

The Effectiveness of Driver Education Co-Curriculum in Reducing Accidents Among Young Drivers

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Abstract

Nowadays, road injuries and fatalities are growing concern in almost all country. Although there are many actions taken to reduce the fatality rate, the number of recorded accident kept on rising each day and there are many explanations of why the accident kept happening. In Malaysia particularly, most of the road accident was linked to the rapid growth in young drivers' population. Many multiple bodies have been formed within the government departments, private agencies and voluntary agencies to cope with issues of road accidents in order to educate and spread road safety awareness to the young drivers especially with the establishment of driving academy. Hence, this paper attempts to demonstrate the effectiveness of existing driver education co-curriculum in reducing the number of accidents among young drivers through its education syllabus, regulations standard, driving academy facilities and knowledge of the trainer. A survey instrument is used as the basis for collecting data pertaining to the effectiveness of driver education co-curriculum. This method is to determine empirical evidence in finding the users' experiences and views in the current co-curriculum. It is believed that with proper driver education co-curriculum would help in reducing the road accident, especially for young drivers. From the study, the syllabus of driver education is the most effective in providing young driver guidelines to reduce their risk of accident. On one part, governance related body should play its role in monitoring and making improvement in their regulations to tackle the issues.

Keywords: Young Drivers, Education, Co-curriculum, Accidents

Introduction

Every day many tragic and unfortunate news were published in Malaysia's mass media like newspaper, radio and television regarding road accidents occurring whether in normal days or during festive seasons. It has taken many innocent lives or suffered permanent injuries causing the road safety becoming a

serious issue at national level. In accordance with statistics of Malaysia Institute of Road Safety Research (MIROS), the total number of road accidents in Malaysia showed a significant increase each year, from 250,429 cases in 2000 to 414,421 cases in 2010. However, referring to the recent research by MIROS, road deaths in Malaysia is expected to increase to 8,760 cases in 2015 and even potentially reaching 10,716 cases in 2020. Previously Jabatan Siasatan Dan Penguatkuasaan Trafik (JSPT) Bukit Aman, has announced death statistics due to road accidents in year 2015, involved 5,083 deaths. There appears to be no indication that the situation would change for the better despite numerous efforts have been introduced by the government authorities towards dealing with the road accident issues.

In addition, those aged 16 to 25 years old are the highest number of most likely to be involved in road accidents compared to drivers of other age group (PDRM, 2009). According to Royal Police of Malaysia (PDRM) statistics in the year 2009, this age group of young driver accounted for 26.88% (1813) in fatalities, 25.42% (2249) in serious injuries, 27.35% (4328) in minor injuries and 26.71% (8390) of crashes. Besides that, International Transport Forum (ITF) 2017, had reported that over the past 10 years the fatality distribution by age show the highest number of fatalities among young people aged 16 to 25. The main reason for this may be because young drivers are still lacking in driving knowledge and not mature enough to make decisions when driving. However, this percentage should not be taken lightly by any party takes part in road safety because the young drivers involved in road accidents will bring many negative effects for the country development. They should have comprehensive and well-coordinated driver education during their learning time about driving classes.

Table 1: Road Fatalities by Age Group(Source: ITF, 2017)

Age	2012	2013	2014	2015	2015 % change from	
					2014	2012
0-5	24	59	75	73	-2.7	204.2
6-10	59	47*	66	55	-16.7	-6.3
11-15	385	290*	326	366	12.3	-4.9
16-20	1 032	960	1 131	934	-17.4	-9.3
21-25	1 116	1 139	881	808	-7.1	-26.8
26-30	789	856	855	641	-25.0	-18.8
31-45	2 897	2 890	2 716	3182	16.4	9.1
> 45	615	688	614	647	5.4	5.2
Total	8 917	8 915	8 874	8786	0.5	-3.1

Therefore, many multiple bodies have been formed within the government departments, private agencies and voluntary agencies cope with issues of road accidents in order to educate and spread road safety awareness to the young drivers especially with the establishment of driving academy. At this critical phase, driving academy plays a vital role in producing and educating the young drivers about driver education regarding techniques of driving a vehicle, safety precautions, basic vehicle maintenance and traffic regulations and laws in response towards reducing the number of accidents among them.

Issues

The young driver is still lack of important skills compared with experienced drivers in scanning the environment, recognizing the potential hazards when driving at a safe distance and making quick decisions. With many weaknesses of the young drivers' skills, many people were wondering whether the implementation of driver education is beneficial in controlling the number of accidents among them because accidents keep happening every day. To get better training in driving, driving academy is the party whose function is to produce competent drivers.

However, the implementation of driver education during theory and practical class in driving academy sometimes seen only as a temporary condition for the young driver to follow the rules that are set before they get a license. They are forced to follow the driving rules. Besides, young driver claims that the content

of driver education is not fully applied during their learning session on technical aspects of vehicle, safety regulation and laws. This made them to be not capable enough in handling a problem while driving and even some young drivers violate the traffic rules that eventually caused accident. Other than that, the driver education syllabus is still lacking in monitoring the learning progressions of young drivers because of the limited time frame during their driving training. This problem is related with the failure of driving academy to fulfill the driver education implementation in accordance with operational standards set by the Road Transport Department Malaysia such as the need to conduct theory class less than 6 hours.

Even when a driving academy is good in supplying accommodations and facilities at their places but, in terms of vehicles and car circuit and road preparations, there are still lacking in safety aspects. For instance, there are vehicles used during technical driving class looks too frail to be used, but it is allowed to be used in the circuit. Hence, this caused the young drivers low levels of understanding about security matters in the vehicle in order to prevent accidents if this point cannot be applied since the beginning by driving academy. Lastly, there are times when the trainer is not competent enough to teach the young drivers about the driving method and doesn't have appropriate qualifications to become a trainer. If a trainer fails to show their abilities in driving, then young driver will not have good driving skills.

Even though implementation of driver education is wider in scope to reduce accidents among young driver, but the syllabus of driving educations, its regulations standard, driving academy facilities and knowledge of trainer seem crucial to support the driver education function. Therefore, researcher had conducted a study to evaluate the effectiveness of existing driver education co-curriculum in reducing the number of accidents among young drivers through its driver education syllabus, regulations standard, driving academy facilities and knowledge of the trainer.

Discussion on Previous Study

Globally, there is a high level of risk for young driver to get involved in crashes and road fatalities. The International Transport Forum (ITF) 2008, stated that reducing the number of young driver crashes and fatalities will require a focused and coordinated approach involving education, training, licensing, enforcement, communication and the selective use of technology in combination with other road safety measures. Even though, formal training itself has not proven to be highly effective in reducing accident risk, but it's focus on creating drivers who are safe and not just technically competent in self-assessment when driving is undertaken.

Young drivers are normally defined as those below the age of 25 years old and the accidents is usually happened principally derived from factors of inexperience, age and gender (ITF,2008). Based on the ITF (2008) also, in addressing this problem, they recommend that the high levels of guidance practice before the young drivers have full license to drive, will contribute in lower levels of fatalities. The young driver is proposed to undergo at least 50 hours of pre-licensing practices and experience in one country showed that increasing driving practice about 120 hours reduced crashes in the two years following licensing by about 40%.

Clarke et. al. (2007) have found that young drivers between the age of 17 until 25 years old were particularly prone to crashes caused by loss of control of the vehicle on curves and in darkness. Therefore, research has shown that to be able to drive safely, it is essential for young driver to become experienced in the tasks involved in operating a motor vehicle (Nyberg, 2007). Besides that, he supports in order to deal with young driver crashes, the primary prevention is through driver training. This is due to the primary goals of such strategy is, it may enable the young drivers to make the correct decision during driving and thereby be safe in traffic and will not get involved in accidents. Next, various licensing systems and new method of driver education have been adopted by driving authority that has produced promising results such as give insights, benefits of individual driving

style that will create a large safety margin (Hatakka, 2003).

Conceptual Framework

Policy in Driver Education

Driver training should be allowed from the age of 16 (Umferao, 2000). In her research, he stated in order to be allowed to perform driving training, the driving student must be bound up with a driving academy (traffic school) at which he or she is obligated to accomplish 10 hours of practical and 12 hours of theoretical education. However, the completed time for practical training and theoretical education can be change suited with the other country regulations. Then, the student must also be in possession of a certificate issued by the driving instructor, the police or road authority and an insurance company in order to be allowed to practice driving. The driving instructor must be at least 24 years old and being in possession of a driving license for a minimum of five years' experience. The curriculum is divided in a theoretical and practical part each containing a number of areas containing learning of knowledge and guidelines from the trainer.

Theory in Driver Education

The driver education syllabus should be designed to reflect a natural learning progression for learner drivers. It has four learning aspects which encourage the learner drivers to understand the driving method crucially (Bhóithre (2011). Firstly, it starts before learner drivers begin to drive: with the things they need to know and things they need to have done before driving. It then moves on to the basic skills that learner drivers need to keep their vehicle under safe control while driving. Next, it moves on to the fundamental skills that drivers need to ensure that they can share the road safely with other road users without cause problems for both drivers and other users respectively. And it finishes with how to drive in more difficult, complex or challenging situations.

During theory session, the driver education must clearly outline what

learner drivers need to know, what they should be able to do, how well they should be able to do it and how this will be assessed at each stage of the learning to drive process. All of these scopes should cover techniques of driving a vehicle, basic vehicle maintenance, traffic regulations and laws, safety precautions (Lonero, 1994). Thus, driver education is designed to help learners to structure the experience they gain outside of formal instruction and is intended to help driving academy to focus the coaching and training they provide to learners.

Technical in Driver Education

The objective of technical section in driving education is to make sure that the student is taught the necessary basic elements regarding the safety check of the vehicle before he or she is put in contact with other road users (Umferao, 2000). During this section, the driving student is taught the correct preparations before driving, moving off and stopping. They are also being taught how to use the gears and brakes, how to perform right and left turns at crossings and how to reverse the vehicle and etc. All the requirements in technical session must firstly demonstrated by the driving instructor so the driving students is not feeling unconfident and may avoid accidents happen when they try to drive or the first time (Umferao, 2000).

Moreover, there were research conduct at in Germany Department of Driving License (2003) argued that the practical education shall be based on a curriculum formulated by the driving academy. The education should consist of basic training and special training which is related to the theoretical education. During the practical education, the driving instructor will guide the student through the driving task. Further, in enhancing students driving performance, the student is given feedback and the training conditions are discussed. The driving instructor will then document the progress of the training by records showing what areas have been covered.

Examinations in Driver Education

The purpose of the evaluation is to evaluate the driving student's performance in relation to the established aims of driving instruction (Statens Vegvesen, 2000). The evaluation is intended to identify those driving students who have failed to reach such a satisfactory level as drivers that they can be granted a driving license. Other than that, Umferao, (2003) research "Norway Curriculum regarding class B vehicle" in year 2000 point that evaluation is compulsory to do, pertains to all aspects of the education. Through the evaluation process, the driving school and the driving instructor given valuable information about the progress of the education.

The evaluation regarding the driving student and the driving school should give an overall view of the quality of the driver education implement at driving academy and also serve as a guideline for improvement to be used by all those involved in the driver education. The evaluation process is divided into two parts. One takes place during the education and the other one afterwards. The purpose of evaluation at the end of driving education is to determine to what extent the objectives have been fulfilled.

Knowledge of Trainers

The trainer is critical to the driver education process as they offer a source of professional instruction and therefore provide a means of improving driving standards across the board for both new and experienced drivers (NZ Transport Agency, 2010). They should have a thorough working knowledge of appropriate driving practices (in relation to country industry best practice and legislative requirements), driver licensing requirements including progression requirements for the graduated driver licensing system. The driving academy then must ensure that any person receiving practical driving instruction holds and carries an appropriate and current driver license when teaching the driving students.

Besides that, driving instructor is encouraged to have a good working knowledge of general mechanical principles and vehicle technology and dynamics. When teaching, they are able to demonstrate a professional personal driving skills

and techniques to the driving students both in theory and technique class session respectively. Other than that, the trainer must comply with the general requirements in safety aspects that there must be no physical contact with students during the delivery of driving instruction.

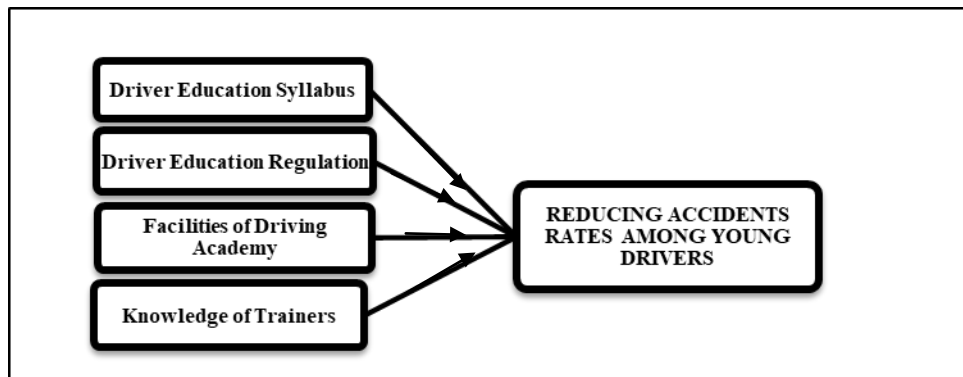


Figure 1: Conceptual Framework

Methodology

Sampling procedures

The target respondents of this study would be young drivers that their age ranges between 18 – 25 years old in Klang Valley area. The researcher has got this total population based on driver's license that registered in Road Transport Department Malaysia. Therefore, the sample for this study consists of 350 young drivers in Klang Valley. Regarding to the population, the researcher was select a sample by using the simple random sampling method, Sekaran and Bougie (2016) considers this the most efficient sampling design when differentiated information is needed from the various strata within the population.

Data collection and analysis procedures

A set of structured questionnaires is used for primary data collection as a survey instrument to serve as the basis for collecting data pertaining to the effectiveness of driver education co-curriculum. This method is to enhance empirical evidence in finding the users' views and experiences in the current co-

curriculum. This questionnaire has been distributed to the respondents that own driving license in Klang Valley area. To ensure standardization and ease of analysis, all constructs were measured on a 7-point Likert scales ranging from Very Strongly Disagree to Very Strongly Agree to examine how strongly subjects agree or disagree with the statements. The researcher also uses selected-based questions only require respondents to tick in the appropriate box or boxes. Nevertheless, some modifications may be necessary to suit the specific context of the current study.

Discussion and Result

Based on the result, it had shown that three (3) indicators which are Syllabus, Regulation and Facilities of driving academy were still effective in driver education co-curriculum in order to reduce the numbers of accidents among young drivers. It was measured by looking at the significant value of every items (must be lower than 0.05 to be significant). By referring to Table 2.0, there are three variables that give the impact towards driver curriculum which is syllabus, regulations and facilities. The main concern need to give on syllabus based on the highest significant value which is 0.002, followed by regulation (0.011) and facilities (0.037).

Table 2: Regression analysis

Coefficients	
Variables	Sig.
Syllabus	0.002
Regulations	0.011
Driving Academy Facilities	0.037
Knowledge of trainers	6.14
Dependent variables: Reducing accidents among Young Drivers.	

**According to Pallant (2010), if the sign value is less than.05, the variable has significant unique contribution to the prediction of the dependent variable.

Syllabus plays the major role in this study based on the context of theory, technical

and also examination have taken part in this indicator. As the beginner drivers, most of them need the knowledge of the structure and situation of the road scenario in Malaysia. It was proven by Drivers whom agreed where the driver education theory for 6 hours in the classroom was useful to educate safe driving before having practical in driving (29.5%, n=28). Moreover, with the existence of the driver's education guide book, it managed to increase the driver awareness on the ethical and legal road, the daily driving routine inspections and driving licenses aspects (51.6%, n=49). The theory of driver education is effective to educate drivers about safety driving.

In addition, basically most of the drivers that come to driving academy do not have experience driving a vehicle. According to this study also, the researcher had found that, there were around 63 respondents (66.3%) who were never experienced driving a vehicle. However, the driving content emphasized during driver education theory class was same as technical driving class given by the trainer, so that they can practice factors need to look for in concerning the safety of drivers and passengers along the way in order to ensure safer driving behavior. Besides that, drivers agreed that the technical driving class was able to teach them in reducing risk of accidents or damage caused by vehicle technical problems (55.8%, n=53).

Besides that, most of the drivers agreed that the driver assessment test by the trainer train their real ability to drive safely on the road (66.3%,). The reason why was the driver assessment test by the trainer during the last technical driving class help drivers to identify safe driving deficiencies that need to be enhanced before the actual driving technical test (48.4%) and its relevant before the driving test by the Road Transport Department (37.9%). Moreover, the driving technical test conduct by the Road Transport Department (JPJ) nowadays were stricter and relevant to occupied with current situations and road laws than before (57.9%). Therefore, the combination of elements is driving syllabus managed to train drivers to be a serious driver who was knowledgeable, competent and practice good and safe driving skills (63.2%). Thus, this proved that the content of driver

education was able to inform drivers regarding road laws, vehicle handling, interacting with traffic and efforts to avoid getting involved in a car accident.

Conclusion

As a summary of the findings obtained from this study, the conclusion is syllabus of driver education is most effective in providing young driver guidelines in order to reduce their risk of accident. This means that the components of driver education consist of policy, theory classes, technical classes and examinations are implemented effectively and comprehensively to the driver during their learning sessions. However, the driving academy still has to make improvements in syllabus of driving academy in educating drivers regarding safe driving in order to increase their self-awareness in reducing risk of accidents. Besides that, the knowledge of trainers in driver education is less effective for preventing students from being involved in accidents. This is because it is beyond the control of the trainer, the knowledge and skills acquired by the driving students in training do not necessarily produce safe driving behavior.

Based on this study, it can contribute to the driving academy planning to improve the quality and qualifications of driving trainers at the academy. The trainers need to meet up and discuss the teaching and driving techniques in order to ensure the effectiveness of safe driving messages can be delivered directly to the drivers. Therefore, trainers can identify the weak aspects of teaching and make improvements. In addition, this study provides new input to drivers that through driver education, students will receive better understanding and the reasonableness behind the driver education. It is not just limited only to obtain a driving license, but as steps to prevent road accidents. Apart from that, it can enhance the role of the JPJ to supervise the driver academy. Driving academy should provide the best service quality and stressed on the need to follow the guidelines set by the JPJ. It is a correct way to make sure that only qualified drivers can be eligible to have driving license. If not, the potential for accidents risk among young drivers will continue to rise due to unqualified drivers.

Acknowledgement

This work is supported by the Faculty of Business and Management and also Malaysia Institute of Transports (MITRANS) located at the Universiti Teknologi MARA (UiTM). Special thanks to those who have one way or another contributed to the success of completing this paper.

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