

## 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

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**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 9<sup>th</sup> 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 21<sup>st</sup> 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.

## Literature

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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