

# **TRAFFIC EDUCATION AS A COMPLEMENT OF HEALTH EDUCATION**

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***Abstract:*** *Traffic education as an organic complement of harmonic and universal education is an important phenomenon of the present school system. Its objective is to adapt the individual to successful co-existence with the increasingly heavier mobility. The level of traffic education considerably differs among countries. While in some countries where traffic is highly developed it has a long tradition, in some countries they are still wrestling with elementary problems. In the present study the results of investigations carried out in some European countries are evaluated and the results achieved in 2006 and 2009 are compared.*

***Keywords:*** *traffic education; forms and methods of traffic education in various European countries; comparison*

## **Situation research anamnesis**

According to the majority of international statistical investigations, including results published by the World Health Organisation WHO in Geneva, in developed countries traffic accidents are at the top of the list of causes of fatal accidents of children and young people. As a consequence of traffic accidents the psycho-social, economic and particularly the traumatic burden for the society is frightening and at the same time, as some present exclusive investigations of accident-free traffic indicate (much to our regret only of limited extent), they are completely pointless.

From all humane aspects the most highly-priced and the most unrecoverable casualties of traffic accidents are injuries of children and adolescents and their deaths due to traffic collisions.

Only top managing state bodies are capable of assuming responsibility for the prevention of traffic accidents and their consequences as a global multi-dimensional problem; they have the powers to systematise all basic measures, among which is the conception of building new and safer roads of all kinds, upgrading traffic legislation in terms of traffic rules, traffic engineering and intensification of transport, consistent systematic care of ethicising the traffic environment by creating conditions for an effective control of the drivers' behaviour, suppressing aggression, the dominance of consideration, especially for the children, pedestrians, cyclists and seniors, giving

priority to foot traffic in densely populated residential agglomerations and specific urban localities where housing is predominating. In other words to rationally influence all aspects of mobility towards harmony with a friendly environment for all categories of traffic users.

Side by side with the above it is necessary to establish top-notch police service seeing its purpose not only in unquestionable repression and strict call for respect of traffic regulations, but above all in its educational and preventive mission in the area of traffic control, specifically at critical places of accidents, organising publicity and educational campaigns, and in the capacity of competent traffic consultancy. In this respect we often see that the scope of activities of the police aimed at initiating and support of activities of related traffic-connected social organisations remains partly or completely idle, whether they are various motor organisations, automobile clubs, tourist associations, combat sports etc.

With regard to the increasing and transforming demands of health care in terms of traffic accidents, only the state can make strategic investments in the equipment of mobile medical emergency means and static trauma centres, become involved in the level of prevention of traffic accidents, in health care of victims of traffic accidents and, finally, in the co-ordination of health service with other components of integrated aid.

Last but not least, a unique opportunity and on it based duty for the top managing bodies of the state is to coordinate co-operation of all the traffic-related ministries: Ministry of Transport, Ministry of Health, Ministry of Justice and Ministry of Education, to name at least the most important ones. Even though education is at the bottom of the list, in the system of prevention of traffic accidents it is far from playing a minor role. Without exaggeration we can say that its dominant nationwide educational influence on the population is of key importance provided that in this activity it finds support and harmony with the other measures. Apart from the practical implementation of traffic education beginning at the lowest school grade, at the level of specifically-oriented university education it has a significant share in investigations into sustainable mobility and as safe as possible co-existence of all traffic participants; naturally that the focus of its attention is primarily on children and school-age adolescents, and is not taken out or isolated from the entire complex system of the issue.

As mentioned above the most tragic and irreplaceable victims of traffic accidents are children and young people of school age of secondary schools who were injured or lost their lives in the accident. The system of institutional education bears this fact in mind and is instituting a hierarchic system of instruction and training in schools. Beginning in pre-school institutions at the level of kindergartens, where on the basis of the majority of investigations this education is most consistent and is performed using adequate methods and forms, to both grades of elementary schools, where especially at the first grade the traffic education is an integrated evolution programme the purpose of which is to provide the pupil with skills that will help him/her to find their way in the traffic and behave in a responsible and independent manner, down to incomplete, fragmented and, at the very most, specific pre-driving or even driving preparation at various career profiled secondary schools.

### **Specific preliminary investigations**

Within the research project “School and Health 21” (MSM0021622421) in the Czech Republic we investigated the situation in several steps, frequently using results from abroad in order to compare our situation with situations in other countries; we also carried out our own investigations and we used our own research and retrievals and generalised the results published in available sources.

The objective of the first study of this type was to map the conditions, forms and methods of traffic education in schools for children and school-age young people in the EU countries, incl. training teachers in the area of traffic education; the favourable indicators of traffic injuries of children and young people in these countries could be an inspiration for us when organising institutional traffic-educational systems and when training qualified and competent teachers.

We used data provided by 12 European countries (Austria, Belgium, Denmark, Finland, France, Italy, Germany – Bavaria, Great Britain, the Netherlands, Spain, Sweden and Switzerland) which were willing to co-operate and to pass on the required information.

In this stage of comparative analysis of traffic education systems in the individual countries the focus was on parameters of an organisational and teaching character:

- introduction of traffic education into educational and training programmes of schools, date of implementation of traffic education into the curriculum;
  - existence of regulations or rules for traffic education, their origin, date of implementation;
  - existence of curricula for traffic education, their origin, date of implementation;
  - minimal extent of traffic education taught in school lessons in the prescribed curricula;
  - method of organisation of TE: binding effect:
    - compulsory
    - facultative
  - type of approach:
    - TE as an independent subject
    - TE integrated into other subjects
  - type of training:
    - theoretical
    - practical:
      - simulation of reality
      - traffic playground
      - real traffic
  - method of acquiring teacher qualification for conducting teaching and training in traffic education;
  - other subjects participating in traffic education in schools;
  - statistical data on the traffic accident rate of age groups of 3-6 years, 6-11 years, 11-15 years, 15-18 years, year, number of injured persons, number of casualties.

For publication purposes the original study elaborated in this stage of evaluation of the provided data was reduced from the full extent of 57 pages to 12 pages, reduced down to the most important and most schematic results and was used in the following contribution:

STOJAN, M. *Prevence účasti dětí na dopravních nehodách v zrcadle rozsahu a forem dopravní výchovy dětí a mládeže ve vybraných zemích EU, část 1.* (*Preventing the involvement of children in traffic accidents in the mirror of the extent and form of traffic education of children and young persons in some EU countries, part 1.*) In Škola a zdraví 21. Monografický sborník výzkumného záměru MSM0021622421. Brno: Masaryk University 2006.

For evaluation in the second stage we used data which illustrated the material and evaluation aspects of the individual systems:

- effectiveness of the individual types of teaching material (media)
- popularity and user comfort of the individual types of teaching material
- conceptual character and systematic nature of the teaching material
- economic availability of the teaching material (free/paid), and/or financial aid from subjects outside of the school
- objective adequacy of the content and extent of traffic education in schools
- importance and method of periodic evaluations of the effect of traffic education and reflection of the results in curricula
- applicability of regional curricula of traffic education for transfer into other countries, and/or reasons preventing such co-operation.

Results of the second part of the evaluations were also reduced, i.e. from 21 original pages to 10 pages and are available in the following study:

STOJAN, M *Prevence účasti dětí na dopravních nehodách v zrcadle rozsahu a forem dopravní výchovy dětí a mládeže ve vybraných zemích EU, část 2.* (*Preventing the involvement of children in traffic accidents in the mirror of the extent and form of traffic education of children and young persons in some EU countries, part 2*) In Škola a zdraví 21. Monografický sborník výzkumného záměru MSM0021622421. Brno: Masaryk University 2007. 10 s. ISBN 80-900915-3-9

## Current verification investigation

In October 2009, five years after the previous research, repeated investigations were carried out; at the suggestion of the office in Brussels and on the basis of its prestigious status the Fédération Internationale de l'Automobile (FIA) based in Paris became the guarantor (assumed patronage). The entry of FIA into the area of traffic education being aware of its importance as a tool for the cultivation of the present standard and of traffic security is more than significant. Making use of its own national organisations and clubs FIA distributed a questionnaire to 27 countries canvassing the standard and conditions of traffic education and won an above-the-standard number of participating respondents: 21 countries from the European Union and outside of it and 23 reports on the situation in traffic education. Owing to the kindness of the office in Brussels and co-operation with our national representative in this organisation, the Autoklub České republiky (Automobile Club of the Czech Republic), the basic data were placed at our disposal and enabled us to evaluate all the information they provided which complemented, partly identically, partly differently, information acquired during similar canvassing in 2006.

The following countries participated in the present investigations:

Austria, Bulgaria, Czech Republic, Germany, Great Britain, Greece, Hungary, Island, Italy, Luxembourg, Moldavia, the Netherlands, Norway, Poland, Portugal, Slovakia, Slovenia, Spain, Sweden and Switzerland.

All these countries obtained the same five questions: Is traffic education in your country part of the compulsory curriculum of primary schools? If it is:

- 1) In which school grades is traffic education incorporated in the curricula? What age range of the pupils does it represent?
- 2) Is there a definition of the traffic education programme or listing of compulsory subjects which includes traffic education?
- 3) Who is in charge of traffic education? Is it the teacher of the subject or is it an expert in road traffic safety?
- 4) Is the number of lessons which should be devoted to traffic education specified? How many lessons is that?
- 5) Does the automobile club in your country participate in these activities?

More than three quarters of the responding countries (76%) answered that traffic education is taught in schools. Regrettably, out of this number traffic education is compulsory in less than one half of the questioned countries. The outcome of an analysis of data obtained from automobile clubs of the questioned countries was even worse: only 35% reported that traffic education is compulsory in schools. In this context some respondents stated that it was very difficult to trace back how effective was the implementation of the Act on Traffic Education at primary schools, if at all such an Act at a national level exists.

The data sent by the respondents imply that traffic education in primary schools still suffers one great drawback and that is that at an international level it lacks a concept, co-ordination and interconnection of its level and quality with the respective national educational systems. Attention was drawn to this fact by 33% of the respondents who pointed out that even though pupils in some countries attended traffic education, it did not inform about the method and acceptability. For instance in Sweden it is the subjective choice of the headmaster if traffic education is implemented at his school. (Notwithstanding, the responsibility of the school staff is high and that is the reason why the traffic accident rate in this country is the lowest ever, including adequately low morbidity or mortality of children). In countries strongly structured regionally (e.g. Austria) the rules for traffic education may even differ among the respective regions. In some countries, for instance in Spain, the safety of road traffic is a component of a wider educational issue which includes more extensive social skills in the sense of civics. (This conception is also close to us because coupling traffic education with more general principles of ethical education, cultivation of the moral principle, respect for the law and social interpretation of how to comprehend democracy, freedom and discipline is the foundation stone of the behaviour of road traffic participants). And finally in this direction of analysis of the issue we discovered that traffic education in some countries was formally not compulsory but that it was incorporated into the so-called school packages (e.g. Netherlands).

In their reports the remaining 24 % of respondents expressed their regret that no form of traffic education in their country was compulsory. National automobile clubs have imposed pressure upon the top school institutions and required the introduction of compulsory traffic education at primary schools, but negotiations were mostly unsuccessful. Some participating parties informed that they were seeking an innovative method of argumentation to answer the negative attitude of the ministries and to prove that educating pupils towards a safe co-existence with road traffic in the present mobile society is a component of the education programme just as important as other unchallenged elements of literacy acquired by means of classical disciplines – mathematics, natural science and languages.

The next part of evaluations of the investigations concerned answers sent by organisations from countries where traffic education is compulsory, either in the form of a special course or implemented in suitable school subjects: Germany, Italy, Czech Republic, Slovakia, Switzerland, Slovenia, Bulgaria, Norway, Hungary and Island.

Here is at least a brief survey of results of evaluations of the individual questions:

In most countries where traffic education is taught at primary schools it has been compulsory in curricula for several to dozens of years. Most of these “courses” begin at 6 years of age (i.e. from first class) and generally continue up to the last grade. In this respect the situation in our country is exemplary and is of high-quality because traffic education is a standard programme as early as the kindergarten. Italy and Portugal intend to follow in our “footprints”; in addition they intend to include one year of pre-school preparation. Traffic education in primary schools lasts at least 3 years, as reported by three quarters of the countries.

In details the individual countries considerably differ, for instance in Italy and Portugal compulsory traffic education lasts only one year, from the age of 6 years. However in some countries it takes 3 to 4 years; in extreme cases the respondents reported 4 to 10 years, even more than 10 years. In German schools traffic education is taught for 5 years (6-10 years of age), in Slovenia 3 years (6-8) plus one year more during school attendance, in Bulgaria 7 years (9-15), in Island and Norway 10 years (6-15) and in Switzerland even 15 years, evidently as soon as pre-school facilities and is still taught in secondary schools (4-18).

When inquired if the programme of traffic education or the list of compulsory subjects into which traffic education is incorporated is defined exactly, more than one half of the questioned countries where traffic education is part of the education system, reported that the objectives are given only very generally. In these countries the regions are charged with working out their own proposal for educational programmes, for instance in Switzerland and Germany, and so the situation may differ among regions. No common objectives at a national level have been specified. In support of this system we can argue that the difference in character and density of traffic can indeed differ among regions to such an extent that working out a specific system and content of instruction, analogous to the situation, appears to be rational. The opposite of this system is the system introduced for instance in Norway and Island where the level of powers associated with traffic education in the educational programme for primary schools is relatively uniform and well defined. In Norway they proceed using a very sophisticated programme where they distinguish three stages of power:

- powers achieved in the 1<sup>st</sup> stage: Pupils have a command of traffic regulations for pedestrians and cyclists;
- powers achieved in the 2<sup>nd</sup> stage: Pupils have a command of rules of safe behaviour in traffic as cyclists;
- powers achieved in the 3<sup>rd</sup> stage: Pupils are able to find personal, situation methods and means for efficient prevention of accidents which occur in road traffic.

In Island the objectives of traffic education contained in the educational programme are specified even more precisely and they distinguish running and final objectives. After achieving the final objectives the pupils are:

- able to react correctly to all kinds of traffic;
- able to behave in accordance with traffic rules;
- able to behave responsibly in traffic;
- able to anticipate any danger and to avoid the danger according to the character of the environment;
- able to understand the necessity of traffic culture and take an active part (literally: with pleasure) in its improvement.

On being asked who is in charge of traffic education of pupils at primary schools less than one half of the respondents said that teachers played the dominant role. They are teachers who themselves implement traffic education in the 40% of countries where traffic education exists in whatever form. Reports from 6 countries stated that during studies at university faculties the teachers acquired sufficient qualification for this specific educational role. Slovenia and the Czech Republic provide various postgraduate courses for teachers who are not sufficiently qualified to teach traffic education; here they have the opportunity to upgrade their skills.

Reports of 60 % of the respondents stated that in their countries traffic education in schools was taught by teachers in co-operation with an expert. The expert is usually an external expert in road safety, a policeman, experienced professional driver etc. who motivates pupils on the basis of practical and personal experience. In Slovakia they expect to introduce the system; the first part of traffic education, basic theory, would be taught by a competent teacher and the second, more demanding training for the upper grades, by an expert in road safety.

The fewest significant data were obtained when we investigated if and how the automobile clubs in the individual countries participate in activities connected with traffic education. The Polish automobile club (PZM) reported that although traffic education is not compulsory at primary schools they organise traffic-oriented competitions for the children. In co-operation with schools the attendance is about 100,000 pupils every year; in written tests the pupils have to show their knowledge in principles of road safety and in the form of practical bicycle riding they demonstrate their practical skills, knowledge and ability to participate in the traffic on a bicycle.

In Austria the national automobile club ÖAMTC organises a very successful and popular programme for primary school pupils of the age of 6-7 years called "Blick and

Klick” where traffic experts teach the children correct and safe behaviour in road traffic. The pillar topics of this course are for instance the use of fastening systems (how the children should be properly buckled up in their car seats during the drive), safe crossing of the road, how the same traffic situation is different when viewed by the driver differs and viewed by the pedestrian, how to behave at places controlled by traffic lights and many others. The programme is usually held in the most easily accessible buildings, most frequently in the school gymnasium. For better illustration inflatable traffic objects are used for demonstrations of the situations (cars, motorbikes, dummies of policemen etc.) or electronic drive simulators. The whole programme is provided for schools free of charge and registration of the school at the ÖAMTC is sufficient for the programme to be applied at the school.

## **Conclusion:**

Similar research and comparative investigations and their implementation in practice may help to considerably reduce damage to health caused by traffic. A typical example is Finland. In the past 30 years the traffic volume increased by 200%, but the number of fatal traffic accidents dropped by 50% thanks to rational measures based on research information. This positive trend can be expected to continue. Countries such as Sweden, Great Britain, Northern Ireland and others are successfully solving the situation in a similar way. In 1997 the Swedish parliament adapted the so-called “Zero Vision” (zero accident rate), a completely new policy based on four principles:

- a) ethical principle – human life and health are of supreme importance and are given preference over mobility and other aspects of the road traffic system;
- b) principle of responsibility – anyone who organises, controls and watches over the road traffic system shares responsibility just like the users of the system;
- c) safety principle – if it is natural and not quite eradicable in the behaviour of human beings to make mistakes and errors, then the traffic system should bear this in mind and try to minimise both the opportunity to make mistakes and all damages which they cause as a consequence;
- d) principle of reflection – repressive bodies must do everything in order that all participants in traffic and those who share in it be equal.

Zero Vision offers a model fitting to be followed in other countries.

Periodic probes mapping the objectives, content, form, methods, material means and other conditions and aspects of practical effectiveness of traffic education in the individual countries evaluated in correlation with the intensity of traffic and the subsequent comparative analysis are the compass when looking for ways to effective programmes of “Sustainable mobility”, “Safe way to school” and others.

# **DOPRAVNÍ VÝCHOVA JAKO KOMPLEMENT VÝCHOVY KE ZDRAVÍ**

**Abstrakt:** Dopravní výchova jako organický komplement harmonické a všestranné výchovy je významným fenoménem současného školství. Jejím cílem je adaptovat člověka na úspěšnou koexistenci se stále intenzivnější mobilitou. V jednotlivých zemích se její úroveň podstatně liší. Zatím co v některých dopravně rozvinutých zemích má již dlouholetou tradici a vynikající úroveň, v některých zemích se dosud potýká s elementárními problémy. Studie představuje vyhodnocení výsledků šetření ve vybraných evropských zemích a srovnává výsledky dosažené v roce 2006 a 2009.

**Klíčová slova:** dopravní výchova; formy a metody dopravní výchovy v různých evropských zemích; srovnání