

Construction and evaluation of national traffic safety education system

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Abstract: In order to improve the safety awareness of traffic participants and reduce road traffic accidents, a national traffic safety education system based on "SOCM" is constructed, including the education subject, the education object, the education content and the education method. Taking Heilongjiang Province as an example, using Delphi method, qualitative analysis and quantitative analysis methods to analyze the characteristics of the education subject and the education object, on this basis to determine the education content and education mode. The results show that the "four-in-one" and "three-dimensional structure" traffic safety education system based on "SOCM" has a good educational effect.

Key words: SOCM; Traffic safety; Education object; Four in one; Three-dimensional framework

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Introduction

In recent decades, China's road mileage and car ownership have experienced rapid growth, while the number of traffic accidents and fatalities has been decreasing year by year. The relatively complete traffic safety education system is indispensable. Nevertheless, the traffic safety situation in China is still severe, with an annual death toll in traffic accidents still exceeding 50000.

Heilongjiang is located in Northeast China, with cold and smooth roads in winter, making it difficult for vehicles to brake, which is an objective reason for the frequent occurrence of traffic accidents. Lack of knowledge and weak safety awareness among traffic participants are the subjective reasons for traffic accidents. Therefore, taking Heilongjiang Province as a pilot, constructing a nationwide traffic safety education system based on "SOCM" and promoting successful experiences to the whole country is of great significance for improving the safety awareness of traffic participants and reducing road traffic accidents.

1. Research overview

According to the Analysis of China's Road Traffic Accidents in 2021 released by the Industry Information Network, there will be 210,372 traffic accidents nationwide in 2020, with 56,036 deaths and direct property losses of 1,258.33 million yuan (see figure 1 below).

Facing the severe traffic safety situation in our country, scholars analyze the problems of traffic safety education, and study the methods and contents of traffic safety education at different targets, playing an important role in establishing our country's traffic safety education system. Through CNKI search, input the theme "traffic safety education", found 2984 related literature. The analysis found that traffic safety education research mainly focused on publicity and education, illegal behavior, safety management and safety awareness.

Liu Guangping studied the factors that affect traffic safety: people, vehicles, roads, environment, laws and regulations, first aid and other knowledge; The characteristics of traffic behavior of traffic safety education objects in different age stages and different groups were analyzed, and the suggestion was put forward that traffic safety education should strengthen "top-level design". Zhang Bing promoted the publicity of community traffic safety education and explored a new model of community traffic safety education by establishing a traffic safety supervision team, taking multimedia propaganda as a means and combining education with entertainment. Huo Changye analyzed the connotation of the "pluralistic co-governance" mode of traffic safety education in Singapore police, studied the specific practices under the "pluralistic co-governance" mode, and summarized the enlightenment of "pluralistic co-governance" on traffic safety education in China.

At present, the research content of China's traffic safety education is rich and fruitful, but the "four-in-one" traffic safety education system based on "SOCM" has not yet formed, and the communication and cooperation between various departments is still in its infancy. Therefore, the construction of Longjiang traffic safety education system based on the "three-dimensional framework" is conducive to promoting the rapid development of China's traffic safety education.

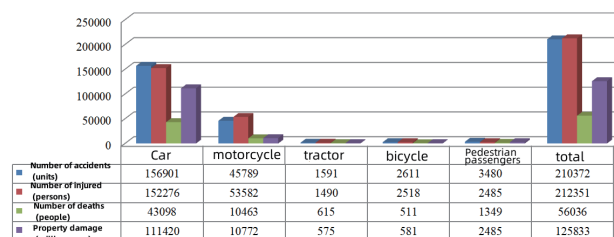


Figure 1 Statistical Analysis of Traffic accidents in China (2020)

2. Construction of “SOCM” system

2.1 Specific contents of the “SOCM” system

The national traffic safety education system based on “SOCM” is a “four-in-one” and “three-dimensional structure” traffic safety education system that includes education Subject, education Object, education Content and education Method.

The specific content of the national traffic safety education system based on “SOCM” is shown in Table 1.

Table 1 Specific content of “SOCM” traffic safety education system

serial number	SOCM	Specific content				
1	Subject	Public security departments (Traffic Police)	Department of Transportation (Transport Bureau)	Education sector (all types of schools)	Propaganda Department (Radio and Television Bureau)
2	Object	driver	Practitioners in the transportation industry	School students	Potential traffic participants in the whole society
3	Content	Traffic laws, car theory, driving skills	Safety operations, industry regulations, professional ethics	Common sense of traffic safety, first aid knowledge	Common sense of traffic safety, first aid knowledge
4	Method	Driver training	Pre-job training	Traffic Safety Course	Public Service Announcements

The above is the preliminary plan of the national traffic safety education system, and its specific content needs to be improved. For example, the main body of traffic safety education is the community, the family and so on. The contents, objects and methods of education need to be further sorted out and supplemented.

2.2 “SOCM” system framework

The traffic safety education system based on “SOCM” is a “three-dimensional spatial framework” led by the main body of traffic safety education (see Figure 5a). This framework more concretely reflects the relationship among the education object, the education content and the education mode. The paper uses the method of combining qualitative analysis and quantitative analysis, and calibrates the relationship between the three through discussion (see Figure 3b, 5c, 5d).

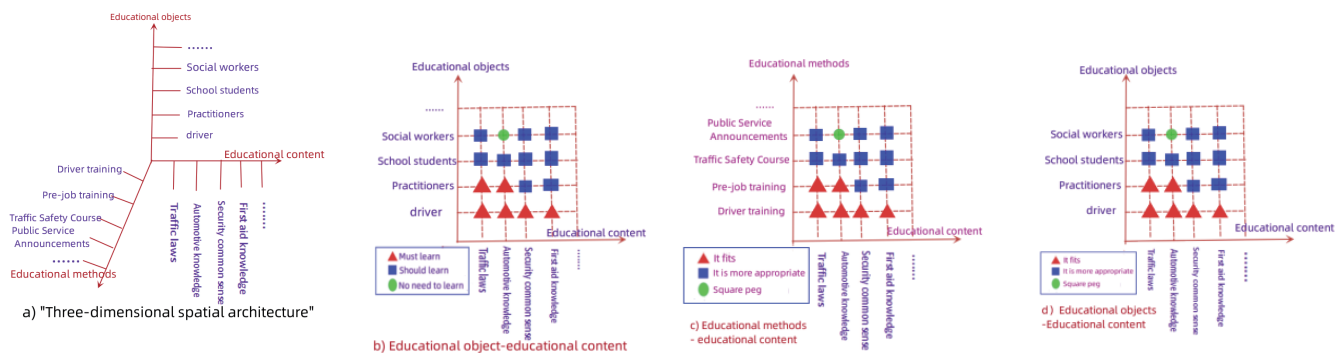


FIG. 3 “Three-dimensional space architecture” and its decomposition

3. Connotation of “SOCM” system

3.1 Educational subjects and their responsibilities

The main bodies of traffic safety education mainly include public security departments, traffic departments, publicity departments and education departments. At present, each department in traffic safety education, their own affairs, lack of horizontal connection, resulting in traffic safety education time arrangement conflict, repeated content selection and implementation of inappropriate. Therefore, it is necessary to establish a communication and coordination mechanism of various departments, clearly divide the responsibility of publicity and education of various departments, each performs its own duties, and implements traffic safety education with goals and plans.

3.2 Analysis of educational objects and their characteristics

The objects of traffic safety education mainly include traffic participants such as drivers, practitioners, school students and social personnel.

(1) Drivers: master driving skills, familiar with traffic laws and regulations, in a strong and dominant position in the traffic system, need to strengthen the sense of responsibility. (2) Practitioners: traffic management, education, rescue and other practitioners, professional, need comprehensive learning and training. (3) School students: lack of understanding of the consequences of traffic accidents, little knowledge

of traffic regulations, safety common sense, etc., need to strengthen learning. (4) Social personnel: mainly refers to passengers, pedestrians, most without professional training, lack of safety knowledge, safety awareness is weak, need to strengthen safety knowledge learning.

3.3 Innovation in education methods

Traditional ways of traffic safety education include slogans, traffic safety classes for primary and secondary school students, public service advertisements, etc., which have played an important role in traffic safety education. With the popularity of the Internet and smart phones, websites, social platforms such as QQ and wechat, as well as short video platforms such as Douyin, Kuaishou and watermelon video have also sprung up, providing new ways for traffic safety education.

4. "SOCM" system evaluation

The project team invited 10 experts in the industry to evaluate the Longjiang traffic safety education system based on "SOCM" by using Delphi method. Among the evaluation results, most experts think that the system is "very reasonable", a few experts think that it is "more reasonable", and only one expert thinks that the education object and the education method are "unreasonable". Experts suggest that the education object should be divided according to the industry, but also according to the age subdivision, the education method should be diversified, make full use of information technology, network technology, improve the efficiency of education and reduce the cost of education.

Epilogue

This research is based on the construction of Longjiang traffic safety education system based on "SOCM", and the research results are as follows:(1) Divide the main responsibility of education, analyze the characteristics of education objects, study the content of education, and innovate the way of education.(2) Established the "four-in-one" Longjiang traffic safety education system, which includes the subject of education, the object of education, the content and the mode of education.(3) The relationship among education object, education content and education mode has been fully studied, and a "three-dimensional spatial framework" dominated by education subject has been formed.(4) The safety education system is evaluated, and the results show that the system has a high rationality.

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