

ROAD SAFETY EDUCATION CENTRE (RSEC) – EVALUATION OF PILOT CLASSES AND OPINIONS OF SELECTED GROUPS OF ROAD USERS ON THE ISSUES OF ROAD SAFETY AND TRAFFIC EDUCATION

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In the years 2016-2018, the Road Safety Education Centre (CEBR) was established at Motor Transport Institute as part of its statutory activity, addressed to various age groups and road users.

The article presents the concept of CEBR, the results of the evaluation of educational pilot classes conducted at Centre and the opinions of 50+ drivers on selected issues of road safety, as well as the opinions of children and parents on road safety education.

Keywords

road safety, road safety education, road users, education center

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1. Introduction

Currently, the idea of creating educational centres or interactive museums in which children and young people, who have extensive contact with the virtual world on a daily basis, have the opportunity to take part in the interesting practical and experimental activities, is becoming more and more popular.

Also in the field of road safety, a trend can be observed in the creation of educational centres, the so-called NEST - Networks and Education for Safety in Traffic (taken from www.avenuefortrafficsafety.eu/nests.html), which are the centres of action to improve road safety at national and European level. Such units, differing in form, structure and resources used, have been established in several places in Europe. The idea of creating NEST centres became the basis for the implementation of the international project AVENUE - Actions for Vulnerable, Elderly, Novice Drivers and Road Users in Europe - for Traffic Safety, co-financed by the European Commission and co-implemented by the Motor Transport Institute (ITS). As part of the AVENUE project at ITS, the so-called stationary and mobile NEST were created, the aim of which was to promote safe behaviour of various groups of road users. By participating in the interactive classes, both visitors to the Institute and participants of events incorporating mobile NEST could experience various phenomena related to the road safety (simulations of crash, rollover, visual limitations after drinking various amounts of alcohol, determining the weight of their own body during a collision

with another vehicle, simulating the impressions of seniors in road traffic, checking reflexes, etc.).

Based on the experience in the AVENUE project, it was decided to develop the concept of the Road Safety Education Centre (RSEC) at the Motor Transport Institute and run a pilot scheme of its activities (2016-2018).

Poland is one of the leading European Union countries in terms of the number of road accident victims. Inadequate functioning of transport (especially road transport) is responsible for as much as 95% of fatalities in all types of accidents.

Improving the effectiveness of education in the field of road safety represents the fulfilment of the recommendations of the European Commission's road safety policy, which, in order to reduce fatalities in road accidents, recommended focusing activities on, among the others, training and education of the road users.

Activities carried out under RSEC should contribute to reducing the number of road accidents and their victims in the future, which is one of the objectives included in the National Road Safety Program. The establishment of RSEC also fits in with the Integrated Skills Strategy 2030.

The aim of RSEC is to provide knowledge, develop skills and influence the attitudes of road users through the implementation of high-quality classes in the field of road safety, addressed and adapted to the needs of various groups of recipients. The indirect aim is to strengthen the widely understood road safety education.

The RSEC pilot activity was addressed to: pupils in grades 1-3, 4-6, 7-8 of the primary schools, pupils of junior high schools, high schools, guardians / teachers, students and 50+ drivers. Representatives of the above groups were encouraged to personally engage in understanding the dangers on the roads and to take responsibility for their own safety and other road users. RSEC had provided knowledge and interactive devices and exhibits that allowed to conduct on one's own experiments or observations.

The activities of RSEC may contribute to:

- raising the level of awareness of the dangers in road traffic and shaping the motivation for safe and responsible behaviour,
- developing interests in the road safety,
- supporting and supplementing school curricula for students of schools at various levels,
- creating an educational facilities, expanding the educational base in the area of road safety,
- promoting the idea of life-long learning.

The RSEC exhibition consisted of: roll-over and seat belt simulators, scales, the so-called „elephant test”, airbag detonator, simulator of hindrances experienced by the elderly, alcohol and narco-google, mini-helmets, reflective materials, dr. Targosiński's tube, a device for practicing reflexes and other exhibits that are part of the theoretical & workshop classes.

During the practical part of the classes at RSEC, the following devices were used:



Rollover simulator



Car seat with headrest and seat belt to demonstrate a correct fastening of the seat belt



Crash simulator



Demonstration device showing the propagation of light through reflective materials (the so-called „Dr. Targosiński's tube”)



Scales, the so-called "elephant test"



Reflex checking device (batak)



Mini-helmets



Airbag detonator simulator



Simulator of hindrances experienced by the elderly

Source: authors' own collection.

The essential substantive tasks involved developing curricula and educational materials for each of the target groups and conducting their evaluation. During the classes, interactive teaching methods were used, which

emphasize active creativity and experience, the ability to collect and search for information, as well as participation in group problem-solving.

The course of exemplary classes (photo report of classes addressed to pupils in grades 1-3 of the primary school)



Greeting participants



Exercise: how microspheres reflect light



Exercise: how to properly wear reflectors



Making reflectors from microspheres



Exercise: how to fasten a seat belt correctly



Exercise: how distracters limit the senses



Exercise: how to practice reflexes



Demonstration: rollover simulator



Demonstration: collision simulator



Independent work with the device: „dr. Targosiński's tube”



Independent work with the device: scales - “elephant test”



Independent work with the device: batak

Source: authors' own collection.

The stages of establishing the Road Safety Education Centre are as follows:
 PHASE 1: developing curricula for children of grades I-III and IV-VI of primary school, pupils of junior high school /grades VII-VIII of primary school, secondary schools; classes and materials for students, 50+ drivers; questionnaires for pupils, students, guardians/teachers and senior drivers; program, training materials for RSEC employees.

PHASE 2: conducting pilot studies and processing their results.

The aim of the pilot studies carried out under RSEC was to find out the reasons for the (non) attractiveness of classes in transport education and the opinions of participants on the effectiveness of education in the field of road safety in Poland. The research was of a practical nature - exploratory (diagnostic). They were conducted with the use of questionnaires addressed to people of various ages participating in the classes at RSEC. The data obtained was subjected to quantitative and qualitative lysis. Focus studies were also conducted. The planned research tasks are presented in Table 1.

Tab. 1. Research tasks within RSEC

No	Research task	Objective	Hypothesis	Research method
1.	Survey among all classes participants at RSEC (preparation of questionnaires, knowledge test, conducting research, interpretation of the results)	Cognitive	Children, adolescents and adults of all ages do not have sufficient knowledge about the dangers in road traffic and how to avoid them.	Research survey, knowledge test; focus groups (teenagers, parents)
2.	Survey among all classes participants at RSEC (preparing questionnaires, conducting research, interpreting results)	Cognitive	Children, adolescents and adults of all ages do not have sufficient motivation to behave safely in the road traffic.	Research survey; focus groups (teenagers, parents)
3.	Research (preparation of questionnaires, conducting research, interpretation of the results)	Utilitarian - exploratory (learning about the opinions of primary school and junior high schools pupils participating in classes at RSEC on the classes in road safety implemented at schools)	Road safety education implemented at schools is not conducive to the development of interests in the road safety.	Research survey; focus groups (teenagers, parents)
4.	Evaluation examination (preparing questionnaires, conducting research, interpretation of the results)	Utilitarian - evaluating (getting to know the opinions of all participants about classes at RSEC)	-	survey

2. Methodology

The following chapter presents the results of the evaluation of the pilot classes at the Road Safety Education Centre of the Motor Transport Institute in Warsaw, conducted in 2017-2018. The data was analysed by describing the statistical occurrence of frequency and / or averages of the responses on the scales. The information obtained made it possible to verify whether the assumed research hypotheses are reflected in the responses of individual groups.

The essential research question regarding the RSEC evaluation was: Are the activities carried out in the Road Safety Education Centre will increase the effectiveness of education in the field of road safety in Poland?

The main objectives of the study were:

- getting to know the knowledge of the classes participants on various issues related to road safety (before the start of classes) - knowledge test (picture test for the youngest children),
- learning about the opinions of children and young people on the road safety education classes conducted at school and their expectations regarding the implementation of road safety issues - interview questionnaire + focus groups (report),
- learning about the participants' motivation to behave safely on the road (before and after classes) - survey questionnaire + focus groups (report),
- learning the participants' opinions on the formula of the classes proposed by RSEC - survey questionnaire,
- presenting characteristics of people participating in the classes (age, sex, place of residence, etc.) and accompanying persons - survey questionnaire.

The information for analysis was obtained from representatives of 7 groups that participated in the Road Safety Education Centre's activities:

- pupils in grades 1-3 of primary school,
- pupils of primary school grades 4-6,
- pupils in grades 7-8 (junior high school),
- high school pupils,
- students,
- drivers aged 50+,
- teachers.

Each group was covered by a form of questionnaire adapted to the age and level of advancement in road safety, assessing the state of knowledge, motivations of the respondents and the respondents' opinions about the classes themselves. The table below shows the number of participants who completed each type of questionnaire.

3. Pilot studies conducted at RSEC

The first hypothesis in this study was the issue of insufficient knowledge about road safety aspects, road traffic hazards and correct procedures. Considering that with the exception of grades 1-3, the test results were in the range of 50-60%, this hypothesis should be considered confirmed. Of course, such a generalisation should be approached with caution due to the different ways of asking questions and the scales in the knowledge tests used.

The second assumed hypothesis was that children, adolescents and adults are not sufficiently motivated to behave safely in road traffic. Again, due to the methodological differentiation of the pre- and post tests used in individual groups, it is difficult to give an unambiguous answer to this question. However, the data shows that both before and after classes at RSEC, there are many attitudes that are hard to change in the minds of those taking part in the research. An example of this may be the approach to the use of mobile phones among younger participants or the approach to fast and safe driving among older and often "motorized" participants.

The third hypothesis was that the road safety education in schools is not conducive to the development of interest in road safety. Data analysis shows that most of the participants of the classes were less satisfied with the theoretical part of the classes at RSEC, although they were conducted with the use of discussions, experiences, experiments, demonstrations, etc. Regardless of the age group, practical classes always generated greater enthusiasm among the participants. The school curriculum emphasizes the teaching of theory, which is not conducive to creating attitudes related to safe participation in the road traffic.

Research results show that although the idea of establishing RSEC fills a gap in the education system in the form of a more friendly way of transferring practical knowledge about safety in road traffic, it does not solve the problem of how to transfer theoretical knowledge and conduct a public discourse on road safety so that it reaches target groups specified in the study, especially children and adolescents.

Tab. 2. The number of participants at each type of the completed questionnaire

	Knowledge test N=	Evaluation / assessment of activities N=	Opinion on road safety education classes N=	Motivations before the start of the class N=	Motivations after the end of the class N=
grades 1-3	135	134	134	-	-
grades 4-6	124	124	124	124	124
grades 7-8	77	76	-	75	76
secondary schools	57	57	-	57	57
students	90	90	-	92	90
drivers 50+	22	18	-	22	18
tutors	-	29	-	-	-

4. Research on the awareness of drivers 50+ regarding road safety issues in the Mazowieckie Region (quantitative research)

The awareness test of 50+ drivers was carried out by means of a computer assisted web interview via the Internet and an electronic questionnaire to be filled in by the respondents on their own. The recruitment of respondents was carried out with the use of Kantar TNS's own internet user panel. The survey was completed on October 16-23, 2017. The study population consisted of: drivers aged 50+ (sample N = 101 people) broken down into: 50% women / 50% men; 50% Warsaw / 50% randomly distributed cities in the Mazowieckie Region, from which the surveyed drivers do not commute to Warsaw.

The results of the study among the group of drivers aged 50+ showed that drivers, despite the declared awareness of the impact of age on the ability to participate safely as road traffic users, consider age to be one of the least important factors affecting road safety.

So it seems that older drivers are not aware of how much age affects their driving ability. Moreover, it also seems that drivers do not associate age with health, which is indicated by considering it as a more important factor than age.

The perception of age by drivers is almost identical, regardless of the analysed group. Both women, men and people from Warsaw or other cities of the Mazowieckie Region do not perceive this factor as important for the road safety.

It is interesting that most of the respondents see the need to organise additional training after obtaining a driving license, but have never participated in such training. Analysing the percentages of responses and the averages relating to attitudes towards road safety, it can be seen that the surveyed drivers are aware that age may affect the ability to drive a vehicle. On the other hand, due to their seniority as road users, they are convinced of their own great abilities.

Interestingly, taking the average into account, drivers tend to make obligatory medical examinations for people over 60, who have a driving license and drive a vehicle, as a standard. Women and drivers from Warsaw are more aware of the fact that the passing time affects the ability to drive a car safely on the road. They more often indicate that older drivers pose a threat on the road, whether due to weaker reflexes, overconfidence in their skills or ignorance of road traffic regulations.

The vast majority of drivers aged 50+ (37%) first indicate that the most important thing for road safety is the observance of road traffic rules, secondly, driver skills (26%). The third factor is the age and technical condition of the vehicle.

Only to a small group of drivers, the driver's health condition (2%) and his age (1%) come to mind as the most important factors determining road safety.

One fourth of the respondents listed the driving age as the least important aspect influencing road safety. So it seems that drivers do not associate age with specific health restrictions.

The health of the driver is more important from the perspective of drivers 50+ from Warsaw and women. There are no major differences depending on the sex in the perception of age as a factor determining the level of road safety. Age is only slightly more important to the drivers from Warsaw as a factor that can influence road behaviour.

5. Road safety in the minds of parents and students (results of focus studies)

The main aim of the study was to verify two hypotheses relating to road safety and transport education:

Hypothesis 1:

Young people are not motivated to behave safely in road traffic.

Hypothesis 2:

Traffic safety education in schools is not conducive to developing interests in the road safety.

In connection with the above hypotheses, four main specific objectives have been formulated with regard to secondary school youth:

- Recognising the scope of the term „road traffic safety” and determining how it functions in the minds of young people.
- Verification of the motivation and attitudes of young people towards safe behaviour in the road traffic.
- Learning the opinions of young people on the methods of implementing the core curriculum and the issues discussed regarding traffic safety edu-

cation and their relationship with the behaviour of young people on the road.

- Learning about the expectations of pupils related to the education in the field of road safety.

The study was conducted using the method of focus in-depth interviews on September 18-19, 2017. Focus groups were located in two places: in Warsaw (1) and in Gniezno (1). For each meeting lasting about 2 hours, 8 participants were invited, recruited on the basis of predetermined criteria. They were attended by pupils of the first grades of general secondary schools, technical secondary schools and vocational schools.

The second focus study concerned the opinions of parents of grade 7 primary school pupils. The following main specific objectives were formulated:

- Recognising the scope of the term „road safety” and determining how it functions in the minds of parents of 7th graders.
- Learning about parents' opinions on children's motivation and attitudes towards safe behaviour in the road traffic.
- Learning about parents' opinions on the implementation of traffic safety education at schools.
- Learning about parents' opinions on their children's knowledge of road safety issues.
- Getting to know the expectations of parents related to education in the field of road safety.

The parents of children in the 7th grade of primary school participated in the study. The research implementers consciously chose the parents of children from this class, because in this class all students had already participated in the classes on traffic safety education and in the classes preparing for the bicycle card exam. The knowledge and skills in this field have already been consolidated. Parents of children at this age have personal experiences in educating children and memories of the completing the road safety tasks by the school.

The topic of road safety is not popular among young people and does not arouse their interest. Despite being aware of the dangers of risky behaviour in urban spaces, young people are not sufficiently motivated to act in a safe manner. Declarative knowledge of safety rules does not mean taking care of safety in everyday life.

Both parents and the school are not convincingly communicating the road traffic safety issues. The role of parents is limited to taking up safety issues on the road spontaneously, most often in the form of short prohibitions and orders. Young people, however, do not feel the need to follow them, assuming that they are adults and can take better care of themselves. They focus only on themselves, without taking into account that their risky behaviour may also have an impact on the life and health of other people.

The way in which traffic safety education is implemented at schools does not favour the development of interest in road safety. The information provided by the school does not “sink in” and do not translate into specific activities among pupils. There is a lack of interactive elements that present knowledge in an attractive, modern and interesting way. It is believed that the school does not implement traffic safety education in a systematic and thoughtful manner, and only occasionally raises selected issues, treating road safety as a secondary topic.

The idea of organising classes at the Road Safety Education Centre was received positively by both parents and students. The practical part of the classes with the use of simulators was found to be particularly attractive. Learning through one's own experience was perceived as more effective than theoretical classes - memorable, influencing the imagination and thus motivating reflection on one's own behaviour. Organising the activities outside school by a specialised unit for this purpose was also indicated as an additional added value, which creates a completely different context for transferring knowledge about road safety - conducive to developing interests and broadening perspectives.

Organising road safety meetings is very valuable for both pupils and parents. Joint exchange of thoughts, experiences and opinions encourages reflection on one's own behaviour and reminds of the importance of observing safety rules.

6. Summary

The results show that although the idea of establishing the RSEC fills the gap in the education system in the form of a more friendly way of transferring practical knowledge about road safety, it does not solve the problem of how to convey theoretical knowledge and conduct a public discourse on the road safety so that it reaches target groups specified in the study, especially the children and adolescents. Additionally, efforts must be stepped

up in looking for more attractive and effective ways to reach young road users.

More information about the Road Safety Education Centre is available on the website www.cebr.edu.pl.



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