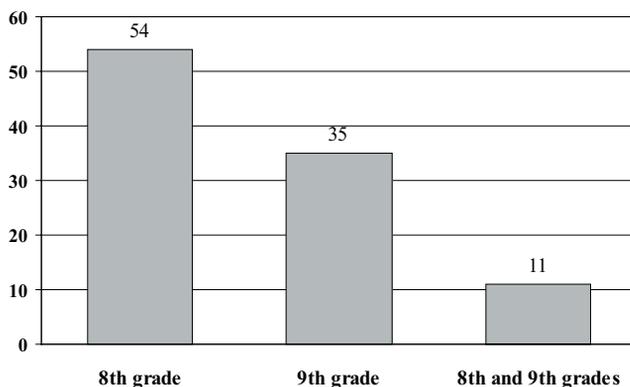
Table 3 shows the popularity of genetics as a teaching subject amongst male and female teachers. A single male teacher dislikes teaching genetics, while in the case of female teachers, the figure amounts to a little over a third of the subset ($p < 0,05$, Fisher exact).

Table 4: The importance of genetics within the curriculum

The importance of genetics	Male (n)	Male (%)	Female (n)	Female (%)	Total (n)	Total (%)
Less important	0	0	17	29.3	17	23.6
Equally important	12	85.7	40	69.0	52	72.2
More important	2	14.3	1	1.7	3	4.2
Total	14	100	58	100	72	100

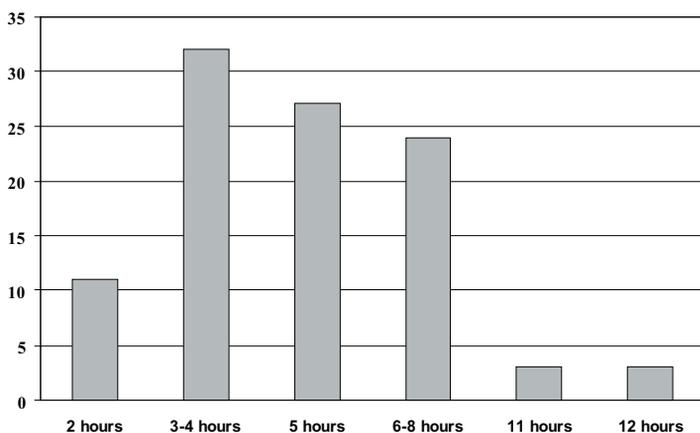
Most male teachers find genetics as important as other subject matter. However, almost a third of the female teachers regard genetics as less significant than other topics in the curriculum ($p < 0,05$, χ^2). The number of these female respondents more or less corresponds to the number of female teachers who dislike teaching genetics (cf. Table 3).

Graph 1: The position of genetics within the curriculum (%)



The position of genetics within the curriculum (that is, in which grade it is taught) is mostly determined by the textbooks used, or by the curriculums adopted by the respective schools. Over a half of the respondents teach genetics in the 8th grade; only 11 % of the teachers deal with it in the 8th and 9th grades.

Graph 2: Number of teaching hours devoted to genetics (%)



On average, around 5 teaching hours are devoted to genetics at the schools we have studied. Two teaching hours are reported as a minimum; two respondents even mention a figure higher than 10 hours.

Elementary schools currently have six modern natural history textbooks to choose from. The following titles of textbooks were offered to the respondents, including a slot for an open answer.

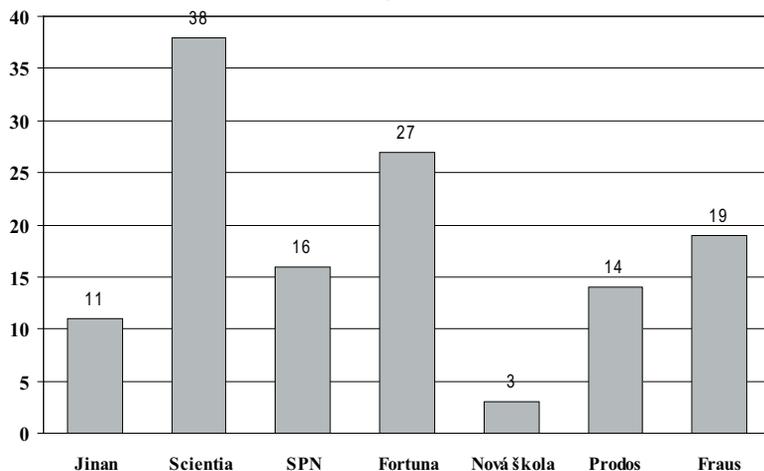
- KOČÁREK, E. *Přírodopis pro 9. ročník základní školy*. Praha: Jinan, 2001. 96 p. ISBN 80-86491-00-5.
- DOBRORUKA, L. *Přírodopis III*. 2. vydání. Praha: Scientia, 2001. 159 p. ISBN 80-7183-246-4.
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- HAVLÍK, I. *Přírodopis pro 7. ročník*. Brno: Nová škola. 1999. 87 p. ISBN 80-8560-798-0

As we can see in Graph 3, the most popular textbook was *Přírodopis III*. (Natural History III.) published by Scientia, followed by *Ekologický přírodopis* (Ecological

Natural History) published by Fortuna, while the Fraus publishing house ranked third. The Nová škola publishing company turned out to be the least favorite.

Some teachers said they were using a number of different textbooks, while their students had only one; this appears to be a particularly good and flexible solution if the school does not have the financial means to buy new textbooks at hand.

Graph 3: Textbooks used in natural history classes



According to graph 4, genetics is popular with roughly 70 % of the respondents; the remaining thirty-two per cent dislike teaching it. When asked why genetics was popular with them, the teachers usually mentioned its practical applicability, usefulness for life and an overall fondness of natural history. We are quoting an interesting reason given by one of the teachers: *‘It’s a challenge to motivate a weak class and make them cooperate when working on such a difficult topic.’*

Graph 4: Popularity of genetics as a teaching subject amongst teachers

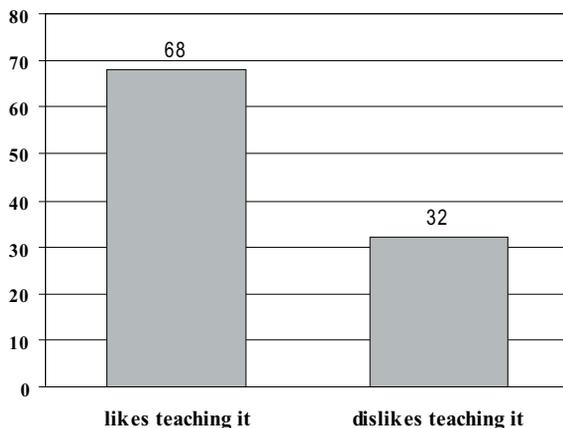


Table 5: Reasons why genetics is popular / unpopular with teachers

Reasons why they dislike teaching it	Number	%	Reasons why they like teaching it	Number	%
Complicated for pupils	8	42.1	Important for life	7	29.2
Difficult to explain	3	15.8	Practical application	5	20.8
Too abstract	3	15.8	General fondness of natural history	5	20.8
Too many concepts	2	10.5	Interesting for pupils	4	16.7
Complicated for teachers	2	10.5	Long-term interest in the subject	2	8.3
Boring	1	5.3	A challenge	1	4.2
Total	19	100	Total	24	100

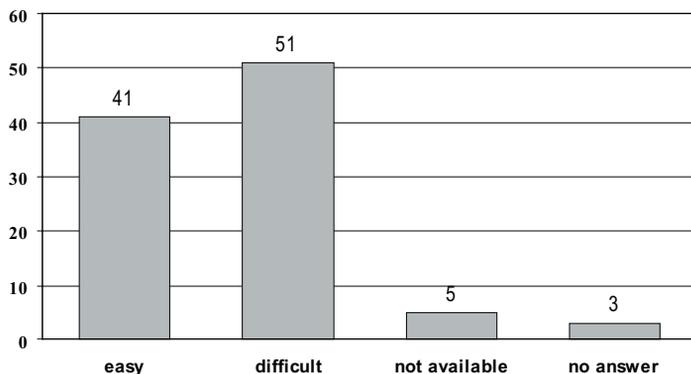
Table 5 shows a number of reasons why genetics is or is not popular with the respondents. Those who dislike teaching it claim, for the most part, that the subject matter is too complex for the pupils. Others mentioned the complexity of explanations, the abstract nature of the subject and the great number of concepts used. One teacher found the subject matter boring and two others found it too complex even for themselves.

Table 6: Using supplementary materials in teaching genetics

Using supplementary materials	Number of answers	%
Yes	32	86.5
No	5	13.5
Total	37	100

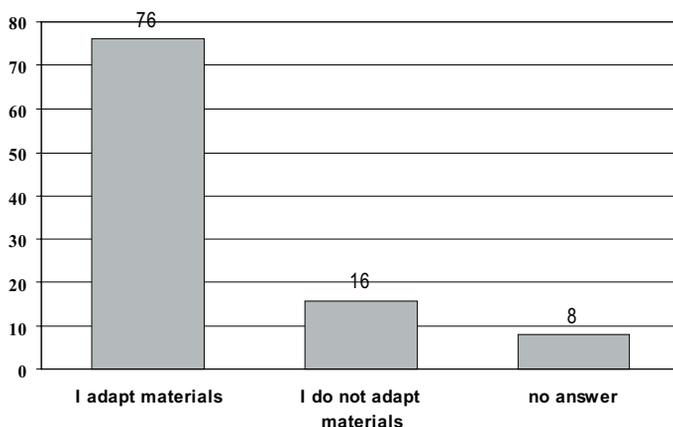
Using supplementary materials and other teaching aids (see Table 6) forms a necessary prerequisite of good, well-balanced teaching, while making the lessons more interesting and motivating pupils. Also, these materials and didactic tools work towards a better understanding of the subject matter. The most commonly used materials are magazine articles and posters; the internet and various encyclopaedias also serve as good sources of information.

Graph 5: Availability of supplementary materials (%)



As we can see in Graph 5, 92 % of the respondents are able to find supplementary materials (41 % find acquiring them easy, 51 % find it difficult). Only 5 % of the respondents are not able to find supplementary materials, or do not use them. The remaining three per cent are difficult to determine, as no answer was given.

Graph 6: Work with supplementary materials (%)



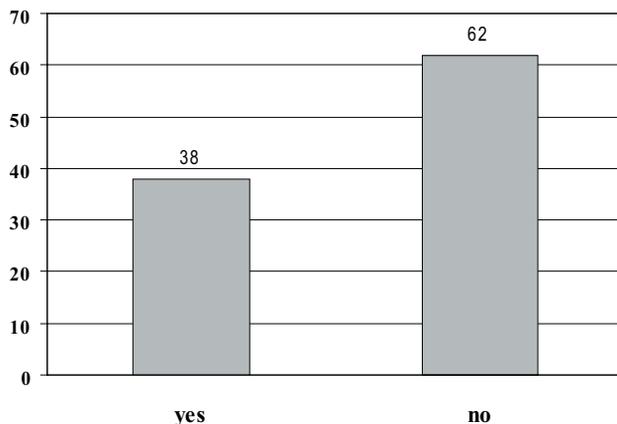
Graph 6 shows us that over three quarters of the supplementary materials found by teachers need to be adapted for lessons; only a fifth of the materials need no changes before they are presented to students.

Table 7: Types of supplementary materials and teaching aids used

Types of materials	Number of answers	%
Magazines	10	18.9
Posters	8	15.1
Internet resources	7	13.2
Encyclopaedias	6	11,3
Videos	6	11.3
Books	6	11.3
Own presentations	3	5.7
Visits to J. G. Mendel Museum	3	5.7
Charts and drawings	2	3.7
Didactic games	1	1.9
An interview with a paediatrician	1	1.9
Total	53	100

Magazine articles and posters are the most common supplementary materials used; teachers also benefit from the use of encyclopaedias and the internet. Only three teachers mentioned visiting the J. G. Mendel Museum.

Graph 7: Using practical exercises in teaching genetics (%)



Teaching genetics does not comprise only concepts and theories. Doing practical exercises in genetics shows its immediate practical application. A majority of the respondents (62 %) do not address practical problems with pupils; 38% include problem-solving activities in their lessons (see Graph 7).

Table 8: Topics in the genetics curriculum

Topics	Number of answers (n=37)	%
Basic concepts	22	59.5
J. G. Mendel	17	45.9
Heredity of blood groups	10	27.0
Genetic engineering	9	24.3
Crossbreeding	9	24.3
Hereditary diseases	8	21.6
Cloning	7	18.9
Genetically modified organisms	6	16.2
Mutation	6	16.2
Cell division	5	13.5
Problem-solving activities	3	8.1
Labs	1	2.7

Teaching basic concepts appears to be the most common topic in teaching genetics. Over half the respondents mentioned teaching about J. G. Mendel. Heredity of blood groups, genetic engineering, crossbreeding and hereditary diseases are also common topics in lessons of genetics. Relatively less attention is paid to cloning, genetically modified organisms, mutation and cell division. Only three of the teachers mentioned doing practical exercises, though in Graph 7, we have seen that almost 40 % of the teachers claim to be doing problem-solving activities. Only one teacher mentions working in the laboratory.

The questionnaire was concluded with an open question: *'Does teaching genetics somehow relate to health education?'*

All the respondents gave a positive answer. The most common reasons mentioned were as follows:

- assaying the genetic load in the family
- a healthy baby = a relative certainty
- preventing the development of a hereditary disease or defect
- assessing the risk of developing a tumor; preventive measures
- assessing the risk of developing a pathological addiction; opportunity for specific preventive measures to be implemented
- treatment on the gene level – correcting or replacing the faulty gene
- organ transplants

Research outcome

- In the South Moravian region, an average of five teaching hours is devoted to teaching genetics in a single school year (most often in 8th grade).
- In teaching genetics, Natural History III. (*Přirodopis III*. Prague: Scientia, 2001) is most widely used, though a textbook published by Fraus is the most widely acclaimed.
- In order to supplement the textbook and motivate the pupils, magazines, posters and internet resources are most widely used. Supplementary materials are, however, rather difficult to find and must be, in most cases, adapted for teaching.
- The genetics curriculum is chiefly composed of basic concepts, the life and work of J. G. Mendel and current topics such as genetic engineering, cloning, genetically modified organisms and mutation.
- An important note – the teacher's attitude towards the subject matter is reflected in the pupils' attitude and motivation.
- A majority of the respondents finds genetics equally as important as other subject matter within the curriculum.
- In comparing the current school curriculum and the RVP ZV (The Educational Framework Programme for Elementary Education), the teachers see the transition from the former to the latter as marked by a greater deal of effort, which is in contrast to the few benefits it brings.

Discussion

As was stated earlier, only about 40% of the teachers contacted (36.5 %, to be precise) filled in and sent back the questionnaires. The low return rate was surprising – in most cases, elementary school teachers are said to be very cooperative and attentive in research of this kind.

After our survey had been concluded, we thanked all the schools for their cooperation. A few days later, a number of teachers sent us a total of 58 messages, apologizing for not having cooperated with us.

Most of the reasons mentioned were as follows:

- I am sorry for not answering, but I do not understand genetics very much (39x)
- I love genetics, but I find it impossible to explain to elementary school pupils (I graduated in molecular biology and genetics) (1x)
- I do not teach genetics; there is not enough time for that – I assume that secondary schools will do the job (18x)

These explanations shed some light on the issue of the low return rate of our questionnaires. In general, those who answered were the only ones who could answer. The teachers who did not send back their questionnaires do not – in most cases – understand genetics enough to answer the questions in our survey.

To support our argument, we should note that genetics was not taught at the Faculty of Education MU in Brno before 1990; therefore, university students have had a chance to study it for a mere 17 years. It is clear that those teachers who did not have the opportunity to study genetics at university could neither teach it nor fill in our questionnaire.

In the light of our findings, we are forced to conclude that in the Zlín and South Moravian regions, genetics is taught at roughly 40 % of the schools studied. The remaining 60 % of the schools offer no lessons of genetics or teach it insufficiently.

This conclusion presents our faculty with a great challenge. We will need to make immense effort to teach future natural history teachers genetics, so that the current handicap that exists at elementary schools is eradicated.

Conclusion

Our research analysis may inspire mild optimism – wherever teaching genetics does take place, it is relatively well-managed. Most teachers are motivated to teach the subject and are active in finding supplementary materials and implementing them into their lesson plans.

However, genetics is taught at roughly 40 % of the schools in the Zlín and South Moravian regions; 60 % of the schools offer no lessons of genetics or teach it insufficiently.

Therefore, there is still a notable gap in elementary school teachers' knowledge as far as genetics is concerned. This situation disfavors pupils in their future jobs and lives, since genetics is an important and rapidly developing science, closely linked with the whole ecosystem, people's lives and their health.

Getting rid of this gap should become a chief concern for all institutions of higher education that train students to become teachers of natural history.

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VÝCHOVA KE ZDRAVÍ A VÝUKA GENETIKY NA ZÁKLADNÍCH ŠKOLÁCH

Souhrn: Práce přináší výsledky anonymního dotazování, které bylo realizováno na vzorku 73 pedagogů vyučujících genetice v rámci přírodopisu na základních školách Jihomoravského regionu. Snaží se ověřit, zda se deficit odborné přípravy učitelů v biologii a genetice ze 60. let 20. století projevuje i v současnosti. Příspěvek též prezentuje přístup dnešních učitelů k výuce genetiky, sleduje, zda učitelé této vědecké disciplíny využívají i v otázkách výchovy ke zdraví.

Bylo zjištěno, že většina pedagogů učí genetice ráda, se zaujetím, řada z nich si připravuje vlastní pomůcky. Handicap v odborných znalostech pedagogů z minulosti však stále přetrvává a výuka genetiky je erudovaně zajištěna pouze na 40 % sledovaných škol.

Klíčová slova: genetika, pedagog, pregraduální výuka, výchova ke zdraví, základní škola, žák

RELATIONSHIP BETWEEN PROJECT AND REALIZATION FORMS OF CURRICULUM IN PHYSICAL EDUCATION AT PRIMARY SCHOOL

Vladislav MUŽÍK

Abstract: *The aim of this contribution is to compare the projected curriculum of physical education with practical implementation of physical education in schools. The research method is a questionnaire survey that covers a group of students in the 1st year of secondary school, i.e. the group of fresh graduates of primary school. The results point to an evident disharmony between projected (health oriented) and implemented curriculum of physical education. The results also bring topical piece of information about the respondents' relation to exercising activities. Acquired information could be a starting point for the possible curriculum amendment and for the preparation of physical education teachers or for relevant steps in school practice. The contribution emphasizes that physical education in primary school should be more focused on improvement of students' health literacy.*

Key words: *curriculum, curriculum, primary school, physical education, health education*

Theoretic bases

Current Czech school system undergoes a curriculum reform, which includes also implementation of a newly approached “health oriented“ physical education in schools of all types. This paper is focused on evaluation of curriculum frame in Czech Republic, on comparison of relevant domestic and international information and on verification of readiness to realize the new concept of the physical education in Czech primary school system.

In the broad sense of the word, the term *physical education* means a part of education and training system, in the narrow sense of the word it is one of education subject area defined in *education documents*. By *Standard of Basic Education* (1995)

the current physical education and *health education* disciplines should lead to higher health awareness and behaviour of population going to better *health literacy* as defined in Holčík (2004).

Research results presented here belong to a wide area of curriculum studies (which can be compared in Maňák, Janík, 2005, 2006, 2007). The term *curriculum* is here understood as the basic pedagogical category specified by Průcha, Walterová and Mareš (2003). By Průcha (2002), partial concepts of curriculum are *curriculum project form*, which is represented by really planned projects of education content (i.e. particularly education programs and others) and *curriculum implementation form*, which comprises content of education presented to education subjects (i.e. real acts of curriculum presentation).

In most cases the curriculum project form is examined by using content analysis of curriculum documents and the task of research workers is the interpretative analysis of the corresponding text. Observation is often considered as the most suitable research method for implemented curricula. Because of requirements for using this method in curriculum research practice, more often interviews and questionnaires are used.

The research team involved in the research intent, which comprises the topic described in this paper, has dealt with studies of relation between projected and implemented curricula in physical education (e.g. in Mužík, Trávníček, 2006, Mužík, Janík, 2007) and in health education (e.g. in Mužíková, 2006a, 2006b). Results of those studies indicated discrepancies between the projected and implemented forms of curriculum, with proposals of further possible studies of corresponding problems. Especially results from abroad can bring more inspiration (e.g. Egger, 2002) that deal with relationship between planned education and real teaching, with taking into account categories of teaching prerequisites, education goals and processes.

Research problem

Our research has been focused on examination of *relationship between the projected and implemented curriculum* in physical education. It was based on the content analysis of the projected form of the physical education curriculum as defined in Czech educational documents and the content analysis of international comparison of curricular and realization frame of physical education. The implemented curriculum was investigated only vicariously, by a retrospective reflection of pupils and graduates of primary schools (hereinafter PS). We have supposed that PS graduates, based on their experience, are aware of the role and function of physical education subject and are able to judge its mission.

It is evident that expected results and effects, i.e. required health literacy, can be achieved by accord between the projected and implemented curriculum. Therefore in physical education¹ it is desirable to achieve:

- concordance or acceptable similarity between the projected curriculum and teacher's concept of physical education subject,
- acceptable acquirement of projected knowledge by pupils,

¹ Author is aware that physical education branch is not realized at schools only by means of physical education lessons.

- acceptable acquirement of projected skills by pupils,
- acceptable relationship of pupils to this education subject and to physical activity,
- evaluation of pupils in accord with requirements of the projected curriculum².

Methodology

Research of the projected form of curriculum is based on non-quantitative content analysis of texts (Gavora, 2000). The basic set of Czech documents is *Standard of basic education* (1995) that is reflected in education programs for basic education, named *Basic school, General school, and National School* (MŠMT, 2006a), *Framework education program for basic education* (VÚP, 2005) and *School act* (MŠMT, 2006b). International knowledge sources are taken mainly from works of the following authors: Pühse and Gerber (2005), Wiegerová (2005) and Liba (2005).

Research of the implemented form of curriculum is focused on examination of current state of physical education realized in primary schools. However, the author has solved questions that go also up to result or effect forms of the curriculum (see Průcha, 2002). The structured questionnaire was used as the research method, with goal categories of the projected curriculum of physical education comprised in questionnaire (i.e. a partial result of the projected form of curriculum). The questionnaire consists of 27 closed questions with alternative answers in four steps scale: definitely yes (1), rather yes (2), rather no (3), definitely no (4). Several closed items are completed with open questions with possibility of free responds.

Our intent was to ask a relatively homogenous group of respondents. In this way the questionnaire was presented to students of the 1st class of the four-year gymnasium, i.e. the students – graduates of primary schools with comparable reached education results. By this intentional selection of respondents the outmost number of fresh graduates of primary schools was asked (in Brno region).

The questionnaire was distributed in all four-year gymnasia in Brno in the school year 2006/2007 325 completely fulfilled questionnaires were returned, responded by groups of 145 boys and 180 girls³. The questionnaire was anonymous in relation to respondents and the examined physical education subject and also to respective schools and physical education teachers.

Results were evaluated factually and statistically. Basic descriptive characteristics of respondent answers were found, statistical significance of the difference in answers rate between the group of boys and the group of girls (by χ^2 at five percent significance level) and correlation between studied variables.

² Author is aware that “realized curriculum“ can be influenced by “evaluated curriculum“, but this issue is not included in this paper. Principles of evaluation and marking of pupils were also accepted according to the regulation No. 48/2005 issued by MŠMT ČR

³ Author is conscious of the fact that the group of respondents is not very large and representative. This questionnaire research had to cope typical problems of field research, e.g. some gymnasium head teachers did not agree with distribution of questionnaires at their schools, some students were not ready to fulfil the questionnaire and /or to return it in time etc. Substantial portion of returned questionnaires had to be put out because of incomplete answers.

Research results of the projected curriculum of physical education

Content analysis of Czech curricular documents

By obtained results we can define a current *system of goal categories* of the projected curriculum for physical education specialization:

- 1 *Projected conception* of physical education specialization can be determined as "health oriented", with the goal to contribute to improvement of *population's health literacy* (Holčík, 2004).
- 2 *Projected knowledge* is focused on:
 - *Physical activities beneficial for health* (knowledge of using physical activities for health, condition training and health-oriented capability, compensation of one-sided load and correction of muscle imbalance or weakening etc.),
 - *Sport disciplines and games* (terminology used in sport branches, rules of sport disciplines and games, physical education terms, command technique, organization of sport competitions etc.),
 - *Hygiene and security by physical* (knowledge on physical activities in various environments, principles of rescue and assistance by physical activities, first aid fundamentals etc.).
- 3 *Projected skills* are focused on:
 - *Health and physical condition* (exercises used for neutralizing one-sided load of a human organism, its preparation for various movement activities and for setting suitable state after ending of movement activities, exercises for development of health oriented capability, for strengthening and releasing of body and its parts, for proper posture and elimination of muscle weakening, basic tests of health oriented capability and their use in common life etc.),
 - *Sport area* (skill of athletics, gymnastics, sport and movement games, combat sports; in suitable teaching conditions also skills of seasonal sports, i.e. walking and outdoor stays, swimming, skiing, skating).
- 4 *Projected attitudes and interests* should be projected in positive relationship to movement activities, in daily regime with sufficient volume of physical activity and in friendly interpersonal relationships that follow from movement activities (fair-play manners, cooperation and friendly relationships in groups, mutual respect, contribution to less-abled etc.)

Piece of knowledge: Projected curriculum of physical education in Czech Republic can be characterize as "health-oriented" one.

Content analysis of concepts from abroad

According to studies of international information sources we can classify curricular concepts of physical education of other countries in several concept variants.

Here we use results of the content analysis of foreign education concepts of physical education and health education that were published in (Mužik, Mužiková, 2007); the results can be summarized as follows:

1. Content of physical education is connected with health education, which is considered in complex context, but in the curriculum it is specified as a separate education branch and usually is taught as an individual subject. Physical education is composed as education to movement activities within healthy lifestyle. Sport performance and competitiveness are not dominant elements of physical education. This model is preferred in Finland and in USA.
2. Physical education is connected with health education in its content and in this sense it is also composed in the subject name (e.g. physical education and health education). Physical education is not focused on sport performance, but on health support (in Europe e.g. Sweden, in other parts of the world Australia, China, Japan, South Korea, New Zealand).
3. Physical education follows so called health oriented goals, but health education is not explicitly specified. Many topics of health education (e.g. principles of health nutrition, prevention of socially pathological phenomena, sexual education etc.) are dissolved in other learning subjects or are not included in the curriculum at all. Physical education pays close attention to basic hygienic rules, injury prevention etc. (this model was accepted in Europe in England, Belgium, Lithuania, Hungary, Germany, Norway, Portugal, Austria, Spain, Switzerland, Turkey, in other parts of the worlds in Brazil, Hong Kong, Ghana, Israel, Canada, Tunisia).
4. Physical education is focused mainly on physical capability and sport performance. Health education is only a part of general goals of physical education, specific topics for health education are not defined (e.g. in Byelorussia, Denmark, France).
5. Physical education fulfils predominantly the role of movement relaxation in time spent at school. Pupils can choose activities from the offer submitted by teachers (e.g. in the Netherlands and Nigeria).

Piece of knowledge: We can state that interconnection of physical education and health education is considered as very important within basic education in the most of countries. Physical education abroad, similarly to our country, is changing its former “sport“ orientation to “health supporting“ one. Contemporary curriculum of physical education in Czech Republic corresponds with international trends.

Research results of the implemented curriculum of physical education

Teaching of physical education at 2nd level of primary schools is not co-educated, so answers of boys and girls were evaluated separately. Statistical description of monitored variables are presented in descriptive characteristic data of Tables 1 to 10 (the average value registered in four steps scale, median, modus, minimal and maximal value of answers, variance, standard deviation and statistical significance of the difference in

answers rate of boys (B) and girls (G)). In interpretation of our results we have tried to evaluate factually the obtained data.

Did pupils perceive teacher's interpretation of physical education as "health oriented"?

In judgement of the teacher's interpretation of the physical education subject we can follow results of the previous research, which indicated character of the implemented physical education curriculum at primary schools more as active release or physical relaxation than an education subject in which the projected curriculum should be presented (MUŽÍK, TRÁVNÍČEK, 2006). The presented results of our research probe confirm the above mentioned piece of knowledge.

Most respondents answered that physical education at primary school has acted as a source of active relaxation and amusing movement (90 % respondents, boys and girls). Two thirds of respondents considered the subject to be focused also on improving sport performance, but by opinion of almost 40 % boys and girls physical education has not contributed to maintenance or improvement of health. The lowest average value of four steps scale was found for answers to the question "Did physical education at primary school serve as active relaxation and amusing movement?", for both boys (1,89) and girls (1,86).

The both groups of respondents answered nearly identically also to other questions, which is demonstrated in statistical data of Tab. 1 and 2.

Conclusion followed from the statistical data can be: the respondents have not a strong view on concept of the implemented physical education. However it is visible that the projected "health oriented" concept of physical education has not been manifested in teacher's interpretation of physical education, i.e. in realization level of the curriculum at primary schools.

Although the average value of answers to the question "Did primary school physical education serve mainly for another purpose?" is close to the answer "rather no" (average value of answers is 2,88 for boys; 2,74 for girls), answers are in the whole used scale (Min. 1; Max. 4). For positive answers to this question the respondents replied in most cases in sense of "improvement of group relationships".

Piece of knowledge: The projected "health oriented" concept of physical education has not been manifested in teacher's interpretation of primary school physical education, i.e. in its realization level (the pupils did not perceive it in such a way).

Tab. 1 How did pupils perceive teacher’s interpretation of physical education? Answers of boys (n = 145):

Question	Average in scale 1-4	Med.	Mod.	Min.	Max.	Variance	Standard deviation	Differ answers B and G
Did primary school physical education serve mainly as active relaxation and amusing movement?	1,89	2	2	1	4	0,71	0,85	no
Did primary school physical education serve mainly for improvement of sport performance of pupils?	2,21	2	2	1	4	0,81	0,90	no
Did primary school physical education serve mainly for maintenance and improvement of pupils’ health?	2,32	2	2	1	4	0,81	0,90	no
Did primary school physical education serve mainly for another purpose?	2,88	3	3	1	4	0,70	0,84	no

Tab. 2 How did pupils perceive teacher’s interpretation of physical education? Answers of girls (n = 180):

Question	Average in scale 1-4	Med.	Mod.	Min.	Max.	Variance	Standard deviation	Differ answers B and G
Did primary school physical education serve mainly as active relaxation and amusing movement?	1,86	2	2	1	4	0,47	0,68	no
Did primary school physical education serve mainly for improvement of sport performance of pupils?	2,12	2	2	1	4	0,61	0,78	no
Did primary school physical education serve mainly for maintenance and improvement of pupils’ health?	2,32	2	2	1	4	0,72	0,85	no
Did primary school physical education serve mainly for another purpose?	2,74	3	3	1	4	0,72	0,85	no

Was education process focused on knowledge for health support area?

Curricular documents show that physical education should not be focused only on skills (as it is usually practised) but also on acquiring knowledge significant for movement activities and health lifestyle.

Knowledge of rules for sports and games is most frequent in the evaluation scale (Tab. 3 and 4) – the average value is near “rather yes“, almost the same for boys and

girls: 2,06 and 2,04). The average value is near “rather no“ (see Tab. 3 and 4). For the answers referring directly to health support, i.e. to hygiene and security during movement activities, to principles of stretching and strengthening (anaerobic) exercise or to effect of endurance (aerobic) exercise human body. This result is to be considered very serious because aerobic exercise belongs to basic prevention of human cardiovascular system disorders.

Piece of knowledge: The results demonstrate that knowledge area - first of its all health-oriented aspects - is not adequately cultivated in primary school physical education). However this presumption should be more studied.

Tab. 3 What type of learning knowledge was preferred in physical education lessons? Answers of boys (n = 145):

Question	Average in scale 1-4	Med.	Mod.	Min.	Max.	Variance	Standard deviation	Differ answers B and G
Did you acquire new knowledge on sport and game rules in physical education lessons?	2,06	2	2	1	4	0,91	0,96	no
Did you acquire new knowledge on muscles and principles of stretching and strengthening in physical education lessons?	2,54	3	2	1	4	0,18	1,09	yes
Did you acquire new knowledge on physical education terminology and command technique in physical education lessons?	2,62	3	3	1	4	0,93	0,96	yes
Did you acquire new knowledge on hygiene and security of moving in physical education lessons?	2,71	3	3	1	4	0,78	0,88	no
Did you acquire new knowledge on influence of endurance exercise on human body in physical education lessons?	2,72	3	3	1	4	1,09	1,04	yes
Did you acquire new knowledge on anything else in physical education lessons?	3,12	3	3	1	4	0,49	0,70	no

Tab. 4 What type of learning knowledge was preferred in physical education lessons? Answers of girls (n = 180):

Question	Average in scale 1-4	Med.	Mod.	Min.	Max.	Variance	Standard deviation	Differ answers B and G
Did you acquire new knowledge on sport and game rules in physical education lessons?	2,04	2	2	1	4	0,88	0,94	no
Did you acquire new knowledge on hygiene and security of moving in physical education lessons?	2,69	3	3	1	4	0,69	0,83	no
Did you acquire new knowledge on muscles and principles of stretching and strengthening in physical education lessons?	2,77	3	3	1	4	0,87	0,93	yes
Did you acquire new knowledge on physical education terminology and command technique in physical education lessons?	2,86	3	3	1	4	0,60	0,77	yes
Did you acquire new knowledge on influence of endurance exercise on human body in physical education lessons?	2,94	3	3	1	4	0,70	0,84	yes
Did you acquire new knowledge on anything else in physical education lessons?	3,12	3	3	1	4	0,42	0,65	no

Was education process focused on skills for health support area?

Results displayed in Tab. 5 and 6 confirm that skills in sport field are preferred in physical education. Majority of respondents replied that they had learned new skills for playing sport games (more than 70 % boys and girls, with the average value of the answers 1,93 and 1,81). Completing answers specified skills for volleyball, followed by athletics (60 % of boys and girls) and gymnastics (more than 50 % boys and girls). The differences in answers rate between the both groups of respondents are not statistically relevant.

However, answers to questions on skills important for direct health support (health oriented capability) are not convincing. Only 17,6% of boys (the average value of the answers is 2,80) and 7,1 % girls (the average value of the answers is 3,05) answered “definitely yes“ to the question if they had learned any skills of condition training.

Piece of knowledge: Contemporary primary school physical education prefers mainly sport skills. Attention paid to health supporting skills/health oriented skills is not sufficient.

Tab. 5 What type of learning skills was preferred in physical education lessons? Answers of boys (n = 145):

Question	Average in scale 1-4	Med.	Mod.	Min.	Max.	Variance	Standard deviation	Differ. answers B and G
Did you learn any new sport game skills in physical education lessons?	1,93	2	1	1	4	0,92	0,96	no
Did you learn any new athletics skills in physical education lessons?	2,15	2	1	1	4	1,08	1,04	no
Did you learn any new gymnastics skills in physical education lessons?	2,42	2	2	1	4	1,03	1,02	no
Did you learn any new skills of condition training?	2,80	3	3	1	4	1,09	1,04	no
Did you learn any new skills of another sport branch in physical education lessons?	3,18	3	3	1	4	0,48	0,69	no
Did you learn any new skills for walking and outdoor stays in physical education lessons?	3,28	3	3	1	4	0,51	0,72	no

Tab. 6 What type of learning skills was preferred in physical education lessons? Answers of girls (n = 180):

Question	Average in scale 1-4	Med.	Mod.	Min.	Max.	Variance	Standard deviation	Differ. answers B and G
Did you learn any new sport game skills in physical education lessons?	1,81	2	1	1	4	0,72	0,85	no
Did you learn any new athletics skills in physical education lessons?	2,18	2	3	1	4	0,85	0,92	no
Did you learn any new gymnastics skills in physical education lessons?	2,43	2	3	1	4	0,97	0,99	no
Did you learn any new skills of another sport branch in physical education lessons?	3,00	3	3	1	4	0,43	0,66	no
Did you learn any new skills of condition training in physical education lessons?	3,05	3	3	1	4	0,74	0,86	no
Did you learn any new skills for walking and outdoor stays in physical education lessons?	3,12	3	3	1	4	0,71	0,84	no

Did physical education affect attitude of pupils to movement activities?

Our results demonstrate prevailing positive relationship of the respondents to movement activities. Neither boys nor girls answered “definitely no“ to the question “Do you like movement activities?“ (see the values Min. and Max. in Tab. 7 and 8).

Popularity of physical education subject is less conclusive, mainly for girls (average values of answers is 2,09; Max. value is 4). The completing answers specified (but with rather low total rate) that girls would prefer physical education less focused on sport performance.

Factual significance of difference between boys and girls was stated in answers to the question “Do you consider primary school physical education to be a important education subject?“. Here the modus value 1 was found for boys and 3 for girls.

The question oriented to more general goal of physical education subject, i.e. to forming and improvement of relation to movement activities was answered with results within the whole evaluation scale (1 to 4) and indicate factual and statistical significance of difference in answers of boys and girls (median and modus for boys has the value 2, for girls 3).

Piece of knowledge: The results demonstrate prevailing positive attitude of pupils to movement activities. Contemporary physical education concept does not impact more significantly on this attitude.

Tab. 7 Did physical education lessons improve pupils’ attitude to physical education and movement activities? Answers of boys (n = 145):

Question	Average in scale 1-4	Med.	Mod.	Min.	Max.	Variance	Standard deviation	Differ. answers B and G
Do you like movement activities?	1,38	1	1	1	3	0,33	0,58	no
Was physical education your favourite school subject?	1,73	1	1	1	4	0,82	0,90	yes
Do you consider primary school physical education to be the important education subject?	2,06	2	1	1	4	1,22	1,11	yes
Did primary schools physical education improve your positive attitude to movement activities?	2,31	2	2	1	4	0,91	0,95	no

Tab. 8 Did physical education lessons improve pupils' attitude to physical education and movement activities? Answers of girls (n = 180):

Question	Average in scale 1-4	Med.	Mod.	Min.	Max.	Variance	Standard deviation	Differ answers B and G
Do you like movement activities?	1,43	1	1	1	3	0,38	0,61	no
Was physical education your favourite school subject?	2,09	2	1	1	4	0,97	0,99	yes
Do you consider primary school physical education to be the important education subject?	2,31	2	3	1	4	1,09	1,05	no
Did primary schools physical education improve your positive attitude to movement activities?	2,54	3	3	1	4	1,00	1,00	yes

What items were considered for evaluation of pupils in physical education lessons?

Evaluation and marking are substantial activities of teachers that can impact on study results of pupils. For that reason we tried to find approximately what items were used in evaluation of our respondents in primary school physical education lessons. Corresponding questions are in Tab. 9 and 10.

Tab.9 What items were used by teacher in evaluation of pupils in physical education? Answers of boys (n = 145):

Question	Average in scale 1-4	Med.	Mod.	Min.	Max.	Variance	Standard deviation	Differ answers B and G
Did your teacher classify your sport performance in running, jumping, throwing, climbing and similar disciplines?	1,58	1	1	1	4	0,65	0,81	no
Did your teacher classify your general health oriented capability?	2,62	3	3	1	4	1,12	1,06	yes
Did your teacher evaluate your fair-play behaviour towards your classmates?	2,72	3	3	1	4	0,87	0,93	no
Did your teacher classify anything else?	3,19	3	4	1	4	0,75	0,87	no
Did your teacher classify your knowledge on health supporting movement activities?	3,24	3	4	1	4	0,80	0,90	no
Did your teacher evaluate your movement activities in your leisure time out of school?	3,39	4	4	1	4	0,65	0,80	yes
Did your teacher evaluate your knowledge on sports and games?	3,39	4	4	1	4	0,69	0,83	no

Tab. 10 What items were used by teacher in evaluation of pupils in physical education? Answers of girls (n = 180):

Question	Average in scale 1-4	Med.	Mod.	Min.	Max.	Variance	Standard deviation	Differ. answers B and G
Did your teacher classify your sport performance in running, jumping, throwing, climbing and similar disciplines?	1,46	1	1	1	4	0,52	0,72	no
Did your teacher classify your general health oriented capability?	2,49	3	3	1	4	0,74	0,86	yes
Did your teacher evaluate your fair-play behaviour towards your classmates?	2,94	3	3	1	4	0,85	0,92	no
Did your teacher classify anything else?	3,00	3	3	1	4	0,79	0,89	no
Did your teacher evaluate your movement activities in your leisure time out of school?	3,20	3	3	1	4	0,58	0,76	yes
Did your teacher classify your knowledge on health supporting movement activities?	3,41	4	4	1	4	0,60	0,78	no
Did your teacher evaluate your knowledge on sports and games?	3,52	4	4	1	4	0,48	0,69	ne

The results demonstrate predominate evaluation of sport performance of pupils (the average value is 1,58 for boys, for girls 1,46; median and also modus value is 1). Evaluation of health oriented capability is evidently less often (the average value is 2,62 for answers of boys and 2,49 for girls; median and also modus value is 3). Here a significantly difference was registered for answers rate of boys and girls. Among others, the difference was detected in answers rate for clearly negative answers “definitely no“ for 24,7 % of boys and 11,4 % girls.

Evaluation of pupils’ knowledge on health supporting movement seems to be omitted, mainly for girls, with median and modus have the value 4.

Mainly negative answers to the question “Did your teacher evaluate your knowledge on sports and games?“ are surprising (the average value is 3,39 and 3,52). This fact supports the observed focusing of implemented curriculum on sport skills and performance.

Also evaluation of interpersonal relationships of participants in movement activities is not convincing; the average value of the answers, median and modus values document the prevailing answer “rather no“.

As stated before, physical education should support installation of movement activities to daily regime. Only 10,6 % of boys and 16,5 % of girls answered positively to the question “Did your teacher evaluate your movement activities in your leisure time out of school?“ (the average value 3,39 for boy answers and 3,20 for girls answers).

Interesting completing answers emerged to the question „Did your teacher classify anything else?“, namely the answers? “for attendance, for sympathy, for effort, for willingness“. Several answers were in the sense “mainly don’t make trouble“.

Piece of knowledge: In primary school physical education the pupils are evaluated mainly by sport performance. Their general movement activities and level of health oriented capability are not substantially considered in this evaluation.

Several results of mutual relations between variables

Determined values of correlation coefficients characterize dependence between studied variables; those values did exceed relatively low value 0,5. Exceptions were found for values 0,68 (boys) and 0,61 (girls) – both those data is related to obtaining knowledge (e.g. if respondents obtained knowledge on muscles, they also obtained knowledge on endurance exercise).

The relatively low correlation coefficient 0,53 demonstrates some dependence between “popularity“ and “significance“ of physical education subject (0,53 for boys; 0,58 for girls).

The dependence between positive attitude to movement activities and physical education popularity is characterized by the correlation coefficient 0,45 for boys and 0,46 for girls.

Other correlations are not factually relevant.

Piece of knowledge: If teachers pay attention to pupils’ obtaining knowledge on health support, then submitted information is usually interpreted in a complex way.

Summary and conclusion

The results of this research probe can not be either generalized or overestimated. Nevertheless, they advise of *inconsistency found between the projected and implemented curriculum of physical education at primary schools*. Several curriculum parts were described with indication and forms of this inconsistency.

Primary school graduates have inclined to opinion that the implemented curriculum of primary school physical education is realized as active release or physical relaxation. This result should be considered positive, if it would be followed by corresponding effects on knowledge, skills or attitudes of pupils. Substantial part of respondents has not perceived, whether the projected “health oriented“ curriculum was comprised in teacher’s interpretation of physical education.

Primary school physical education is not implemented with substantial accent on knowledge presentation. If knowledge is mediated to pupils in physical education lessons, it mainly concerns to sport and game rules, less often it is connected with movement activities beneficial to health (inclusive hygiene and security by movement activities).

Also learning new knowledge was not perceived by pupils more clearly. If it was perceived, it was in connection with knowledge of sport games, athletics and gym-

nastics. Answers of our respondents indicate that required attentions not paid to skills of condition training, which is taken as a basis of health oriented capability.

Principle goal of physical education is to form a positive relationship of pupils to movement activities. The results show that physical education has not evidentiary impact on improvement of relationship of pupils to moving activities. By the results, primary school graduates have positive relationships to moving activities, but they look with less favour to physical education.

By opinion of primary school graduates, pupils are evaluated mainly by sport performance. This result indicates discrepancy between implemented contents of education hours and evaluation of pupils. By respondents, the education, as stated before, has rather character of physical relaxation, but subsequently pupils are evaluated by sport performance. We suppose that teachers act in this way according to the regulation No. 48/2005 issued by MŠMT¹.

Physical education is also to provide basic knowledge and skills for pupils, by meaningful integration of movement activities to their daily regime, within healthy lifestyle. According to most answers of primary school graduates, movement activity in leisure time had been neither monitored nor evaluated by teachers.

By paying attention to differences between the implemented curriculum for boys and girls, no substantial factual differences were found, in spite of several cases of demonstrated statistical significance in rates of their answers; exception is a worse relationship of girls to physical education subject.

Conclusion: Based on obtained results we can state that primary school physical education has predominantly character of recreational movement activities. The movement activities are the most frequent contents of physical education lessons. The implemented level of physical education is in contradiction with the projected physical education curriculum – insufficient attention is paid to specific knowledge and skills of health support area.

Above mentioned pieces of knowledge can be important for curriculum implementation but also for projecting at basic education level. They should be considered also in preparation of physical education teachers. Nevertheless, the author takes them as a starting point to further, more detailed studies of this issue.

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¹ Regulation No. 48/2005, issued by MŠMT for subjects with majority of practical purpose, specifies that the teacher must have minimally three partials evaluations of *practical activities* available for making final evaluation of a pupil in the end of evaluation period. For physical education, by tradition, sport activities are taken as basic practical activities. So usually other categories of the projected physical education curriculum are not considered in pupil evaluations.

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VZTAH MEZI PROJEKTOVOU A REALIZAČNÍ FORMOU KURIKULA V TĚLESNÉ VÝCHOVĚ NA ZÁKLADNÍ ŠKOLE

Souhrn: Cílem příspěvku je porovnat projektované kurikulum tělesné výchovy s praktickou realizací tělesné výchovy na školách. Výzkumnou metodou je dotazníkové šetření provedené na výběrovém souboru studentů 1. ročníku středních škol, tj. na souboru čerstvých absolventů základní školy. Výsledky naznačují, že v tělesné výchově existuje patrný nesoulad mezi projektovaným (zdravotně orientovaným) a realizovaným kurikulem. Stať přináší také aktuální poznatky o vztahu respondentů k pohybu a pohybovým aktivitám. Získané poznatky mohou být východiskem jak pro případnou úpravu kurikula, tak i pro přípravu učitelů tělesné výchovy či pro příslušná opatření ve školské praxi. Příspěvek zdůrazňuje, že je třeba tělesnou výchovu na základní škole více zaměřit na zlepšení zdravotní gramotnosti žáků.

Klíčová slova: kurikulum, základní škola, tělesná výchova, výchova ke zdraví

SUPPORTING OF MOTORIC ACTIVITIES OF CHILDREN IN PRE-SCHOOL YEARS

Alexandra ONDREJKOVÁ, Janette GUBRICOVÁ

Abstract: *The article presents actual parents' attitudes to and opinions on regular physical activities of preschool children, which are attending kindergarten and kindergarten with extensive physical preparation. We have gathered the data using questionnaire for 210 respondents chosen out of parents' sample. We were aimed at finding out their personal interest about sport, their sportive background, and measure of their participation on sportive activities with their children and economic aspects of sporting (how they perceive it). We are also interested in parents' attitudes to health, physical and psychological well being of their children. On the basis of outgoing results, the authors of the article suggest to organise more sportive activities where the parents can participate with their children. They also suggest leading the children more toward positive attitude to physical training and sports and to support sportive interests of their children. Very important is to give a personal example and to pay attention to physical well being of the child and to his/her enjoy of movement.*

Key words: *physical activity, movement, kindergarten, physical education (PE), sport, family, preschool age*

Theoretical outcomes

In pre-school years, a child is formed and all this period can have a lifelong effect on them. Many times the absence of positive goaled upbringing can show a negative effect later. After that we need to exert more effort to 'catch up with' what we needed in previous development periods. We need to pay attention to important vitality competences and habits which are formed in various development periods and to stress on a progress of motoric competences, habits and attitudes to their health, too. T. Perič (2004)

Research targets

A movement is the one of the most important factors which influence health of people. A family and pre-school institutions are parts which are the most active in the development of a child's individuality in pre-school years.

Methodology and characteristic of the respondent group

In our research we gave an accent to review the opinions and the attitudes of parents to periodical motoric activities of children in pre-scholl years which attend an ordinary nursery and a nursery enriched in motoric preparations (a sports nursery).

Research results

The research was realised with help of parents whose children attend a sports nursery ($n_1=105$) – later on 1st research group and parents whose children attend an ordinary nursery ($n_2=105$) – later on 2nd research group. The first research group is an intentional selection and the second research group is an accessible selection. The respondents were from Trnava and Bratislava regions.

In the first part of our research we wanted to know which factors are the most important for the choice of a nursery. We identified criteria of individual answers of the respondents and evaluated the frequency in percentag for a better comparison.

Table no.1 The factors which influence parents to select a nursery

IDENTIFIED FACTORS TO INFLUENCE A CHOICE OF A NURSERY	PERCENTAGE EXPRESSION OF INCIDENCE OF CATEGORIES		
	1 st research group	2 nd research group	Together
Accessibility of a nursery according to their residence	32 %	31 %	31,50 %
Orientation of a nursery	11 %	12 %	11,50 %
Previous (own) experience	10 %	13 %	11,50 %
Good reputation of nursery	46 %	38 %	42,00 %
Another criterium	1 %	6 %	3,50 %

The results from the table no. 1 show us the fact that the most important factor to select a nursery is a good reputation of the institution. It could reflect a good quality of education in the institution. A very important coefficient is the accessibility of a nursery according to a residence of a child as well. Relatively a very similar frequency in the answers have the criteria of the orientation of a nursery and a previous (own) experience. Like criterium parents used to name nice surroundings and a good material equipment. A very interesting result we reached in the criterium of the orientation of a nursery where an ordinary nursery gained a higher percentage than a sports orientated nursery

In the next part of the questionnaire we wanted to find out if the parents used to practice some sports activities with their children in leisure time and how often.

Table no. 2 Motoric activities of the parents with their children in leisure time

FREQUENCY OF DOING MOTORIC ACTIVITIES OF PARENTS WITH THEIR CHILDREN	PERCENTAGE EXPRESSION OF INCIDENCE OF CATEGORIES		
	1 st research group		2 nd research group
	research group		Together
Once a week	25 %	20 %	22,50 %
More times a week	22 %	42 %	32,00 %
Once a month	3 %	5 %	4,00 %
Irregularly	45 %	25 %	35,00 %
Never	6 %	8 %	7,00 %

It is great that 93 % of parents practice sports activities with their children in their free time. We did not notice big differences between the groups. An important difference is only in the answers related to the frequency of doing sports activities of the parents with their children out of their nursery. The results from the table no. 2 display that the highest percentage of the respondents practice sports irregularly. 45 % of the respondents from 1st research group practice sport irregularly, while more parents from 2nd research group do sports activities more times a week (42 %).

In the next question we paid attention to the fact which one from the parents practices more sports activities with her/his children. 59 % of the respondents from 1st research group and 55 % of respondents from 2nd research group said that they practice sports with their children together. This can be a very beneficial pedagogical moment which extends the quality of the movement of children. When we compare mothers and fathers, fathers spend more time with their children doing sports activities in both research groups, in average about 5 % more.

In 3rd question we were interested in reality if the parents practiced sport in their history and if they do it at present.

Table no. 3 Overview about sport history

ACTIVE DOING SPORT OF PARENTS IN HISORY AND IN PRESENT	PERCENTAGE EXPRESSION					
	1 st research group		2 nd research group		Together	
	History	Present	History	Present	History	Present
Yes	40 %	87 %	45 %	72 %	42,50 %	79,50 %
No	60 %	13 %	55 %	28 %	57,50 %	20,50 %

A family is the first instance which stand for a model when choosing a hobby for a child in their life. From this point of view we found out whether the parents used to practice sports in their history. Nearly the half of the respondents said that they practiced the sports actively It is surprising that more parents in both groups began with sports when they were older. But it is important to say that the vast majority of the parents do sports regularly but only for the fun. The

most frequent sports are: swimming, tennis, football, cycling and hiking, also we registreted athtelics, volleyball, basketball, handball and karate.

It reflects the fact that the majority of the parents understand the sense of practicing sports activities. We were interested whether the parents lead their children to these activities in a leisure time which a child spends out of a nursery.

Table no. 4 The attendance of achild in sports orientated courses out of a nursery

FREQUENCY OF ATTENDING OF CHILD ON SPORT'S ORIENTED COURSES	PERCENTAGE EXPRESSION OF INCIDENCE OF CATEGORIES		
	1 st research group	2 nd research group	Together
Once a week	30 %	17 %	23,5 %
More times a week	16 %	30 %	23 %
Once a month	1 %	8 %	4,50 %
Irregularly	0 %	0 %	0 %
Never	53 %	45 %	49 %

A lot of the parents attend many courses with their children from their early childhood f.e.: swimming, ballet, gymnastic, ice hockey, dancing and the others. That's why we wanted to know if the parents whose children attend a sports nursery go with their children to sports courses out of a nursery. It shows the table no. 3, 30 % of the parents from the 1st research group and 17 % of the respondents from the second one attend sports activities with their children once a week. 16 % of the parents from 1st research group and 30 % of the respondents from 2nd research group attend sport courses more times a week. The results are very surprising.. They can be influenced by the fatc that many parents from 1st research group co-operate with a sports nursery.

Table no. 5 Evaluation of the influence of doing exercises periodically on a child in pre-school years.

EVALUATION OF INFLUENCE OF DOING EXERCISES PERIODICALLY	AVERAGE MARK IN EVALUATED FIELD	
	1 st research group	2 nd research group
Health	2,21	1,78
Better condition	3,01	2,32
Better coordination	2,73	2,42
Acquisition of new a motoric competence	1,89	2,15

Respondets' opinions about the influence of doing exercises periodically on a child in pre-school years is showed in this part.. The parents could give a mark from 1 to 5 to reflect the influence of motoric activity on their child. The mark 1 means the highest influence and the mark 5 means the lowest influence on a child. We can say that the highest sense of doing exercises periodically parents see in a better health and in

the acquisition of a new motoric competence. It is a paradox that the respondents whose children attend a sports nursery (do exercises periodically) evaluate the influence of motoric activities on their children in three classes worse than the respondents from an ordinary nursery.

Conclusion

In our texts we tried to make an overview which deals with sports activities of children in pre-school years. The results reflect that parents understand the importance of doing sports activities with their children in a period of pre-school years. It is very positive that the parents from 1st group lead their children to practice sports activities in a leisure time and this way they indirectly support the pedagogical aim of a nursery.

At the end we can summarise that it is very important to join parents in the building of a positive relation to sports activities of their children. Because the children's relation to sports and motoric activities are influenced by the motoric consciousness of the parents.

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PODPORA POHYBOVEJ AKTIVITY DETÍ PREDŠKOLSKÉHO VEKU

Súhrn: V práci ide o prezentáciu súčasných názorov a postojov rodičov na pravidelné pohybové aktivity detí predškolského veku, ktoré navštevujú MŠ a MŠ rozšírené o pohybovú prípravu. Prostredníctvom dotazníka, ktorý vyplňovalo 210 respondentov sme u vybranej vzorky rodičov zisťovali osobný záujem rodičov o šport, ich športovú minulosť, účasť na spoločných pohybových aktivitách s dieťaťom, ekonomické postoje k športovaniu. Zaujímame sa o postoje rodičov k otázkam zdravia, telesnej a duševnej

pohody dieťaťa. Na základe zistených skutočností autorky odporúčajú organizovať viac spoločných športových akcií s rodičmi, viesť deti ku kladnému vzťahu k telovýchove a športu, podporovať záujem o šport osobným príkladom a dôraz pripisovať dobrej psychickej pohode a radosti dieťaťa z pohybu.

Kľúčové slová: pohybová aktivita, motorika, materská škola, telesná výchova, šport, rodina, predškolský vek.

PHYSICAL TRAINING IN THE EYES OF PRIMARY SCHOOL TEACHERS

Marek TRÁVNÍČEK

Abstract: *This announcement results from questionnaire investigation which was focused on mission of present school physical training. The informants were physical training teachers of first and second degree on primary schools (n = 164). The investigation outcomes bring us information about present approach to physical training by individual teachers. The results of this announcement may be a guide to adapt the physical training curriculum to the school praxis needs.*

Key words: *mission of physical training, primary school, physical training.*

1. Introduction

The style of school physical training is given mainly by its conception specified by educational documentation. However, the education conception of the teacher and concrete conditions of teaching have a considerable influence on realization of taught subject in decisive extent. A fragment of this project is focused exactly on the analysis of physical training conception and educational and instructional conditions on first degree on primary schools. This project is orientated on area of physical training in research programme *School and health for 21st century*.¹

The goal of this report is to introduce the primary schools teachers' opinion on mission of present school physical training. This mission may be characterized as a complete group of goals which should be fulfilled by school physical training in its nature. If we want to look for theoretical solutions for compilation of these goals, we should find them in the *Standard of primary education* which is the solution for creation of educational programs. According to Průcha (2002), we can mark these concepts as *the project form of curriculum*. On a contrary to this, *the realization form of curriculum* constitutes the content of education construed to the subjects of education, i.e. concrete acts of education presentation realized by the teachers or education media.

¹ Identification code of the programme: MSM0021622421

2. Research problems

It is possible to argue about the fact whether the projected curriculum corresponds with the perception of physical training goals as it is understood by the present teachers of physical training on both degrees on primary schools. From our former researches results, when we dealt with the relationships between the projected curriculum and its realization by individual primary school teachers (Mužik, Trávníček, 2006), we can see that between the individual curriculums, i.e. between the projected one and realized one, there are variances in the physical training. Aren't these variances caused to a certain extent by a different comprehension of senses, goals and functions of physical training on primary schools and insufficient quality of adoption of projected curriculum, i.e. the valid educational documentation? Don't the teachers teach physical training spontaneously, without any conceptual knowledge and theoretical solutions for their job? We tried to find answers to our research probe which could bring an explanation to these questions.

3. Research method

As a research method, we chose the questionnaire. The questionnaire investigation took place during the school year of 2006/2007. The questionnaire was distributed by student of Pedagogic Faculty of Masaryk University within the scope of their continuous pedagogical praxis on primary schools. Therefore, we managed to cover more primary school in Brno region. The questionnaire was designed for physical training teachers on both degrees of primary schools.

We processed 164 correctly filed questionnaires, from which 78 was from teachers of first degree on primary school and 86 from teachers of second degree on primary school. It was an anonymous questionnaire; for later statistical evaluation, we recorder only the respondents' sex, achieved education, place and time of achieved university education, region of respondent's operation and level of popularity of physical training education of the teacher himself.

The goal of the investigation was to answer the question by the teachers:

“In what do you see the mission of school physical training? Try to determine the basic goals, purpose and function of physical training according to your personal opinion. “

On the basis of content analysis of individual teachers' answers or fragment of their answers, we established a system of target categories which is able cover the whole spectrum of recorded types of answers to full extent. These answers of teachers were divided into four fundamental categories according to their content. Answers generally focused on **education of health, of motoric activities, of efficiency and fitness**. In addition, we created a category comprising answers that **did not deal with physical training mission**.

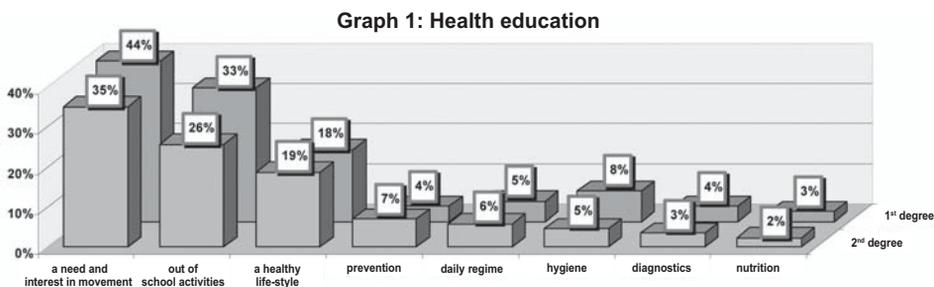
4. Results

Let us focus on interpretation of individual answers according to individual categories.

4.1. Answers focused on education on health

We created an internal subcategory system to cover a whole spectrum of areas which were recorded in answers to questions about education of health. These are the areas:

- a) *a need and interest in movement* (we included answers into this category whose content may be included under statement that a school should stimulate the children to move themselves and actively encourage their interest in movement)
- b) *out of school activities of children* (the teachers direct the children to activity even outside the school physical training)
- c) *a healthy life-style* (physical training contributes to the healthy life-style of children)
- d) *prevention* (physical education sub-serves the prevention function in the meaning of preventing sicknesses and injuries of children)
- e) *daily regime* (movement activity has its stable place in the daily regime of children thanks to enlightenment of physical training)
- f) *hygiene* (physical training contributes to hygienic habits of children)
- g) *diagnostics* (within the scope of physical education classes, it is possible to diagnose the children for various movement insufficiencies, weakening and others, to draw attention to it and so to help its remedy)
- h) *nutrition* (physical training contributes to correct nutritional habits of the children)



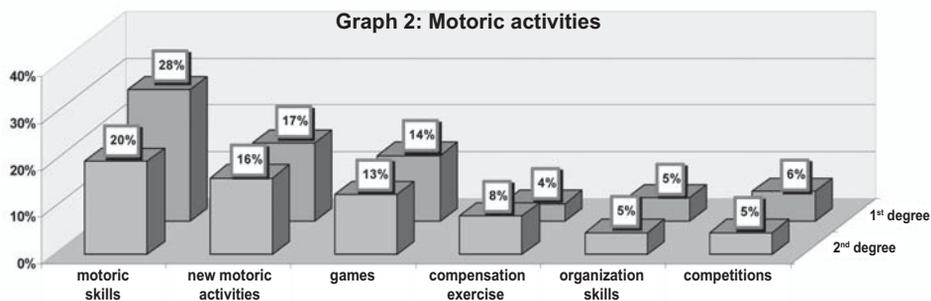
Commentary: We can see in the graph 1 that the teachers correctly understand the importance of stimulating the children to a continuous need for movement not only at school grounds but also in their free time and to make them to include movement activities in their daily regime. They are aware that physical training takes a share in their healthy life-style. Lower frequency of answers focused on diagnostic functions of physical training is interesting. These answers should be a strong instrument for a timely remedy of weakened children in their early age.

4.2. Answers focused on motoric activities

Sub-categories of this area were:

- a) *motoric skills* (classes of physical education serves to the children mostly to acquiring motoric skills)

- b) *new motoric activities* (familiarizing children with new motoric activities and finding those which will catch their attention and will satisfy their demands)
- c) *games* (the content of classes are mostly games and fun)
- d) *compensation exercise* (working up, stretching, special compensation exercise)
- e) *organization skills* (familiarizing children with organization of games and motoric activities)
- f) *competitions* (implementation of competitions as a motivational element in the class)
- g)

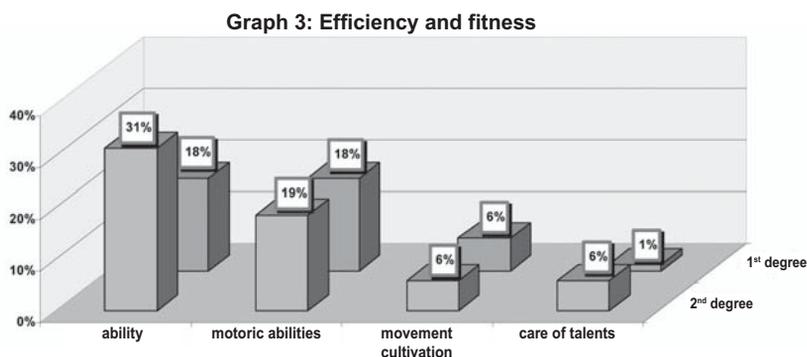


Commentary: In graph 2, we can see the difference how the teachers of first and second degree on primary school understand the point of physical education in connection with accent on motoric skills of children. You may be surprised in relation to a low frequency of compensation exercise, especially on first degree of primary school.

4.3. Answers focused on efficiency and fitness

Sub-categories of this area were:

- a) *ability* (focused on performance, aerobic endurance, handling physical stress)
- b) *motoric abilities* (strength, endurance, coordination and speed)
- c) *movement cultivation* (motorics, control of body, esthetic show)
- d) *care of talents* (recognizing and individual approach to motorically talented children)

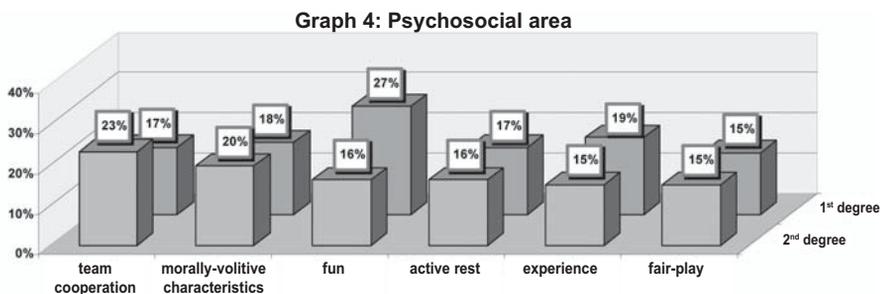


Commentary: Answers focused on efficiency and fitness of children showed in graph 3 are recorded almost twice more often by teachers of second degree on primary schools than by teachers of first degree on primary schools. A thing to think about is the very low care of talents not only on first degree but on second degree as well. According to our opinion, the cohesion between school physical education and sports organizations should be more apparent and sophisticated. We mean especially recognizing a motorically talented child and subsequent care of such child in cooperation with sports organizations.

4.4. Answer focused on psychosocial area

Sub-categories of this area were:

- a) *team cooperation* (creating a team spirit and ability to cooperate with the children)
- b) *morally-volitive characteristics* (cultivation of children's' personality)
- c) *fun* (accent on fun and playful activities which excite the children)
- d) *active rest* (recreational, undemanding conception, suppressing stress and establishing peace)
- e) *experience* (accent on positive experience of individual activities)
- f) *fair-play* (getting a respect of fair-play rules by the children)



Commentary: This category has rarely well-balanced values of frequency of all categories. As we can see on graph 4, psychosocial functions of physical education are very strongly perceived by the teachers themselves in their whole spectrum of operation. WE can positively evaluate the percentage representation of answers relating to fun and experience on first degree of primary schools.

4.5. Answers that do not deal with physical education mission

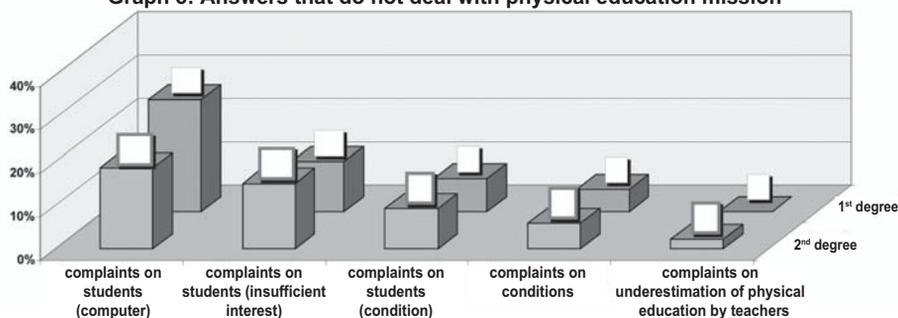
This independently standing category subsumes those answers which did not directly relate to given question, i.e. physical education mission. However, they have their important communicative value and serve to outline the opinion spectrum of all teachers. We can divide it into these sub-categories

- a) *complaints on students (computer)*. This sub-category subsumes all answer with the nature of complaints on students. Respondents point on passive

activity of children from the view of movement (as watching television and playing computer games)

- b) *complaints on students (insufficient interest)* We have answers where teachers point on insufficient interest of children in motoric activities.
- c) *complaints on students (condition)*. Answers containing complaints on low abilities and condition of students
- d) *complaints on conditions*. Teachers point on insufficient financial and material provision of schools and physical training facilities.
- e) *complaints on underestimation of physical education by teachers*. Respondent point on underestimation of physical education importance by teachers themselves.

Graph 5: Answers that do not deal with physical education mission



Commentary: This category originated as an amendment because some of the respondents did not give answers to physical education mission itself. However, we think that these suggestions are very serious and disturbing. Almost 26 % of first degree teachers complaints in their answer on excessive orientation of children on sedentary activities of students, especially on work with computers. Teachers negatively perceive present insufficiency of movement and insufficient interest in movement. As shown on graph 5, this applies both to first and second degree on primary schools.

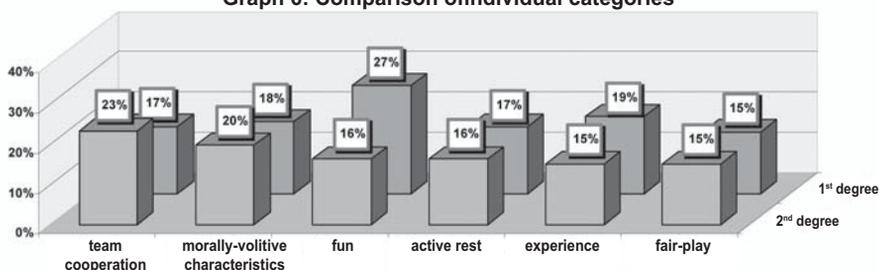
5. Summary

Through comparing the frequency of representation of individual categories, we acquire an integral picture of understanding the physical education, as it is seen by physical education teachers on primary schools. In our answers, we tried to cover the fundamental goals, purpose and function of physical education. Graph 6 compares answers of teachers of both degrees of primary school. Table 1 corresponds with graph 6 whereas the table is completed by total values.

Table1 Comparison of individual categories

Answers of teachers focus	1) on education on health	2) on motoric activities	4) on psychosocial area	3) on efficiency and fitness	5) out of physical education mission
86	62	51	51	44	31
2nd degree	72 %	59 %	59 %	51 %	36 %
78	53	46	46	25	31
1st degree	68 %	59 %	59 %	32 %	40 %
164	115	97	97	69	62
total	70 %	59 %	59 %	42 %	38 %

Graph 6: Comparison of individual categories



From graph 6, we can see that *education on health is positively and very intensively perceived by teachers of both degrees on primary school and they combine it with physical education mission. The accent is in physical education classes placed on motoric activities and by them even on psychosocial area. Efficiency is especially on the first degree on primary school receding. On the contrary, on the second degree on primary school, the efficiency traditionally stays on its values (51 %). An impulse for thinking may be the complaints of teachers who negatively react on insufficient interest of student in motoric activities and low motoric activity of children.*

If we differentiate them according to the sex of the respondents, we can see as these values change in Table 2. We must mention that the answers of male and female teachers differ mostly on second degree of primary school in answers focused on efficiency and fitness (men 65 %, women 37 %) and on psychosocial area (men 51 %, women 67 %).

Table 2 Answers according to sex of the respondents

Answers of teachers focus	1) on education on health	2) on motoric activities	4) on psychosocial area	3) on efficiency and fitness	5) out of physical education mission
2nd degree (86)					
43	31	27	29	16	17
Woman	72 %	63 %	67 %	37 %	40 %
43	31	24	22	28	14
Man	72 %	56 %	51 %	65 %	33 %
1st degree (78)					
74	49	43	45	25	28
Woman	66 %	58 %	61 %	34 %	38 %
4	4	3	1	0	3
Man	100 %	75 %	25 %	0 %	75 %
Total (164)					
117	80	70	74	41	45
Woman	68 %	60 %	63 %	35 %	38 %
47	35	27	23	28	17
Man	74 %	57 %	49 %	60 %	36 %

Another interesting comparison is shown in Table 3 which is differentiated according to time when the respondents have graduated. You can see progress in positive perception of education on health in dependence on the time of graduation. It is interesting that respondents from first degree on primary schools, who have more current findings from their studies, perceive the function of education on health in the scope of physical education mission more intensively. According to available results, we are able to tell the same about the psychosocial area.

Table 3 Answers according to time of graduation of respondents

Answers of teachers focus	1) on education on health	2) on motoric activities	4) on psychosocial area	3) on efficiency and fitness	5) out of physical education mission
2nd degree (86)					
15	11	10	7	8	7
1970-1979	73 %	67 %	47 %	53 %	47 %
18	16	11	10	8	9
1980-1989	89 %	61 %	56 %	44 %	50 %
28	14	17	19	14	9
1990-1999	50 %	61 %	68 %	50 %	32 %
22	18	12	13	13	6
2000-until now	82 %	55 %	59 %	59 %	27 %
3	3	1	2	1	0
others	100 %	33 %	67 %	33 %	0 %
1st degree (78)					
13	5	7	5	4	6
1970-1979	38 %	54 %	38 %	31 %	46 %
24	17	16	12	7	13
1980-1989	71 %	67 %	50 %	29 %	54 %
20	15	12	14	8	5
1990-1999	75 %	60 %	70 %	40 %	25 %
9	9	3	9	2	4
2000-until now	100 %	33 %	100 %	22 %	44 %
12	7	8	6	4	3
Others	58 %	67 %	50 %	33 %	25 %
Total (164)					
28	16	17	12	12	13
1970-1979	57 %	61 %	43 %	43 %	46 %
42	33	27	22	15	22
1980-1989	79 %	64 %	52 %	36 %	52 %
48	29	29	33	22	14
1990-1999	60 %	60 %	69 %	46 %	29 %
31	27	15	22	15	10
2000-until now	87 %	48 %	71 %	48 %	32 %
15	10	9	8	5	3
Others	67 %	60 %	53 %	33 %	20 %

Table 4 structures the answers of respondents according to popularity of physical education.

Table 4 Answers according to popularity of physical education

Answers of teachers focus	1) on education on health	2) on motoric activities	4) on psychosocial area	3) on efficiency and fitness	5) out of physical education mission
2nd degree (86)					
39	28	23	24	23	16
Very popular	72 %	59 %	62 %	59 %	41 %
45	33	27	28	20	13
Rather popular	73 %	60 %	62 %	44 %	29 %
2	1	0	0	0	2
Rather unpopular	50 %	0 %	0 %	0 %	100 %
First degree (78)					
20	15	14	8	7	12
Very popular	75 %	70 %	40 %	35 %	60 %
54	38	31	34	17	18
Rather popular	70 %	57 %	63 %	31 %	33 %
4	0	1	4	1	1
Rather unpopular	0 %	25 %	100 %	25 %	25 %
Total (164)					
59	43	37	32	30	28
Very popular	73 %	63 %	54 %	51 %	47 %
99	71	58	62	37	31
Rather popular	72 %	59 %	63 %	37 %	31 %
6	1	1	4	1	3
Rather unpopular	17 %	17 %	67 %	17 %	50 %

Conclusion

All values and comparisons (without a deeper statistical analysis which will be performed later) indicate that the teachers clearly realize the needs and priorities placed on them and that they perceive the goals and mission of physical education in accordance with *projected form of curriculum* of physical education. It is obvious from prevalent harmony between the fundamental purpose and function of physical education as understood by the teachers, and how it is described in declared documentation. Therefore, teachers theoretically perceive this projected curriculum. The question is how are these presumptions handled and if they manage to practically fulfill the purpose of physical

education and if it is transferred into the level of realization. Discrepancies between both forms of curriculum (projected one and realized one) surely exist, eventually as shown in our research from 2006 when we discovered that the realized curriculum in physical education has rather a nature of “motoric recreational education” and that the projected curriculum is not presented by the teachers in appropriate manner (Mužík, Trávníček, 2006).

This discrepancy will be a subject of our future research.

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TĚLESNÁ VÝCHOVA POHLEDEM UČITELŮ ZÁKLADNÍCH ŠKOL

Souhrn: Sdělení vychází z dotazníkového šetření, které bylo zaměřeno na posláání současné školní tělesné výchovy. Respondenty byli učitelé tělesné výchovy 1. i 2. stupně základních škol (n = 164). Výsledky šetření přinášejí informace o současném pojmání cílů tělesné výchovy jednotlivými učiteli. Závěry příspěvku mohou být vodítkem pro přizpůsobení kurikula tělesné výchovy potřebám školní praxe.

Klíčová slova: posláání tělesné výchovy, základní škola, tělesná výchova

INITIAL MEASUREMENT OF MEDICALLY ORIENTATED EFFICIENCY AND CORRECT POSTURE OF STUDENTS OF FIRST DEGREE ON PRIMARY SCHOOLS

Jaroslav VRBAS

Abstract: *The goal of the report is to introduce the results of initial measurement of medically orientated efficiency and correct posture of student of first degree on primary schools. As the research methods, we used motoric tests of medically orientated efficiency, tests for orientation assessment of excessive weight and examination of correct posture of student. Measurement was performed on selective group of 412 students of 1st – 5th grade of Brno primary schools. The report shows the possibilities of influence and monitoring of healthy life-style of student of first degree on primary schools.*

Key words: *motoric tests, medically orientated efficiency*

Introduction

The report connect to presentation from the Second conference “School and health 21, Brno 2006” (change in approach to assessment of fitness, information Suchomela 2003), conception of so-called medically orientated physical training on first degree of primary schools (Mužík, Krejčí, 1997, Mužík, 1999 and others). On the basis of the above mentioned findings, we used selected test from the test battery Fitnessgram (Vrbas, 2007) to test the medically orientated efficiency of students of first degree on primary schools. The main goal was to verify the selected tests of medically orientated efficiency in praxis. The testing took place on three selected schools in Brno. The research problem demands a constantly growing team of people. This team is composed of teachers on the first degree on primary schools. Thanks to this, as one of the main goals we discovered that we need a Manual for teachers of first degree on primary schools which may help the teachers to perform the tests independently, only through using utilities and this Manual.

Goals

On of the goals of this message is to verify the functionality of motoric tests used in the Manual and gaining the initial results according to the working version of the Manual. Next goal is to verify the functionality of given “target zones” of medically orientated efficiency for the Czech Republic for used motoric tests from the test battery Fitnessgram according to the gained results.

Methods

For testing, we used selected motoric tests from the test battery Fitnessgram for the first degree on primary schools. A detailed description was already published in the Czech Republic (Suchomel, 2003, Vrbas, 2007).

Used motoric tests correspond with the fundamental components of the medically orientated efficiency according to the terminology used in the USA (Suchomel, 2006).

Used tests: Flexibility - „*Back Saver Sit and Reach*“. Strength and moveability of body extensors – „*Trunk Lift*“. Power persistence of abdominal muscles „*Curl-up*“. Strength and persistence of upper part of the body muscles – *-90° push-ups*, in our literature, we can see a different description of individual variations of the tests. This variation was verified by Massicote (1990). Testing the aerobic efficiency – *Endurance navicular run or the „PACER*“.

Assessment of medically orientated efficiency through selected tests from the test battery Fitnessgram is based on observing so-called *target* zones. In the Table 1 and Table 2, there is an overview of these zones for the first degree.

Table 1 – Target zones of motoric tests - boys

Age	<i>Back Saver Sit and Reach</i>	<i>Trunk Lift</i>		Chest bend from rest		Push-ups		Endurance navicular run	
	(cm)	(cm)		(amount of repeats)		90°		(sweeps)	
						(amount of repeats)			
5	20	15	30	2	10	3	8	Participation on test (sweeps are not set)	
6	20	15	30	2	10	3	8		
7	20	15	30	4	14	4	10		
8	20	15	30	6	20	5	13		
9	20	15	30	9	24	6	15		
10	20	23	30	12	24	7	20	23	61
11	20	23	30	15	28	8	20	23	72
12	20	23	30	18	36	10	20	32	72

Notes: On the left side by each item is set the lower limit and on the right side the top limit of target zones; the flexibility test is binary evaluated (done – not done). Inches were transferred onto centimeters. Modified according to the Cooper Institute (1999, 2003).

Table 2 – Target zones of motoric tests - girls

Age	Back Saver Sit and Reach	Trunk Lift		Chest bend from rest		Push-ups		Endurance navicular run	
	(cm)	(cm)		(amount of repeats)		(amount of repeats)		(sweeps)	
5	23	15	30	2	10	3	8	Participation on test (sweeps are not set)	
6	23	15	30	2	10	3	8		
7	23	15	30	4	14	4	10		
8	23	15	30	6	20	5	13		
9	23	15	30	9	22	6	15		
10	23	23	30	12	26	7	15	15	41
11	25	23	30	15	29	7	15	15	41
12	25	23	30	18	32	7	15	23	41

Notes: On the left side by each item is set the lower limit and on the right side the top limit of target zones; the flexibility test is binary evaluated (done – not done). Inches were transferred onto centimeters. Modified according to the Cooper Institute (1999, 2003).

Research group

Selected group is composed of students of first degree on primary school Vedlejší and primary school Bakalovo nábřeží. There was a total of 373 children tested (163 boys and 210 girls). Testing took place during the first term of 2007. At the beginning of testing, each individual always stretched and warmed up his / her body. Half of children participated in the motoric tests of medically orientated efficiency. Second half of children was viewed in the area of excessive weight and correct posture

We divided the tested group of children into two parts, where one was tested in the area of flexibility (test: back saver sit and reach) and the other part was tested in the area of strength and moveability of body extensors (test: trunk lift).

After these tests were completed, children made pairs. Then followed these tests: chest bends from rest and 90° push-ups. There are CD records for these two tests which determine the speed of performed movement – for now, these records are available only in English language and therefore we explained meanings of each word to the students

(up, down). Counting showed as very important to explain (starting and ending phase of exercise). Also, we performed a practical illustration (performed by the teacher or selected student) to explain how the exercise must be performed correctly. One child from the pair performs the exercise (i.e. is tested) and the second child is counting how many times the tested child performs the exercise. Final results are recorded and after the last test has been performed, the children swap.

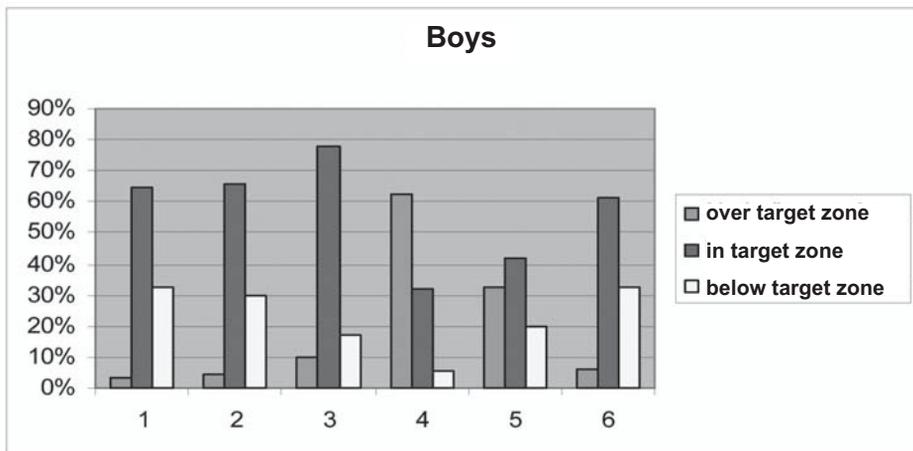
We placed the 20m endurance navicular run in the last part of the testing. This test is performed in pairs again where the child not tested is counting sweeps of the tested child. After the test is finished, the children swap again.

Limiting factors of testing objectivity

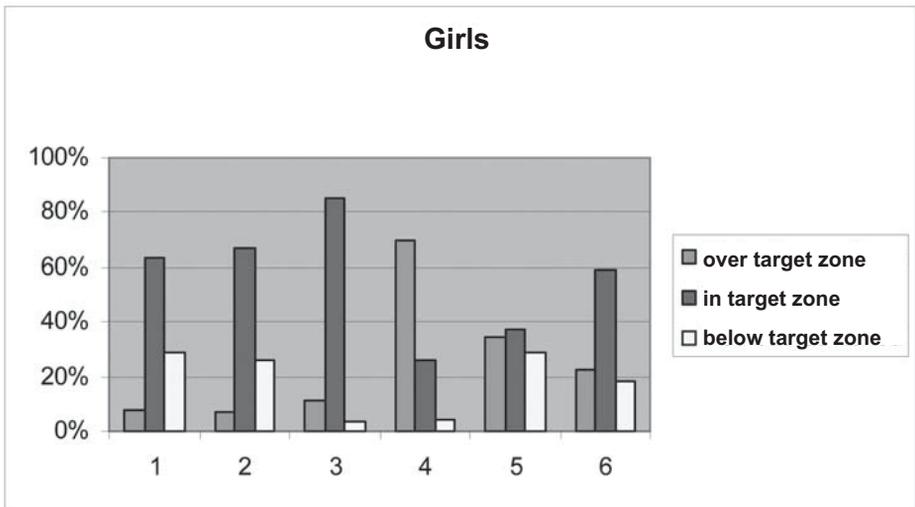
Testing itself may be influenced by many factors which must be taken into account. The main element before testing could even start was to gain the approval of the school and family. Before the data collecting we needed to gain the approval of parents. A right motivation of children is also an important part of the testing. Using the same utilities and environment for testing (gymnasium with required parameters) and evoking the same conditions increases the validity of tested groups of given pools. We also have to apprehend whether the tested individuals maintain a drinking and feeding regime. A certain rate of dependency may be determined There is a difference whether the testing takes place on first class or right before lunch. On the limiting factors may be the organization itself during the testing. It is necessary to differentiate testing in first and fifth grade. We tried to minimize the influence of limiting factors so the results gained by measuring correspond with reality as much as possible.

Selected results

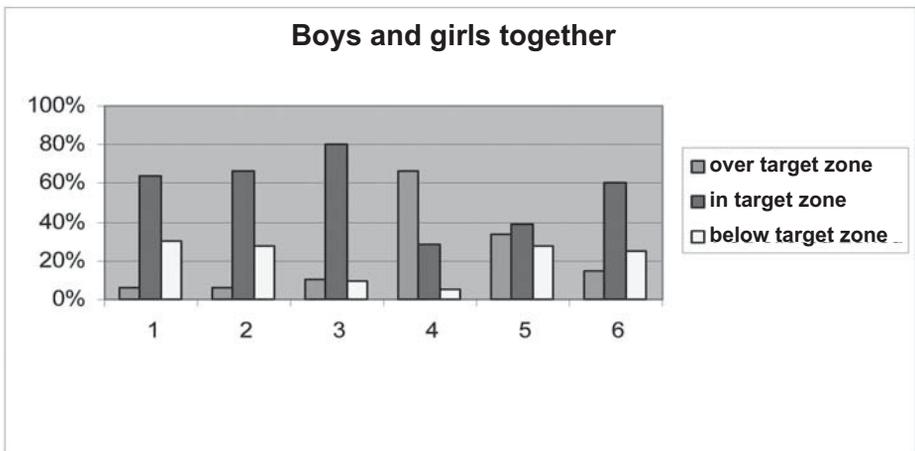
Graph 1. – Boys



Graph 2. – Girls.



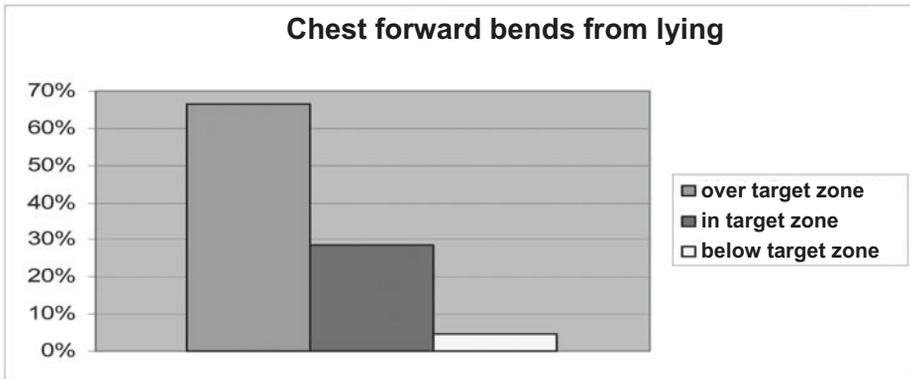
Graph 3. – Boys and girls together.



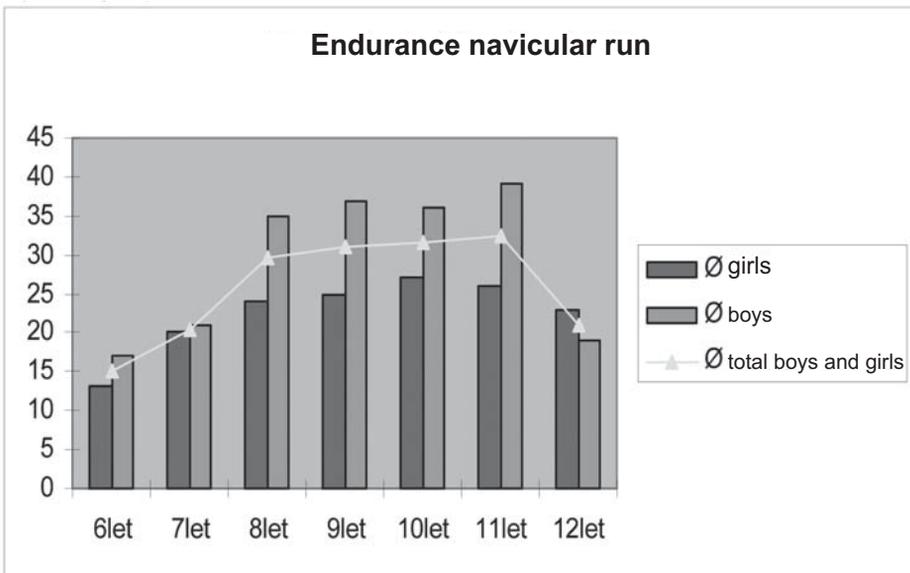
Notes to graphs 1, 2 and 3:

- 1. Forward bend from sitting right leg forward**
- 2. Forward bend from sitting left leg forward**
- 3. Backward bend from lying on belly**
- 4. Chest forward bend from lying**
- 5. 90° push-ups**
- 6. Endurance navicular run**

Graph 4. Boys and Girls – chest forward bends from lying.



Graph 5. Boys and Girls – endurance navicular run.



In the graphs 1, 2 and 3, there is a summary of results of individual motoric tests on the basis of CZ. Graph 1 shows the results for boys, graph 2 the results for girls and graph 3 the results for both boys and girls. In graph 4, there are results of chest forward bends from lying tests which exceed CZ for 65 %. Graph 5 illustrates the total decrease of aerobic efficiency measured by the endurance navicular run test for twelve-year old students.

Conclusion

- Testing the student from first degree on primary schools helped us to verify the functionality of motoric tests in the working version of the Manual.
- Testing also showed us that the target zones of the medically orientated efficiency correspond to our conditions with the exception of Chest forward bends from lying test.
- We considered the selected tests as suitable tests for the first degree on primary schools.
- On the basis of initial measurement, many tasks connected with the Manual creation have arisen. Outcomes of this and other following measurements will be lectured on following conferences and published in technical and other magazines and media.

The report originated within the frame of research programme “School and health for 21st century” (identification code of the programme: MSM0021622421).

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PRVOTNÍ MĚŘENÍ ZDRAVOTNĚ ORIENTOVANÉ ZDATNOSTI A SPRÁVNÉHO DRŽENÍ TĚLA ŽÁKŮ 1. STUPNĚ ZŠ

Souhrn: Cílem příspěvku je seznámit s výsledky prvotního měření zdravotně orientované zdatnosti (ZOZ) a správného držení těla dětí na 1. stupni ZŠ. Výzkumnými metodami jsou motorické testy zdravotně orientované zdatnosti, testy pro orientační posouzení nadměrné hmotnosti a vyšetření správného držení těla žáků. Měření bylo provedeno na výběrovém souboru 412 žáků 1. – 5. ročníku brněnských základních škol. Příspěvek poukazuje na možnosti ovlivnění a monitoring zdravého životního stylu žáků na 1. stupni ZŠ.

Klíčová slova: motorické testy, zdravotně orientovaná zdatnost

PREVENTING CHILDREN'S INVOLVEMENT IN AUTOMOBILE ACCIDENTS: FORMS OF TRAFFIC-SAFETY EDUCATION IN SELECTED EU COUNTRIES (PART 2)

Mojmír STOJAN

Abstract: *The involvement of children and adolescents in traffic accidents on our heavily traveled streets and roads is a serious public-health problem. That involvement is usually traceable to the failure of one or more of the participants in a given traffic situation to apply, or even to possess, either the information, the judgment, or the motor skills which are necessary to ensure an individual's safety in traffic and the safety of those around him. Many European countries have developed systems of traffic-safety education to inculcate the necessary information, judgment, and skills in their young people. Those systems are generally well-thought-through and well administered. The goal of the present study is to survey the traffic-safety educational systems of selected EU countries, to compare and contrast them, and to assess which of their features it would be wise to adopt in the creation of a system of traffic-safety education adapted to specifically Czech needs.*

The first part of the study (Stojan, M., "Preventing children's involvement in automobile accidents, forms of traffic-safety education in selected EU countries," part 1, in School and Health in the 21st Century, monographic collection of research intentions MSM0021622421. Brno: Masaryk University, 2006) sets out the survey results in the following areas:

- Traffic-safety as a required or elective subject.*
- Topics covered in traffic-safety programs.*
- Training of traffic-safety teachers.*
- The funding of traffic-safety programs.*
- Taking account of students' ages and developmental levels in the design of traffic-safety programs.*
- Traffic-safety teaching approaches and methods; the integration of traffic-safety programs with the broader school curriculum.*
- The time budget for traffic-safety instruction.*
- Goals, content, forms, and methods of traffic-safety education.*

The second part of the study sets out the problems that attend the implementation of traffic-safety programs in schools; describes the media and materials that have been found useful in traffic-safety instruction, [material omitted]; describes methods for evaluating the effectiveness of traffic-safety programs in schools [. . .]; and discusses how traffic-safety curriculums and experience can be disseminated and exchanged internationally.

Key words: *traffic-safety education, media and technologies for traffic-safety education, publishers of didactic aids and resources for traffic-safety education, the financing and distribution of aids, evaluation of systems of traffic-safety education and their respective analyses, transfer and exchange of traffic-safety curriculums.*

Present state of the problem

A country's entire population has an important stake in promoting traffic-safety education as a means of reducing children's involvement in traffic accidents. Traffic-safety education should begin at an early age and in the schools. Its thrust should be twofold: to create understanding of traffic behavior from the simple to the complex, and to instill habits of safe conduct in real-life traffic situations.

All countries that have instituted traffic-safety programs have done so in conformity with each country's individual culture and needs. It is possible, however, by a careful analysis of the programs of a number of countries, to derive a set of features that are common to all or most, that are of demonstrated effectiveness, and that recommend themselves for incorporation into the model best suited to one's own country,

For this study, data on the traffic-safety programs of twelve European countries provided the framework of research and analysis. These data were collected in conformity with research protocol MSM0021622421.

Our basic findings are that:

- a) From a child's earliest age, parents play a key role in any program intended to reduce children's involvement in automobile accidents. They can and should indoctrinate to their children safety behavior in traffic, respecting traffic regulations and overall correct traffic behavior.
- b) Traffic-safety education should begin at the pre-school level, where children can be taught the basic principles of how to conduct themselves safely outside of the home.
- c) Children ages six to nine progress through a graded program that focuses on traffic rules and on practical instruction in how to observe those rules on the street. Such instruction takes place both in the classroom and outside in real-life traffic situations. It makes use of role-playing, game activities inside and outside class, the use of computerized traffic simulations, etc.

- d) In upper primary-school classes, the material from the lower grades is broadened and deepened. Relevant material from other subject areas--physics, math, biology, physical education--is brought to bear on traffic-safety issues. Connections are also made to literature, geography, and civics.
- e) Learning traffic safety is a whole-life process. In middle school, traffic-safety education is further deepened. It seeks to develop in students the idea of the individual as a partner in traffic, and so prepare the ground he will enter to become a driver. Within the framework of traffic education in higher classes, it's not possible to offer better quality driving courses.
- f) Special attention should be given to auto schools, for example, how successfully they capitalize on the knowledge and skills their customers will have acquired in their primary and middle schooling and what kind of training their instructors have received.
- g) At all levels, the effectiveness of a traffic-safety program hinges on the quality of its teachers. Training in traffic-safety education should be incorporated into the curriculum of the pedagogical faculty for primary- and middle-school teachers-to-be. Links with other fields such as psychology should be encouraged. Similarly, thorough traffic-safety training should be required of all those whose work entails any kind of traffic-safety or traffic-management responsibility, e.g., teachers and examiners at auto schools, traffic policemen, civil servants involved with traffic management.

The goal of part 2 of the research study

The goal of this part of the research study for the project MSM0021622421, "School and health in the 21st century," is to map the programs of traffic education at schools and other educational institutions in selected EU countries with respect to the following:

- Identification of the main problems in implementing traffic-safety education in schools.
- Instructional media and teaching materials for traffic-safety education.
- Financial aids
- The people that provide resources
- Evaluating the effectiveness of traffic-safety programs in schools.
- Innovation in the traffic-safety curriculum.
- International transfer and sharing of traffic-safety educational experience and curriculums; regional adaptation of such material.

The research conditions

- The need for a structured system of institutional traffic-safety education is indisputable.
- For traffic-safety education to be effective in schools of all types and levels and at other institutions, the thorough preparation of teachers is essential. Such preparation is best undertaken at pedagogical faculties.

- Safe conduct in traffic is, like other norms of desirable behavior, teachable and should be part of a child’s education beginning no later than the first grade of primary school.
- A professional instructional and administrative staff is the best guarantee of success in teaching traffic safety to young people.
- It is important that those involved in teaching traffic safety be provided with the all the necessary instructional material and aids.
- Traffic-safety programs should be periodically evaluated for effectiveness, including the effectiveness with which they have been incorporated into the broader school curriculum.
- Improvements in traffic-safety education should be disseminated and exchanged internationally and, where needed, adapted to local conditions.

Characteristics of the research set and the method of research

The countries chosen for the survey had to meet two basic criteria:

- Be on the same level of traffic development as the Czech Republic;
- Be able to make available the full range of information and data required for the study.

The body of information and data from each country was subjected to a uniform analysis and evaluation. Measures of a material, technological, evaluative, and administrative character were applied:

- The frequency of use of various types of traffic-safety teaching material.
- Leading authors of such material.
- Leading editors and sponsors of such material.
- Teaching aids offered free to traffic-safety teachers.
- The chief obstacles to implementing traffic-safety programs in schools.
- Intervals of periodic assesment and innovation in the traffic-safety curriculum.
- The posture to this periodic assesment
- International transfer and exchange of traffic-safety educational material.

The basic research methods used are comparative analysis and statistical rating

The research results

Our survey is based on traffic-safety educational data from the following countries: Belgium, Denmark, Finland, France, Italy, Germany (Bavaria), Netherlands, Austria, Spain, Sweden, Switzerland, Great Britain.

Data were classified into one of the following categories:

1. Media and other resources and aids used in traffic-safety instruction.

Macrodiapositives, videos, computer simulations, didactic games, textbooks, and workbook all figured importantly in our sampling of teaching aids. Not surprisingly, for the 11 to 15 age group, the most popular and effective traffic-safety teaching aid is video

programs. They ranked first in popularity in 83.3 percent of the countries surveyed. It is easy to see why, for demonstrating and explaining common traffic situations, they recommend themselves so readily to a generation for which the image has eclipsed the printed word as a source of information.

Instructional games and computer simulations ranked second in overall popularity. The use of computer software for traffic-safety education has increased with the expansion of the range of material available, with the growing technological comfort level of the intended audience, and with the expanding provision of the necessary hardware at schools.

It is worth noting that in five countries (41.6 percent of the sample) the most popular traffic-safety teaching aids are the traditional ones: textbooks and brochures.

For youths aged 15 to 18, video is the favored instructional medium in eight out of the twelve surveyed countries (66.6 percent). It is especially popular among this age group in France, Austria, and Spain. In Germany and Sweden (16.6 percent of the sample), macrodiapositives are also popular, probably because of their excellent processing of files and the algorithmic structure of their graphics and texts. In these same countries, instructional games keyed to various aid bases are also popular. Occasionally seen are journalistic traffic-safety campaigns, as also the student research project carried out in the locality of the school. Spain and Great Britain (16,6%) present textbooks, workbooks and brochures on the first place. In the spectrum of media, nonmaterial resources such as student research projects in the locality of the school (Denmark) or a specific journalistic campaign(Spain) turn up sporadically.

2. Subjects outlining and bringing out didactic material for traffic education

The listing of the subjects, providing or participating in the outlining and publishing of didactic materials for traffic education in individual inquired countries, is various and contains a few types of office, associations caring for or overseeing traffic safety, different kinds of insurance companies, autoclubs, specialized publishers, private companies and honored professionals and authorities.

For the age group 11–15 years, that is the higher level of primary school, the didactic aids are, in the biggest number of 7 countries (58,3 %), outlined by the offices (DSCR, Ministry of interior, Ministry of education). The category of insurance companies appears in the report from 6 countries (50 %), local authorities from 5 countries (41,6 %). In both cases the rating of these subjects is very unbalanced. France is rated the best, Germany and Great Britain the worst. In other countries the rating of publishing meaning of these subjects is better than average. Associations for traffic safety are shown as the most common and with the best rating: The highest or very positive coefficient of ranking expressing the priority meaning in the overall publishing potencial was reached in 9 countries (75 %) and in 6 cases (50 %) they were represented by private associations- in Denmark, France, Italy, Germany, Netherlands and Austria, and in 3 cases (25 %) public associations- Belgium, Spain and Sweden. Autoclubs in four countries (33,3 %) with very good ranking are getting involved in publishing didactic materials for this age group. For the age group 15–18, that is, for the children of middle schools, private and public associations for the safety on roads are ranked first place in eight countries

(66,6 %) in the importance of the whole production system. From these eight countries, five are private (41,6 %) and three are public (25 %). Though in 6 countries (50 %) also insurance companies and local authorities co-operate on the concept of didactic aids and programs, Germany and Great Britain have the worst ranking. The total opposite is France and Netherland, who obtained the priority mark for the same subjects. A very important editorial help is offered by insurance companies in Belgium, France, Spain and Sweden. In five countries (41,6 %) the ministries with an average mark placed in the hierarchy of the editorial meaning (France, Germany, Spain, Great Britain). Autoclubs are introduced with a good or very good mark in Belgium, France and Germany.

3. The system of financing didactic materials for traffic education in schools

A very important factor for the equipping of schools with didactic materials and aids for traffic education is the system of their distribution and payment. In the indicators acquired by saving, there are three ways, in which schools take on the media, either for free, partly free and partly for a fee or just for a fee, according to the forms and measurements of their subsidizing by the producers or third subjects. For the age group 11–15 the basic didactic aids are offered for free in 6 countries (50 %), partly free and partly paid in 9 countries (75 %). In Belgium, France, Italy, Germany and Austria, there are both systems. In 4 countries (33,3 %), Denmark, Finland, Netherlands and Sweden, the didactic aids for traffic education for older students of primary schools are for a fee. Also for the age group 15–18, the basic didactic aids are offered for free in schools in 6 countries (50 %). The system of distribution and payment copies (except for Finland, that doesn't present the type of payment for middle schools) the system for primary schools.

4. The main problems of the realization of traffic education at schools

The main problems of realization of traffic education at schools are: little or no preparation of the teachers, not enough didactic materials, not enough finances for the formal and material backup of the lessons, no curriculum and not enough lesson time. Also unreachable or no equipment for the practical training is presented sporadically, also the insertion of this subject between optional subjects or no insertion in the curriculum at all, and not enough information.

In the description of the situation in examined countries, the main problem in the 11-15 age group in 10 cases (83,3 %) is the insufficient preparation of teachers, in 8 countries (66,6 %) it's the lack of curriculum and in 10 countries (83,3 %) it's the lack of time for lessons. The relatively most bearable deficiency is the lack of finances and didactic materials, even though this problem is presented by all countries except Switzerland.

For this age category of children and relevant schools, in Netherlands materials, there is a reservation enforced for the nonexistent equipment for practical training and in Austrian materials there is a warning about the basic mistake, that traffic education is not an individual mandatory subject.

For the realization of traffic education for youth 15-18, there is once again the problem of insufficient preparation of teachers in 10 countries (83,3 %), and in Belgium, Denmark, Germany, Austria and Sweden this handicap is rated as the

worst. In 8 countries (66,6 %) the main problem is the lack of curriculum (rated the worst in France and Austria) and in 9 countries (75 %) lack of time for the lessons (especially in Italy, Spain and Sweden). Austria and Spain think that the lack of didactic aids is the most serious problem, in Netherlands and Austria it's the lack of finances, in France, Italy and Austria it's the non-existent or insufficient curriculum, and in Netherlands and Austria it's the lack of time for the traffic education lessons. Austria very fiercely criticises the fact, that traffic education is not an independent and mandatory subject.

5. The periodic analysis of the curriculum

From the results of research it is clear, that from 10 countries only 3 countries (25 %) – Denmark, Finland and Netherlands put the curriculum of traffic education for the age group 11–15 through periodic analysis. In Netherlands the curriculum is analysed every 4 years and the teaching methods are redrawn every 10 years. The other countries (except Switzerland and Great Britain) respond negatively towards the analysis of the curriculum, but they do generally respect its necessity. For the age group 15–18, the curriculum is analyzed and innovated only in Denmark.

6. The main sociocultural and sociopolitical reasons of periodic innovations of the curriculum

The most important reasons for the periodic curriculum innovation in the inquired countries are as follows: the change of lifestyle and of the society structure, changes in the problematics of traffic systems and of the level of active and passive safety of conveyance, including the degree of danger and types of automobile accidents. Other reasons for the curriculum innovation are the fundamental changes in the pedagogic approach and the teaching concept in schools, new pedagogic methodological and technological information, results of traffic research and changes in the traffic legislation. Using the analytic-synthetic ranking, the results of the research concerning the innovation of curriculum of the age group 11–15 will have to keep in mind the changes in lifestyle and traffic problematics in the inspection and innovation of the curriculum according to 7 countries (58,3 %), according to 8 countries (66,6 %) they will have to keep in mind the changes in the society structure and according to 5 countries (41,6 %) it will be the development of the types of automobile accidents and injuries.

For the age group 15–18, the main cause of the curriculum innovation are the basic changes of lifestyle in Belgium, Italy, Austria and Spain (in Spain including the changes of legislation), the types of automobile accidents and the degree of threat by accidents in France and Austria, and new information in traffic problematics in Austria and Sweden uncovered by a traffic research.

Denmark lists the general developmental changes in the pedagogic approach and in the conception of the educational process as the main cause of curriculum innovation, while Finland finds the main cause in the reorganization of the structure of teaching plans. In Spain, the curriculum innovation is set by law.

7. The use of existent curriculum, the transferring and adaptation in other countries' conditions

The use of existent curriculum after the adjustment of the content, forms, methods and resources is possible according to Finland, France, Italy, Germany, Netherlands, Austria and Sweden, while the opinion presented by Belgium and Denmark is negative. In all these cases, the opinions about the problematics (in both age groups) are the same, except for Germany, that is against the transfer of curriculum for the 5–18 year olds. The cause of this exception is probably Germany's respect towards the specific dissimilarities in traffic systems of individual countries, that are shown (or should be shown) within the framework of traffic education in the predriving and driving preparation of middle school students.

8. The reasons of the appropriateness of the transfer and effectiveness during the adaptation of the curriculum in other countries

Factors, that give reasons for the positive posture of the curriculum adaptation in other countries, that appear most frequently: the harmonization of education within the framework of bigger territorial units (such as the European Union), the convergent production of traffic safety culture, bigger effectiveness of the use of created didactic materials, programs and methods, the comparability of results of traffic education in different countries and easier detecting causes of failure and also the general minimalization of expense. Collective philosophy during the outline of the traffic education systems (says Netherlands) shows up independently as a reason or the excellent level of some parts of traffic education in partner countries, for example the preparation of cyclists with minimum effort while outlining these courses (Austria).

For the age group 11–15, the most frequent reason (7 countries, 58,3 %) of the takeover and adaptation of curriculum worked out in other countries is the creation of a convergent culture of traffic safety (Finland, France, Italy, Germany, Netherlands, Spain, Sweden). The effectiveness of the results figures in second place (6 countries, 50 %). A big meaning (5 countries, 41,6 %) is attributed to the possibility of having already created didactic and methodical materials and procedures (Finland, France, Germany, Austria, Spain).

It is not surprising that even for youth 15–18, the most common reason of transfer and adaptation of the curriculum worked out in other countries is also the creating of a convergent traffic safety culture. The awareness of urgency and sophistication of solving the problematics of accidents and injuries and the Europeanism is beginning to get promoted more and more in the political thinking. The effectiveness of the results and harmonization of traffic education is the priority in 4 countries (33,3 %). It is surprising, that in this category only a very small meaning is ascribed to the possibility of having used materials available and to the minimalization of the cost related to traffic education. These reasons are presented by only 2 countries—France and Spain (13,3 %). This fact reflects the generally higher interest in the highest adequacy system of traffic education to the specific conditions of individual countries, rather than the economic effectiveness.

The discussion of the results and foreign inspiring impulses

- *Traffic education should be a compulsory part of teaching plans at primary schools*
Traffic education and training should be a part of general education. Compulsory traffic education is a guarantee, that it is pursued in a systematic and progressive way, that is indispensable for gaining adequate knowledge, skill and postures.

- *Teachers must have access to the adequate preparation for traffic education within the framework of their studies*

Teachers must be offered specific preparation for traffic education in the framework of their university studies, in which they familiarized in detail with all the relevant suggestions. According to the experience from Austria, this preparation should be put through at least 1 hour a week for 1 semester. The preparation of teachers should also include competences, that would allow them to lead even practical training professionally in the conditions of real traffic.

The possibility of further training of pedagogues for leading traffic education with a goal to update their knowledge and their pedagogic skill also has a big meaning. Such specific postgradual studies should be bonused in the career code.

- *Traffic education must be based on official curriculum*

The existence of curriculum is the basis of the effectiveness of traffic education. The curriculum should reflect the strict correspondence with the rules of the prevention of traffic negatives and accidents and should include developmental, psychological, legislative, health and specifically transportational aspects according to the target group with the relation between the goals, content and teaching strategy.

- *Traffic education should permeate through the curriculum in cross-section themes or as a separate subject*

Through the integration of traffic education into different tuitional disciplines, the whole lesson can become an effective combination of theory with real needs, practical applications and life practise. Such a motivational factor causes the rise of interest in school education.

- *Curriculum of traffic education should be periodically analysed and innovated*

The periodic analysis of curriculum is the key step for their evaluation, innovation and update towards the real needs. The innovation should harmonize goals, content and strategy of traffic education with changing traffic problems, lifestyle and social needs.

- *In traffic education it is needed to stress the training in real conditions with elements of creativity, readiness and defensive behavior.*

During the practical training, the meaning of defensive behavior in traffic, which is marked as a traffic maneuver, during which accidents and danger are eliminated, should be stressed. This is related to carefulness, foresight of situations and correct deciding: who has the ability to foresee the development of traffic situations, is usually the one who has enough time to prepare for them and react.

- *State authorities are responsible for the provision of the production and the financing of quality didactic materials for traffic education of children and youth*

Didactic materials should be outlined by competent subjects, financed by the state and offered to schools for free. They must be carried out on modern attractive media comparable to other updated industry for the spreading of information, enlightenment and entertainment. The responsibility for the establishment of such a situation is in the hands of state authorities.

- *The terrain treatment of the countries of the third world with quality traffic educational programs is possible by the international transfer and the specific adaptation of existing curriculum.*

The traffic education curriculum in individual countries differs not just in goals, content, strategies, but even in structure- some are just instructions, others are worked out into detail. Even so, there exists a whole row of collective priorities in these projects for primary schools in the EU. As a positive factor we can consider also one of the results of the research, in which more than half the countries are for the possibility of transfer, mutual convergence and harmonization of existing curriculum. Without this tradition, the countries of the third world can adjust much more quickly and economically to the more advanced countries by transferring their existent traffic education systems and their adaptation to the specific home conditions. The most time and economy-saving solution is probably the formation of an expert working group for the transfer of the curriculum and for the preparation of the same curriculum for all EU countries, that would solve the problem on an international level, with the initial assignment to agree on goals, content, main methods and strategies of traffic education. A place for local specifics, traffic-technical conditions, cultural influence and a different mentality and language must be preserved.

Conclusion:

After the evaluation of the research the first phase provided through the comparative analysis is a picture of the situation in traffic education in chosen countries of the EU from the system and didactic point of view. In the second phase, the acquired information in the same EU countries was used to evaluate the situation of the security of traffic education of children and youth from the organizational, economical, material, technical and internationally cooperational point of view. Because the choice of inquired countries was subordinated to the criteria of comparability with the Czech Republic, the gained initiatives for the systemic solution of the investigated problem in the Czech Republic are relevant and inspirational.

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PREVENCE ÚČASTI DĚTÍ NA DOPRAVNÍCH NEHODÁCH V ZRCADLE ROZSAHU A FOREM DOPRAVNÍ VÝCHOVY DĚTÍ A MLÁDEŽE VE VYBRANÝCH ZEMÍCH EU, ČÁST 2

Souhrn: Dopravní nehody a podíl dětí a školní mládeže na jejich následcích je závažným negativním fenoménem intenzity dopravy současnosti. Jejich původ spočívá většinou v selhání některého z prvků dopravního systému, který tvoří jeho účastníci a dopravní prostředí, v němž se mobilita realizuje. Častým důvodem je zejména nedostatečná připravenost jednotlivých aktérů na vzájemnou bezpečnou interakci. Výchova a výcvik žádoucích znalostí, intelektuálních i motorických dovedností a správných návyků chování je předmětem systémů dopravní výchovy. V mnoha evropských zemích je tento systém velmi dobře koncipován a organizačně zabezpečen. Cílem studie je poukázat na rozdíly vybraných zahraničních systémů a artikulovat při jejich kritickém vyhodnocení podněty pro optimalizaci situace v ČR.

V první části studie (Stojan, M. Prevence účasti dětí na dopravních nehodách v zrcadle rozsahu a forem dopravní výchovy dětí a mládeže ve vybraných zemích EU, část 1. In *Škola a zdraví 21*. Monografický sborník výzkumného záměru MSM0021622421. Brno: Masarykova univerzita 2006) byly vyhodnoceny výsledky zahraničního šetření tématických oblastech:

- obligatority nebo fakultativnosti realizace dopravní výchovy na školách,
- subjektů realizujících dopravní výchovu na školách,
- přípravy učitelů ke kompetentnímu vedení DV,
- realizace dopravní výchovy na školách z hlediska existence jejich vyučovacích osnov,
- realizace dopravní výchovy na školách z hlediska věku a vývojové úrovně žáků pro zařazení dopravní výchovy do výchovně vzdělávacího systému,
- forem výuky a výcviku dopravní výchovy a míry integrace učiva dopravní výchovy s jinými vyučovacími předměty,

- časového rozsahu výuky a výcviku dopravní výchovy,
- cíle, obsahu, forem a metod dopravní výchovy.

Druhá část této studie reflektující výsledky následující etapy šetření v rámci výzkumného záměru MSM0021622421 je věnována vyhodnocení parametrů týkajících se definování hlavních problémů realizace dopravní výchovy na školách, charakteru médií a používaných didaktických materiálů včetně subjektů jejich produkce, prostředků na úhradu didaktických technologií a jejich poskytovatelů, postoji a argumentům školských orgánů k pravidelné evaluaci úrovně a efektivity DV na školách a na ně navazující reflexní analýze a inovaci osnov, a konečně prezentovanému názoru na možnost mezinárodního transferu osnov a zkušeností s DV a jejich adaptace na regionální podmínky.

Klíčová slova: dopravní výchova, média a technologie pro DV, vydavatelé didaktických pomůcek a prostředků pro DV, distribuce a financování pomůcek, evaluace systémů DV a jejich reflexní analýza, transfer osnov DV

A STRUCTURED SYSTEM FOR THE PREPARATION OF TEACHERS OF TRAFFIC SAFETY AND TRAFFIC SCIENCE IN LOWER- AND UPPER-LEVEL PRIMARY SCHOOLS AND IN SECONDARY SCHOOLS

Mojmír STOJAN, Pavel PECINA

Abstract: *The effective realization of the transport education depends on teacher's competence and qualification for its leading on all levels and by accessible forms. It is possible to acquire this competence in the structured system of teacher's preparation in the fundamental, but also in the postgradual pedagogical form, by presence, combined or distance study. In research „School and health for 21st Century“ MSM0021622421 was applicated suitable system for specific czech terms.*

Keywords: *teacher's preparation for transport education, structured system of preparation, contents methodic or technologic point of view*

1. An educational system must be responsive to social and public-health needs. In a world in which pedestrians, cyclists, rollerbladers, and motor vehicles must share the same street and road space, traffic-safety education in the primary and secondary grades should be regarded as an essential element of the school curriculum. Such traffic-safety instruction, however, can only be successful if the teachers who undertake it are properly trained and qualified. It follows that the necessary training in traffic-safety instruction should be an integral part of a teacher's undergraduate, graduate, and post-graduate study and should be based on a well-thought-through plan.

Previous research in this field has been concerned with describing the methods of traffic-safety education in the elementary and secondary schools of ten European countries. (See Stojan, M., *Reducing child and youth involvement in car accidents: the role of traffic-safety education in selected EU countries*, parts 1 and 2.) Our present concern is to set out a program for the training of teachers of traffic safety and traffic science which is adapted to the specific conditions of street and road traffic found in the Czech Republic. It is a program based on scientific research and on the careful analysis of the results of such research in a number of other countries. It aims to address all aspects of traffic-safety education at the primary and secondary levels and in a Czech context: specific content, methodological and technological assumptions, and the need

to organically and harmoniously integrate such instruction into the overall primary- and secondary-school curriculum.

2. In the plan envisioned, traffic-safety education will be a compulsory subject in the fourth year of training programs for lower-level primary-school teachers. Coming at this point in a teacher's training, the program's impact will be enhanced owing to the ample pedagogical and psychological sophistication the teacher-in-training will already have developed.

The program's areas of emphasis will be as follows:

- Traffic education in the lower level of primary schools as a part of the preparation of a child for key qualifications, defined in the RVP.
- The safety needs of children as pedestrians and cyclists.
- The psychology of traffic-safety instruction.
- Safety risks to which the young pedestrian and cyclist are exposed.
- Basic on-the-scene first aid in the event of a traffic accident.
- Educating the family in traffic safety.
- Incorporating traffic-safety instruction into youth club programs and into other extracurricular activities of children and adolescents
- Successfully incorporating traffic-safety education into the overall educational curriculum of grades one through five.
- Assessment of the effectiveness of lower-level primary-school traffic-safety programs.
- Promoting creativity in the lower-level primary-school teaching of traffic safety.

3. Traffic education for teachers of the higher level of primary schools in the fulltime and combined studies.

This subject is placed into the new outlined program of studies for teachers for the higher level of primary schools and into the common basis without difference of certification combinations. With its focus it watches the preparation of teachers for leading the traffic education in the higher level of primary school, so that it connects to the basis built in the lower level. There is emphasis on bigger problems and creativity while solving model traffic situations, in which the children are usually cyclists. The preparation leads into the pre-driving preparations of students in the 9th grade.

We propose a training plan to prepare teachers of the upper-level primary grades to implement a traffic-safety program that will take up where the lower-level program, as described above, leaves off.

The emphases of our proposed course of study are as follows:

- Traffic education in the higher level of primary school as a part of the preparation of a child for the competence global literacy in the concept of the 21st century.
- Applications connecting to chosen regulations in the paragraphed version of law 361/2000 about traffic on terrestrial communications for the needs of youth
- The psychological forces at play when an older child or an adolescent finds himself in a more complicated traffic situation.

- Qualities that distinguish a responsible citizen of the street and road--be he a pedestrian, a cyclist, a rollerblader, or a driver--and how to cultivate those qualities.
- Street-safety risks to which the older child and the adolescent are especially prone.
- On-the-scene first aid that goes beyond the basics.Family participation in traffic-safety education.
- Traffic safety as a key part of pre-driver programs.
- Integrating a traffic-safety educational program into the overall upper primary-school curriculum.
- Promoting creative approaches to the problem of making traffic-safety instruction interesting and worthwhile for the upper-primary student.

4. For vocational and other special schools, a three-semester program devoted to the study of vehicular and pedestrian traffic and how they interact with one another would take the following form:

1st semester

- A history of modern road transportation and traffic management, with special reference to the Czech experience; the Czech transportation industry; the restoration of historic vehicles
- General problems in organizing and managing vehicular and pedestrian traffic; traffic systems in the Czech Republic and abroad; present-day technology for the organization and management of vehicular and pedestrian traffic.
 - Active and passive vehicle-safety measures.
 - Safety, functional, and aesthetic factors in vehicle design; the role of new materials in vehicle design; contemporary vehicle design trends. (Students are assigned individual tasks in connection with these topics.)

2nd semester

- Traffic legislation in the Czech Republic: history and present status; law no. 351/2000; the concept of 'safe traffic'.
- The causes of automobile accidents; technological and educational measures to reduce the incidence of accidents; the approach to auto accidents taken by a forensic traffic expert.
 - The guilty party in an accident; how to assess blame and complicity.
 - The behaviour of participants in an auto accident.
 - A typology of vehicular accident injuries; principles of accident first aid. (Here again students are assigned tasks in connection with the topics under discussion.)
 - The social, economic, and health consequences of auto accidents; comparison of accident frequency in the Czech Republic and in other EU countries.
 - Causes, forms, and consequences of traffic indiscipline and delinquency, and means of prevention.
 - Typical roles of children and adolescents in auto accidents; how young people's risk of involvement can be reduced.

3rd semester

Traffic science and traffic-safety education as a pedagogical discipline.

- The application of psychological principles in traffic-science and traffic-safety education.
- The didactics of traffic-science and traffic-safety education; the content and goals of such education at special schools; getting adolescents to put what they have learned about traffic safety into practise.
- Traffic-science and traffic-safety education as a means for promoting creative thinking on the part of students at special schools.
- Modeling and solving traffic-science and traffic-safety problems.
- Projects to promote traffic safety in the Czech Republic and in other EU countries (individual student assignments).
- Traffic-science and traffic-safety education at vocational and other special schools, and in extracurricular programs in the Czech Republic and in other EU countries.
- Devising a traffic-safety education program for middle schools.
- Equipping middle schools with the resources necessary to carry through a successful program of traffic-safety education.

5. For already qualified and experienced primary-school teachers who have never had formal training in traffic-safety instruction but who engage in such instruction as part of their professional activity, we propose a one-semester course of preparation, a seminar meeting two hours a week for which graduates will receive a special certificate. Although we have particularly in mind graduates of the pedagogical faculty of Masaryk University of the last twenty-five years or so, the seminar will also be suitable for graduates of other universities who work in traffic-safety education, and for those who may not be university trained but who have a strong interest in traffic-safety education by virtue of the work they do, e.g., youth-center workers, policemen, transit workers, and other civil servants.

The seminar will embrace the following topics:

- Comparison of traffic-safety programs in the Czech Republic and abroad.
- Traffic-safety instruction as an important element of the primary-school curriculum.
- Integrating traffic-safety instruction into the broader school curriculum.
- Developing and implementing a primary-school traffic-safety program.
- Accreditation of traffic-safety instructors.
- Social and public-health implications of traffic-safety and accident-prevention education.
- Traffic-safety education in a family context.
- Traffic-safety education outside the schools.
- Making traffic-safety instruction part of the primary-school physical-education program.
- Instructing cyclists of all skill levels on bicycle safety and the rules of the road.
- Familiarizing primary-school teachers with the contents of traffic law no. 361/2000.
- Methods and resources for teaching traffic safety in the primary schools.
- The goals of primary-school traffic-safety instruction: to promote safety not just in

a student's trip to and from school but in all his encounters with vehicular and pedestrian traffic.

- Suggestions for making traffic safety instruction interesting and worthwhile for students.
- Traffic-safety playgrounds for children.
- How traffic-safety education can usefully draw on the tenets of general and developmental psychology.
- Traffic-related injuries sustained by primary-school children; the prevention of such injuries; administering first aid.
- The teacher's legal responsibility with regard to a student's involvement in a traffic accident.
- How a forensic traffic expert approaches accident cases.
- The spectrum of the support of Besip , realization of traffic education at primary schools.

6. The connecting seminar 1-D for the graduates of seminar 3-D of the postgraduate study of traffic education.

The connecting and deepening seminar of traffic education is intended for graduates of seminar 3-D of the postgraduate study of traffic education, who have a certificate and who want to work as lecturers and methodists of traffic education in schools.

Content:

- Statistic indicators of social-health impacts of automobile accidents with the presence of children and youth in the materials OECD and WHO.
- Traffic education in the context of school educational programs and real school practice.
- Current projects and programs of traffic education on the national and international level.
- Specific traffic injuries and their solution within the framework of amateur first aid
- The meaning and system of the net of primary schools with patronal methodic leadership of traffic education.

7. The following course of study is designed for those who plan to work as professional traffic-safety educators or as civil servants in a traffic-management capacity. It is in conformity with guidelines set out in law no. 363/2004 about pedagogical workers and about the change of some laws, § 9, par. (3); with notice no. 167 of the Office of Traffic and Connections, dated 19 April 2002; and with law no. 247/2000 Sec. 6 and Sec. 7.

The course will focus on pedagogical theory and practice, on the psychological dynamics of vehicular and pedestrian traffic; on departmental didactics, and on special subjects. It is a simplified version of a projected bachelor's degree program designed to train professionals in the field of traffic-safety education at all age levels, and civil servants who will have traffic-management responsibilities.

Requirements for acceptance into the course will be graduation from a university, or from an academic middle school with possession of the maturita in subjects relevant to the course's content. That content is as follows:

1st semester

- Education in an information society.
- Introduction to philosophy
- General pedagogy.
- Introduction to sociology.
- Introduction to psychology.
- Social and pedagogical anthropology.
- Information and communications technology

2nd semester

- Developmental psychology.
- Comparative pedagogy.
- General didactics.
- Teaching of law.
- Practicum on didactic technology.
- Basis of healthcare.

3rd semester

- Didactics of practical teaching and specialized subjects.
- Pedagogical practice.
- Physics of traffic.
- Trauma in accidents.
- Basics of pedagogical psychology.
- Traffic psychology.
- Special pedagogy for traffic education.
- Practicum on didactic technology [same appears above].
- Seminar on final project.

4th semester

- Theory and principles of safe driving.
- Traffic legislation.
- Practise teaching.
- Seminar on final project.
- Final project.

Conclusion

The structured system of traffic education described above is designed to prepare teachers to educate schoolchildren in how to conduct themselves in the whole range of traffic environments, whether as pedestrians or as vehicle operators, in a manner that ensures their own safety and the safety of those around them. It provides for the training of traffic-safety teachers at the lower- and upper-primary levels as part of their undergraduate pedagogical curriculum or, for already certified and practising teachers, as a free-standing course of study. It embraces a broad and diverse range of subject matter, owing to the conviction on our part that the complex interactions in many traffic environments can best be understood, and most effectively taught, through an in-depth investigation of their physical and psychological sources.

The proposed system also provides for the training of those who will incorporate traffic-safety instruction into a program for pre-drivers and into driver-training courses at auto schools. For professional traffic-safety educators and for civil servants with a responsibility for traffic management, there is a four-semester course of study embracing every relevant subject area. Members of the information media, who are in a position materially to advance the cause of traffic safety among all age levels of the population, will also find many aspects of the program useful.

Taken as a whole, the structured training program we have set out here, by ensuring that teachers of traffic safety are thoroughly prepared for their important educational role, will do much to promote tolerance, competence, and safe behaviour among all those who share our public roads.

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STRUKTUROVANÝ SYSTÉM PŘÍPRAVY UČITELŮ PRO DOPRAVNÍ VÝCHOVU NA ŠKOLÁCH 1., 2. A 3. STUPNĚ

Souhrn: Efektivní realizace dopravní výchovy závisí na úrovni kompetence a kvalifikace učitelů k jejímu vedení na všech úrovních a všemi dostupnými formami. Nabytí takové kompetence lze dosáhnout ve strukturovaném systému přípravy učitelů již v základním, ale také v postgraduálním pedagogickém studiu, a to prezenčně, kombinovaně i distančně. V rámci výzkumného záměru „Škola a zdraví pro 21. století“ MSM0021622421 byl do rutinního provozu zaveden systém, vhodný pro specifické české podmínky.

Klíčová slova: příprava učitelů na dopravní výchovu, strukturovaný systém přípravy, obsahové, formální a technologické hledisko

SCHOOL IN PREVENTION OF SOCIAL-PATHOLOGICAL PHENOMENA IN PUPILS FROM SOCIALLY-DISADVANTAGED AND EDUCATIONALLY LESS INSPIRING ENVIRONMENT

Jozef LIBA

Abstract: *One of the major problems related to the growing number of social-pathological phenomena is the extent of drug consumption in primary school children. This problem is especially serious in children from socially handicapped and educationally less inspiring environment, dominated by Romany pupils. Family education in this environment does not establish the conditions necessary for desired structuring and stabilization of health-favouring attitudes. Therefore, the paper puts emphasis on responsibility and the shaping potential of primary school in the process of health-oriented education.*

Key-words: *prevention, social-pathological phenomena, education, primary school*

The undesired social-pathological phenomena include facts, activities and forms of behaviour that do not correspond with what is generally acceptable, standardized, expected and required. The group of socially undesirable phenomena and problems encompasses a large number of conduct types of various degree of social impact, ranging from criminality, delinquency, suicides, prostitution, aggressive behaviour, and chicane to pathological addictions (gambling, various cults, drugs, Internet, workoholism, etc.).

What is extremely alarming is the growing number and frequency of various social-pathological phenomena appearing as early as the ontogeny stages which are crucial for the personality development. In the period from 1989 to 2001 the crime rate connected with children and the youth from 6 to 18 years of age boosted by 76 % (Zelina, 2004). In this connection, it is necessary to point out the experiences of children with drugs (alcohol, cigarettes). Chmelová (2003) maintains that the first-cigarette age has dropped from 12,94 to 10,35 years of age. Nociar (2004) gives the following first contact age: beer – 9.4 years, wine 10.1 years, hard drink 10.7 years. What is interesting is the almost linear significance: it means that the

respondents who admitted smoking also admitted alcohol consumption in 87 %. On the other hand, from among those who do not consume alcohol 85 % stated that they had never smoked a cigarette. The data on drug addiction in the Slovak Republic, published in 2006 (NMC, GSVMDZKD – governmental agency) indicate several alarming facts, such as 52.5 % smoking experience among pupils of the age between 10 and 15 years (57 % boys and 47.6 % girls), and 70.3 % first contact with alcohol under the age of 15.

Social pathology in children brought up in socially disadvantaged and educationally less inspiring environment, dominated by Romany children, has been a long-term problem. The socially disadvantaged environment imposes obstacles to meeting 'standard' educational requirements and needs (books, toys, sport equipment, trips, hobby circles, free time structure and contents, etc.) The educationally less inspiring environment is frequently connected with the socially disadvantaged environment, and is characterized by the lack of positive impulses (bio-psychical and socio-cultural) so important for healthy development of children. A combination of these adverse factors restricts the possibility to meet the fundamental biological, psychical, and social needs of children, which results in educational deficiencies and problems as early as the beginning of their school attendance. By implication, it seriously hampers a balanced development of cognitive, affective and psycho-motor facets of human personality. The consequences of social, cultural and linguistic incompatibility are manifested in children falling behind in terms of their mental and emotional development, in their social and educational maladjustment, including unpredictable and aggressive behaviour, impoliteness, using dirty words, truancy, thefts, and other socially undesired phenomena.

The etiology of social pathology in Romany children and youth, including the problems with drugs, stems from the family environment. In our view, the key factor is the identification of Romany children with the behaviour of their parents, with the overall life-style of Romany families. Bačová (1990) maintains that Romany family is a unique demographic type characterized by:

- *The beginning of sexual life at an early age, also including the age of girls who become mothers;*
- *High number of children;*
- *Lower proportion of people in the post-productive age;*
- *Multimember households;*
- *Higher proportion of complete families with children under 15;*
- *Several generations of relatives living in one household;*

These characteristics can be further completed by:

- *Economic constraints due to a bad social situation in families;*
- *Permanently high unemployment rate;*
- *Lack of trust in institutions outside the community, including school which is perceived as a repressive institution;*
- *Low education level of parents;*

- *Immaturity of Romany mothers (they give birth to children at a very young age, frequently as soon as they become sexually mature) implying their inability to bear the responsibility for the education of their children;*
- *Inappropriate role of education in the value system of Romany parents;*
- *Specific language development of Romany children (they cannot speak Slovak as the language of education) due to the absence of any pre-school education;*
- *Poor care of children;*
- *Early contact with drugs (alcohol, cigarettes, volatiles);*
- *Excessively aggressive and asocial behaviour;*
- *High crime rate;*
- *Excessive concentration on the immediate reality; lack of sense of planning and fulfilling the goals;*
- *High dependence of the system of social support.*

Without excessive generalization, Romany family can be characterized as a multimember one with permanently low economic, educational, cultural, and hygienic levels. The psychosocially and culturally determined life of Romany family is reflected in the structure and the contents of the education of Romany children which, unfortunately, also includes drugs (alcohol, cigarettes, volatiles). A dysfunctional family which fails to fulfil its educational functions significantly restricts the level of social integration, the development of socially acceptable habits, skills and values, insufficiently develops individual responsibility for one's own conduct, which, consequently, increases the frequency of socially pathological phenomena. The children from this environment suffer from an educational deficit as a risk factor. This may lead to socio-cultural resistance. The problem of social integration of Romany children is also manifested in the absence of motivation to learn, and in poor school results.

Ďuríčková (2000) provides some data concerning the education of Romany children:

- They fail to reach the final, the 8th year of primary school, 30 times more frequently than other children;
- Almost 90 % of Romanies finish their study at the level of primary school;
- The grade for behaviour is reduced in Romany children five times more frequently than in other children;
- About 22 % Romany children fail at the end of the first year of primary school;
- Romany children fail at the end of school-year 14 times more frequently than other children;
- 25 % Romany children fall within the class of verbal debility;
- 42 % Romany children attend primary schools for mentally handicapped children.

Vašečka (2002) maintains that only 6.5 % Romany students successfully graduated from secondary professional schools and only 0,6 % of Romany students have a university education.

Hornák (2001) explored the influence of the environment on success at school:

- 23.81 % Romany parents admit illiteracy and 26.9 % semi-illiteracy;
- 93 % pupils with poor results (hereinafter PPRs) come from the families with the lowest income;
- in the examined sample of Romany families, the unemployment rate among Romany mothers is 100 %;
- In the PPR group, 46.34 % Romany fathers and 59.52 % mothers did not finish primary school;
- In the PPR group, 58.14 % parents do not care of the school results of their children; 20 % were not able to answer this question.;
- In the PPR group 90.70 % pupils speak Romany as their mother tongue.

Hroncová and Šebiana (2006) shows the correlation between criminality and education in the Romany community. The authors point out that the highest crime rate is among Romanies with less than primary school education. The crime rate proportion of children and young Romanies amounts to 35 % to 40 %. More over, the proportion of children from 6 to 15 is higher than that of young Romanies between 15 and 18 years of age. Tolerance of Romany families to socially undesired phenomena, the absence of relevant health-awareness, and a different value system are reflected in the high failure rate at school. The findings point out grave social isolation of the Romany community.

A monitoring of Romany children (1012 respondents – Romany pupils attending the 3rd year of primary school, without regard to their age) was implemented with the aim to identify, analyze and evaluate the first contact period and the experiences with drugs (alcohol, cigarettes, solutions) in their families and their community (Liba, 2006). It was found out that alcohol and cigarettes (rarely volatiles – toluene) are consumed at an early school age, or even pre-school age; characteristic is the absence of awareness of the harmful effects of alcohol and cigarettes perceived as an integral part of life. The monitoring results correspond with those obtained by Hroncová et al. (2004). It should be noted that the relevance of the data in both of these research projects may be impaired by the approach of Romany children (parents), in particular, by their inclination to tell half-truth or to cheat, and by various misunderstandings, unwillingness to co-operate, and the lack of trust.

In spite of these limitations the obtained data enable us to identify the tendencies and to draw some conclusions:

- Poor care of children;
- Lacking awareness of the harmful effects of alcohol and cigarettes;
- Early beginnings of drug consumption – early school age, or even pre-school period.
- Dominant position of boys (in our sample) in relation to alcohol and cigarette consumption;
- Tolerance of Romany families to drug addiction;

- Limited health awareness, ignoring the psycho-hygienic tenets, the principles of healthy diet, and the individual and community hygiene;
- Insufficient utilization of the educational potential of school;
- A kind of bias of teachers, manifested in low expectations in relation to Romany children.

These facts restrict the structure and the range of social contacts with non-Romany population, which, no doubt, negatively influences the psychosocial development of children. What is therefore needed – despite negative experiences with the achievements of social institutions, also including school – is a comprehensive analysis, evaluation, comparison, redefinition and modification of everything what has been considered to be relevant primary prevention. There is hardly any universal scheme, especially in view of the considerable heterogeneity manifested in and determined by specific local communities. In spite of the multiplicity of factors affecting the above-mentioned problems, one can identify the crucial condition for positive development, that is to say, the education. Portík (2003) maintains that any change in the social position of the Romanies and the elimination of their problems in relation to the majority is preconditioned by education. School and teachers are the key factor for a purposeful, comprehensive and continuous information- and formation-oriented influence upon Romany children.

Based on the experiences of teachers, published data, and recommendations (for example, Hroncová et al., 2004, Liba, 2007), we are presenting here some tenets that should be observed by school in the process of health-oriented education as an indispensable part of primary prevention, covering not only drugs but also broader social-pathological phenomena.

The tenets take into consideration and emphasize the specific situation of Romany children:

- Reflecting individual and group needs of Romany pupils in terms of their specific local conditions due to the existing internal atomization of the Romany ethnic group at both social and geographic levels;
- Adapting the contents and methods of education to the specific features, habits, abilities, experiences, trains of thought, and the study pace of Romany children;
- Direct help in organizing free time activities, reflecting the natural inclinations of children; supporting their interests;
- Using well-known and positive models; appreciation of achievements;
- Explaining social norms, development of communication and social skills, and the ability to resolve conflicts;
- Flexible application of strategies, knowledge, programmes, and conceptions pursuing health-oriented activities in the environment characterized by a different linguistic, social, and cultural levels;
- Organizing social activities attended by both parents and pupils, with the aim to present the importance of education and the need to take care of one's health.
- Purposeful gradual and post-gradual teacher and teacher-assistant training; education of prevention coordinators, and other educational workers.

- Preferential treatment (teaching load, salary) of teachers, taking into consideration the unequal working load as a consequence of the actual situation in Romany classes or classes with Romany majority;
- Increasing the number of education classes with participation of assistant teachers as supporting pedagogical workers.
- Introduction of compulsory one-year-long pre-school education, or the so-called zero year of school education as an instrument for increasing the effectiveness of Romany children integration during the initial years of primary school attendance;
- Use of / modified restoration of “all-day education system” as a supporting strategy in Romany children education;
- Possible application of the concept of compensating education as a system of activities contributing to the education of the disadvantaged part of the population (compensating curriculum as a form of an internally differentiated system of education procedures),
- Possible purposeful application of some elements of positive discrimination aimed at reducing the existing disadvantages and developing the conditions for equal opportunities. Although this kind of measures pursues the idea of improved education of the Romany minority Slovak legislation does not provide much space for their implementation; moreover, this field is a source of numerous misunderstandings and adverse acceptance on the part of the majority population;
- Socially preferential treatment of the families clearly supporting the education of their children (school attendance, school results);
- Purposeful and continuous health-oriented education (universal prevention) as an integral part of school curricula;
- Development, support, and updating of the health-oriented education and information system;
- Cooperation with consultation agencies and institutions, aimed at the social integration of Romany children
- Coordination of all prevention-oriented institutions – local administration, municipalities, health-care institutions, mass-media, school system, police, church, civic organizations and foundations, etc .

The etiology of Romany social pathology, including drug addiction, is primarily determined by psychosocial factors, mainly the family environment. Any success in struggling the drug-addiction problems in Romany children is conditioned by purposeful and continuous cooperation between school and Romany families. Otherwise, the efficiency of any and all measures is questionable. Our past and present experiences tell us that there is no universal educational strategy compensating for cultural and educational disadvantages of Romany children. We must realize that school environment which views children as a homogenous social group, and applies identical educational objectives, forms, methods, instruments and criteria, does not establish the necessary conditions for reflecting specific socio-cultural characteristics of Romany pupils. Any success is conditioned by adapting the curricula to special pedagogical needs and specific characteristics of disadvantaged pupils. This principle is an imperative for all those who participate in the process of education. The curricula in terms of their contents

and the related implementation process should guarantee a differentiated system of procedures; the supporting educational approaches should emphasize individual-oriented education, starting as early as the pre-school level. A compensating and differentiating education must be set in a broader context, reflecting the family and the community in which pupils live; teachers should be able to approach the curriculum as an open system to be adapted to the specific requirements and needs of a particular ethnical group, for example, the Romany ethnic group.

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ŠKOLA V PREVENCIÍ SOCIÁLNO-PATOLOGICKÝCH JAVOV U ŽIAKOV ZO SOCIÁLNE ZNEVÝHODNENÉHO A VÝCHOVNE MENEJ PODNETNÉHO PROSTREDIA

Súhrn: V komplexe problémov, ktoré súvisia s nárastom sociálno-patologických javov, je závažným vysoká frekvencia kontaktov s návykovými látkami u žiakov mladšieho školského veku. Vymedzený problém je osobitne komplikovaný u detí zo sociálne znevýhodneného a výchovne menej podnetného prostredia, kde dominuje zastúpenie rómskych žiakov. Rodinná výchova v tomto prostredí nevytvára podmienky pre zodpovedajúce štruktúrovanie a stabilizáciu prozdravotných postojov, preto zdôrazňujeme zodpovednosť a formatívny potenciál primárnej školy v procese výchovy k zdraviu.

Kľúčové slová: prevencia, sociálno-patologické javy, edukácia, primárna škola

CONDITIONS FOR PRIMARY DRUG PREVENTION IN CZECH SCHOOLS

Tomáš ČECH

Abstract: *The paper presents experience from the realisation of primary drug prevention in Czech schools. It informs about documents that control drug prevention, about experience in schools and brings innovation proposals regarding approaches to the drug issue including a proposal for anti-drug education as a possible solution to the problem of drugs in the society.*

Key words: *school, teachers, children, drugs, drug abuse, prevention, primary drug prevention, anti-drug education, curriculum*

Human society in the course of its development calls for constant changes in many aspects, including the educational system. During the last few years the Czech Republic has become a democratic society and new educational aspects have been brought to the focus of attention, such as drama education, environmental education, education towards healthy life style, multicultural or global education.

The Czech Republic has entered the third millennium as a fairly advanced democratic society and has also become an integrated part of various European political structures. This fact brings many positive aspects for the society, but it also brings many negative ones, which threaten the population in one or another way – terrorism, xenophobia, racism, unemployment, social tension, social gap, crime, and addictions of various kinds. Massive change is felt in the drug issue; from mostly a transit country, the Czech Republic has developed into a target one, drugs have become widely available and they have become a serious threat for more people. Worse still, drugs have become easily accessible among children, which is a fact parents and schools must face. Anti-drug education becomes a widely discussed topic, namely proposals for facilitating changes in children's attitudes towards health and drugs.

In the practice of today, we tend to talk about drug abuse prevention, which is carried out in individual regions with varying success.

Prevention and legislation in the Czech Republic

The realisation of drug abuse prevention is controlled by following documents issued by the Czech ministry of education:

- *The strategy of social-pathological phenomena prevention for children and youth in the competence of the Ministry of Education*
- *The Minister of Education's methodics for social-pathological phenomena prevention*
- *Prevention programme for nursery schools, basic schools and school facilities*

The documents are reviewed on regular basis, they answer the society's needs and they reflect the success of individual strategies. They correspond to other national and international documents, such as *The National Programme of Development in Education (the White Book)*, *National Anti-drug Policy Strategy*, *Action Plan of the European Union for Drug Control* or the WHO document *Health 21*.

The Minister of Education's Methodics for Social-Pathological Phenomena Prevention (2007: 2) states that "the basic prevention tool in the area of education is *The Minimal Prevention Programme*, which is a complex and systemic part of drug prevention activities realisation in basic schools, as well as special schools and other school facilities." The Minimal Prevention Programme realisation is compulsory for all schools and is monitored by the Czech School Inspection.

Main programme activities include:

- the responsibility for systematic education of prevention methodologists and other prevention methodology professionals in schools
- systematic introduction of ethic and legal education, healthy life-style education and other areas of prevention education into the curriculum of regular subjects, where appropriate
- employing various forms and methods of working with individual children and groups of children and youngsters, aiming at the development of their personalities and social behaviour
- organising free-time activities for children and young people
- cooperation with parents and parent education in the field of healthy life style and problem prevention in education
- careful monitoring of particular conditions and environment in the school aiming at social-pathological phenomena risks; and employing various form and methods of contacting endangered individuals
- selectively employing prevention activities and programmes specially aimed at individual endangered groups of children and young people
- providing professional consultations of a school prevention specialist and education consultant to pupils as well as parents (Metodický pokyn, 2007: 2).

The Programme is evaluated annually – its effectiveness (achieving aims) and

development are considered. The effectiveness of individual programme activities is measured.

The backbone of the prevention system in Education (regarding various levels of professional guidance) consists of:

Ministry of Education's official ⇒ *regional prevention co-ordinator* ⇒ *district prevention co-ordinator* ⇒ *school headmaster* ⇒ *school prevention methodologist*

All operations of the prevention system in the field of education should be (but not always are) interlinked with operations of other institutions in other fields that realise prevention programmes or participate in them (Ministry of Health, Ministry of Interior, Ministry of Labour and Social Affairs, etc.). Of utmost importance are non-governmental institutions (foundations, civil associations, religious and other organisations), which functionally complement the activities of governmental institutions.

the realisation of primary drug prevention in schools

One of the key elements in primary drug prevention realisation in schools are the pupil's postures and mental dispositions, which are built in the family and which should constitute the basis of prevention activities. The social environment of the family helps form the personality of the child, forms his/her moral awareness, should help the child (along with schools, free-time and other institutions, social groups and individuals) find the way of life.

When to start with drug prevention? Many authors agree that first steps of primary drug prevention should be aimed at pre-school age children, i.e. into kindergartens. Bindasová (1995: 11) stresses the fact that adequate prevention should be introduced not less than two years before first possible contact with the drug, which comes at the age of 7–9 for alcohol and nicotine, at the age of 9–12 for toluene, at the age of 11–13 for marijuana and hashish, and at the age of 13–15 for other drugs. With this statement being many years old, the age of first possible contact with drugs may be even lower. This overview also shows a sequence that prevention programmes should acknowledge conception-wise and content-wise, which corresponds with the so called *gateway theory* that assumes such a sequence in drug addiction (from “soft” drugs to “hard” ones).

Prevention in kindergartens

Children should be made aware of the danger of social-pathological phenomena from the earliest age. The School Prevention Programme for Kindergartens and Basic Schools (2001) states that *healthy life-style education (holistic approach* harmoniously combining physical, mental and social components) is an appropriate tool to successful implementation of prevention programmes in pre-school education.

Health maintenance and healthy life style competences (and therefore social-pathological phenomena prevention activities) include:

- self-assurance, self-reliance and self-confidence

- enthusiasm towards physical exercise
 - adaptability to life in social community, openness, critical mind
 - self-development
 - motivation to active learning
 - creativity and aesthetic palate development
 - systematic development of skills that lead to healthy life style acquisition
- (School Prevention Programme for Kindergartens and Basic Schools, 2001: 6–7)

Prevention and educational requirements are based on the *Framework Educational Programme for Pre-School Education* and perceiving pre-school age as an important beginning of a positive socialisation process. It is not necessary to prepare specific programmes that would inform pre-school children about drugs, alcohol and other harmful substances and phenomena. All prevention activities should be natural components of children’s everyday educational activities. What plays an important role in this process is the family.

Prevention, prevention programmes and activities on the level of basic schools

It has been mentioned that every school is obliged to prepare *Minimal Prevention Programme* in which prevention activities are implemented into the curriculum. What is important is cooperation with children’s families and professional institutions that collaborate on the realisation of the Minimal Prevention Programme, when asked by the school.

Prevention on the level of basic schools must be adapted to the age of the children and their previous experience. It should naturally follow the prevention activities realised in pre-school education, namely in the development of healthy life style competencies, which include:

- social competence enhancement – the development of social skills that help the person orient in social relationships and develop responsibility and consequence-consciousness
- communicative competences enhancement – the development of problem solving skills, dealing with conflicts, stress, failure, criticism
- creating positive social climate – the feeling of trust, belonging to a group, working in a group of peers, positive and secure atmosphere
- forming attitudes towards socially acceptable values – raising legal consciousness, moral values, humanistic attitudes and so forth

(School Prevention Programme for Kindergartens and Basic Schools, 2001: 13)

We will now concentrate on the area of drug abuse prevention. The aim of effective prevention should be namely:

- to prevent drug abuse, including alcohol and nicotine

- to at least shift the first contact with addictive substances (nicotine and alcohol most frequently) to higher age, when the person is more mature (physically and mentally), as well as more resistant
- to reduce or prevent altogether children's experimenting with addictive substances and therefore prevent various health risks and harms, including drug abuse that require medical treatment (secondary prevention, aiming at specific groups of older children)
(Nešpor, Czémy, Pernicová, 1999: 6)

If we want to realise drug-prevention activities with school children, we need to know the reasons for their experimenting with and consumption of addictive substances. The most frequent reasons include *boredom* and *curiosity*. Some children use drugs to deal with family *problems*, problems in school and so on. The first encounter with drugs can also be facilitated by the peers or "friends". Knowing the possible reasons, we (teachers, parents, the society) can be more successful in the prevention of drug abuse. It is very important to be aware of this constant threat and try to avoid all dangers (by quality education, understanding, trust...). Quality prevention does not prohibit, command or suppress. It explains, clarifies, offers alternatives.

What methods are to be employed in conceiving the Minimal Prevention Programme? Preferably such that make children active; that are balanced, adequate, conceptual and that interlink the programme activities with other activities inside and outside the frame of the programme. Such methods include:

- ❑ *community Circles* – in which primary school pupils in particular develop their communication and discussion skills, they learn to cope with problems and conflicts;
- ❑ *simulation games* – role play in fictive situations;
- ❑ *relaxation techniques, physical exercise and activities* – they help to lower the pressure of tense situations, depression, anxiety, which tend to be compensated for by drugs
- ❑ *brainstorming* – a technique for developing creative thinking, tends to be based on group discussion and problem solving;
- ❑ *thematic forums and discussions*;
- ❑ *projects, project teaching, implementing into the curriculum* (cross-cultural links);
- ❑ *therapeutic and self-development techniques and methods* – art therapy, drama therapy, body therapy and other self-experience techniques.

Drawbacks of prevention realisation in schools and the call for changes

In the *National Drug Policy Strategy 2005-2009* the Ministry of Education, Youth and Sports is assigned a key task (p. 12 of the document) "in the area of primary drug prevention regarding children, education towards healthy life style, raising awareness of the danger of drugs, offering alternative free-time activities". Informing about the noxiousness of drugs is important, but it usually does not bring desirable effects in

changing people's attitudes towards drugs, as it only affects the cognitive component of attitude and fails to affect the affective and conative component (Ondrejko, 1999: 14). Practicing teachers are instructed to realise primary prevention (ex. drug-prevention), but they tend to lack relevant information and education and in their lessons they only include information they consider important or relevant. Most of today's teachers are incompetent at carrying out prevention, which often has more negative than positive effect and sometimes may even cause an increase in interest in drugs and their consumption. More concrete steps in drug prevention are usually taken in lower secondary schools (with children aged 11 to 15), which is very late; what is also characteristic of primary prevention is a lack of conception.

To realise changes in primary prevention in basic school that will result in improvement of the state of affairs, the focus should lie in the following areas:

- establishing a firm prevention conception for children in the pre-school age and older
- primary prevention should be leisurely, relaxed and pleasant
- teachers should be properly qualified
- all prevention activities should be coordinated (Ministry of Health, Ministry of Education, Youth and Sports, the regional authorities and individual schools – primary level coordinator)

The context of anti-drug education

As has been mentioned earlier, primary drug prevention in today's schools is considered a component of education towards healthy life style. The educational programmes do not specify the context for drug prevention, and therefore only enlightened teachers include its elements on cross-curricular basis.

The *Framework Educational Programme For Basic Education* defines an educational domain *Man and Health* and its two subdomains – *Physical Education* and *Health-oriented Education*. Both of these subdomains include content-wise health education, physical education, environmental education, family education, sexual education, as well as anti-drug education. The last two items mentioned are likely to constitute new independent subdomains in the future, not in order to expand subject matter of the domain, but in order to clearly define the topic and its links to the domain of Man and Health.

Why do we talk about “*anti-drug education*”? Is “primary drug prevention” as a component of education towards healthy life style not enough? Indeed not, because of the society's accelerating development and the need for expert approach to the anti-drug conception. It is necessary to get back to the beginning and start from there. J. Liba (2002: 59) says that “the increase and spread of social-pathological phenomena, namely drug addiction, is concretised in those phases of ontogenesis that are defining for personality formation. This is particularly true about first encounters with the so called socially acceptable drugs (alcohol and tobacco), where we see the trend of lowering the limit on the border between lower school age and middle school age”. This opinion is shared

by other experts. It is therefore vitally important to aim prevention care and activities that tend to be employed on the lower secondary level into earlier age; into primary and even pre-school education.

If we are to form children's attitudes and to influence the whole complex of their postures (cognitive, affective and conative components), it is necessary to start with education towards positive attitudes in the family and proceed continuously in the later age and in other social groups and environments. Family education should serve as a firm basis for later education in the kindergarten and basic school. Unfortunately, this is not always the case and many families fail to fulfil their educational function. The children then come to the school with flawed attitudes, which are impossible for the teachers to positively influence.

Let us go back to our original question – *Why anti-drug education?* An answer can be traced in a general view on education by W. Brezinka, who in his book (1996: 51) claims that “the effect of education should be creating a sort of quality within a personality.” The author later says that by education, the educator (in our case teacher) forms or preserves various abilities, skills, attitudes, knowledge, behaviour patterns, or opinions. These can be various kinds of readiness to experience and behave that can be summarised by the term *psychological dispositions*. These mean a relatively permanent readiness to various experiences and behaviour patterns; a basis to transient experiences and actions.

The educator's aim is to influence the structure of the child's psychological dispositions. This process has four layers.

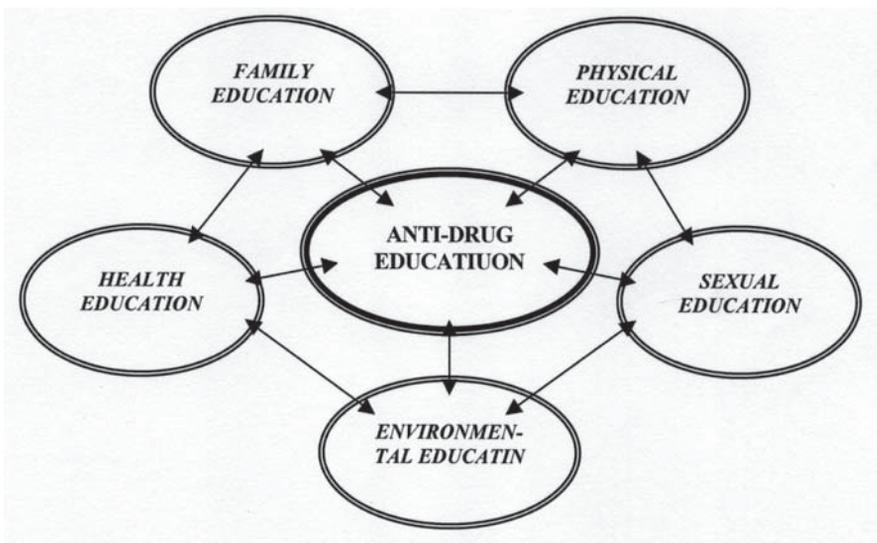
- a) for the child to gain dispositions they have not had
- b) to strengthen and develop existing positive dispositions
- c) to weaken and dispose of existing negative dispositions
- d) to prevent the development of negative dispositions (Brezinka, 1996: 52)

This general perspective on education can be easily applied to the field of anti-drug education – gaining positive dispositions and weakening negative ones, developing acceptable attitudes towards life, life style and health. Primary drug prevention appears to be an important component of the process.

Some teachers and experts tend to wrongly identify primary drug addiction prevention with the process of anti-drug education, because of terminological unclarity in the terms prevention (preventing something) and education (a desirable change in someone's behaviour and acting) (Wiegerová, 2004).

The content concept of anti-drug education

Anti-drug education is a newly establishing component of education, which at the moment is in the phase of being defined and codified. As has been stated earlier in this paper, there are other areas of education that participate on the content concept of anti-drug education, namely health education, environmental education, family education, sexual education and physical education. In many aspects there are contact areas, as indicated in the scheme.



Getting back to the conception of the *Framework educational programme for basic education* and to the educational domain *Man and Health* divided into the subdomains – *Physical Education* and *Health-oriented Education*, the latter subdomain appears to be rather broad content-wise; with anti-drug education in danger of losing its clear distinctions.

Wiegerová (2004) sought parallels between health education and anti-drug education from the perspective of their place in the basic school curriculum. She states that at the present time, both components of education fail to be properly implemented into formal curriculum and therefore should be included primarily in informal or hidden curriculum (e.g. through conceptual projects). She also proposed a content framework of anti-drug education – domains that are based on the conception of health promotion and prevention:

1. *Culture stereotypes, traditions and drugs* – drugs in human culture, legal, illegal drugs, division based on cultural traditions of individual human societies; cigarettes and alcohol as socially acceptable drugs, marijuana and tolerance in the Czech republic and abroad. Sweets and possible addictions.
2. *Man and medicine, pharmaceuticals and vitamins* – drugs not as an evil, their need in health care; taking medicine and vitamins, positive and negative effects on human body and possible consequences, addiction as a state of being.
3. *Technology and addictions* – technology development; PCs, walkmans, computer games, pinball machines, mobile phones – positives, negatives, the world of advertising; free time organisation (Wiegerová, 2004).

The proposal is aimed at the primary level, yet this distinction can be easily applied to lower secondary level. What matters is the content scope of the topic and its adaptation to the age of the pupils (pre-school age, lower school age, middle school age, higher school age).

As has been stated, anti-drug education is a newly establishing field, or subfield in education, which starts to be recognised and to form and develop. It is surely to be often heard of in the near future in the wider context of anti-drug policy.

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PODMÍNKY PRO PRIMÁRNÍ DROGOVOU PREVENCI V ZÁKLADNÍCH ŠKOLÁCH

Souhrn: Příspěvek situací ve vztahu k podmínkám realizace primární drogové prevence v základních školách. Přináší informace o dokumentech, podle kterých se realizace prevence řídí, zkušenosti ze škol a návrhy na změny v přístupu k drogové problematice včetně konceptu protidrogové prevence.

Klíčová slova: škola, učitelé, děti; drogy, drogová závislost, prevence, primární drogová prevence

A DRUG SCENE AT THE MASARYK UNIVERSITY BRNO 10 YEARS AFTER

Petr KACHLÍK, Marie HAVELKOVÁ

Abstract: By means of anonymous questionnaire investigation we addressed a representative sample of 9993 responder from all 9 faculties of MU Brno. The questionnaire consisted from 21 items focused at students' own whole-life experience with alcohol, tobacco, black coffee and other substances, the usage of them in last 6 months and 30 days, and included their attitudes to drugs and basic socioecological indicators. The answers were electronically recorded and statistically processed. It turned out that three quarters of the responders have their own lifelong experience with tobacco, 99 % with alcohol, 85 % with black coffee, 60 % with marihuana, 25 % with hashish, 13 % with hallucinogens, 8 % with depressant medicaments illicitly used, 10 % with dance drugs, 38 % have an experience with gaming machines. As far as the other controlled substances are concerned (including so-called heavy drugs), their lifelong prevalence did not exceed 5 %. More frequent consumption was monitored especially in the case of marihuana, some hallucinogens and depressants.

Keywords: *questionnaire, habit-forming substances, university, students, survey, prevalence, attitudes, use*

Introduction

The focal point of primary prevention of pathological dependence in children and adolescents is besides the family on the shoulders of basic and secondary schools. Young adults, among them university students, are considered to be sufficiently mature personalities to be able to resist efficiently the offers of various addictive substances and addictive behaviour and thus not to become victims of pathological dependence. From the epidemiological point of view they do not represent a risk population group. According to many investigations, nevertheless, they also should be paid adequate attention to because in their professions after the graduation they work on youth, patients, clients, they negotiate with public and media, by the public they are taken as authorities, professionals with model kind of behaviour. Their personality image becomes a part of a view on society, on the level of healthcare, schools, science, legal system, and business. The individual example of every graduate professional is important because his personal

qualities and shortcomings are thus shown to the public (Dubský, 1994; Dvořák, 1995; Nešpor, Csémy, 1996; Pavúk, Koščo, 1997).

Problems with adaptation to a new life stereotype belongs to the load problems of university studies and put high demands on self-reliance, responsibility, purposeful planning and usage of free time, and concentration and relaxation ability of a young person (1996 Annual Report Center for Drug and Alcohol Studies, 1997; Kandell, 1997; Novotný, Kolibáš, 1997).

After graduating young professionals look for work and more and more their potential employers pay attention besides the quality of the education and personality characteristics also to potential addictive substances problems of the applicant, including alcohol and tobacco (*The NNICC Report 1996. The Supply of Illicit Drugs to the United States*, 1997; Lenton et al., 1997; Rouse, 1996).

At Masaryk University there were running several pilot investigations (1993–1997, LF MU, comp. Kachlík, Šimůnek, 1995 and 1998; Hrubá, Kachlík, 1998) a representative epidemiological study aimed at the description of the drug situation among the university students. This population group was given less attention in the Czech Republic than to children and adolescents and therefore it is right to say that the Masaryk University played a pioneer role here (Csémy et al., 2004).

In the period 2005–2007 a project called “The description of the drug scene at MU and a proposal of preventive measures” was running. The first year we realised a probe in the drug scene at two faculties of MU (faculty of education and of medicine) to verify the methodology of the study (Kachlík, Havelková, 2007), the second year we investigated a sample of almost 10,000 responders and the third year was applied to mapping preventive activities at the university. In this presentation you will find selected data of the drug scene description at MU.

Material and methodology

The subjects of questioning were students of all MU faculties. Data of 9993 responders were collected by an electronic form (detailed characteristics in table 1–3).

Gathering the information was performed anonymously by questionnaires. The questionnaire included basic identifiers (responder’s age on the last birthday, sex, faculty of studies and year of studies (and 21 questions, 18 of them with a closed-, 1 with a half-closed-, and 2 with an open choice of answers. The questions concerned the students’ own experience with alcohol, tobacco, black coffee and other substances, their usage in last 6 months and last 30 days, attitude towards drugs, and basic socio-economical indicators. Items from similar investigations performed in the framework of EU (e.g. ESPAD – European School Survey on Alcohol and Other Drugs; Kolektiv, 1998) were kept so that the data would mutually be comparable, even if in this case is another (older) age group. A short motivating and explaining text with a contact on the inquirer was enclosed in the form. In data collecting, the Information system of MU was used, in which the web questionnaire form was placed. The administration of the questionnaire was thus simplified because every student of the daily form of studies received in his electronic agenda in <http://www.is.muni.cz> pages a reference leading to the investigation form. The responders did not have to answer all the questions, they could decide on the way how to fill in the questionnaire

The data were electronically recorded, anonymised (all items that might identify the responder were torn off the IS MU), transferred from XML into DBF and then statistically evaluated (*EpiInfo 6 En* – Dean et al., 1994, Statistica for Windows 7 cz– *StatSoft Inc., 2004* programs) with keeping to all principles of ethics of scientific work and personal data handling. By means of statistic tests (chi-square, Fisher exact, ANOVA, Kruskal-Walis), were reviewed statistic significance of differences among the indicators in the division of the set to groups.

Basic identifiers of the investigated set

Table 1: Survey of participation of individual faculties MU in the whole set Total: 9993 responders, i.e. 100%

Faculty	Absolute number (n)	Relative percentage (%)
Econom.-Administr.	762	7,6
Philosophical	2211	22,1
Information	1142	11,4
Medicine	815	8,2
Education	1310	13,1
Law	1156	11,6
Science	1274	12,7
Social Studies	1095	11,0
Sport Studies	228	2,3

Table 2: Survey of participation of study years in the whole set

Study year	Absolute number (n)	Relative percentage(%)
1 st	2873	28,8
2 nd	2377	23,8
3 rd	2057	20,6
4 th	1351	13,5
5 th	998	10,0
6 th	337	3,4

Table. 3: Survey of participation of gender in the whole set

Gender	Absolute number (n)	Relative percentage(%)
Men	4039	40,4
Women	5954	59,6

The results of mapping the drug scene at MU in 2006

The results of the study are presented in the form of tables and text commentary. The “abs” in the table means the absolute number of the given mark, “%” means the relative number. The heading of the table also indicates the observed mark.

Table 4: Tobacco smoking during life

Group	All		Men		Women	
	abs.	%	abs.	%	abs.	%
Answer						
No	2128	21,4	784	19,5	1344	22,7
Yes	7825	78,6	3241	80,5	4584	77,3
Total	9953	100,0	4025	100,0	5928	100,0

Minimum one experience in tobacco smoking in life was admitted by more than three quarters of responders with a slight prevalence of men.

Table 5: The age of the first tobacco consuming (concerning those who ever smoked tobacco)

Group	All		Men		Women	
	abs.	%	abs.	%	abs.	%
Answer						
Less than 10	433	5,5	269	8,2	164	3,6
10–14	2943	37,4	1241	37,8	1702	37,2
15–18	3576	45,5	1392	42,4	2184	47,7
More than 18	909	11,6	378	11,5	531	11,6
Total	7861	100,0	3280	3280	4581	100,0

Most smoking trials were done at the age between 15–18 (more than 40 %) and between 10–14 37 % of responders. After the age of 18 there were about a tenth of responders. In the age up to 10, children experimented with tobacco smoking in about 5 % of the interrogated, twice more men than women.

In analysing the period of last smoking (only in those who ever in life smoked) we found that about one fifth of responders were smoking in the time of the interrogation, 17 % in the last week, 12 % in the last month and a third stopped smoking.

Table 6: Consuming alcohol drinks during life

Group	All		Men		Women	
	abs.	%	abs.	%	abs.	%
Answer						
No	89	0,9	46	1,1	43	0,7
Yes, exceptionally	1364	13,7	417	10,4	947	16,0
Yes	8498	85,4	3562	88,5	1936	83,3
Total	9951	100,0	4025	100,0	5926	100,0

Alcohol drinking in life experienced 99 % of the questioned. 14 % of the set (more women, $p < 0,001$, χ^2), confessed exceptional consumption of it (New Year's Eve, birthday), more than 80 % of the set (more men, $p < 0,001$, χ^2), confessed more or less regular consumption of alcohol.

Table 7: The age of the first alcohol drinking (concerning those who ever drank alcohol)

Group	All		Men		Women	
	abs.	%	abs.	%	abs.	%
Less than 10	1175	11,9	504	12,7	671	11,4
10–14	4217	42,8	1727	43,5	2490	42,3
15–18	4188	42,5	1633	41,1	2555	43,4
More than 18 let	280	2,8	110	2,8	170	2,9
Total	9860	100,0	3974	100,0	5886	100,0

The maximum contact with alcohol was observed in the age groups 10–14 and 15–18, without any substantial difference in gender. More than one tenth of the set had the first contact with alcohol before 10, approximately 3 % after the age of 18.

One tenth of the set had the last alcohol consumption in the time of the questioning (twice more men than women), 60 % confessed alcohol drinking in the last week, a fifth in the last month (15 % men, 14 % women), 5 % in the last 6 months and 2 % earlier.

Table 8: Black coffee drinking during life

Group	All		Men		Women	
	abs.	%	abs.	%	abs.	%
No	1589	16,0	789	19,6	800	13,5
Yeas, exceptionally	3072	30,9	1327	33,0	1745	29,5
Yes	5287	53,1	1908	47,4	3379	57,0
Total	9948	100,0	4024	100,0	5924	100,0

Black coffee was tasted by 84 % of the questioned, by one third of them exceptionally (prevailing men, $p < 0,001$, χ^2) and more than a half more or less regularly (more women, $p < 0,001$, χ^2).

Table 9: The age of the first black coffee drinking (only in those who ever drank coffee)

Group	All		Men		Women	
	abs.	%	abs.	%	abs.	%
Less than 10	315	3,8	148	4,6	167	3,3
10–14	1903	22,7	719	22,2	1184	23,1
15–18	4549	54,4	1709	52,8	2840	55,3
More than 18	1598	19,1	658	20,3	940	18,3
Total	8398	100,0	3234	100,0	5131	100,0

Half of the set tried black coffee for the first time at the age of 15–18, one fifth in 10–14 and after 18. About 4 % of the questioned confessed black coffee drinking before 10.

More than a quarter of addressed drank black coffee in the time of questioning or in the last week before beginning the studies, one fifth in the last month, 15 % in last 6 months and the same number even earlier.

Table 10: Taking cocaine during life

Group	All		Men		Women	
	abs.	%	abs.	%	abs.	%
Answer						
No	9734	97,4	3899	96,5	5835	98,0
Yes	259	2,6	140	3,5	119	2,0
Total	9993	100,0	4039	100,0	5954	100,0

During the life about 3 % of the set came into contact with cocaine, men more ($p < 0,001$, χ^2) than women. In the last half-year 0.8 % of the questioned used cocaine, without any relevant difference between the genders, in the last month 0.2 % without any difference between the genders again. Most frequently cocaine was used after age 18 and then between 15 and 18 of age. Exceptionally, (in men) cocaine was used at the age less than 10. In 70 % there were three repeated trials maximally, in 20 % cocaine was used 4–10 times, in a tenth more than 10 times, in all cases without substantial differences between the genders.

Experience with crack was noted in 0.3 % of the questioned, during the last half-year only 4 % of the whole set (0.04 %), during the last month three persons (0.03 %). Similarly as with cocaine most experiments with crack were noted in the age 15–18 and in the group of early adulthood. Cases of the first crack usage at the age of less than 10 were noted sporadically. 40 % of crack users experimented three times maximally, one fourth 4–10 times, other 40 % more than 10 times.

Table 11: Taking marihuana during life

Group	All		Men		Women	
	abs.	%	abs.	%	abs.	%
Answer						
No	4043	40,5	1386	34,3	2657	44,6
Yes	5950	59,5	2653	65,7	3297	55,4
Total	9993	100,0	4039	100,0	5954	100,0

Marihuana was tried in life by 60 % of the questioned, 66 % of men and 55 % of women ($p < 0,001$, χ^2).

Table 12: Taking marihuana in last six months

Group	All		Men		Women	
	abs.	%	abs.	%	abs.	%
No	7150	71,6	2563	63,5	4587	77,0
Yes	2843	28,4	1476	36,5	1367	23,0
Total	9993	100,0	4039	100,0	5954	100,0

28 % of the whole set took marihuana in the last half-year, 36 % men and 23 % women ($p < 0,001$, χ^2).

Table 13: Taking marihuana a last 30 days

Group	All		Men		Women	
	abs.	%	abs.	%	abs.	%
No	7371	83,8	3095	76,6	5276	88,6
Yes	1622	16,2	944	23,4	678	11,4
Total	9993	100,0	4039	100,0	5954	100,0

In the last month marihuana was taken by 16 % of the whole set, 23 % men and 11 % women ($p < 0,001$, χ^2). The maximum of the first marihuana taking was in the age group 15–18 (more than 60 % in the whole set and in both genders, too), after that early adulthood (a quarter).

About a tenth tried marihuana in the age 10–14, individuals (3, all men) even before 10. More than 10 times marihuana was used by 45 %, 54 % men and 38 % women ($p < 0,001$, χ^2). In the category 4–10 times it was about a quarter, in the category 1–3 times 29 %: 22 % of men and 34 % of women ($p < 0,001$, χ^2).

Hashish or hashish oil was taken at least once during life by a quarter of responders, 31 % of men and 19 % of women ($p < 0,001$, χ^2). In the last half-year it was taken by 8 % of men and 5 % of women ($p < 0,001$, χ^2). In the last month 4 % (6 % of men and 2 % of women, ($p < 0,001$, χ^2)). The highest number of the first experience with hashish and hashish oil was in the age group 15–18 (60 %) and in the early adulthood (35 %). In these cases there were mostly 1–3 experiments (43 %, 37 % of men, 50 % of women, ($p < 0,001$, χ^2), a quarter of the consumers took it 4–10 times, a third more than 10 times in life (39 % of men, 24 % of women, ($p < 0,001$, χ^2)).

Table 14: Taking hallucinogens during life

Group	All		Men		Women	
	abs.	%	abs.	%	abs.	%
No	9286	92,9	3619	89,6	5667	95,2
Yes	707	7,1	420	10,4	287	4,8
Total	9993	100,0	4039	100,0	5954	100,0

Hallucinogens were taken at least once in life by 7 % in the set, in men twice more (10 %) than in women (5 %), ($p < 0.001$, χ^2). In the last half-year before questioning 1.5 % of responders confessed taking hallucinogens, 2.8 % men, 0.5 % women ($p < 0.001$, χ^2). Most frequently the first contacts with hallucinogens were noted in the age group 15–18 (57 % of the questioned, 50 % men, 66 % women) and in the period of early adulthood (41 % of the whole set, 47 % men, 32 % women). Sporadically the use of hallucinogens was also found in the period of the basic school attendance. Experiments with hallucinogens (taking 1–3 times) was mentioned in 58 % of the set (55 % men, 63 % women, ($p < 0.05$, χ^2), 4–10 trials occurred in 27 % of the addressed (without any substantial difference between the genders), more than 10 uses in 15 % of responders (18 % men, 11 % women ($p < 0.05$, χ^2).

Hallucinogenic mushrooms (liberty caps, mainly) were taken during life by 13 % of all questioned, 17 % men and 10 % women ($p < 0.001$, χ^2). During last six months before the questionnaire they were taken by 2 % of the set, 4 % men and 1 % women ($p < 0.001$, χ^2), in last 30 days 0.8 % of the set (1.6 % men, 0.2 % women ($p < 0.001$, χ^2). The age period of the first use of hallucinogenic mushrooms is the same as the period of the first use of hallucinogenic substances in general. Most frequently the hallucinogenic mushrooms were used 1–3 times (62 % of all consumers, 30 % men, 21 % women, ($p < 0.001$, χ^2) and more than ten times (11 % of all consumers, 16 % men, 6 % women, $p < 0.001$, χ^2).

Table 15: Taking other drugs during life (presented positive answers, only)

Group	All		Men		Women	
	abs.	%	abs.	%	abs.	%
Speed	442	4,4	218	5,4	224	3,8
Other stimul. amines	207	2,1	120	3,0	87	1,5
Volatile substances	150	1,5	77	1,9	73	1,2
Heroin	43	0,4	27	0,7	16	0,3
Other opiates	195	2,0	93	2,3	102	1,7
Depressant medicam.	756	7,6	237	5,9	519	8,7
Disco-drugs	902	9,0	414	10,3	488	8,2

At least one life experience with speed was found in 4 % of the questioned (5.4 % men, 3.8 % women ($p < 0.001$, χ^2). In the last half-year before the questionnaire it was used by 1 % and in the last month by 0.5 % of responders. The first contacts with speed were mostly in the age groups of 15–18 and in early adulthood and some experiments in some individuals in earlier age, in men, mainly. Among the speed users, a half of them experimented 1–3 times, a fifth 4–10 times and a third more often than 10 times without statistically relevant differences in gender.

Other stimulant amines besides speed were used during life by about 2 % of the set (3 % men, 1.5 % women, ($p < 0.001$, χ^2). In the last half-year the stimulant amines were used in 0.5 % of the set, in the last month by 0.2 % (here the difference between the genders was ($p < 0.05$, χ^2). The first experiments with substances of stimulant amine

characteristics were, as in speed, in the age category 15–18 and in early adulthood. In 56 % of the questioned the stimulant amines were used 1–3 times, in a quarter of the set 4–10 times and in a fifth more often than 10 times. The differences between genders were not statistically relevant.

Volatile organic substances for intentional inhaling were used by 1.5 % of the whole set (1.9 % men, 1.2 % women, ($p < 0.01$, χ^2). During the last half-year before questioning, the inhaling was confessed by 0.2 % of the set (0.3 % men, 0.2 % women, ($p < 0.05$, χ^2), during the last month by 0.1 % of the set without any difference between genders. A half of the users tried the volatile substances at the age 15–18, one third (a little more men than women) after the age of 18, one seventh between 10 and 14 (slightly more women). Several men (4) confessed the first sniffing of volatile organic substances in the age less than 10. Among the sniffers there were two thirds of persons that were only experimenting (1–3 times), one fifth of those that inhaled volatile substances 4–10 times and 15 % inhaled more often than 10 times in life.

Heroin was taken at least once in life by 0.4 % of the set (0.7 % men, 0.3 % women, $p < 0.01$, χ^2); during last six months by 0.06 % of the set, men almost exclusively ($p < 0.05$, Fisher exact). The first contacts with heroin were noted in the period 15–18 (40 % of the set, 23 % men, 69 % women, ($p < 0.05$, χ^2). Some trials with heroin in men were noted at the age below 10. There were found no differences in the life long heroin taking between the genders. 60 % of the set tested heroin 1–3 times, one fifth 4–10 times and a fifth more than 10 times

Other opiates, besides heroin were taken during life at least once by 2 % of the questioned (2.3 % men, 1.7 % women, ($p < 0.05$, χ^2). The use of other opiates in the last six months was confessed by 0.3 % of the set, in last 30 days by 0.14 %, without substantial difference between the genders. Among other opiate users there were more than 60 % (58 % men, 68 % women, without significance) of those who tried for the first time in life at the age 15–18, one third (37 % men, 22 % women, ($p < 0.05$, χ^2) in the period of early adulthood, c. 6 % (1 % men, 10 % women, ($p < 0.05$, χ^2) between 10–14 and 2 % before the age 10 (men only, ($p < 0.05$, Fisher exact). As far as users of other opiates there were mostly experiments only (1–3 times, 54 % of the whole set, 60 % men, 50 % women, without significance). One third of the set took them 4–10 times, 14 % more than 10 times, without significant differences between the genders.

Depressant medicaments (soporific effect, calming down, pain killers, fear suppressers) without prescription or professional recommendation were taken at least once during life by 8 % of responders (6 % men, 9 % women, ($p < 0.001$, χ^2). In the last half-year before the questionnaire the medicaments were taken by 2.6 % of the set, (1.9 % men, 3.1 % women, ($p < 0.001$, χ^2), in the last month 0.9 % of the set (0.6 men, 1.1 % women, $p < 0.05$, χ^2). About one half of the users took the depressants for the first time in their early adulthood, 40 % between 15–18, 7 % in 10–14 and 1 % at the age less than 10. The depressants were used 1–3 times by 44 % of responders (without substantial difference between the genders, 4–10 times by 35 % of the set (29 % men, 37 % women, $p < 0.05$, χ^2), more than 10 times by 22 % of consumers (25 % men, 20 % women, without significance).

Discotheque (dance, designer) drugs, in particular ecstasy, were taken once during life by 9 % of the questioned (10 % men 8 % women, $p < 0.001$, χ^2). In last 6 mon-

ths the disco-drugs were taken by 2.1 % of the set (2.5 % men, 1.9 % women, $p < 0.01$, χ^2). The age of the first experience with the disco-drugs was higher than 18 years in one half of the users and between 15–18 in the second, without substantial differences between the genders. Occurrences of the first consummation were sporadically noticed at the age 10–14, in one man even in less than 10. In 59 % of the set, the disco-drugs were tentatively used 1–3 times, in a quarter 4–10 times, and in less than one fifth more often than 10 time.

Table 16: Machine gaming during life

Group	All		Men		Women	
	abs.	%	abs.	%	abs.	%
Answer						
No	6162	62,0	1975	49,3	4187	70,7
Yes	3771	38,0	2035	50,7	1736	29,3
Total	9933	100,0	4010	100,0	5923	100,0

At least once in life 38 % of the questioned (51 % men and 29 % women, $p < 0.001$, χ^2) played on gaming or lottery machines.

Table 17: Machine gaming in last 6 months (only in those who ever played)

Group	All		Men		Women	
	abs.	%	abs.	%	abs.	%
Answer						
No	3388	84,3	1726	80,3	1662	89,0
Yes	630	15,7	424	19,7	206	11,0
Total	4018	100,0	2150	100,0	1868	100,0

In the last half-year before questioning, machine gaming was noticed in 16 % of the set (20 % men, 11 % women, $p < 0.001$, χ^2).

Table 18: Machine gaming in last 30 days (only in those who ever played)

Group	All		Men		Women	
	abs.	%	abs.	%	abs.	%
Answer						
No	3662	94,0	1917	91,4	1745	97,0
Yes	235	6,0	181	8,6	54	3,0
Total	3897	100,0	2098	100,0	1799	100,0

During the last month before questioning, machine gaming was confessed by 6 % of the set (9 % men, 3 % women, ($p < 0.001$, χ^2). Most gamblers (36 %, 38 % men, 33 % women, $p < 0.001$, χ^2) got into contact with gaming machines at the age 15–18, a third (28 % men, 34 % women, $p < 0.001$, χ^2) after 18, a quarter at the age 10–14, a tenth in

less than 10 years of age (both without gender significance). One up to three meetings with gambling were confessed by 66 % persons who played on gaming machines (55 % men, 80 % women, $p<0.001$, χ^2), 4–10 times played 22 % persons (28 % men, 17 % women, $p<0.001$, χ^2), more than 10 times 11 % of persons (17 % men, 4 % women, $p<0.001$, χ^2).

Table 19: Person who motivated the responder to using drugs (except nicotine, alcohol, caffeine and lege artis medicaments, only positive answers are given)

Group	All (n=9993)		Men (n=4039)		Women (n=5954)	
	abs.	%	abs.	%	abs.	%
Parents	166	1,7	45	1,1	121	2,0
Siblings	209	2,1	76	1,9	133	2,2
Partner	558	5,6	89	2,2	469	7,9
Friends	5102	51,1	2326	57,6	2776	46,6
Random friends	528	5,3	227	5,6	301	5,1
Drug dealer	28	0,3	20	0,5	8	0,1
Physician/pharmacist	109	1,1	25	0,6	84	1,4
Another person	273	2,7	164	4,1	109	1,8

Most frequently responders were motivated to taking drugs by their friends (51 % responds in the whole set, 58 % men, 47 % women), then the influence of a partner 6 % from all responds, 2 % men, 8 % women. The share of random friends was 5 % of the whole set, 6 % men, 5 % women. Relative number of other people influence was less than 3 % (other person 2.7 %, siblings 2.1 %, parents 1.7 %, physician or pharmacist 1.1 %, drug dealer 0.3 %).

Table 20: Meeting drug dealers (only positive answers are given)

Group	All (n=9993)		Men (n=4039)		Women (n=5954)	
	abs.	%	abs.	%	abs.	%
Street dealer	0	0,0	0	0,0	0	0,0
University student	1198	12,0	637	15,8	561	9,4
MU student	409	4,1	249	6,2	160	2,7
Student dealer from the same faculty as the responder	212	2,1	147	3,6	65	1,1

In the case of students meeting the drug dealers, none of them stated that they met a street dealer. In 12 % the responders (16 % men, 9 % women) were addressed by university students, 4 % of the set (6 % men, 3 % women) by a person studying at

another MU faculty, and 2 % of the set (4 % men, 1 % women) by a student of the same faculty.

Table 21: Encounter with counterfeit or “thinned” drug

Group	All		Memi		Women	
	abs.	%	abs.	%	abs.	%
Answer						
No, never	8069	87,6	3075	83,2	4994	90,6
Yes, 1–2 x	857	9,3	438	11,8	419	7,6
Yes 3 and more times	283	3,1	184	5,0	99	1,8
Total	9209	100,0	3697	100,0	5512	100,0

One or two encounters with a counterfeit or “thinned” drug were confessed by 9 % of the addressed (12 % men, 8 % women, $p < 0.001$, χ^2). Three and more encounters with a shoddy drug were registered by 3 % of the set (5 % men, 2 % women, $p < 0.001$, χ^2).

Table 22: Very easy availability of selected drugs

Group	All		Men		Women	
	abs.	%	abs.	%	abs.	%
Answer						
Marihuana	5088	58,1	2137	59,4	2951	57,3
Stimulant amines	326	4,3	153	4,9	173	3,9
Cocaine, crack	117	1,6	58	1,9	59	1,4
Hallucinogens	680	9,0	300	9,6	380	8,5
Disco drugs	788	10,3	348	11,1	440	9,7
Heroin	84	1,1	46	1,5	38	0,9
Other opiates	206	2,9	96	3,3	110	2,6

As a very easy to get was indicated marihuana (58 %), relatively easy disco drugs (10 %) and hallucinogens (9 %). Other substances were more difficult to get (speed and other stimulant amines 4 %, opiates except heroine 3 %, cocaine and crack 2 % heroine 1 %. Similar views were also recorded in classification according to the gender with slightly lower numbers in the answers of women.

Table 23: Reasons for taking drugs (except of nicotine, alcohol, caffeine and lege-artis medicaments; indicated by the responders as the most important with a decreasing number of occurrence)

Group	All		Men		Women	
	abs.	%	abs.	%	abs.	%
Appreciation of others	4359	43,5	1312	32,5	3047	51,2
Inquisitiveness	2743	27,4	1195	29,6	1548	26,0
Getting to pleasant sensations	1521	15,2	748	18,5	773	13,0
Relieving psychic stress	580	5,8	201	5,0	379	6,4
Spirituality	507	5,1	310	7,7	197	3,3
Unpleasant feeling suppression	328	3,3	119	2,9	209	3,5
Insight of the world and of oneself	296	3,0	150	3,7	146	2,5
Health problem suppression	249	2,5	79	2,0	170	2,9
Performance improvement	181	1,8	89	2,2	92	1,5
Need of sociability	170	1,7	73	1,8	97	1,6
Group integration	153	1,5	64	1,6	89	1,5
Attitude to sex	131	1,3	71	1,8	60	1,0

The dominant reason for taking drugs was appreciation of others (44 % responders), inquisitiveness (27 %), among minor reasons were getting to pleasant sensations (15 %), relieving psychic stress (6 %), spirituality (5 %). The relative number of other reason occurrence did not reach 5 %. In men, the positions of setting the reason according to the number stayed, in principle, the same as in the whole set with the emphasis at getting pleasant sensations, in other possibilities slightly higher preferences were found in spirituality, insight of oneself and attitude to sex. In women the first four positions of the reason are the same with the emphasis on the appreciation of others and slightly higher preferences in suppression of unpleasant feelings and health problems.

Table 24: Taking selected well-known drugs (positive answers only)

Group	All		Men		Women	
	abs.	%	abs.	%	abs.	%
Marihuana	6517	65,2	2694	66,7	3823	64,2
Stimulant amines	814	8,1	330	8,2	484	8,1
Cocaine, crack	311	3,1	125	3,1	186	3,1
Hallucinogens	1580	15,8	695	17,2	885	14,9
Disco drugs	1702	17,0	700	17,3	1002	16,8
Heroin	104	1,0	49	1,2	55	0,9
Other opiates	416	4,2	174	4,3	242	4,1

In the mapping of taking selected well-known drugs, the responders put on the first place marihuana (5 %), then dance drugs (17 %), hallucinogens (16 %) and stimulant amines (speed and others 8 %). Relative frequency of taking other well-known substances did not reach 5 % (other opiates except heroin 4 %, cocaine and crack 3 %, heroin 1 %). Similar order was maintained also in gender classification, with slightly lower relative frequency in some women's answers.

Table 25: Regular smoking 20 and more cigarettes a day

Group	All		Men		Women	
	abs.	%	abs.	%	abs.	%
I agree	626	6,3	363	9,1	263	4,5
I do not agree	8724	88,4	3397	85,2	5327	90,5
I do not know	519	5,3	225	5,6	294	5,0
Total	9869	100,0	3985	100,0	5884	100,0

The attitudes to regular daily consumption of 20 and more tobacco cigarettes vary according to the gender. In the framework of the set, 6 % of the questioned agree with smoking, in the gender classification 9 % men and 4.5 % women $p < 0.001$, χ^2). Relatively small number of responders cannot take a stand, the rest rejects smoking.

Table 26: Regular marihuana smoking

Group	All		Mem		Women	
	abs.	%	abs.	%	abs.	%
I agree	995	10,1	620	15,6	375	6,4
I do not agree	7881	79,9	2933	73,7	4948	84,1
I do not know	984	10,0	426	10,7	558	9,5
Total	9860	100,0	3979	100,0	5881	100,0

Slightly less tough opinions appeared in evaluating the views at regular marihuana consumption. One tenth of the whole set agree with it, 16 % men and 6 % women ($p < 0.001$, χ^2). In comparison with tobacco, the number of persons that cannot take a stand grew from 5 % to 10 %.

Table 27: Experiment with "heavy" drugs

Group	All		Men		Women	
	abs.	%	abs.	%	abs.	%
I agree	530	5,4	329	8,3	201	3,4
I do not agree	8676	88,1	3334	83,8	5342	91,1
I do not know	638	6,5	317	8,0	321	5,5
Total	9844	100,0	3980	100,0	5864	100,0

The view of the addressed students of the experimental taking drugs with a non-acceptable peril (of so-called “heavy” or “hard” stuff) is similar to the view of the regular consumption of tobacco. In the framework of the whole set, 5 % agree with it (8 % men, 3 % women, ($p < 0.001$, χ^2). Slightly more people (6.5 % of the set, more men) cannot judge the risk, the rest rejects the experiments.

Table 28: Experiment with hashish, hallucinogens, disco drugs

Group	All		Men		Women	
	abs.	%	abs.	%	abs.	%
I agree	2384	24,2	1247	31,4	1137	19,4
I do not agree	6112	62,1	2206	55,5	3906	66,7
I do not know	1340	13,6	524	13,2	816	13,9
Total	9836	100,0	3977	100,0	5859	100,0

According to the written above, the responders are much more benevolent to the experimental use of substances with acceptable risk (so-called “soft” or “light” drugs). 24 % of all the questioned agree with it, 31 % men and 19 % women ($p < 0.001$, χ^2). Approximately 14 % of the sample cannot take a clear stand, the rest uniquely does not agree with the experiments.

Table 29: Experiment with marihuana

Group	All		Men		Women	
	abs.	%	abs.	%	abs.	%
I agree	5932	60,2	2642	66,4	3290	56,0
I do not agree	2487	25,2	894	22,5	1593	27,1
I do not know	1432	14,5	442	11,1	990	16,9
Total	9851	100,0	3978	100,0	5873	100,0

The situation is dramatically different in judging the opinions of responders on the experiments with marihuana. They are approved by 60 % of the set, (66 % men, 56 % women, ($p < 0.001$, χ^2), 14 % could not make their mind (women mostly), the rest does not agree with this activity.

Table 30: Opinions on drug legalisation

Group	All		Men		Women	
	abs.	%	abs.	%	abs.	%
Against legalisation of any drug	1303	13,3	577	14,6	726	12,4
For legalisation of some lege artis drugs	5219	53,3	1584	40,1	3635	62,2
For legalisation of some, mainly “soft” drugs	2472	25,2	1288	32,6	1184	20,3
For legalisation of all drugs	173	1,8	129	3,3	44	0,8
Another opinion	626	6,4	374	9,5	252	4,3
Total	9793	100,0	3952	100,0	5841	100,0

Against legalisation of any drug definitely are 13 % of the set (15 % men, 12 % women, ($p < 0.01$, χ^2). The legalisation of selected substances, e.g., in medicine or pharmacology would be supported by 53 % of the questioned (40 % men, 62 % women ($p < 0.001$, χ^2). The legalisation of the so-called “soft drugs” (especially cannabis ones) would be approved by a quarter of responders (33 % men, 20 % women, ($p < 0.01$, χ^2), the legalisation of all drugs by almost 2 % of the set (3 % men, 0.8 % women, ($p < 0.001$, χ^2). Other opinions (mostly concerning the changes in the community views at drugs and at the drug legislative) are held by 6 % of the questioned (9.5 % men, 4.3 % women, ($p < 0.001$, χ^2).

Discussion

Kachlík and Šimůnek (1995, 1998) dealt with monitoring the drug consumption and the approaches to it in university students at MU from 1993. During the years 1993–1997 they carried out an anonymous questionnaire investigation on a sample of 456 students (177 men and 279 women of the fifth year of the Faculty of Medicine MU Brno.

It turned out that “heavy” drugs (opiates, cocaine, speed) penetrated into the selected group. The number of students that had already tried the heavy drugs on themselves was relatively low, round 2 %, only in cocaine their own experience was confessed by almost 4 % in the school year 1993–94. A misuse of medicaments appeared mainly in taking depressants used by women for calming psychic and physical troubles.

The situation in the consumption of cannabis products was much worse. Marijuana became the mostly spread drug in the set, students’ own experience with it was reported by more than 30 % of men and by almost 20 % of women, approximately 6 % of men and 1 % of women smoked it repeatedly. The second most frequently misused drug, after cannabis, were hallucinogens largely of natural origin (magic mushroom). In average 30 % of men and 15 % of women were regular tobacco smokers, 20 % of men and 50 % of women were non-smokers and the rest were either occasional smokers or ex-smokers.

Student held a very tolerant attitude to testing marihuana (accepted by two thirds and strongly rejected by only 15 %). The number of rejecting students grew by 20 % in the case of occasional consummation and by 60 % in the case of regular consummation. One third of the questioned could not take a clear stand, in general the attitudes of women were more critical. The medical students were more critical to regular daily smoking 20 cigarettes. One half of men and 65 % of women clearly rejected a possibility of legalisation of so-called “soft” drugs, the significance of the differences between the genders was growing in time.

More than three-quarters of the set were brought to the use of drugs by their friends or occasional acquaintances, 45 % of the responders took the drugs from curiosity, other substantial reasons were looking for pleasure, relief from psychic stress, health problem suppression (in women mostly), finding the feeling sociability and recognition in the group.

The desire to test sometime drugs was mentioned by almost a half of men and a third of women.

Besides the anti-smoking actuation, the medical students, in the framework of their stays in the institute of preventive medicine, were addressed with activities on primary prevention against the misuse of non-tobacco drugs. The prevention of dependence was also included in the curriculum of future teachers. The co-operation with MU Counselling Centre was strengthened and students got a possibility of solving their addiction problems directly of the university soil.

Csényi et al. (2004) investigated a sample of Prague university students (Charles University, Vysoká škola ekonomická, České vysoké učení technické, Česká zemědělská univerzita, Vysoká škola chemicko-technologická) by the help of an anonymous structured questionnaire that was directed to the misuse of drugs and to the attitude to them. It also contained spectrums monitoring some psychological characteristics.

Hazardous and socially undesirable forms of using addictive substances were found in a third of the set. Excessive consummation of alcohol was found in a fifth of men and 8 % of women. A relative number of regular daily cigarette smokers did not differ by gender (14 % men, 13 % women), the use of monitored drugs (marihuana, speed, heroin, LSD, ecstasy) more than 5 times in a year was confessed by 24 % of men and 12 % of women. Persons with hazardous behaviour to addictive substances showed a higher level of depressiveness, worse mental health, they had problems with associating with generally valid social standards.

Students abusing alcohol or taking other drugs had a more tolerating stand to consummation of addictive substances. No significant links were found between the quality of family background and hazardous drug consummation.

Pavúk and Koščo (1997) published the results of their questionnaire study monitoring smoking habits and the prevalence of smokers among the students of the Faculty of Education in Prešov in 1982–1995. More than 1900 responders were addressed.

In 1982 in the whole set there were 31.2 % of smokers (43.4 % men and 26.5 % women). Among the students of the first year, the smoking prevalence was 20.3 % (16.6 % women, 34.7 % men), among the students of the last year 36.7 % (30.9 % women, 51 % men). The data of 1991 come from another phase of the research, they present the prevalence of smokers in the first year on the level of 26.2 % (25,8 % women, 17.2 %

men), in the last year 44.3 % (39.6 % women, 52.0 % men). Data on the prevalence of smokers in the students of the first year are also available from the year 1995 (24.5 % total, 23.3 % women, 29.4 % men).

In 1991 a growth of number of smokers in the set of students was noted in the first and last years with a substantial contribution of the students of the first year and of the women, in general. In 1995 in the set of students of the first year we noticed a drop of smokers in comparison with 1991 and a rise of them in comparison with 1982 (both without statistic significance). During 1991–1995 no trend of growing prevalence of women smokers and no drop in men of 1982–1991 was confirmed.

A long-time research was also performed among students of the 3–5 years of the Faculty of Medicine, Comenius University Bratislava (Novotný, Kolibáš, 1997; Kolibáš, Novotný, 1998). At the end of the 90s it also monitored the students' own experience with alcohol and other psychoactive substances and their knowledge, as well. The most frequently used substances were black-coffee (regular consummation of more than 40 %) and alcohol (20 % regular consumers). Regular tobacco smoking was confessed by about 10 % of the questioned. Regular taking of benzodiazepines is very rare but a repeated use of them was found out more often. Regular and repeated consummation of alcohol and nicotine are 3–4 times more often in men, coffee drinking and benzodiazepine use more often in women. From illegal drugs a contact with marihuana is mostly described by 1,8 % regular consumers, repeated consummation is indicated by other 5.5 %. Psycho-stimulants, Ecstasy and hallucinogens are used rarely. At least once psycho-stimulants were used by 2.3 % of students, LSD by about 1.4 % and Ecstasy by about 0.5 %. Nobody mentioned one's own experience with opiates. In the classification of the students' knowledge, the students as the best known indicated cannabis substances, then heroine, hallucinogens and volatile substances. The least known are "designer drugs".

Another study (Kolibáš et al., 2003), by the help of an anonymous questionnaire investigated a set of 381 students of the 3rd – 5th year of the Faculty of Medicine Comenius University Bratislava (faculties of education, science, law and arts) and students of the Police Academy of SR. Students of these institutions most frequently (from addictive substances) use black coffee (48 % of the set), tobacco (14 % regular smokers) and alcoholic drinks (12 % drink regularly). Regular alcohol drinking and smoking most frequently appeared in men, women more frequently drank black coffee and used medicaments with addictive components (almost 4 %, especially analgesics). From illegal substances, the most frequently misused drug were cannabis products (27 % of men and women had one experience with them at least, other almost 1 % took them regularly). Persons with their own marihuana experience more frequently belonged to the regular tobacco and alcohol consumers and in majority also tried other drugs or had friends using addictive substances. Less of the questioned confessed their own experience with LSD, sporadically with volatile and opiate substances.

The last results presented by Novotný and Kolibáš (2004) were obtained from an anonymous questionnaire of 2002 from a set of 230 students (157 women, 73 men) from the third and fifth years of the Faculty of Medicine in Bratislava. 11 % of the set (7 % women, 21 % men) smoked regularly, 11 % of the questioned (8 % women, 16 % men) drank alcohol regularly and other 68 % irregularly but repeatedly. Black coffee

was regularly drunk by 46 % persons (one half of men one third of women). From illegal substances, the most frequently misused drug were cannabis drugs (15 % of the questioned had one experience with them, 12 % repeated experience, regular cannabis consumption appeared uniquely only). One or two repeated cannabis consumptions were stated by 22 % of women and 42 % of men (statistically relevant difference). Almost 3 % had one experience with LSD, repetitions were rare, similar situation as in ecstasy.

From the comparison of the 2002 and 1997 data can be concluded that the number of tobacco consumers increased significantly and that the number of regular and occasional alcohol consumers did not change significantly. The number of drug experience with cannabis (both single and repeated) increased significantly, the share of regular consumer dropped slightly.

The work of Kovářová and Dóci (2004) investigated the relation between smoking and physical activities of the medical students of the Pavel Jozef Šafárik University (UJPS) in Košice. They analysed answers, obtained in inquiring in the framework of a cardiovascular monitoring CINDI, a part of which were items concerning smoking and physical activities. The set included 1104 medical students (426 men and 978 women) of the 5th year in the period 1996–2001. In the whole set there were 17.5 % smokers, three quarters of them were regular smokers and about a fifth occasional smokers. The smoking prevalence was higher in men and men also smoked for longer time than women. The average daily cigarette consumption was 11 pieces in men and 7 pieces in women. The students started regular smoking after the start of university studies. Subjectively, men evaluated their physical fitness better than women, the most frequent type of physical activity was fast walking (stated by more than 60 % of responders, a quarter of the addressed went in for recreational movement several times a week, about 2 % of the sample were active in sports. A general relation between smoking and physical activities of university students was not proved but a significant relation was found between the daily consumption of cigarettes and physical movement. The students smoking more cigarettes a day have a tendency to be less physically active. With regard to cardiovascular prevention and dependence prevention, a strengthening of the physical education role in the curriculum and an application of various methods of the fight against smoking will be very useful.

A representative study aimed at the marihuana consumption in university students was accomplished in the U.S.A. (Bell et al., 1997; In Novotný, Kolibáš, 2003). In a set of more than 17,500 students of 150 American universities, almost a quarter stated that they consumed marihuana in the last year. The use was higher in those students who at the same time were drinking alcoholic drinks and were smoking and also in those who lived in campuses where pubs were available. Marihuana consumption correlated with worse study results.

A large study was also realised in Great Britain (Webb et al., 1996; in Novotný, Kolibáš, 2003). In a sample of more than 3 000 students from 10 universities was found that 89 % experienced with alcohol (61 % of men and 48 % of women drink regularly, 15 % drink dangerously, 20 % take cannabis regularly at least once a week, 33 % have some experience with other illicit substances (mostly with LSD and ecstasy). 46 % of students started taking addictive drugs at secondary schools, 13 % after entering the university.

The investigation of NHSDA and SAMHSA (Substance abuse and mental Health Services Administration showed that in the USA population of 12–24 years old white men population, 28 % are dependent on nicotine, 6 % on alcohol, 9 % on marihuana and 8 % on cocaine. 31 % of white women are dependent of nicotine, 3 % on alcohol, 6 % on marihuana and 11 % on cocaine (Gfroerer et al., 1997; 1996 Annual Report Center for Drug and Alcohol Studies, 1997).

Monitoring a population sample of 13–48years old in Australia (*Lenton et al., 1997*) with the average age of 18.9 proved that a contact with alcohol at least once had almost 99 % of the interrogated, with cannabis more than 96 %, with hallucinogens (LSD) more than 90 %, with inhalants 83 %, with amphetamines 69 %, with barbiturates without a prescription 37 %, with cocaine 19 % and with heroin 7 %. Right at schools alcohol was used by 92 %, cannabis by 89 %, LSD by 67 %, inhalants by 57 %, amphetamines by 46 % and barbiturates by 35 %.

Conclusions

More than three-quarters of the interrogated used tobacco during their life, for the first time between 10 and 18 mostly, one tenth of the addressed smoked “legally”, 5 % tried tobacco at the age before 10, almost 40 % of responders smoked during the last 7 days before the study.

Virtually 99 persons from 100 drank alcohol during their life, women rather occasionally, men regularly, the first contacts with alcohol were at the age 10–18, 3 % of the set drank “legally”, one tenth tried alcoholic drinks at the age less than 10, almost three-quarters of the interrogated drank alcohol during the last days before the study.

Black coffee was tested by 8 from 10 interrogated, more regular consumers are women, most persons got the first experience between 15 and 18 of age, half of the responders drank black coffee during the last 7 days before questioning.

Cocaine was contacted during the life by about 3 % of the set, men more than women, in the last month before the study cocaine was taken by 0.2 %, most frequently the experiments with cocaine were in early adulthood, practically in 70 % there were maximally 3 repeated trials. Experience with crack confessed 0.3 % of the questioned, during the last month fractions of percents only (three persons, 0.03 %), the maximum of experiments and the number of uses were similar to cocaine.

Marihuana was tested at least once in life by 60 % of the questioned (by men more), in the last month marihuana was consumed by 16 % of the whole set with clear prevalence of men, the maximum in the first contact with marihuana was reached in the age category 15–18, it was used more than 10 times by 45 % of the interrogated with the dominance of men, experiments (1–3 time) were confessed by a third of responders. Hashish or hashish oil was used at least once by a quarter of responders with prevalence of men, in the last month 4 % of the set took these substances, with prevalence of men again, the first experience with hashish or hashish oil happened mainly in the age 15–18, mostly 1–3 experiments.

Hallucinogens were used at least once in life by 7 % of the set, more often by men, in the last month the consummation of hallucinogens appeared in 0.5 % of all addressed, again with prevalence of men, the first contacts with hallucinogens most

frequently were at the age of 15–18 and in the time of early adulthood, 60 % of the set used hallucinogens experimentally (1–3 times), one third more often (4–10 times). Hallucinogenic mushrooms (esp. magic mushroom) were tested by almost doubled number of persons than hallucinogens in general, men more again, in the last 30 days were used by 0.8 % of the set (more men), the age period of the first use of the hallucinogenic mushrooms is the same as in the case of hallucinogens in general, hallucinogenic mushrooms were taken 1–3 times in 60 % cases, in a quarter of cases 4–10 times.

At least one life experience with so-called “heavy” drugs was confessed by less than 5 % of the questioned, men more often, the first contact were in the age 15–18 and in the time of early adulthood. In half of the cases there were 1–3 experiments only.

Medicaments with a depressive effect without a prescription of professional recommendation, at least once in life, were used by 8 % of responders (women more) in the last month before the interrogation by 0.9 % of the set (more women, again), about one half of the users took the depressants on purpose for the first time in the time of early adulthood, 40 % in the age 15–18, about 40 % used them “as a test” 4–10 times, one fifth more than 10 times.

Disco drugs were taken at least once in life by 9 % of the questioned, in the last 30 days by 0.7 % of the set (prevailing men), the first experience passed at the age 15–18 and at the threshold of adulthood, in two thirds of the cases there were unique experiments only.

Gaming machines were used at least once in life by more than one third of the questioned, men prevailing, in the last month before questioning gaming machines playing was confessed by 6 % of the set (men prevailing again), most gamblers came into contact with gaming machines at the age 15–18 and at the threshold of adulthood, 1–3 contacts with gambling were confessed by two thirds of persons, one fifth confessed 4–10 contacts, one tenth more than 10 contacts.

Most frequently the responders were motivated to taking drugs by their friends, less by the partner or occasional friends. As to the students and their meeting with drug dealers: in a tenth of cases it was a university student out of MU, in 4 % a student of MU, in 2 % a MU student of the same faculty as the responder. One or two encounters with counterfeit or diluted drug was confessed by a tenth of the set, more frequent contact was noted by 3 % of the sample. To the most dominant reasons of using drugs in the set was appreciation of others, curiosity, calling pleasant feelings, relieving psychic stress and spirituality.

As a very easily available was indicated marihuana, as a relatively easy to get then disco-drugs and hallucinogens. The friends of the responders most frequently use marihuana, followed by disco-drugs, hallucinogens and stimulant amines (speed and others).

The attitudes towards a regular daily consummation of tobacco differ according to the gender (agreement in 9 % of men and 4.5 % of women), a similar situation is in the views at taking marihuana (agreement in 16 % of men and 6 % of women), experimental use of “heavy” drugs is agreed by 8 % of men and 3 % of women, experimental use of “soft” drugs is generally agreed by 31 % of men and 19 % of women, in the case of marihuana 66 % of men and 56 % of women agree. Their attitudes are very benevolent.

The legalisation of any drug is decidedly rejected by 13 % of the set, a permission of selected substances for a lege-artis use would be supported by 53 % of the questioned (more women) a legalisation of so-called “soft” drugs (particularly based on cannabis) would be approved by a quarter of the responders, a legalisation of all drugs by less than 2 % of the set (in both cases more men).

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Data was collected by planning internal research project “*Deskripce drogové scény na MU a návrh preventivních opatření. Etapa 2: Realizace deskriptivní studie na MU a její vyhodnocení*”, identification number 01/06, category A-a (MUDr. Petr Kachlík, Ph.D.)

DROGOVÁ SCÉNA NA MASARYKOVĚ UNIVERZITĚ BRNO PO 10 LETECH

Souhrn: Pomocí anonymního dotazníkového šetření bylo provedeno oslovení reprezentativního vzorku 9993 respondentů ze všech 9 fakult MU Brno. Dotazník sestával z 21 položek, zaměřených na vlastní celoživotní zkušenosti studentů s alkoholem, tabákem, černou kávou a jinými látkami, jejich užití v posledních 6 měsících a 30 dnech, postoje ke drogám, základní socioekonomické ukazatele. Odpovědi byly elektronicky zaznamenány a statisticky zpracovány.

Ukázalo se, že tři čtvrtiny respondentů mají vlastní celoživotní zkušenost s tabákem, 99 % s alkoholem, 85 % s černou kávou, 60 % s marihuanou, čtvrtina s hašišem, 13 % s halucinogeny, 8 % s tlumivými léky non lege artis, desetina s tanečními drogami, 38 % někdy hrálo na automatech. V případě ostatních kontrolovaných látek (vč. tzv. těžkých drog) jejich celoživotní prevalence nepřesáhla 5 %. Častější konzumace byla zaznamenána zvl. u konopí, některých halucinogenů a tlumivých léků.

Klíčová slova: dotazník, návykové látky, *univerzita, studenti, studie, prevalence, postoje, užívání*

THE PROBLEM OF STIGMATIZATION OF PIERCING SUBCULTURE AS DRUG SUBCULTURE AND IT REFLECTION IN EDUCATION OF ADOLESCENTS.

Eva MARÁDOVÁ, Martin ŽIŽKA

Abstract: *The contribution presents the results of thesis, covering problems of stigmatisation of the piercing subculture as drug subculture. At the beginning, the thesis describes characteristics of both subcultures in question and the trends in their development. The following section contains results of the research centred on informedness of individuals at different age about piercing subculture, their attitudes towards application of piercing and biases against individuals with piercing. The results of the research among adolescents were used for creation of a programme which can be recommended for implementation in the high school curriculum. The project offers a draught of the content structure of lessons and recommendation concerning selection of teaching methods, including motivational didactic games and exercises.*

Key words: *piercing, trends connected with piercing, piercing subculture, drug subculture, curriculum*

Decoration of the body becomes more often the image of young people. Is this a Fashion trend, effort to attract the attention or particular way how to express oneself? Very common are disputations about suitability or risks of this way of decoration of the body. Individuals with piercing are viewed with admiration, respect but also fear. Difference can lead to stigmatization of pierced young people that way that they are grouped to those individuals, whose life style is connected with undesirable manners, especially with using drugs. But is really the piercing subculture directly linked with the drug subculture? The hetero described research should answer this question.

The aim of this study was to find and describe the possible drug and piercing subculture on basis of the analysis of available informative resources and of results from own research for educational projects for high schools.

The research itself is based on wide theoretical analysis of the problem to be solved. The treatise on piercing subculture included history and characteristic of piercing, description of current style of piercing, motives for application. Further more the current drug scene, drug subculture and motivation aspects for using drugs by children and young people is described. On basis of analysis of common attributes, motives, and proceedings of individuals belonging to both groups the null hypothesis for the research was set.

Description of the research

The aim of the research: **to map attitudes of informants to piercing**, especially with respect to possible stigmatization, prejudices and myths and to monitor **problematic of piercing in connection with the habit forming substance misuse**; particularly to find out the linking or suggestibility of drug use and piercing, respectively the influence of piercing on habit forming substance use.

Hypothesis: Piercing subculture is not drug subculture.

Methods: Questionnaire and structured interview

Analysed groups of informants:

128 informants (38 of them with piercing, 90 of them without piercing) took part in the questionnaire research, consequently 60 of them were randomly chosen for further interview.

The reason for choosing both types of informants with and without piercing was the possibility to compare the presuppositions of those without piercing (as they were most probably viewed) with reality based on experience of those with piercing. The difference was intended element for comparison of opinions of informants with and without piercing.

The pupils of the primary school in Prague were addressed, further clients of educational institute (South Moravian Region), and randomly chosen informants according to needed criterions (age, piercing). Informants were acquired as well on the Internet portal, here the questionnaire was Publisher.

Tab. 1 Number of informants represented in the particular groups (questionnaires)

Informants	14–18	19–35	36 and older	TOGETHER
with piercing	8	15	15	38
without piercing	53	22	15	90
female	25	13	14	52
male	36	24	16	76
TOTAL NUMBER OF INFORMANTS				128

Questionnaire to be filled in by informants, was anonymous, informants identified only their basic statistic data: sex, age, highest level of education. Due to two different groups (informants with and without piercing) two version of questionnaires and two structures for interview were prepared, however these did not differ in the main points.

The research was undertaken from October 2006 to January 2007.

Results of the research

Tab. 2 The most represented reasons for application of piercing.

Reasons	age					
	14–18		19–35		36 and older	
	number	%	number	%	number	%
due to the boredom	2	3,3 %	1	2,7 %	0	0
to be IN	28	45,9 %	10	27 %	4	13,3 %
to be different	9	14,8 %	14	37,8 %	15	50 %
for religion reasons	1	1,6 %	1	2,7 %	0	0
other: they like it	21	34,4 %	11	29,8 %	11	36,7 %

While finding out the possible reason for application of piercing the most frequented reason of piercing, which corresponded with the reason for application of piercing in case of pierced individuals.

„*Desire to be IN*“ was the most frequented reason for application of piercing by informants aged 14 to 18, further „*other reason: I like it*“ (34,4 %).

From the total amount of informants 33,6 % was of the opinion, that *the reason for application is goodness of piercing (they like it)*, 32,8 % stated the reason „*to be IN*“ and 29,7 % of all informants *set out the reason to be different*.

Tab. 3 Opinion on pierced individual

Opinions	Age					
	14–18		19–35		36 and older	
	number	%	number	%	number	%
strange person, he/she destroys his/her body	4	6,6 %	0	0	2	6.7 %
the same as without piercing	46	75,4 %	34	91,9 %	24	80 %
other opinion	11	18 %	3	8,1 %	4	13,3 %

Informants could express their opinion further in the opened question.

In majority of cases (87,9 %) informants stated that **the individual can't be specified on group of piercing, it is individual**, in remaining 13,1 % were stated different kinds of music, styles of dressing and behaving that are characteristic for individuals with piercing (punk, extravagant hair dress, rudeness, violence, and so on).

Tab. 4 Suspected existence of prejudices of society against individuals with piercing.

	Age											
	14–18				19–35				36 and older			
	with piercing		without piercing		with piercing		without piercing		with piercing		without piercing	
	Num.	%	Num.	%	Num.	%	Num.	%	Num.	%	Num.	%
Yes	7	87,5 %	32	60,4 %	9	60 %	13	59,1 %	3	20 %	6	40 %
No	1	12,5 %	21	39,6 %	6	40 %	9	40,9 %	12	80 %	9	60 %

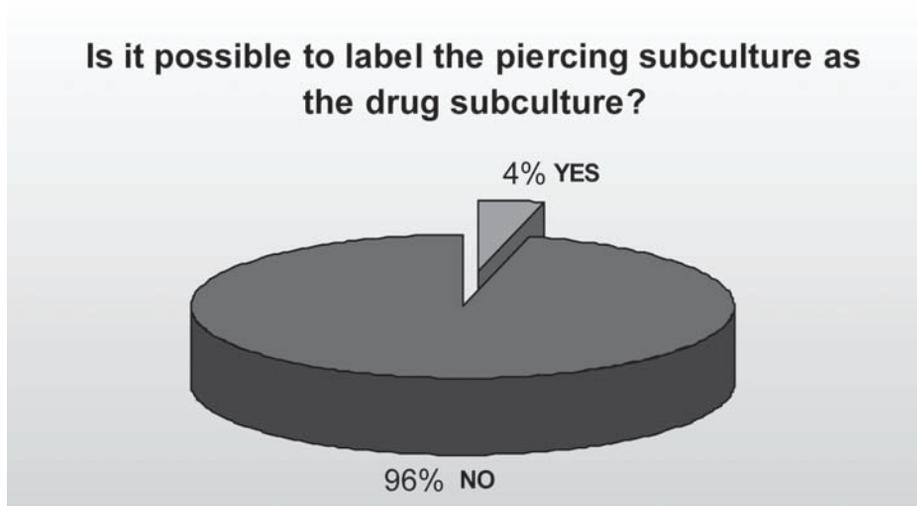
By comparison of answers of informants with piercing with answers of those piercing it was realized that:

- half of informants with piercing have realized some prejudice against themselves;
- individuals without piercing are of the opinion, that pierced people are object of prejudices, persecution from the society in higher degree (56,7 %), than the pierced people are feeling.

Can the piercing subculture be labelled as drug subculture?

Informants were allowed to change the proposed statement or they could leave it without any changes if they were of the opinion that It was correct – „*All pierced people use drugs and they can be there for viewed as the „burden on society“.*“

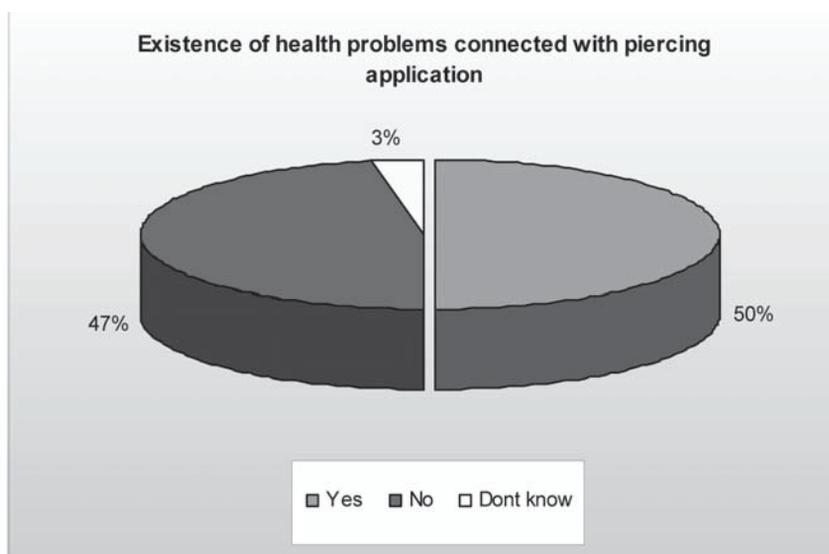
96,1 % of informants designated the statements as incorrect and changed it to (adjusted according to the questionnaire). „*Some pierced people use drugs as people without piercing do.* Even the following answer were suggested: „*It is not possible to judge the individual gauged on piece of iron.*“



Tab. 5 Existence of health problems connected with piercing

Answers	with piercing		without piercing		Total	
	number	%	number	%	number	%
yes	9	23,7 %	55	61,1 %	64	50 %
no	29	76,3 %	31	34,4 %	60	46,9 %
don't know	0	0	4	4,5 %	4	3,1 %

Some people do realize the danger of piercing application. 50 % informants answered in the affirmative the question that should find out by informants without piercing the possible existence of some health problems connected with piercing and by informants with piercing the real existence of problems i.e. if they had some health problems after piercing application – *inflammation, allergic response, infection, damage of soft tissues swelling, etc.* Pierced informants listed the most frequent the following problems: *inflammation, purulence and allergic reaction on metal.*



Tab. 6 Toleration of informants without piercing to the incidental piercing of their partner.

Answers	with piercing		without piercing		Total	
	number	%	number	%	number	%
yes	9	23,7 %	55	61,1 %	64	50 %
no	29	76,3 %	31	34,4 %	60	46,9 %
don't know	0	0	4	4,5 %	4	3,1 %

The majority of informants without piercing would be to the incidental piercing of their partner (54,4 %), approximately one third of informants (35,6 %) would be tolerant depending on the style of piercing and 10 % of informants would not accept piercing on their partner (in this case 2 informants from age group 19–35 years and 8 informants aged 36 and older were represented).

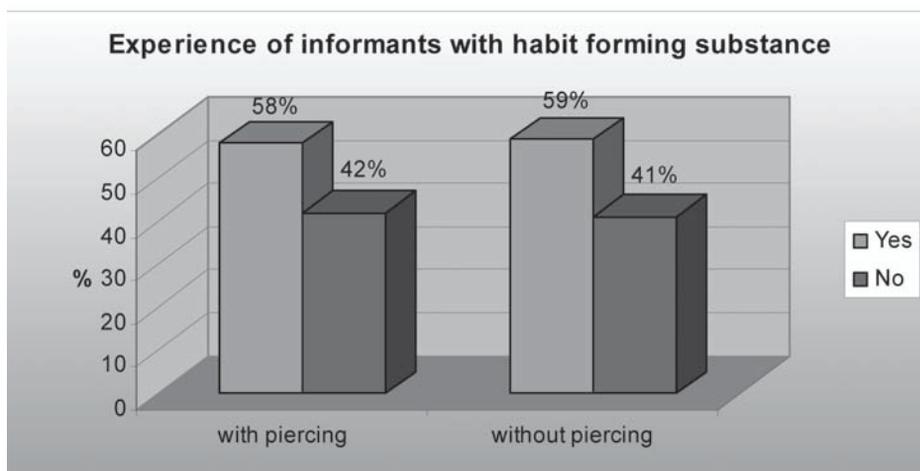
Tab. 7 Experience with drug by informants with and without piercing

Answers	with piercing		without piercing		Total	
	number	%	number	%	number	%
yes	9	23,7 %	55	61,1 %	64	50 %
no	29	76,3 %	31	34,4 %	60	46,9 %
don't know	0	0	4	4,5 %	4	3,1 %

Presence of problem connected with application of piercing, especially in the recovery period. *The experience with some illegal drug stated 75 informants (58,6 %) from the total amount of 128 informants.* By comparison of groups of informants with and without piercing it was discovered that percentage representation of positive and negative answer is nearly the same. 8 individuals (from those 75 informants, that have experience with drug, i.e. 10,7 %) use the habit forming substances (marihuana) repeatedly. This demonstrates that it is not true, that all pierced individuals having some experience with drug are their regular users.

There are huge differences in experience with habit forming substances in respect to piercing and age. By informants having piercing is experience with habit forming substances higher at higher age.

By informants without piercing is the most frequently represented the experience with forming substances in the youngest age group of 14–18 years (75,5 %).



Knowledge about piercing

In spite of absolute knowledge of the meaning of the word „*piercing*“ just 68,8 % of all informants were the origins of this word in respect to time. Due to the lower representation of pierced individuals, which was caused by majority of individuals in the first age group (14–18 years, due to the random choice of informants, the pierced informants (71 %) were more successful than individuals without piercing (67 %).

However If we examine the table into more details, it can be observed that with the exception of the last age group (36 years and older), individuals without piercing had more correct answer, 14–18 years 56,6 %, 19–35 years 95,5 %. Interesting was the knowledge on the origins of piercing in age group 14–18 years, where none of the boys answered this question correctly that pierced individuals should have at least some knowledge on history of piercing.

Summary

On bases of the theoretical study and results of research (questionnaires and interviews with informants) It can be stated, that **the majority of present society accept piercing as usual phenomenon**. The piercing does not embarrass the majority of informants. At the same time informants realized the different attitudes toward piercing now days and in the past, existence of certain stigmatizing prejudices and forms of discrimination (depending on the position in work, etc.)

Problems with stigmatization of any subculture, not only piercing subculture is part of life of every society. There are always some individuals, who are scared different or have disrespect and who will on grounds of similar features class individual members of particular subculture to different subculture. It happens to the particular extend to the piercing subculture, whose some members are in grounds of dressing, behaviour and the music, they are listening to, classed to drug subculture.

The undertaken research brought information, which can be used in pedagogic praxis for forming of programmes to health support and prevention of social-pathologic phenomenon's at primary and secondary schools. The majority of informants do not view the pierced individuals as habit forming substances users. Therefore the main hypothesis of the whole research confirmed – **the piercing subculture is not at the same time the drug subculture**, i.e. *the pierced individuals are not at the same time the habit forming substances users*. This fact shall be taken into account while finding the effective strategies of prevention of habit forming substances misuse by children and young people.

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PROBLÉM STIGMATIZACE PIERCINGOVÉ SUBKULTURY JAKO SUBKULTURY DROGOVÉ JEHO ODRAZ VE VÝCHOVĚ ADOLESCENTŮ

Souhrn: Příspěvek předkládá výsledky řešení graduační práce, která sleduje problémy stigmatizace piercingové subkultury jako subkultury drogové. Východiskem jsou charakteristiky obou diskutovaných subkultur a trendy jejich vývoje. Jsou předloženy výsledky výzkumu zaměřeného na informovanost jedinců různého věku o piercingové subkultuře, jejich postoje k aplikaci piercingu a výskyt případných předsudků vůči jedincům s piercingem. Výsledky výzkumného šetření u adolescentů byly využity k vytvoření projektu, který lze doporučit k implementaci do školního vzdělávacího programu na středních školách (gymnáziích). Projekt nabízí návrh obsahové struktury vyučovacích hodin a doporučení výběru výukových metod, včetně motivačních didaktických her a cvičení.

Klíčová slova: piercing, trendy spojené s piercingem, piercingová subkultura, návykové látky, drogová subkultura, vzdělávací program

THE YOUNG AND DRUGS

Janka SCHLARMANNOVÁ, Libuša LENGYELOVÁ, Ľubomír ŽÁČOK

Abstract: *In this contribution the danger of nicotine as the most used drug was pointed. Also the results of screening focused on examination the relationship of young people at university level to smoking.*

Key words: *nicotine, smoking, addiction*

Introduction

Smoking, drinking alcohol and taking other drugs is increasing in our society and world-wide. Those habits are starting to be the most serious problems of the whole civilization. Generously the most dangerous drug is the one, which is not accepted by people, but is cheap and easy to get it. A man is not ashamed when is taking it and its influence on his health he does not know precisely. All those named marks has the drug-nicotine, which is contended in various products made of tobacco.

Nicotine is the main alkaloid of tobacco. It is psychotropic compound of tobacco and make a prototype of process of addiction. It is similar to all those dangerous compounds that people think they can stop taking it at any time. Nicotine is taking by people though they know about its unhealthy effects. Moreover it makes chemical bounds with other drugs like nicotine-caffeine (cigarettes and coffee), nicotine-ethanol (cigarettes and alcohol). Also nicotine starts strong addiction and supports smoking other drugs.

Nicotinism started to be counted as the drug addiction only in last few years. One of the reasons is that when smoking is stopped the man is under examination and truly it is not a simple habit.

In present it is the most spread drug addiction and its consequences are very dangerous. Its danger is based when nicotine and alcohol are eternal drugs so young people or even children know as first. It was proven by results of several screenings.

Methods and material

The questionnaire with 12 questions was used. We wanted to know the number of smokers, last smokers (ex-smokers) and non-smokers in tested group of people. In connection with smokers the level of addiction to nicotine was tested using Fageström's test. Tested people were university students of biology at the FPV, UKF in Nitra in

2005-2006 year. Total number of respondents was 195 with 158 women and 37 men and the age was 19 in average.

Results

Results of our screening show that female non-smokers were 118 (74,7 %) [ex-smokers were 16] and 40 (25,3 %) smokers, male non-smokers were 20 (54,0 %) [ex-smoker was 1] and smokers were 17 (46,0 %). Totally there were 138 (70,8 %) non-smokers and 57 (29,2 %) smokers.

The smokers answered the question why they started to smoke that they wanted to relax (21x), they were curious (20x), they wanted to adapt to a community (12x) and others (4x). The level of addiction to nicotine was tested by Fageström's test in smokers. The results showed that in the group of 57 smokers, 23 (40,5 %) had no or very low addiction, 29 (50,8 %) had low addiction and only 1 (1,7 %) had strong addiction to nicotine. In the female-smokers were found 19 (47,5 %) with no or very low addiction as was in case of low addicted female-smokers and only 1 was middle addicted and 1 was strong addicted smoker. In man-smokers were 4 (23,5 %) with no or very low addiction, 10 (58,8 %) with low addiction and 3 (17,6 %) were strong addicted to nicotine.

The question if they wanted to stop smoking the group of 57 smokers, 43 (75,4 %) students answered that yes and it was 13 (76,4 %) men and 30 (75,0 %) women. Whether they have ever tried to stop smoking 40 (70,1 %) of them answered positively and it was 11 (64,7 %) men and 29 (72,5 %) women. These answers also contained results what was the influence of smoking on human health. In the group of 57 smokers, 46 (80,7 %) thought smoking was very dangerous and 10 that it was mild dangerous.

The question who was or is still the smoker at home all of tested students answered. In 14 (82,3 %) men had one parent smoking at least (8 cases both parents were smokers and 6 only one parent was smoker). In female-smokers 26 (65 %) cases that one parent was smoking at least (9 cases both parents were smokers and 17 only one parent was smoker).

In non-smokers 7 (35 %) men answered that one parent was smoker at least (3 cases both parents were smokers and 4 only one parent was smoker). 64 (55,2 %) women had one parent smoker at least (42 cases both parents were smokers and 22 had only one parent smoker).

Ex-smokers stopped smoking because they realized smoking is harmful to their health (7x), they already had problems with health (5x), they lost the taste to smoke (3x) and others (4x).

Discussion

It was found 38 % smokers between students at the UP FS in Prešov and that is 9 % higher than in our region. They examined 176 students also mainly women.

We can say that men are more influenced by family habits. Men-smokers had one of the smoking parent in 82,3 %. In non-smokers was that percentage much lower-35 %. In women we did not find such significantly high differences.

The addiction to nicotine was stronger in men than in women. The highest number of smokers has weak addiction to nicotine in men and in women (50,8 %).

Students are well informed about smoking and its effects on health, but despite that they do it in practice. High number of smokers (75,4 %) would like to stop it and 70,1 % of them tried it, but with no success.

Conclusion

Based on our results we can conclude: students would need some professional to help to stop such bad habit, but there is still the influence of their family, which has also an important role in that.

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MLÁDEŽ A DROGY

Súhrn: V príspevku poukazujeme na nebezpečenstvo nikotínu ako najrozšírenejšej drogy. Zároveň predkladáme niektoré výsledky z prieskumu zameraného na zistenie vzťahu vysokoškolskej mládeže k fajčeniu.

Kľúčové slová: nikotín, fajčenie, závislosť

BEHAVIORAL PROBLEMS AMONG SCHOOL CHILDREN PRENATALLY EXPOSED TO SMOKING

Drahlava HRUBÁ

Abstract: *A growing evidence of published results indicates that children and adolescents prenatally exposed to tobacco smoke may have higher rates of conduct disorders. In the European Longitudinal Study of Pregnancy and Childhood (ELSPAC) both the markers of conduct disorders, learning problems and antenatal exposure to maternal smoking are collected. The Czech sample includes the cohort of children born at the beginning of 90' in the City Brno and rural district Znojmo. The analyzed data described in this paper were taken from the teachers' reports and medical observations of individual children in their ages 8, 11, and 13 years. Differences between two groups (exposed and noexposed prenatally) were evaluated using the statistic program EPI INFO. In the Czech cohort of ELSPAC, the relationships between prenatal exposure to maternal smoking and higher frequency of conduct disorders during both younger and older school-age were confirmed.*

Key words: *antenatal exposure to smoking, conduct disorders, school age*

Introduction

A growing evidence of published results indicates that children and adolescents prenatally exposed to tobacco smoke may have higher rates of conduct disorders, including Attention Deficit Hyperactivity Disorder (ADHD), compared with un-exposed children (DiFranza, 2004; Linnert, 2003; Thapar, 2003; Weitzman, 1992). The review of literary controlled for an array of potential confounders showed that prenatal exposure to cigarette smoke increased the risk of behavioral problems during childhood, adolescence and early adulthood (Olds, 1997; Sourander, 2005).

Some longitudinal prospective studies showed that the conduct disorders are moderate stable over time (Campbell, 1995; Gray, 2004; Sourander, 2005).

These reasons have supported the recommendations of international examination of smoking as a preventable risk factors (Carter, 2007).

In the European Longitudinal Study of Pregnancy and Childhood (ELSPAC) both the markers of conduct disorders, learning problems and antenatal exposure to maternal smoking are collected. The Czech sample includes the cohort of children born

at the beginning of 90' in the City Brno and rural district Znojmo. The analyzed data described in this paper were taken from the teachers' reports and medical observations of individual children in their ages 8, 11, and 13 years.

Methods

For different times of children school age in which the repeated observation has been previously established, the teachers' special questionnaire was developed. During each age category, the different teachers have assessed the child. No teacher was informed about the health and/or social history of children during their antenatal period, as well as the results of physicians observations. Children for whom the data were available, were divided into two groups (exposed vs. nonexposed) according to their mothers smoking during pregnancy. Differences between those two groups were evaluated using the statistic program EPI INFO.

Results

Although the number of children assessed in different ages was not the same, the rate of prenatally exposed/ nonexposed remained the stable (10 %)

Repeatedly used markers of conduct disorders were concerned about the attention deficit and motoric hyperactivity: the frequency of these disorders were always significantly higher among the prenatally exposed children (tab 1).

Others manifestations of conduct disorders, such as instable moods, aggressivity, repeated telling lies, were predominantly reported about children aged 8 and 11 years more often in exposed group. However, in the groups of 13 years old the frequencies of these characteristics were much lower and similar.

Almost twice more exposed than nonexposed children needed the special pedagogical cure at age 8 years (27,7 % vs 16,4 %, $p < 0,001$).

Specific conduct disorders measured among older children (11 and 13 years) were almost always significantly enhanced in the prenatally exposed group: attention and concentration disorders, school rules admittions with consequent punishment, having friends who also are not willing to keep the social norms (Tab. 2).

Children with different prenatal exposure to smoking have also different social environment in their families: five times more often the parents inadequate interest about the children' school life and performances in the exposed group were reported by the teachers: for 2,2–2,5 % nonexposed vs. for 10,9–12,8 % exposed.

Discussion

The link between in utero exposure to tobacco smoke and conduct disorders/ attention deficit hyperactivity disorder has been described through meta-analyses of studies published over a 30-year period (Linnet, 2003), twin studies (Thapar, 2003), and studies controlling socioeconomic status and post-natal complications (Batstra, 2003). Greater excitability, tremors and startles can be frequently manifested even among newborns born to mothers smoking during pregnancy (Law 2003). Reviewed 17 studies

described strong associations of behavioral and cognitive problems in children exposed to passive smoking during prenatal period (Eskenazi, 1999).

Majority of investigators described that the conduct disorders in childhood were usually strongly associated with the retardant prenatal somatic development. Also in ELSPAC cohort the relationships of conduct disorders to low birth weight and lowered head circumference were stronger than those to self-reported maternal smoking.

Mechanisms of prenatal smoke exposure effects on behavioral development are not well understood yet: both the structural and functional changes within specific regions on the brain (Batstra, 2003). The possible biological mechanisms include chronic hypoxemia, alteration in the cholinergic, noradrenergic and dopaminergic neurotransmitter systems, influence on cell differentiation and their damage in cerebral cortex, as well as in basal ganglia.

Conclusion

In the Czech cohort of ELSPAC, the relationships between prenatal exposure to maternal smoking and higher frequency of conduct disorders during both younger and older school-age were confirmed.

Acknowledge:

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Tab. 1: Markers of conduct disorders occurred repeatedly (% of children)

Statistic significance: ** = p<0,01, *** = p<0,001

CHARACTERISTICS	AGE	PRENATAL EXPOSURE	
		YES	NO
Attention Deficit	8	68,4 ***	53,2
	11	44,5 **	27,9
	13	45,7 ***	25,3
Motoric hyperactivity	8	53,5 ***	38,5
	11	36,7 ***	22,1
	13	24,6 **	15,9
Instable moods	8	36,8 **	24,6
	11	14,8 **	7,7
	13	8,8	5,5
Aggressivity	8	37,7 **	26,8
	11	28,7 ***	11,3
	13	2,5	1,1
Repeated telling the lies	8	37,7 ***	19,1
	11	12,8 **	5,7
	13	3,8	2,6
History od pilfer	8	11,6 ***	3,6
	11	21,2 ***	8,5
	13	occasional cases	

Tab. 2 Behavioral characteristics of children aged 11 and 13 years (% of children)
 Statistic significancy: * = $p < 0,05$, ** = $p < 0,01$, *** = $p < 0,001$

CHARACTERISTIC	AGE	PRENATAL EXPOSURE	
		YES	NO
Conduct disorders with punishment	11	30,3***	14,8
	13	31,7***	16,0
Problems with concentration	11	43,8*	31,2
	13	50,0***	29,8
Problems with memory	11	37,8***	21,9
	13	21,0	16,8
Friends disrupting social rules	11	30,2***	12,3
	13	14,1*	7,1
Strong negativism	11	6,4*	2,3
	13	7,5	5,9

PROBLÉMOVÉ CHOVÁNÍ U DĚTÍ ŠKOLNÍHO VĚKU PRENATÁLNĚ EXPONOVANÝCH KOUŘENÍ

Souhrn: V posledních letech narůstá počet studií, jejichž výsledky naznačují, že děti a dospívající mladí lidé, kteří byli prenatálně exponováni tabákovému kouří, jsou častěji postiženi poruchami chování. V Evropské longitudinální studii těhotenství a dětství (ELSPAC) jsou shromažďovány údaje o vybraných znacích poruch chování a o prenatální expozici dětí kouřících matek. Český soubor zahrnuje kohortu dětí narozených počátkem 90. let v městě Brně a zemědělském okrese Znojmo. Jsou prezentovány výsledky údajů, které poskytli učitelé o dětech ve věku 8, 11 a 13 let. Rozdíly mezi oběma skupinami dětí (prenatálně exponované a neexponované) byly hodnoceny statistickými testy v programu EPI INFO. V české kohortě dětí sledovaných ve studii ELSPAC byly potvrzeny vztahy mezi prenatální expozicí dětí kouření jejich matek a vyšší frekvencí poruch chování během mladšího i staršího školního věku.

Klíčová slova: prenatální expozice kouření - poruchy chování – školní věk

SYSTEM OF DIFFERENTIAL APPROACH FOR THE SCHOOL PARTICIPATION IN PRIMARY PREVENTION OF SMOKING AND SIMILAR RISK BEHAVIOR

Drahoslava HRUBÁ

Abstrakt: *Contemporal smokers are predominatingly less educated and poor people. Epidemiologic studies from different countries have confirmed the persistent class-based disparities and the growing number of smokers in the lower socioeconomic groups. Thus socioeconomic status (SES) can be accepted as a complex determinant of health and psychosocial factors are the mediators for pathways affecting the public health.*

The relationships between the levels of SES and human health are measured with using some indicators: education, income and occupation, morbidity and mortality.

Education shapes future occupational opportunities, earning potential, knowledge and life skills and in such a way allows easier access to information and resources to promote health.

There is an opportunity to use an upstream, midstream and downstream approach in a broad primary prevention schoolwork: Upstream efforts are directed to whole school community,

Midstream prevention focuses on groups at a higher risk, Downstream approach concentrates more on the individual children.

Key words: *socioeconomic status, markers, education, smoking, three-steps' approach*

Cigarette smoking has been determined as the leading cause of premature death over the world. Half of all cigarette smokers will ultimately be killed by such behavior (US DHHS, 2004). The multiple diseases related to smoking produce substantial health-related costs to society, such as smoking-attributable mortality, lost of potential life years, smoking-related medical expenditures, lost productivity costs and others. Health care costs at a given age are approximately 40 % higher for smokers compared with nonsmokers (Barendregt et al, 1997). In the Czech Republic, the cost of hospital treatment of smokers is annually as much as 6 mld Kč higher than expenditures for nonsmokers (Czémy, Sovinová, 2007).

Contemporar smokers are predominatingly less educated and poor people. Epidemiologic studies from different countries have confirmed the persistent class-based disparities and the growing number of smokers in the lower socioeconomic groups (Sorenson et al, 2004).

The relationships between the levels of socioeconomic status (SES) and human health are measured with using some indicators: education, income and occupation (Siegrist, Marmot 2004), morbidity and mortality (Kristenson et al, 2004).

Education is typically completed in childhood and early adulthood and thus its level and quality serves as a marker of early life circumstances. Education shapes future occupational opportunities, earning potential, knowledge and life skills and in such a way allows easier access to information and resources to promote health.

In many countries (although not in the Czech Republic) income is material sources covering the insurance for health care. Although it was not fully true in former socialist régime, in the Czech Republic now household income can be used as a marker of living standard and the indicator of prestige.

Occupation influences on health status both directly (through different exposure to professional hazards) and indirectly (affecting health behaviors).

Thus SES can be accepted as a complex determinant of health and psychosocial factors are the mediators for pathways affecting the public health. It is very good known that persons with lower SES are more vulnerable to unhealthy behavior, such as cigarette smoking, alcohol abuse, using the illicit drugs, unhealthy nutrition habit, risk sexual practices, etc. (Williams et al, 1990). Further development of human may be demonstrated as a risk spiral: poor health status may be partially responsible for barriers to social mobility and for limits of improvement in social position (Cardano et al, 2004).

There are several factors responsible for the higher prevalence of smokers among poor and less educated people:

- less educated may have the least information about the health risks of smoking, they more likely have low perceived control believing in the existence of external constraints (Doll et al. 2004);
- less educated persons live and work in more stressful environments;
- psychoactive effects of nicotine produce pleasant changes of mood and can help to manage the stress for a short time; and thus serve as a way to cope for the disadvantages to participate in society and to control over one's life;
- persons of lower SES may experience social norms less accepting of tobacco control
- the social environment of less educated people increases their exposure to other smokers and is associated with their lower willingness for cessation;
- they can have the least access to cessation services (Harwood et al, 2007).

Associations between cigarette smoking and psychiatric disorders have been repeatedly reported (Breslau et al, 2004). Depressive symptoms are very often associated with smoking initiation and experimentation and people do believe to the popular

self-medication theory that smoking assist in reducing their negative moods. But new scientific results presents suggestion that current smoking may increase the risk for anxiety, panic disorders and even suicides (Kassel et al, 2003). SES, smoking and depression demonstrate cyclical associations and have common negative effects on health.

The enhancing interest of genetic factors and tobacco smoke exposure influencing on the dopaminergic system during the prenatal period have presented the scientific evidence about important relationships. The most important results of studies described the effects of prenatal exposure not only to maternal smoking (both active and passive) but even to nicotine release from the nicotine replacement therapy on the higher prevalence of many conduct disorders during childhood and criminality in young adulthood (Marcusen-Linhart et al., 2003 ; these disorders are partially preventable.

There is an opportunity to use an upstream, midstream and downstream approach described by Mc Kinlay and Marceau (2000) in a broad primary prevention schoolwork:

Upstream efforts are directed to whole school community and focus:

- on system of education, encouraging students activities,
- on friendly and supportive relationships
- on healthy public policy.

Midstream prevention focuses on groups at a higher risk:

- children from incomplete families
- children of low educated parents with social problems
- children with poor school performances

Downstream approach concentrates more on the individual children reported first risk behavioral attempts, and on those with conduct disorders.

The close collaboration both with parents and with specialized psychologists is essential mainly in the downstream, but also in midstream programs. In the Czech Republic, this approach has been applied in the program „Our class does not smoke“ (Smoke-Free Class Competition – Zachovalová, 2007)

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SYSTÉM DIFERENCOVANÉHO PŘÍSTUPU V ÚČASTI ŠKOLY NA PRIMÁRNÍ PREVENCI KOUŘENÍ A PODOBNÉHO RIZIKOVÉHO CHOVÁNÍ

Souhrn: Dnešní kuřáci jsou především málo vzdělaní a chudí lidé. Mnoho epidemiologických studií potvrzuje trvalý sociální rozdíl v kuřáctví a rostoucí počty kuřáků v nižších socioekonomických skupinách. Socioekonomický stav můžeme považovat za komplexní determinant zdraví, přičemž psychosociální faktory jsou prostředníky patologických procesů, které ovlivňují zdraví lidí.

Vztahy mezi socioekonomickým stavem a úrovní zdraví lidí se měří pomocí

některých indikátorů: úrovní vzdělání, výši příjmu, typem zaměstnání, nemocností a úmrtností.

Vzdělání určuje budoucí příležitosti k získání profese, potenciální příjem, znalosti a dovednosti pro zvládání životních situací; těmito mechanismy umožňuje rovněž snadnější přístup k informacím a zdrojům podporujícím zdraví.

Pro ovlivnění podmínek, v nichž školní děti žijí a pracují, se nabízí třístupňový přístup: hlavní proud (upstream) je určen pro celou školní komunitu, střední proud (midstream) se zaměřuje na ohroženou populaci, třetí proud (downstream) je orientován individuálně na jednotlivce.

Klíčová slova: socioekonomický stav, markery, vzdělání, kouření, třístupňový přístup

RESULTS OF THE PILOT PROJECT OF THE PROGRAM „NON SMOKING IS THE NORM“ AFTER TWO YEARS

Iva ŽALOUĐÍKOVÁ, Drahoslava HRUBÁ

Abstract: *The study deals with the pilot study outcomes of the educational preventive program “Non-smoking is a Norm“. After a two-year realization in the same group of younger schoolchildren the efficiency of the program was found out in the field of health education and healthy life style promotion. An experiment was used with experimental and control group. An individual structured interview with children and questionnaire for parents were chosen for the evaluation.*

Key words: *Anti-tobacco education, healthy lifestyle, primary preventive program, health education, drug prevention*

Introduction

The aim of the study was to find out the adequacy and suitability of the primary preventive program called „Non-smoking Is the Norm,“ including checking its efficiency. The program focuses on health education, healthy lifestyle promotion, and smoking prevention, and so far is being implemented in first and second years of primary schools. The survey was carried out at thirteen pilot schools which entered the project. The program is designed according to generally recommended principles of long-term effects on the same group of children and is planned for five years.

Methodology

To prove the adequacy of the program, we chose a method of experiment with a group in which the first part of the program was carried out (by five lessons during the first year of the elementary school). The impact on the determining factors was compared with a control group in which no lessons had been taught. The control classes included children in their second year of the same schools from parallel classes and the results were compared with those in the first group. Both groups (the experimental and the control groups) were homogenous.

Before commencing the program, 476 children in their first year took part in the initial survey; 273 were members of the experimental group and 203 of the control group. 431 children in their second year also took part in the experiment; the experimental group consisted of 254 children and the control group of 178 children. The final post-test, which was taken six months after the initial survey, was filled in by 408 respondents, 241 of which were members of the experimental group, and 167 of the control group.

The children were also interviewed individually by way of structured interview, the aim of which was to find out:

1. their attitudes towards adult smoking and their own potential smoking in the future
2. their smoking environment
3. their risk behavior
4. behavior leading to observing the principles of healthy eating.

Parents from the experimental group were also addressed by means of a questionnaire which stressed questions regarding the parents' attitude to second-hand smoking and to the ways in which parents protect their children before it.

Analogically to the previous year, a teachers' manual, worksheets for the children, and course graduate certificates were issued for the second part of the project. The lessons were taught again by trained students of the teaching faculty who provided feedback about individual activities so that the program can be updated and adapted to the particular needs of individual schools.

All results were processed in EPI INFO 6.09a software, the statistical evaluation was carried out by the means of Kruskal-Wallis χ -quadratic test.

Results

1. Attitudes toward smoking

The content of the pre-test, focusing on the children's attitudes toward adult smoking and toward their own idea about their smoking or non-smoking behavior in the future was conceived in the same way as that of the questionnaire in the first phase of the project, and so enabled to evaluate the long-term effect of the program on these factors.

The frequency of children who rated their admiration for girl/women smoking by giving this phenomena marks 1 or 2, slightly increased compared to the previous year in the experimental group and decreased in the control group, so the children from both groups did not differ. During the following six months the number of smoking "admirers" went up equally in both groups, hence differences were not found even in the post-test (table 1).

Tab. 1: Admiration toward smoking (given in %, relative frequency)

E-F: experimental group, admiration toward female smoking, C-F: control group,

admiration toward female smoking; E–M: experimental group, admiration toward male smoking, C–M: control group, admiration toward male smoking

	E-F	C-F	E-F	C-F
1.-PRE	1,9	1,4	3,9	2,9
1.-POST	0,7	2	2,6	4,4
2.-PRE	1,2	1,1	0,8	2,2
2.-POST	3,6	3,6	2,3	4,2

The numbers of children admiring male smoking decreased surprisingly in comparison to data obtained during the previous year when the children were in the first grade. In the final survey at the end of the second grade, the frequency of children admiring male smoking increased in both groups, more in the control group. In the group of the children influenced by the program, there were fewer admirers despite the increase in comparison to the previous year before initiating the program.

Critical reservations towards female smoking (rated by marks 4 or 5) have a steady frequency in both years of the experiment in both monitored groups; it fluctuates at approximately 95 %. The numbers of children criticizing male smoking, significantly influenced by the project, decreased in both groups between the survey at the end of the first grade and before the start of the program at the beginning of the second grade. However, the frequencies came out to be similar during the post-test at the end of the second grade (see Table 2).

Tab. 2: Critical approaches to smoking

E-F: experimental group – criticizing female smoking; C-F: control group – criticizing female smoking; E–M: experimental group – criticizing male smoking; C–M: criticizing male smoking

	E-F	C-F	E-M	C-M
1-PRE	96	95,7	94	94,3
1-POST	92,6	94,1	92,2	90,1
2-PRE	96,2	94,4	81,2	91
2-POST	96,3	94	91,1	89,8

Less children in their second grade at the beginning of the program expressed their **belief that they would smoke** in the future than at the end of the first grade; this accounted for children in both groups. The numbers of “future smokers” increased in the post-test, but they were still lower than those given at the end of the first year. The numbers of children who did not know whether they would smoke in the future or not increased in comparison with the first year for children in the experimental group, decreased for children in the control group, and the level of frequencies was similar (tab.3)

Tab. 3: Potential future smokers

	Future smokers Exper. group	Future smokers Control group		Don't know Control group
1. PRE	2,3	3,8	5	2,9
1.POST	2,9	5,4	3,7	11,3
2. PRE	0,7	1,2	8,7	8,5
2.POST	2	3	10	9,1

The fluctuation of “decided” and “hesitating” future smokers frequencies is reflected in tendencies of the **answers regarding future non-smoking**. The group involved in the prevention program was positively influenced by it, which was reflected in the significant increase of the future non-smokers numbers during the program. Unfortunately, this tendency turned around during the second year and the decrease of the desirable attitudes could be observed both during the pre-test survey and after undergoing the second stage of the program. As for the control group, a significantly negative development could be observed during the first year while the numbers of non-smokers rose in this group during the pre-test phase to the level equal to that of the experimental group; later, the numbers fell again, but they were similar to those of the experimental group. (tab. 4).

Tab. 4: Future non-smokers

E – experimental group (involved in the prevention program), C – control group

	Future non-smokers E	Future non-smokers - C
1. PRE	92,7	93,3
1. POST	93,4	83,3
2. PRE	90,6	90,3
2. POST	88	87,3

It can be said that the attitudes of children which were arrived at according to their admiration or criticism of smoking and according to the decisions about their future smoking or non-smoking were positively formed during the first phase of the program, but failed to be formed equally during the second phase.

2. Smoking environment, exposure to smoke

A. Exposure of children to second-hand smoke in their home environment

It can be concluded from the results that high numbers of children live among smokers and are exposed to negative effects of second-hand smoke. From the total number of 431 children both in the experimental and control groups, about a third have a

mother who is a smoker and about a half have a father who is a smoker. Compared to data acquired during the first year, the numbers of parents – smokers rose. It cannot be said whether this fact is due to the increase of smokers among parents in absolute numbers, or whether the existing smokers did not use to smoke while the children were present.

More than a quarter of children are exposed to second-hand smoke from their relatives (uncles, aunts, grandparents, or other relatives).

Tab. 5a: Data regarding the occurrence of smokers among parents and other relatives from experimental group children (E) and control group children (C)

Smokers in the family %				
	E1	E2	C1	C2
Father smokes	45,5	50	41,6	45,5
Mother smokes	33,3	27	34,4	29
Uncle smokes	22,4	24,4	21,6	28,2
Aunt smokes	15,2	10,5	20,8	20
Grandmother smokes	29,7	27,6	34,4	40
Grandfather smokes	34,5	32,2	24,8	30,9
Other relative smokes	6,1	4,6	2,4	4,5

Tab. 5b: Data regarding the numbers of smokers among parents and grandparents of both groups of children during the first year

Children’s exposure to second-hand smoke at their homes (%)	
Mother smokes	21,3
Father smokes	33,7
Grandparents smoke	35,6

B. Smoking at home and in the public

Children answered the question regarding smoking in the public. Three quarters of children stated that members of their family smoke at places where children are. Among the places given most frequently were garden, bus stop, restaurant, in the street, balcony, porch, toilet, hallway, car, kitchen, living room. There were no differences among the experimental and the control groups.

Tab. 6: Exposure of children to second-hand smoke

Do members of your family smoke during your presence? %				
	E1	E2	C1	C2
Yes	72,4	72,2	75,8	68,9
No	27,6	27,8	24,2	31,1

3. Children's risk behavior

Personal children's experience with smoking and alcohol consumption as well as behavior encouraging positive attitudes towards smoking, such as lighting cigarettes or sending children to bring them were coined as risk behavior.

More than a half of seven-year olds stated that they have already tasted alcohol; the numbers equaled in both groups. In the control group, the number of those who have tasted alcohol by the end of their second grade amounted to nearly 60 % (tab. 7). Although children said that they "only" tasted alcohol and that they are not its regular or occasional consumers, this situation is alarming.

The actual experience with smoking was the highest in the experimental group during the pre-test: more than 10% of children had already tried smoking. During the second survey, the numbers of experimenting smokers declined dramatically (tab. 7). The percentage of experimental smokers was equal during the pre-test and the post-test surveys with the control group (8 %).

Tab. 7: The frequency of indicators characterizing children's risk behavior

Children's risk behavior %				
	E1	E2	C1	C2
Experimented with smoking	10,6	4,6*	7,9	7,8
Experimented with alcohol	54,3	52,3	53,7	58,7
Buys/brings cigarettes	6,7	3,3	7,9	11,5
Lights cigarettes	6,3	4,6	6,8	10,2

Note: The statistical significance of difference in frequency regarding children experimenting with smoking during the pre-test and post-test surveys is $* p \leq 0,05$

The development of the indicators pointing to the accessibility of cigarettes is positive: the frequency of positive answers lowered in the experimental group in the second grade during both tests while the numbers of children bringing cigarettes to parents or lighting them were rising in the control group (tab. 8). We can assume that the program also had a positive impact on parents who had been given information letters and anti-smoking brochures called "How Your Child Will Not Become a Smoker."

Tab. 8: Accessibility of cigarettes, risk behavior

Bring cigarettes – E: experimental group; Bring cigarettes – C: control group; first year/grade – pre-test and post-test; second year/grade: pre-test and post-test

	Brings cigarettes - E	Brings cigarettes - C	Lights cigarettes -E	Lights cigarettes -C
1st year PRE				
1st year POST	9,9	9,9	6,6	6,6
2nd year PRE	6,7	7,9	6,3	6,8
2nd year POST	3,3	11,5	4,6	10,2

4. The characteristics of children with various/different? attitudes to their own smoking

Approximately 9 % of children (9 boys, 1 girl) stated that they will smoke in the future during the second survey at the end of the second year. Differences between the percentage of boys and girls can be due to the fact that the society tolerates male smokers, who are the models for 8-year old boys, more than female ones. 10 % of children of both sexes were undecided (20 boys, 19 girls).

The analysis of selected monitored indicators (judging according to present attitudes of children towards their future smoking or non-smoking) showed interesting differences (tab. 9a).

Table 9a: The characteristics of children with different attitudes towards their future smoking/non-smoking behavior at the end of the second year

The characteristics of children with different approaches to their future smoking or non-smoking (%)	Will smoke N = 10	Don't Know N = 39	Will Not Smoke N = 356
Admires female smoking	10	3,4	2,6
Admires male smoking	20	2,8	2,6
Mum smokes	44,4	48,5	24,1
Dad smokes	66,7	68,7	44,9
They would advise their parents not to smoke	77,8	76,7	90
Buys cigarettes	30	7,9	5,9
Lights cigarettes	30	13,2	5,6
Tried smoking	40	5,3	5,1
Tried alcohol	80	65,8	52,9

There is a significantly higher number of those with positive attitudes towards both female and male smoking in the group of children who stated that they will smoke in comparison with the other two groups. Nearly one third of them buys or lights cigarettes; 40 % of them have tried smoking. Most of them – 80 % - have tried alcohol. All these numbers are significantly higher than those in the groups of the undecided children and those who stated that they would not smoke.

Two thirds of children who want to smoke in the future or who are undecided yet have father who is a smoker and nearly one half of them have mother who is a smoker. However, nearly 80 % of those children would recommend their parents not to smoke. They understand smoking as risk behavior.

In the future non-smokers group, about one quarter of the children have mother who is a smoker and one half have father who is a smoker. According to the results, the numbers of those children who have got access to cigarettes, who have tried alcohol, ad who admire smoking, are the lowest in this group. Similar results were obtained in this group in previous surveys during the first stage of the survey (tab 9b).

Tab. 9b: Results of the pilot study after the first year of the experiment (first-graders).

The characteristics of children with different approaches to their future smoking /non-smoking %			
	Future smokers N=19	Don't know N=33	Future non-smokers N=424
Mother smokes	57,9	30,3	19,1
Father smokes	57,9	54,5	31,4
Buys cigarettes	31,6	18,2	6,6
Lights cigarettes	36,8	24,2	5
Admires male smoking	15,8	9,1	2,4

5. Observing the healthy eating principles

The project focuses at smoking prevention, but also encompasses the healthy lifestyle issues in wider contexts, especially healthy eating. In order not to make this issue too complex for the tested children, the aim of program is to encourage children to increase the consumption of fruits, vegetables, and dairy products. The impact of the program on such behavior was monitored in the questionnaire, in which one of the question asked the children about the consumption of food, vegetables, and dairy products in the previous day.

More than 80 % of children ate fruit – most frequently it was an apple, banana, strawberries, tangerine, orange, peach, nectarine, or kiwi (see tab. 10). Two thirds of children ate some vegetable meal. Although the surveys were carried out in December (the pre-test) and in June (the post-test), the frequency of answers was similar. Hence it can be concluded that there is no seasonal impact on the fruit and vegetable consumption. There were no differences in the experimental and in the control groups.

Tab. 10: The frequencies of answers regarding the children’s current consumption of fruits, vegetables, and dairy products.

Ate healthy food yesterday %				
	E1	E2	C1	C2
Dairy products	74,7		81,9	82,5
Fruits	81,8	83,3	80,8	79
Vegetables	65,6	68,5	63,8	66,5

Note: the statistical significance of differences between the answers frequency during the first and second survey: ** $p \leq 0,01$

Over 80 % of children acknowledged the consumption of dairy produce: milk, yoghurt, cheese, drinking chocolate, cottage cheese, and butter (which does not belong into this category) were given most frequently.

Such results cannot be seen as satisfactory: the recommendation for the daily proportion of fruits/vegetables/dairy products state 3–4 portions of fruit, 4–5 portions of vegetables, and 3 portions of dairy products. Should the respondents observe those recommendations, 100 % of them would have to give a positive answer regarding the consumption of any amount of fruits/vegetables/dairy produce. In the groups formed by the program, a special attention was given to those food categories, including the information about “Five Times a Day” and “M Elixir” programs, which were sent to parents. There was an increase of dairy products consumption in the experimental group, it was not significant enough, however, to see the influence of the program on the experimental group in comparison with the control group.

6. Parent questionnaire

Cooperation with the parents is necessary for the efficiency of the school health education programs. In the “Non-smoking Is the Norm” program, child-parent cooperation is secured by the means of doing homework together and addressing parents by letters providing information about the course of the program in their child’s class.

The letters also contained scientific information about smoking risks, especially about the risks of second-hand smoking, about healthy eating, and about the necessity of regular consumption of fruits, vegetables, and dairy produce for human body. Feedback was obtained by means of a questionnaire addressed to the parents of the children who were members of the experimental group. 126 questionnaires were returned, which is 50 % return. The questionnaires were most frequently filled in by mothers (60 %), fathers (8 %), and a third of the questionnaires was filled in by both parents. Only 9 % of both parents were both smokers. About one third of the respondents stated that one parent smokes.

The questionnaire consisted of eleven questions which dealt with issues of the dangers of second-hand smoke, the ban on smoking at public places, and the way children should be protected before smoking. (tab. 11)

Tab. 11: The frequency of answers in the parent questionnaire

Question		in %
1	Second-hand smoke represents a serious health risk for children	92,1
2	Agreement with the ban on smoking in public	79,4
3	Don't know if the ban on smoking in public has any impact on smoking at home	27,8
4	Never smokes at home	78,6
5	Leaves when someone smokes near their child	66,5
6	Are sure that when their child leaves home, s/he is in a non-smoking environment	54,9
7	Smoking outside is a adequate protection before passive smoking	95,2
8	It is not necessary to increase the protection of children before second-hand smoke	60,8
9	Children should be taught about the way of avoiding second-hand smoke at school	81
10	Parents do not mind discussions about the ban on smoking in public	48
11	Parents are not smokers	57,1

A vast majority of parents (92 %) stated that second-hand smoke represents a serious health risk for their children. A majority (79 %) also agreed with the ban on smoking in the public; parents who were smokers also expressed this opinion.

The parents' opinions regarding the issue whether the ban on smoking in public there can have an impact on their smoking at home were most contradictory. A third of parents said they are not able to judge this. An equal proportion of them stated that there will not be any influence: "Everyone can do at their homes what they want to." An equal proportion yet expressed the opinion that because of the ban, smokers will realize that non-smokers don't like smoke and will stop smoking at home as well.

Nearly 79 % of parents stated that they never smoke at home. Only 14% of parents ask someone, who is smoking while their child is present/nearby, to extinguish the cigarette, but two thirds of them leave with their child so that s/he is safe from the smoke.

More than a half of parents are sure that their child is not exposed to cigarette smoke while away from home. However, about a quarter of parents stated that they are not entirely sure about this; nevertheless, they say that the relatives and friends their child visits are non-smokers. About 20 % of parents could not judge the possibility of exposure to second-hand smoke outside home.

A vast majority of parents (95 %) consider smoking outside their home (apart from non-smoking) the only adequate protection of their child before smoking. More than a half of them consider the protection of their child before smoking as satisfactory. Only 20 % of parents promised that they will be more consistent.

Nearly a half of parents support the discussions about smoking in public places, and nearly a half of them support and look for experts' opinions. More than 20 % do not follow the discussions, 14 % of parents do not like the form of the debates although they admit that it is necessary, and 13 % of the respondents state that they not only support the non-smoking debates, but that they also join them.

Most of the parents (81 %) would appreciate if the school would teach children how to actively protect themselves before second-hand smoke. 10% of parents were not sure, an equal number of parents think the school has other responsibilities. No one stated unambiguously that the school should not teach children to be in opposition to smokers.

Result analysis

The aim of the pilot study was to test the form and methodology of the further stage of the “Non-smoking Is the Norm” educational program aimed at second-grade children at Czech primary schools. The program contains five lessons, elaborates their detailed structure, and brings further suggestions for the creative input of teachers. According to the experience of chosen trained teachers, the children find the program interesting, and their desire to express their opinions is inspiring. The level of difficulty both of the form and the content is adequate to the children's age.

Unlike the first stage of the project, the second one did not unfortunately have a significant impact on the children's attitudes towards smoking. The only significant statistical differences with the experimental group were noted in lower numbers of those who already experiment with cigarettes and those who eat more dairy products. Another statistically significant difference could be found with the prevalence of signs signaling easy accessibility of cigarettes and the presence of risk behavior connected with handling with cigarettes with the experimental group.

As for children who think at the age of eight that they will smoke in the future, they also more frequently experimented with smoking and alcohol. Most of the “future smokers” also admired adult smokers, which is a warning signifying that the probability of their becoming smokers in the future is high. Children copy adult's behavior – this is a part of the social learning process. The parents of children from this group were also smokers more frequently.

Conclusion

The survey **has not shown statistical corroboration of the impact of the anti-smoking program on children's attitudes towards smoking, or on their preference of healthy lifestyle and eating.** The efficiency of the program has not been proved unquestionably, however, we are able to state **maintaining of the current state of affairs and improvements in some respects.** It is a well-known fact that exercising impact on attitudes and behavior is not a matter of a single intervention (5 lessons in our case), but that acquiring knowledge is demonstrable even after short-term training. A number of factors (family, personal experience, school, peers, culture and its values, etc...) determine everyday attitudes and behavior.

The responses on the program from the schools are encouraging. Children like it and are looking forward to its continuation next year. Teachers also evaluate it and recommend it for further practical use. Parents responses have also been positive.

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VÝSLEDKY PILOTNÍ STUDIE PROGRAMU „NORMÁLNÍ JE NEKOUŘIT“ PO DVOU LETECH

Souhrn: Příspěvek hodnotí výsledky pilotní studie preventivního edukačního programu „Normální je nekouřit“ po dvou letech realizace ve stejném skupině dětí. Cílem bylo zjistit účinnost programu zaměřeného na výchovu k podpoře zdraví a zdravého životního stylu a výchovu k nekouření u dětí mladšího školního věku. Metodou experimentu s experimentální a kontrolní skupinou byla prokazována efektivita programu. Pro ověření postojů a chování dětí byla použita metoda individuálního rozhovoru s dětmi a dotazníku pro rodiče.

Klíčová slova: výchova k nekouření, zdravý životní styl, primárně preventivní program, výchova ke zdraví, drogová prevence

CHILDREN – DRUGS - LITERATURE

Naděžda SIEGLOVÁ

Abstract: *Authoress of this treatise evidences occasion how to connect the educational areas Language and communication through language and Humans and Health. Her analysis of the books Říše Agord by Daniel Hever and Jmenuji se Alice by Ivona Březinová (of two authors who give themselves to the problems of drugs addiction) proves that acquirements of the area Health education can be helped on reading of suitable literary works.*

Key words: *Framework educational programme for basic education, children's literature, problems of drugs addiction*

The Framework education programme for primary education guides a qualified teacher, more than in previous programmes, towards the creative integration of educational fields. The addition of the Human Health and Language and Language Communication fields can provide one such opportunity for integration.

The connection between these two fields is not immediately clear. Whilst respecting certain procedures, a sensitive and gentle integration can bring clearer results than a teacher's specialist and maybe colourful explanation of the theme. It is because of this fact that one of the elements of the Language and Language Communication educational field is literary appreciation, which leads pupils to „such experience and knowledge that might positively influence their approach and their life values ... and also lead to the development of their emotional ... perception“¹, wherein I would like to emphasise the words experience and emotional. An experienced teacher can lead pupils to such an end gradually, but it all depends on the individual abilities of the pupils in a rational and sensitive sphere.

We shall attempt to substantiate the possibilities of integrating the aforementioned educational fields through the analysis of two works of literature for children and young people, which in their content tackle the problem of drug addiction: Daniel Hevier's Říše Agord (The Land of Gurd)² and Ivona Březinová's Jmenuji se Alice (My Name is Alice)³.

¹ Framework education programme : www.vuppraha.cz

² HEVIER, D. *Říše Agord*. Bratislava: Hevi, 2001. Czech version: Prague: Amulet, 2001. Translated by Josef Brukner.

³ BŘEZINOVÁ, I. *Jmenuji se Alice*. Second part of the trilogy *Holky na vodítku*. Prague: Albatros, 2002.

After 1989 the flights made by young people into the „attractive world“ of oblivion, relaxation, colourfulness, i.e. the world of drugs, was a mark of the enforcement of the rights of free decision-making and at the same time an expression of the management of certain confrontational situations. Drug addiction as a negative accompaniment to modern society has for several decades been at a global level a medical, sociological and psychological problem. Its reflection in literature creates a forum for friction between portrayed and ethical reality, and thereby for discussion with subsequent socially desirable results.

Literary works on the theme of children and drugs may be expressed in various genre, thematic and stylistic formats. The aim of the author's strategy is always, however, to attempt to play a role in the formation of a system of values for school pupils and, through an author's „action“, to create a socially required and desired „reaction“.

In *The Land of Gurd*, Daniel Hevier has chosen fantasy as a method of communicating with the reader, whereas Ivona Březinová in her book *My Name is Alice* brings across a factual atmosphere. Should we start with the premise that the reader makes the world of the literary work his/her own by understanding and grasping the ideas and then by playing an emotional role, the titles of both books offer leeway for a positive reader response. The „Land“ cannot possibly be an ordinary world, and the „girl“ in the title promises a view into the life of an adolescent contemporary. From the outset the reader supposes that he/she „understands“ the title, and therefore has no problems entering into the essence of the work. In order to decode the text pragmatically in this case means accepting the information given on the existence of drugs, the methods of obtaining them and their consumption; it describes the pleasant and later unpleasant effects, the ways to recognise the limits of one's self-control, and the institutions that can help. Cooperation between the pupil and the teacher at this level is dependent on the rational interpretation of the text: a primary school pupil interprets the facts contained within the text, the teacher evaluates its integrity or lack thereof, tests the depth of the pupil's ability to find their way around the text, their ability to find key words, to appropriately express their opinion of what they have read, to reproduce the text, or to reproduce the main ideas.

In Daniel Hevier's book a first-year primary school pupil should be able to recognise that it is a fairy tale, to decipher the key words such as Gurd, Relaed, Ysatsce, Retpmet⁴, etc, thereby leading to the rational understanding of the contents of the book. On understanding the work in its entirety, the pupil should reach a level whereby during the rational intake of the book he/she might better and more often enter into the bilateral relationships between each formal elements in the work and become emotionally involved with them.

The pupil is supposed to identify with the heroine of the story, Lucinka. He/she should identify with her feeling of a boring (although safe) home life („One evening, when there was nothing left to do in this world“), to welcome the impetus to begin the tale, from which there is an expectation to escape from the humdrum of life, and find a liking for hallucinogenic intoxication („the fantastic Ysatsce flower!“), following which one experiences the adventures and becomes emotionally involved with the changes in

⁴ In order to decode these words, we read them backwards.

Lucinka's personality. After a period of surrender and hesitancy the heroine ceases to listen to the temptation of the fantastically chimaera characters, and instead of pleasure the drugs begin to cause fear and anxiety and Lucinka, after several changes in events, actively changes from the archetypal image of a fairy tale character (not undergoing an internal development) and becomes a person who is able to make her own decisions about her life direction: at the end of the journey Lucinka finally „knew that she would never again return to the Land of Gurd“.

Hevier has brought the timelessness of the theme up to date (drugs are without question an evil of our time) and used the poetic means of the fantasy genre to this end.

The realistic situations in the opening passages „soften“ the absurd atmosphere; Lucinka, initially a non-fictional, later a fairy-tale character, defines a clear space for the understanding in the reader of the inherent laws in the relationship between real life and artificially-gained abandon.

The Education for Health educational field is therefore gaining an important helper. In a model situation pupils who have been made aware of the book may practically apply that which they have made their own through reading: the temptation from drugs is strong, but in the emotional background the rationally well-founded rejection of its acceptance is immediately activated.

Another approach to the reflection of the aforementioned point of view, whereby children follow day-to-day life and adapt their behaviour accordingly, has been selected by Ivona Březinová in her trilogy *Holky na vodítku* (Girls on a Lead)⁵. In her work on drug addiction entitled *Jmenuji se Alice* (My Name is Alice) she has gambled on providing factual information in a work of literature⁶, and through this she has gravitated towards a useful aim, which is the rejection of all kinds of childhood addictions and she has conformed all the levels of communication to this end. In order to realise a line of understanding she has set aside an area for a documentary and stylised part which is in diary format and illustrates the heroine's records of her own experiences. Alice writes them to herself on the recommendation of her doctors as a therapeutic aid suitable for drug addiction withdrawal. Aware of the necessity for emotional interaction with the readers, the author has „added“ a cognitive level that leads us towards the favourite theme of girl teenagers – prose with the girl heroine (diary format, girly crushes). Both planes alternate in the text and both these elements are differentiated graphically in the boldness of the typeface.

By alternating these two levels the author monitors the confrontational angles of perspective: she individualises the analysis of the girl's failings (diary) and generalises the problem by providing a literary overview (narrator). In both elements, however, an „adult“ aspect prevails, the urgency of the „adult“ problem is formulated predominantly by the narrator, and the difficulty of his task is also clear

⁵ BŘEZINOVÁ, I. *Holky na vodítku*. Prague: Albatros, 2002, 2003. *Jmenuji se Ester*. Prague: Albatros, 2002. *Jmenuji se Alice*. Prague: Albatros, 2002. *Jmenuji se Martina*. Prague: Albatros, 2003.

⁶ The first part *Jmenuji se Ester* is centred on the problem of gambling, the third part is centred on mental anorexia.

in the girl's records („My name is Alice and I am a drug addict. I will be one forever because although I feel cured, my desire for drugs will be in me until death. Well, you just try and live with it. Actually ... don't.“ – end of book).

A more mature reader would probably expect a greater degree of analysis of the psychology of the character. We do not, however, search for deeper internal monologues in the heroine's diary; the diary is in effect a fictitious outline of one possible reality scenario, and the author's input remains, despite all endeavours, at the level of a commentated reconstruction of each episode. In both cases, probably more so in the diary, the appeal of the text is heightened by vulgar language („There wasn't much left to do and they left me to snuff it.“; „I couldn't be arsed“; „you dirty junkie“). It can be stated, therefore, that the complicated nature of the journey that Alice took, and at the end of which she stated, relieved, that she „was clean“, is convincing only when simply reading through the lines. We find out in this way who Alice actually is, how her family works, and what preceded her „drug period“. This is followed by a description of the heroine's doubts about life, misunderstandings on the part of those close to her, problems in school, and the plot continues in an attempt to extricate herself from her dependence; the subsequent healing of the heroine is a catharsis. A more complicated interpretation of her route is linked to the openness in the description of the moving theme and the closing statement that even a cured drug addict is not insured against possible regression.

Contrary to the sensitivity reflected in Daniel Hevier's childish figurativeness and sentimentality, Ivona Březinová's raw description of the signs of drug addiction, the description of the experiences of a drug addict in the family, in school, in the community of her peers, by staking out the path that leads to drugs and the instruction as to how to seek help.

This is however a conscious strategy by the author; using an acceptable format for adolescent readers (diary format, female heroine), Březinová wants to illustrate the real danger, its roots, manifestations, deceptive attractiveness and the terror of the return journey.

Should we stretch the problem to the teaching process in the Human Health educational field, we cannot overlook its contextual parts, which expect that one of the outputs to be the pupil's ability to piece together the health and psychosocial risks linked to the abuse of addictive substances. In this respect Ivona Březinová's book is a graphic „aid“. The experienced author has, however, dressed up this „aid“ in a readable format with a suitably selected title (a girl's name), a documentary creative element (the diary urges us to identify with her), a repellent title illustration (Jozef Gertli Danglár), vocabulary and style in dialogues that reflect the abbreviated speech of adolescents and a happy end that softens the depressive content.

When providing a concrete commentary, other titles⁷ may be added to the books by Daniel Hevier and Ivona Březinová. Both books may be described as works that provide an up-to-date reaction to a global problem, and both are in their literary contexts

⁷ Compare also: John, R.: Memento, 1987; Keuls, Y.: Matka Davida S. narozeného 3. července 1959, 1988; Christiane, F.: My děti ze stanice Zoo, 1987; Holka, P.: Normální PAKO, 1993; Schindlerová, R.: Petro, co je trip?, 1997; Thomas, J.: Jízdenka do Říma, 2001; Šimulčíková, J.: Jako na houpačce, 2001 (where there are foreign titles the year of publication in the Czech version is given).

positively appraised by critics and readers alike⁸. In addition, the book by Ivona Březinová has been happily „sent“ into the world of doctors.“⁹

If one of the aims of literary appreciation is to bring pupils experiences that positively influence their life customs, and then link their educational content with the themes that are live in the field of Education for Health by means of literary works, a suitable selection may aid a qualified teacher to create and develop the required key competencies in pupils that are understood as a collection of attitudes that are important for the personal development of the pupil.

DĚTI – DROGY – LITERATURA

Souhrn: Autorka se v článku soustřeďuje na možnost propojení vzdělávacích oblastí Jazyk a jazyková komunikace a Člověk a zdraví. Závěr, že osvojení dovedností v rámci tematických okruhů oboru Výchova ke zdraví lze podpořit četbou vhodně volených literárních děl, dokládá analýzou knih Daniela Heviera Říše Agord a Ivony Březinové Jmenuji se Alice, jež se obsahově věnují problematice drogových závislostí.

Klíčová slova: Rámcový vzdělávací program pro ZV, problematika drogové závislosti, literatura pro děti

8 Daniel Hevier's book *Říše AGORD* was awarded the Czech Gold Riband, and the book *Holky na vodítku* by Ivona Březinová was given an honorary position in the Suk enquiry – Čteme všichni.

9 MUDr. Petr Žižkovský: The books from the cycle entitled *Holky na vodítku* show engagingly and in an understandable format the problems associated with today's adolescents, where emotional certainty in the family may lead to several serious problems. They are written not nly for adolescents, but also for their parents, who have already forgotten about „their times“. – from the introduction to the book *Jmenuji se Alice*.

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