

Implementation Management of Traffic Ethics Education Policy Among High School Students in Indonesia

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Abstract

Number of students as road accident victims due to human factors has been significantly increased every year. This research aims to examine the implementation management of traffic ethics education policy among high school students. This study employed mixed method, a combination of quantitative and qualitative research method. The population and sample are SMA students who ride motorcycles for their daily mobility. The sampling technique used is Multi-stage proportionate random sampling. By using Isaac and Michael formula, a minimum sample of 291 respondents was obtained. Data were collected through questionnaire, interviews, observation, focus group discussion (FGD) and documentation, while analysis was carried out in descriptive quantitative method. The research result showed that the traffic ethics education policies have been implemented well in Yogyakarta by applying well communication, disposition and bureaucratic. However, the lack of resources such as the absent of national curriculum on traffic ethics education (TEE), lack of safety road trainings for teachers and lack of families support, have limited the effectiveness of TEE in building students attitudes on using road and maintaining safety riding.

Keywords: Traffic; Ethics; Education; Implementation; Policy.



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1. Introduction

The traffic accident has been increased significantly that made many people death on the roads. Data released by the World Health Organization (WHO) in 2015 stated that Indonesia was ranked fifth in the world in the number of deaths from traffic accidents. Every day, 120 people die from traffic accidents. More astonishing data is that Indonesia ranks first in the world in an increase in accidents according to the Global Status Report on Road Safety data released by [WHO Report](#). In 2004, road traffic crashes resulted in more than 260 000 deaths in children and youth aged 0–19 years. Children accounted for 21% of all road traffic injury related deaths worldwide. Globally, road traffic injuries are the leading cause of death in 10–19 year olds. Low-income and middle-income countries account for 93% of child road traffic deaths. Although road traffic injury deaths have decreased in some high-income countries, by 2030 it is predicted that they will be the fifth leading cause of death worldwide, and the seventh leading cause of Disability Adjusted Life Years (DALY) lost ([WHO Report](#)).

Indonesia reportedly experienced an increase in the number of traffic accidents by more than 80 percent. Not only in Indonesia, traffic accident have also killed youth in Malaysia, India and Brazil in big number as stated by [Dahiya \(2016\)](#), [Masuri and Md Isa \(2010\)](#), ([Dragutinovic and Twisk, 2006](#)). [Dahiya \(2016\)](#) claims that 73% of deaths due to road traffic accidents from the South-East Asia Region are in India. This accident account for 16.8 deaths per 100,000 population and around 2 million people in India are disabled due to traffic accidents.

In Malaysia, a national statistic on road traffic accident (RTA) by the Royal Malaysian Police showed that a very considerable proportion of deadly accidents was caused by motorcyclists. Fatal accidents have remained the number one cause of road traffic fatality since 2002 for five consecutive years ([Masuri and Md Isa, 2010](#)). Further, ([Rahman et al., 2005](#)) states that in the year 2000, adolescent between 16-20 years were the majority (16.37%) of those who were involved in road traffic accidents. This was followed by those between 21-25 years (15.43%).

In Indonesia, the data released by the Traffic Division of the Indonesian Police in the period from January to May 2017 recorded a total of 24,023 accidents involving students and university students (<https://beritagar.id/artikel/otogen/pentingnya-edukasi-guna-menekan-angka-kecelakaan-pelajar>). The number of deaths in Yogyakarta City, one of region in Java Island, due to traffic accidents is also increasing as seen in Table 1.

Table-1. Number of fatalities and material loss due to traffic accidents in Yogyakarta City, 2013-2015

No.	Year	Fatalities	Material Loss (IDR)
1	2013	32	1.035.100.000
2	2014	42	936.250.000
3	2015	46	482.261.000
Total		120	2.453.611.000

Source: *Tribun Jogja*, 21 December 2015

Table 1 shows that in 2013-2015 there was an increase in the number of people died of fatal accidents in Yogyakarta City. Surprisingly, while material loss due to traffic accidents decreased, the number of fatalities increased, most of the fatalities were people of productive ages (15-30 years old). Police Chief Inspector Hendro of Traffic Unit revealed that the main cause of traffic accidents is a violation of traffic rules by road users (*Tribunjogja.com*, 21 December 2015).

In responding this condition, the government actually has formulated and implemented several policies to prevent traffic accidents and to provide traffic safety education in the schools. The traffic safety education for students especially teenagers are necessary since during this age, young people tend to be more emotional and to show their identity as younger generation. In addition, in almost every country in the world road safety education has its place within the formal education system (*Dragutinovic and Twisk, 2006*). The aims of this education is to promote knowledge and understanding of traffic rules and situations; to improve skills through training and experience; and to strengthen and/or changing attitudes towards risk awareness, personal safety and the safety of other road users" (untitled, *ROSE 25*).

To raise road users awareness on traffic ethics, Indonesian government has launched Law No. 22 Year 2009 on Traffic and Transport. This policy has become a nationwide regulation that all road users have to comply with. In the local level, each local government in Indonesia also attempt to implement traffic regulations. Yogyakarta Provincial Government in collaboration with Indonesian Police Department and Astra Honda Company has launched Governor Regulation No. 54/2011 on Traffic Discipline and Driving Etiquette Education at Schools, in which schools are required to integrate traffic education in every subject taught in schools. In addition, Yogyakarta City Administrator has also issued Mayoral Regulation No. 40/2012 on the Implementation of Traffic Education in Yogyakarta City to support the implementation of traffic education Yogyakarta City. Traffic Education in schools has been administered by the Education Office of Yogyakarta City since 2009.

This paper will examine the implementation management of traffic ethics education policy among high school students. Schools are the main actor in the inculcation of driving etiquette for high school students. In such an internalization of traffic discipline, schools need the support, encouragement, and involvement of various parties including government, society, and family as schools cannot do it themselves. In implementation management as stated by George C. Edward III (*Indiahono, 2009*) there are four variables to determine the successful program implementation. Those variables are communication, resources, disposition and bureaucrat structure.

2. Literature Review

Traffic Ethics Education (TEE) is necessary to provide knowledge and skill for road users to maintain safety transportation. Although there are several terms to state about this knowledge and skill, but the core values are similar. Some scholars refer traffic ethic education as traffic safety education (TSE) or road safety education (RSE). *Fokides and Tsolakidis (2012)*, define traffic ethics education as the road safety education that is safety competence as all the skills, attitudes and knowledge a person needs in order to be safe in the road environment. According to *Joubert et al. (2012)* there is an obvious lack of empirical research to prove that traffic ethics education programs have improved road safety in general but the literature also does not suggest an alternative that can be used to improve road safety. In the light of this lack of an alternative, a traffic ethic education in schools seems a good option to prepare children for a safer road environment.

Like all learning process, traffic ethic education needs to be started at an early age and must be appropriate to the child's age. Children need to be familiar with the general road safety rules of their country. They need to be aware of the dangers on the road and learn safe ways to cope with them. Often children do not understand what safety on the road is. Children need ongoing road safety education from an early age to help them develop a thorough understanding of road safety so that when they become drivers they already have a good foundation with regard to road safety. Therefore, the role of the school extends to educate children on road safety. According to research carried out by the Queensland Department of Transport, Australia (2008), traffic safety concepts should be taught to children from an early age by giving continual exposure in the regular school curriculum (Queensland Department of Transport, 2008). *Odero (2004)*, supports the notion of traffic ethics education when he stated that traffic safety education programs have been part of many school programs. Schools, therefore have to include a comprehensive traffic ethics education programs in the curriculum.

Most countries and local governments in the developed and developing countries attempt to include traffic ethics education into their school curriculum. By doing so, they tend to focus either on the transmission of information or on the development of more practical skills or a combination of both. There is also a number of education programs that aim to develop positive attitudes of students with regard to road safety (*Cooke and Sheeran, 2004*). Curriculum-based approaches of TEE involve the inclusion of road safety specific subjects or the integration of road safety themes within existing subjects such as Mathematics, Science, and English. Incorporating traffic ethics education in school subjects is known as the cross-curricular approach.

(Raftery and Wundersitz, 2011) state that curriculum-based approaches enable the provision of developmentally proper road safety education to students of all ages and usually engage multiple sessions delivered over the course of a term, semester or school year. However, (Raftery and Wundersitz, 2011) state that the main problem associated with the addition of road safety subjects to any school curriculum is that of space, because the school curriculum is already overloaded with core subjects (Govender, 2012).

Scholars worldwide are striving to find solutions for high fatality rates on roads. Researchers worldwide are striving to find solutions for high fatality rates on roads (Christie, 2002). From all potential hazards but is about equipping them to deal with situations safely (Department for Netherland Transport, 2004).

Traffic ethic education has close relation with character education in terms of learning process and building human being's character in passing the road transportation. Character education is the intentional effort to develop in young people core ethical and performance values that are widely affirmed across all cultures. Character education includes a broad range of concepts such as positive school culture, moral education, just communities, caring school communities, social-emotional learning, positive youth development, civic education, and service learning (www.character.org). All of these approaches promote the intellectual, social, emotional, and ethical development of young people and share a commitment to help young people become responsible, caring, and contributing citizens. To be effective, character education must involve all stakeholders in a school community and must permeate school climate and curriculum.

Battistich *et al.* (2000) suggests that comprehensive, high quality character education, is not only effective at promoting the development of good character, but is a promising approach to the prevention of a wide range of social contemporary problems. These include aggressive and antisocial behaviors, drug use, precocious sexual activity, criminal activities, academic under-achievement, and school failure and violation of traffic rules. Each of these problems, individually, has been addressed through a variety of approaches, and some of these approaches have been found to be reasonably effective, although many have not. However, there is increasing evidence that character education programs focused on the broader goal of promoting the overall positive development of youth are at least as effective as more specific programs aimed at preventing particular negative behaviors including violation of traffic regulation.

In addition to reducing the risk of involvement in negative behaviors, character education provides important additional benefits of helping youth to develop positive personal and social attitudes and skills that will help them to lead satisfying and productive lives, and to become active and effective citizens in our democratic society. From a policy perspective, this suggests that an effective character education program may be a more cost-effective approach to increasing learning, fostering pro-social behaviors, and preventing a variety of social problems than the implementation of multiple, more specific school-based programs aimed at influencing particular behavioral outcomes including traffic ethic education.

By integrating traffic ethics into school curriculum, it leads to building good students' characters and preventing traffic rule violation. Here the role of teacher and school in building character and ethics is vital due to several principles of character education that may appear during the implementation of traffic ethics education (Lickona *et al.*, 2003):

- a. Defining character comprehensively to include thinking, feeling, and behavior of being good road user
- b. Using a comprehensive, intentional, proactive, and effective approach.
- c. Creating a caring school community.
- d. Providing students with opportunities to engage in moral action and traffic safety education programs such as school police, traffic safety campaign, etc
- e. Providing a meaningful and challenging curriculum that helps all students to succeed in learning traffic safety regulation
- f. Fostering students' intrinsic motivation to learn and to be good people.
- g. Engaging school staff as professionals in a learning and moral community.
- h. Fostering shared moral leadership and long-term support for traffic ethics education.
- i. Engaging families and community members as partners in traffic ethics education.
- j. Evaluating the character of the school, its staff, and its students to inform the traffic ethics education effort

Those traffic education principles can be implemented in Yogyakarta, Indonesia. In Yogyakarta, traffic ethic education is legalized through Governor Regulation No. 54/2011 on Traffic Discipline and Driving Etiquette Education at Schools, in which schools are required to integrate traffic education in every subject taught in schools. In addition, Yogyakarta City Administrator has also issued Mayoral Regulation No. 40/2012 on the Implementation of Traffic Education in Yogyakarta City to support the implementation of traffic education Yogyakarta City.

Based on Governor Regulation No. 54/2011 on Traffic Discipline and Driving Etiquette Education at Schools, stated that Traffic Ethics Education is the cultivation of an orderly traffic culture starting with habituation in education units. The objective of this TEE are: (1) developing traffic ethics norms for students through knowledge development and traffic ethics habituation (2) improving security, traffic safety and order; improve smoothness and comfort in traffic and; (3) realizing an orderly culture of polite traffic and dignity for others. Moreover, in article 3 it is stated that the scope of Ethics Education Passing on the Education Unit includes: (a) integration in subjects; (2) self-development; and (c) culture.

Meanwhile, in the city of Yogyakarta, the government is also implemented Mayoral Regulation No. 40/2012 on the Implementation of Traffic Education in Yogyakarta City. This Mayor Regulation is prepared with the intention of providing guidance for education units in implementing traffic ethics education. The purpose of education in traffic ethics is: (a) developing traffic ethics norms for students through developing knowledge, as well as

habituation on traffic ethics; (b) improving order and smoothness in traffic; (c) improving traffic safety and comfort. In implementing the traffic ethics education, not only schools as the actor but it also need active roles of government institution, police agency, private sector and students. In terms of implementation model, there are several model of policy implementation.

Implementation inevitably takes different shapes and forms in different cultures and institutional settings. This point is particularly important in an era in which processes of 'government' have been seen as transformed into those of 'governance' (Hill and Hupe., 2002). Implementation literally means carrying out, accomplishing, fulfilling, producing or completing a given task. The founding fathers of implementation, define it in terms of a relationship to policy as laid down in official documents. According to them, policy implementation may be viewed as a process of interaction between the setting of goals and actions geared to achieve them (Pressman *et al.*, 1984). Policy implementation encompasses those actions by public and private individuals or groups that are directed at the achievement of objectives set forth in policy decisions. This includes both one-time efforts to transform decisions into operational terms and continuing efforts to achieve the large and small changes mandated by policy decisions (Van Meter and Van Carl, 1975). The actors in implementing public policies is not merely government institution but also private sectors, community organizations or other stakeholders.

According to policy implementation is the carrying out of a basic policy decision, usually incorporated in a statute, but which can also take the form of important executive orders or court decisions. Meanwhile, defines policy implementation as what develops between the establishment of an apparent intention on the part of government to do something or stop doing something and the ultimate impact of world of actions. As part of policy cycle, policy implementation concerns how governments put policies into effect (Howlett and Ramesh, 2003). Hence, implementation management requires the capacity of implementers at formulating activities to achieve policy goals.

In addition, Edwards and George (1980) defines policy implementation as a stage of policy making between the establishment of a policy (such as the passage of a legislative act, the issuing of an executive order, or the promulgation of a regulatory rule) and the consequences of the policy for the people whom it affects. Moreover, Edwards states that there are four factors that influence policy implementation: communication, resources, disposition and bureaucratic structure. The four factors operate simultaneously and they interact with each other to aid or hinder policy implementation. By implication, therefore, the implementation of every policy is a dynamic process, which involves the interaction of those variables.

2.1. Conceptual Framework

There are many models of policy implementation. This research, however, is conceptualized based on Edwards's model of policy implementation. This model is relevant and suit to analyze the traffic ethics education since the characteristic of this policy is top-down policy implementation. The traffic ethic education is included in the school curriculum formulated by the government and then teachers may innovate the ways to transfer to their students.

The policy implementation will succeed if the interaction between implementers' communication, resources, disposition and bureaucratic can support each other. Communication is an essential factor for effective implementation of public policy. Through communication, orders to implement policies are expected to be transmitted to the appropriate personnel in a clear manner while such orders must be accurate and consistent. Inadequate information can lead to a misunderstanding on the part of the implementers who may be confused as to what exactly are required of them. In addition, resources include both the human and material such as adequate number of staff who are well equipped to carry out the implementation, relevant and adequate information on implementation process, the authority to ensure that policies are carried out as they are intended, and facilities such as land, equipment, buildings, etc. as may be deemed necessary for the successful implementation of the policy (Makinde, 2005). Without sufficient resources it means that laws will not be enforced, services will not be provided and reasonable regulations will not be developed.

Apart from communication and resources, disposition is another vital element in policy implementation. Most implementers can exercise considerable discretion in the implementation of policies because of either their independence from their nominal superiors who formulate the policies or as a result of the complexity of the policy itself. The way the implementers exercise their discretion depends, to a large extent, on their disposition toward the policy (Makinde, 2005) Therefore, the level of success will depend on how the implementers see the policies as affecting their organizational and personal interests. Effective policy implementation, however, is not guaranteed by well communication, enough resources and good disposition. Another inevitably factor is bureaucratic structure.

If there is no efficient bureaucratic structure, the problem of implementation can still arise especially when dealing with complex policies. As observed by Edwards and George (1980) where there is organizational fragmentation it may hinder the coordination that is necessary to successfully implement a complex policy especially one that requires the cooperation of many people. It may also result in expenditure of scarce resources, restrain change, generate confusion, lead to policies working at cross-purposes and, at the end, result in important functions being ignored.

The traffic ethics education in Yogyakarta is based on Law No 22/ 2009 on Traffic and Road Transportation, Governor Regulation No. 54/2011 on Traffic Discipline and Driving Etiquette Education at Schools and Mayoral Regulation No. 40/2012 on the Implementation of Traffic Education in Yogyakarta City. Implementers of this traffic ethics education policy are school institutions; bureau of Education, Youth and Sport; Police Department; Transportation Bureau; motorcycle industries; transportation and logistics research center and family. Those

implementers should have similar understanding on how implement traffic ethics education in their circumstances. It means that every actor play its roles that may differ depend on their responsibilities. Parents, for example, have to prohibit their fewer than 17 years-old-children who do not have motorcycle driving licenses, to drive motorcycle. By maintaining strictly traffic regulation at school and home, youth tend to obey the traffic policies. The government institutions, moreover, provide financial supports in building infrastructure and implementing traffic education programs such as police goes to school, safety riding training, seminars or competition to build traffic ethics awareness among youths. The conceptual framework of this research is as follow:

Figure-1. Conceptual Framework of study



In this study, the focus is in the analyzes of collaborative roles among stakeholders in implementing traffic ethics in Yogyakarta, Indonesia. Moreover, the writers attempt to propose a conceptual model for collaborative governance among stakeholders in executing traffic ethics education policy. The traffic ethics education is embracing in the context of implementing the new (2013) national curriculum in Indonesia. This 2013 national curriculum differs from previous curriculum in terms of competency standards, standardized processes, content standards, assessment standards. In addition, nowadays in the local level, the high school matters has become the responsibility of provincial government as three years ago belonging to district government. This condition may lead to the different disposition and the bureaucratic structures, two variables that affect the implementation of traffic education policy. Further, the different content of curriculum and scope of responsibility have also effect on resources distribution and communication patterns among stakeholders. By acknowledging this new context, this article aims to analyze the implementation of traffic ethics education policy among higher school students in Yogyakarta.

3. Method

3.1. Research Approach and Design

This research employed mixed method of quantitative and qualitative approach. By using explanatory mixed method design (Creswell, 2010), it is hoped that quantitative data and the results of the analysis provide descriptions and valid data of the traffic ethics education of high school student in Yogyakarta. Qualitative data analysis is carried out in proving, expanding, deepening, weakening or aborting the results of descriptive quantitative analysis.

3.2. Population and Samples

Population and sample of research were high school student in Yogyakarta city that rode motorcycle for their day to day mobility. Yogyakarta City has 53 high schools including 11 state schools and 42 private schools with 13,610 students. The sampling technique used is multi-stage proportionate random sampling. The sampling began with choosing three schools by considering the school type and location, namely SMA 4 (state school, number of students: 602), Muhammadiyah 3 (private, number of students: 984) and BOPKRI 2 (private, number of students: 648). The total number of students in these three high schools was 2,234. If 75% of the students were motorcyclists, it was estimated that 1,676 students ride motorcycle to go to school. Minimum sample size was determined using Isaac and Michael formula for margin of error 5% as follows:

$$s = \frac{\chi^2 \cdot N \cdot P \cdot Q}{d^2 (N-1) + \chi^2 \cdot P \cdot Q}$$

where:

χ^2 with dk = 1, confidence level 95%

P=Q=0.5 d = 0.05 s = number of sample

By using the formula, a sample of 289 respondents was obtained.

3.3. Data Collection Methods

Data collected through questionnaires generated a total sample of 291. In addition to using questionnaire, the researchers collect data through interviews, focus group discussion, observation and documentation. The informants of this research were the head of SMA 6, the head of Yogyakarta Sport, Youth and Education Bureau, the head of Yogyakarta Police Institution, the head of Yogyakarta Transportation Bureau, high school students and staff of Traffic and Transportation Study Center.

3.4. Data Validity Check Technique

To examine the validity of the data, this study uses source triangulation techniques. Researchers observed data submitted by informants with real conditions in the field. Next the researchers analyzed and drew conclusions about the implementation of traffic ethics education policy for high school students in Yogyakarta.

3.5. Data Analysis Technique

Data analysis in this research is taken in seven-step process (Onwuegbuzie and Teddlie, 2003) for mixed analyses: (a) data reduction (i.e., reducing the dimensionality of the quantitative data and qualitative data), (b) data display (i.e., describing visually the quantitative data and qualitative data), (c) data transformation (i.e., quantizing and/or qualitzing data), (d) data correlation (i.e., correlating quantitative data with quantized data or correlating quantitative data with qualitized data), (e) data consolidation (i.e., combining both quantitative and qualitative data to create new or consolidated variables or data sets), (f) data comparison (i.e., comparing data from the quantitative and qualitative data sources), and (g) data integration (i.e., integrating both qualitative and quantitative data into a coherent whole).

4. Result and Discussion

4.1. Respondent Characteristics

This study involved 291 respondents consisting of 148 male (50.86%) and 143 female (49.14%). Respondents' distribution by age is as follows.

Table-2. Respondents' distribution by age

Age	Frequency (f)	f%
15	89	30.58
16	117	40.21
17	76	26.12
18	9	3.09
Total	291	100,00

Table 2 shows that respondents' are between 15 and 18 years old. From the age distribution, it is seen that most respondents are at the age of 16 (eleventh graders). Meanwhile, the data on the respondents' age when they began riding motorcycle is as follows.

Table-3. Respondents' Age Group for Starting Riding Motorcycles

Age	Frequency (f)	f%
under 10	17	5.84
11-12	43	14.78
13-14	74	25.43
15-16	97	33.33
above 17	60	20.62
Total	291	100,00

Table 3 shows that the number of respondents who are legally allowed to ride a motorcycle is 60 students (20.62%) as the minimum age to obtain a Driver's License is 17 years old. The large majority of 231 respondents (79.38%) do not have a driver's license yet although they have been riding motorcycles for a while. Seventeen (17) respondents began riding a motorcycle at the age of 10 or below; in fact, 11 of them have been riding a motorcycle since they were eight years old.

Such a case as riding motorcycle at an early age is a logical consequence of the availability of motorcycle, ignorance (permissiveness) of parents, influence of peers and the role of the school. Teenagers riding motorcycles at an early age are physically and psychologically immature to deal with various situations on the road. This increases the number of teenagers involved in traffic accidents.

4.2. Respondents' Education on Safety Riding

Table-4. Respondents' Behavior Before Riding (n=291)

Respondent behavior before riding		Always (score 3)	Sometimes (score 2)	Never (score 1)
1.	Checking the engine	134 (46.0%)	84 (28.9%)	73 (25.1%)
2.	Warming up the motorcycle engine	112 (38.5%)	103 (35.4%)	76 (26.1%)
3.	Checking the tire pressure	115 (39.5%)	126 (43.3%)	62 (21.3%)
4.	Checking the brake functions	125 (43.0%)	67 (23.0%)	99 (34.0%)
5.	Checking the mirrors	115 (39.5%)	81 (27.8%)	95 (32.6%)
6.	Checking the condition of chain/belt	112 (38.5%)	84 (28.9%)	95 (32.6%)
7.	Checking the vehicle horn	108 (37.1%)	96 (33.0%)	87 (29.9%)
8.	Checking the conditions of mirrors	125 (43.0%)	87 (29.9%)	79 (27.1%)
9.	Checking the brake light function	130 (44.7%)	71 (24.4%)	90 (30.9%)
10.	Checking the headlight function	141 (48.4%)	59 (20.3%)	91 (31.3%)
11.	Checking the high beam	127 (43.7%)	67 (23.0%)	97 (33.3%)
12.	Checking the turn signal lights	115 (39.5%)	95 (32.6%)	81 (27.8%)
13.	Checking the fuel availability	105 (36.1%)	101 (34.7%)	83 (28.5%)
14.	Checking the vehicle indicator lights (fuel meter/odometer / speedometer/ gear position, high beam and turn signal indicators)	100 (34.4%)	130 (44.7%)	61 (21.0%)
15.	Checking the rider's personal safety protectors (crash helmet, mask, gloves, jacket, etc.)	110 (37.8%)	122 (41.9%)	59 (20.3%)

The data presented in *Table 3* shows that vehicle component, which 40% of the respondents always check, include headlight (48.4%), engine (46.0%), brake light (44.7%), high beam (43.7%), mirrors (43.0%), and brakes (43.0%). It means that the six items are seen as the most important vehicle components. On the other hand, for respondents who never check their vehicle, five components stand out, including brakes (34.0%), high beam (33.3%), mirrors (32.6%) engine belt/chain (32.6%), and headlight (31.3%). This illustrates that the respondents' knowledge about the components of a motorized vehicle is still limited. The remaining respondents check their vehicle components only occasionally. *Table 3* and *4* prove that traffic ethics have not embedded in most of respondents, more than 79 % of respondents have broken the traffic regulation by riding motorcycles though do not hold driving license. Moreover, the youth drivers do not have enough knowledge on maintaining well equipped motorcycles to have safety riding and checking all spare parts regularly.

Yogyakarta Special Territory is one of the areas where the pilot project for the Traffic Education policy is being implemented. The local government has issued the policy by integrating it into school curriculum. The result of this research also shown that the teenagers have lack of understanding on safety riding since many of them do not have the proper know-how of safe driving, which is reflected in the many dangerous violations they committed as stated in *Table 5* as follow:

Table-5. Yogyakarta High School Students' Behavior on the Road (n=291)

Respondent behavior on the road		Always (score 3)	Sometimes (score 2)	Never (score 1)
1.	Turning on the headlight	136 (46.9%)	64 (22.1%)	90 (31.0%)
2.	Tuning on the turn signal light before making a turn	158 (54.4%)	34 (11.7%)	98 (33.8%)
3.	Bringing a valid driver's license	135 (46.6%)	58 (20.0%)	96 (33.1%)
4.	Bringing the vehicle registration	148 (51.0%)	53 (18.3%)	89 (30.7%)
5.	Wearing a crash helmet	153 (52.8%)	35 (12.1%)	102 (35.2%)
6.	Wearing a safety mask	103 (35.5%)	140 (48.3%)	47 (16.2%)
7.	Wearing motorcyclist gloves	104 (35.9%)	127 (43.8%)	59 (20.4%)
8.	Wearing a jacket	98 (33.8%)	98 (33.8%)	94 (32.4%)
9.	Making sure that the passenger puts on the crash helmet	108 (37.2%)	87 (30.0%)	94 (32.4%)
10.	Running a red traffic lights*	95 (32.8%)	119 (41.0%)	76 (26.2%)
11.	Making or answering a phone call while riding*	88 (30.3%)	99 (34.1%)	103 (35.5%)
12.	Texting while riding*	94 (32.4%)	99 (34.1%)	97 (33.4%)
13.	Smoking while riding*	103 (35.5%)	58 (20.0%)	129 (44.5%)
14.	Violating road markings*	86 (29.6%)	128 (44.1%)	76 (26.2%)
15.	Riding at the speed of more than 60 km/h*	74 (25.5%)	142 (49.0%)	74 (25.5%)

16.	Taking more than one passengers*	80 (27.6%)	105 (36.2%)	105 (36.2%)
17.	Listening to music player while riding*	87 (30.0%)	112 (38.6%)	91 (31.4%)
18.	Getting ticketed*	84 (29.0%)	123 (42.4%)	83 (28.6%)
19.	Almost had an accident on the road*	58 (20.0%)	148 (51.0%)	84 (29.0%)
20.	Had a minor traffic accident*	56 (19.3%)	132 (45.5%)	102 (35.2%)
21.	Had a moderate/severe traffic accident*	81 (27.9%)	65 (22.4%)	144 (49.7%)

Note: *= negative statements

Table 5 shows that in general, most respondents (more than 50%) adhere to traffic rules, but more than 30% of high school students in Yogyakarta City have violated the traffic rules. This means that students' understanding of safety and discipline riding is lacking. Further, more than 50% of respondents said they got traffic accidents of various degrees, either minor or serious. This means that most of high school students have become the person responsible for having road accidents or being the victims of accidents. Road accident often occurred due to human errors rather than infrastructure problems such as wave-street or insufficient traffic rules.

In addition, the traffic accidents happen because the road users do not apply traffic etiquette. Many youth drivers do not comply to the traffic regulation that may be dangerous for other road users such as passing the stop signals, turning without giving lighting signals, and other negative attitude while riding motorcycle as shown in Table 6 below:

Table-6. Respondent's driving etiquette (n=291)

No.	Driving Etiquette	Always (score 3)	Sometimes (score 2)	Never (score 1)
1.	Using the left lane (*Indonesia uses left-hand traffic/LHT)	134 (46.0%)	84 (28.9%)	73 (25.1%)
2.	Use the right lane when passing other vehicles or making U-turn	114 (39.9%)	103 (35.4%)	74 (25.4%)
3.	When passing other vehicles from opposite directions on a two-lane without clear lane marking, respondent provides sufficient space to the right of the vehicle.	103 (35.4)	126 (43.3)	62 (21.3)
4.	When going to turn right or making U-turn, respondents stops to observe oncoming traffic both from the same and from the opposite directions	125 (43.0%)	67 (23.0%)	99 (34%)
5.	When turning or making U-turn, respondent turn on the turn signal light or make an appropriate hand signal.	115 (39.5%)	81 (27.8%)	95 (32.6%)
6.	Slowing down when passing a bus stop where passengers get on/off the bus.	138 (47.4%)	59 (20.3%)	91(31.3%)
7.	Slowing down when passing non-motorized vehicles drawn by animals.	108 (37.1%)	96 (33.0%)	87 (29.9%)
8.	Slowing down when driving in the rains or there are puddles on the road.	125 (43.0%)	87 (29.9%)	79 (27.1%)
9.	Slow down when approaching an intersection ahead	130 (44.7%)	71 (24.4%)	90 (30.9%)
10.	Slowing down upon seeing a pedestrian will cross the street	141 (48.5%)	59 (20.3%)	91 (31.3%)
11.	When the respondents want to slow down, they check the traffic situation to avoid disrupting other passing vehicles	127(43.6%)	67 (23.0%)	97 (33.3%)
12.	Prioritizing vehicles coming from the opposite direction or from the other directions of the intersection as indicated by traffic signs and road markings	115 (39.5%)	95 (32.6%)	81 (27.8%)
13.	Gives an opportunity to the vehicle from the main road if I come from a smaller lane crossing the main road	107 (36.8%)	83 (28.5%)	83 (28.5%)
14.	Prioritizing vehicles coming from the left junction in the crossroad	100(34.4%)	130 (44.7%)	61 (21.0%)
15.	If the intersection is a roundabout, respondents give the priority to another	110 (37.8%)	122 (41.9%)	59 (20.3%)

	vehicle coming from the right direction			
16.	Respondent stop when the level crossing bell is ringing, crossing barrier is closing, or other signals are given	130 (44.7)	57 (19.6%)	104 (35.7%)
17.	Prioritizing the passing fire trucks that are on way to perform their tasks	138 (47.4%)	57 (19.6%)	96 (33.0%)
18.	Prioritizing the ambulance carrying the sick.	130 (44.7%)	53 (18.2%)	108 (37.1%)
19.	Prioritizing vehicles to rescue the casualties in traffic accidents	125 (43.0%)	65 (22.3%)	101 (34.7%)
20.	Prioritizing the vehicles carrying heads of State agencies	128 (44.0%)	65 (22.3%)	98 (33.7%)
21.	Giving ways to the passing funeral procession	137 (47.1%)	53 (18.2%)	101 (34.7%)

Table 6 shows that more than 60% of respondents have adhered to each item of driving etiquette in accordance with traffic regulations. However, there are still 20-37% of respondents who ignore driving etiquette. Proper adherence to traffic discipline begins with pre-driving preparation and it goes on to the road while driving and after driving. It also involves an adherence to such driving etiquette as safety consideration when passing other slower vehicles, making a U-turn, obeying traffic signs and road markings, respecting the rights of other road users, observing traffic conditions at intersections and level crossings.

4.3. Implementation Management of Traffic Ethics Education Policy

Indonesian regulation on traffic, Law No 22/ 2009 on Traffic and Road Transportation particularly in vassal 81, states that each vehicle driver should have driver license. In fact, many youth drivers in Indonesia who do not hold this license pass on the road while going to schools. It seems that the youth families have permitted their children to ride motorcycle though they are below 17 years old or do not have driver license. The number of this youth drivers are big enough in Yogyakarta, the Educational City of Indonesia, where many students from all part of Indonesia pursue their higher educations.

As a region who have special status from the Indonesian government due to its culture and educational characteristics, Yogyakarta government has implement Law No 22/ 2009 on Traffic and Road Transportation, Governor Regulation No. 54/2011 on Traffic Discipline and Driving Etiquette Education at Schools and Mayoral Regulation No. 40/2012 on the Implementation of Traffic Education in Yogyakarta City, in order to promote safety road transportation. To implement these policies, the government institutions collaborate with schools, private industries (vehicle manufacturers/supplier) and families.

Based on Edwards model of implementation, there are four factors that determine effective implementation policy:

4.3.1. Communication

Communication among stakeholders in implementing Traffic Ethics Education policy, particularly between Department of Education, Youth and Sport and Police Department, maintains continuously. Education, Youth and Sport Department has formulated curriculum included in 2013 regular curriculum. This curriculum has been implemented in all high schools in Yogyakarta city. Moreover the Police Department collaborates with high schools in implementing several programs such as police goes to schools and safety riding trainings. Hence, the communication has been conducted regular and continuously in arranging and implementing traffic ethics education programs as stated by AKBP Sulasmi, the Head of Ditlantas Police Department, as follow:

“Police Department always communicates with the government especially Department of Education, Youth and Sport in implementing traffic ethic education programs such as school model, police goes to schools and safety riding trainings. We usually come to school every semester or year to provide safety education training to high school students. Police department has tried to educate that the students should have driving license if they want to ride motorcycles. Sometimes, we also take into in action to check whether the students hold driving license or not” (Focus Group Discussion on 14 May 2018).

As a result of well maintained communication between Schools; Education, Youth and Sport Department and Police Department, there are several programs to succeed implementing of traffic ethics education policy. Those programs are:

- (a) Implementing School Model of Traffic Ethics Education, police goes to school and safety riding trainings. The designation of this model school is based on the Decree of the Provincial Governor of DIY Number 222 / KEP / 2013 concerning the Establishment of Traffic Ethical Education Model Schools. Some senior high schools in the city of Yogyakarta are chosen as schools for traffic ethics models including Senior High School 5 Yogyakarta, Senior High School 6 Yogyakarta, Senior High School 8 Yogyakarta, Muhammadiyah 3 Yogyakarta High School, Muhammadiyah 7 Yogyakarta High School, Yogyakarta 2 Vocational High School, 4 Yogyakarta Vocational High School, 5 Yogyakarta Vocational High School and Vocational High School 6 Yogyakarta.

- (b) Inserting values of traffic ethics in the school curriculum. For example, traffic ethics values including material for traffic signs are presented in Civics Education subjects.
- (c) Monitoring and evaluating the implementation of the traffic ethics education curriculum in all schools of Yogyakarta City.

In communication, clarity of communication is important to ensure that information can be transferred to the target group. Therefore, the target groups have good understanding on the policy objectives and participate in the policy implementation. Communication can be received clearly by the implementer because the teachers directly involved in making learning devices for traffic ethics education.

To implement the traffic ethics education policy, the Transportation Department also play role in socializing the content of the policies to the communities. Department of Transportation in Yogyakarta City in collaboration with Astra Honda have socialized the traffic ethics education in schools and *kelurahan* (urban village) such as conducting safety riding trainings. Hence in terms of communication, all actors have contributed to educate student on the importance of traffic ethics education and to perform good attitude on the roads.

However, the data from respondent as shown in Table 6 reveals that about 20 % until 37 % of senior high students do not comply to the driving etiquette even though their schools have elected as school models for implementing Traffic Ethic Education. From the interview to the students, they said that most of parents let their children to ride motorcycle to go to school due to practical reason. The parents do not have much time to take the children to schools because parents should work and are busy with jobs activities. The role of parents in supporting implementation of TEE policy is vital since they see themselves as being responsible for developing their children's road safety awareness and skills (Cattan *et al.*, 2008). The parents have rights to prohibit or letting their children for riding motorcycles before getting driving license. Hence parents-children interaction is crucial in implementing traffic ethic education.

4.3.2. Resources

Resources have an important role in policy implementation by providing enough financial support, human as actors and well established information. The resources for implementing traffic ethics education policy are:

4.3.2.1. Financial Resources

The Education, Youth and Sport Department in correlation with Astra Honda have provided about 8 millions rupiahs per year for schools in implementing traffic ethic education policy. It is stated by the Head of SMA 5 Yogyakarta as *"There is assistance of around 8 million rupiah from Astra Honda and Department of Education for each school model of Traffic Ethics Education."*

Moreover, the MGMP teams (teacher's organization for each subject) have achieved about 5 million rupiahs for making learning devices in educating students on traffic ethics. The funding, however, has become hindrances in implementing this traffic ethics policy in terms of continuously financial aids. The education, youth and sport department and Astra do not give this financial support regularly every year since the school model for traffic ethics education is not implemented regularly too.

4.3.2.2. Human Resources

Human resources in implementing traffic ethics education policy are teachers and students. Teachers as implementing policies have tasks to provide students with knowledge of the importance of traffic ethics. To do so, they are required to have the relevant skills and expertise in accordance to the level of education and field of work. If so, teachers will not get difficulties to carry out their duties for educating students on traffic ethics. It is stated by one of teacher in SMA 5 Yogyakarta as follow:

"I am a Bachelor of physics education, so I do not have problem in explaining how to maintain safety riding since in the field of physics there is spring discussion that is relevant to describe a suspension in a motorized vehicle. So it's not so difficult and if someone experiences it they can speak it up in the MGMP (field of studies teacher forum)" .

Based on the above explanation, it can be concluded that the level of teachers' education and expertise is in accordance with the task of explaining safety riding. According to George C. Edward III human resources must have accuracy and feasibility between the number of staff needed and the expertise they have according to the job assignment he handled.

4.3.2.3. Infrastructure of Traffic Ethics Education

Infrastructure or facilities owned by schools to support the implementation of Traffic Ethics Education in schools are still limited to the procurement of traffic signs, as revealed by BS as deputy head the school's BS infrastructure facilities said: *"Procurement of traffic signs in the school environment like in the parking lot and slogans about governance orderly* (BS / 19-9-2018).

Based on the results of interviews, it was concluded that the infrastructure facilities or facilities were in support the implementation of traffic ethics education in SMA 5 Yogyakarta is still limited to the procurement of traffic signs, parking space and facilities for students to gaining driving license.

In addition to traffic sign facilities provision by the schools, the Transportation Department in Yogyakarta City has built Traffic Gardens to provide traffic education for students especially kindergarten and elementary school

students. The traffic sign and traffic ethics banners on the roads are provided by the Transportation department and the Police Department as shown in the picture as follow:



Traffic signs are part of road equipment in the form of symbols, letters, numbers, sentences and / or combinations that function as warnings, restrictions, orders or instructions for road users.

4.3.3. Disposition

The attitude of the policy implementer will be very influential in policy implementation. If the implementer has an attitude well then he will be able to carry out policies as well as what policy makers want, otherwise if his attitude does not support the implementation will not be carried out well. School residents show a positive or supportive attitude to the TEE due to its objective to planting school discipline and students' character building, as stated by the Head of SMA 5 Yogyakarta:

"Yes, the response is quite good, most of students and teacher have already familiar with traffic regulation. Moreover, SMA 5 has implemented the regulation by enforcing rules long time before the launching of traffic ethics education. It has been emphasized earlier on vehicle completeness for students, meaning the completeness of motorized vehicles such as no loud sound, the availability of rearview mirrors and no modified motorcycles that may reduce the motorcyclist comfort" (WS / 17-9-2018).

Moreover, in carrying out the socialization activities, the City Transportation Department, the Education, Youth and Sport Department and Police Department of Yogyakarta show the character of polite and friendly. By applying smile and greetings, socialization activities can be well received by the community and get positive internalization from the community and traffic ethics can be applied on the road.

4.3.4. Bureaucratic Structure

This aspect of the organizational structure encompasses two things, the mechanism and bureaucratic structure itself. The first aspect is the mechanism; inside policy implementation is usually standard operation procedure (SOP). Traffic ethics dissemination activities conducted by the Transportation Department; Education, Youth and Sport Department and Police Department has been arranged in accordance with SOP. Program implementation evaluation activities are always held in every 3 month in addition to socialization activities that are conducted in the traffic park or at schools.

Although countries around the world are implementing good road safety programs, there are also critics of the road safety education programs that are being implemented in schools. Dragutinovic and Twisk (2006) conducted a comprehensive evaluation study of road safety education programs in several countries. Some of their important findings were that most road safety programs focused on primary school children which were implemented in developed countries. They found that although many countries implement road safety programs there is a lack of a

systematic evaluation to determine the success of the programs. They established that effective programs were those that focus more on the individual instead of the group. They also found that computer-supported practical training in a road safety program was very successful. (Christie (2002)), however, stated that sometimes road safety education and training programs may cause more harm than good depending on the content and the way it was delivered.

In terms of communication, all implementers of traffic ethics education policy have played significant roles to inform and educate the content of traffic ethics education policies. The success of traffic ethics education policy depends on how the implementers can communicate and persuade all of stakeholders to involve in its implementation. In implementing Law No 22/2009 and Traffic Ethics Education, the government institutions, schools and families have contributed by maintaining their communication well. However, the families who have the closest relation to the students need to enforce the regulation by prohibiting youth to ride motorcycles before obtaining driving license. It is important since the data from respondents in this research show that the parents let their children to ride motorcycle before having driving license due to their busy works.

Moreover, states that the information provided in the public education including school curriculums and safety riding training materials include as follows: (1) increasing awareness of a problem or a behavior; (2) raising the level of information about a topic or issue; (3) helping the formation of beliefs, especially where beliefs are not held formally; (4) establishing topics as more salient; (5) increasing the awareness of audience to other forms of communication; (6) stimulating interpersonal influences by conversations with others (police, teachers, and parents); (7) generating self-initiated information seeking; and (8) reinforcing existing beliefs and behavior. These characteristics have not been represented in the Traffic Ethics Education curriculum in Indonesia including Yogyakarta city. Even, Indonesian government has not formulated national curriculum on road safety education. The local government and schools have initiated their local curriculum. The absence of national curriculum may hinder the implementation of traffic ethics education in schools since there is no guidance for implementers and reward-punishment program for schools in employing this traffic ethics education policy. If so, implementers of this policy may not have good motivation and many students break the traffic regulation or do not maintain safety riding on the roads.

The teachers, human resources involved in this policy implementation, also need have enough information and education on the safety riding before educating students. The importance of teachers' knowledge on safety riding is stated by. According to, most teachers in South Africa did not receive training in road safety education during the initial formal professional training or in-service training. Teachers neither received any other training of this nature. The result of this is that the majority of teachers are not trained and equipped to offer road safety education. The average response considering the training in road safety education of parents of learners in the various school phases also indicated that parents received no training of any kind for offering road safety education to their children. This lack of road safety education also occurs in Yogyakarta that leads to ineffective implementation of traffic ethics education.

5. Conclusion and Recommendation

All in all, the implementation of traffic ethics education policy in Yogyakarta based on Law No.22/2009 and Governor Regulation No. 54/2011 on Traffic Discipline and Driving Etiquette Education at Schools, have educated students on the importance of safety road using. All of the implementers of these policies (Education, Youth and Sport Department; Police Department; Transportation Department; Schools; Astra Honda Motor; families and students) have maintained well communication. Moreover, disposition and bureaucratic culture of this policy implementation have led to collaborative roles among all of stakeholders. All of stakeholders have played significant roles based on their responsibilities well.

Several programs for educating students on TEE has been applied such as inserting TEE into school's curriculum, police goes to school and safety riding trainings. However, the awareness of students in Yogyakarta to ride safely by checking the vehicles' equipment and having good attitudes on the roads are still lacking. This may appear due to the absence of national curriculum on TEE, the lack of teachers knowledge and the lack of parents' support in forbidding their children to ride motorcycles before gaining driving licenses.

There are some recommendations that may be taken by the governments and other implementers in order to decrease the number of road accidents in Indonesia as follows:

1. The government through the Ministry of Education formulates the national curriculum for traffic ethics education as standards and guidance for local governments to implement safety road education.
2. The transportation department provides better public transportation particularly school buses.
3. The police department and schools enforce the law by providing strictly sanctions to the students who break the traffic regulations.
4. Families strictly prohibit their children to ride motorcycles before having driving license
5. The teachers achieve more safety road education trainings so that they can promulgate it to the students.

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