



Faculty of Cognitive Sciences and Human Development

**The Effects of Parental Involvement on the Driving Knowledge of Novice
Teen Drivers**

Cecelia anak Edmund John

**Master of Science
2017**

The Effects of Parental Involvement on the Driving Knowledge of Novice Teen Drivers

Cecelia anak Edmund John

A thesis submitted

In fulfillment of the requirements for the degree of Master of Science

(Learning Sciences)

Faculty of Cognitive Sciences and Human Development
UNIVERSITI MALAYSIA SARAWAK
2017

DECLARATION

The research entitled “The Effects of Parental Involvement on the Driving Knowledge of Novice Teen Drivers” was prepared by Cecelia anak Edmund John (13020100) and submitted to the Faculty of Cognitive Sciences and Human Development in fulfilment of the requirements for the Masters of Science (Learning Sciences). The thesis has not been accepted for any degree and is not concurrently submitted in candidature of any other degree.

Name : Cecelia anak Edmund John

Date :

ACKNOWLEDGEMENTS

Foremost, I would like to express my utmost gratitude to my project supervisor, Assoc. Prof. Dr. Chen Chwen Jen for her unfailing support and motivation as well as innumerable guidance throughout the implementation of this project. Her motivation has been my inspiration as I hurdle all the obstacles in the completion of this Master of Learning Science by research.

Many thanks to Dr. Zaimuariffudin, my project co-supervisor, for his dedication and giving me generous access to all information for this project. His constructive guidance and remarks enriched the content of the project. Through his critical comments and valuable suggestions, the research was completed with a magnificent experience in my part.

I would also like to take this golden opportunity to convey my heartfelt gratitude to both of my parents, Edmund John and Kho Hoon Hia for their constant love and encouragement. Their valuable insights shared into the project made the journey in completing my studies in UNIMAS pleasant.

Thank you also to all lecturers, officers, teenage drivers, parents and friends who are always available to lend a helping hand. Without their support and cooperation, this study will not be able to complete successfully.

ABSTRACT

The benefits of parental involvement in driver education has been harnessed by many developed countries through Graduated Driver Licensing (GDL). However, the initiative of getting parents to involve in novice teen driving is not done in Malaysia. Hence, this research aims to engage parents in novice teen driving and to test the hypothesis on the effects of Malaysian parental involvement in the driving knowledge of their novice teen drivers. The aspects of driving which are feasible for parental involvement was identified using content analysis and activity analysis of Graduated Driver Licensing (GDL) programs. A handbook for parental involvement in novice teen driving was produced based on SOI Model of Learning. CAPE model of Parental Engagement (Piotrowska, 2016) was utilised as the theoretical framework for this multiple-group pretest-posttest quasi-experimental design study. This research reports on the outcomes and the effects of a total of 124 participants consisting of teen drivers and their parents participated in this study. The outcome of this study revealed that there is a significant effect in parental involvement on the driving knowledge in novice teen drivers, suggesting that parents can have considerable positive influence on their novice teen drivers' driving knowledge.

Keywords: parental involvement, education, graduated driver licensing, engagement, novice

Kesan Penglibatan Ibu Bapa Terhadap Pengetahuan Pemanduan dalam Kalangan Pemandu Remaja

ABSTRAK

Faedah-faedah penglibatan ibu bapa dalam pemanduan remaja telah dimanfaatkan oleh negara-negara maju melalui program GDL (Graduated Driver Licensing). Walau bagaimanapun, inisiatif tersebut masih belum terdapat di Malaysia. Oleh itu, kajian ini bertujuan untuk mendapatkan ibu bapa untuk mendidik dan menyelia anak remaja dalam pemanduan serta mengkaji hipotesis dan kesan penglibatan ibu bapa Malaysia tentang pengetahuan dalam pemanduan di kalangan remaja. Aspek-aspek pemanduan yang sesuai dilaksanakan oleh ibu bapa dalam penglibatan mereka tentang pengetahuan pemanduan dalam kalangan remaja dikenalpasti melalui analisis kandungan dan analisis aktiviti yang terdapat dalam program-program GDL. Buku panduan untuk ibu bapa dalam pemanduan remaja telah dihasilkan dengan menggunakan Model SOI dalam pembelajaran sebagai garis panduan. Model CAPE untuk penglibatan ibu bapa telah digunakan sebagai kerangka teori untuk pelbagai kumpulan kajian pra-pasca kuasi-eksperimen ini. Laporan untuk kajian ini termasuk keputusan penglibatan ibu bapa dan kesan kajian daripada 124 peserta yang terdiri daripada pemandu remaja serta ibu bapa mereka. Penemuan kajian ini menunjukkan perbezaan yang signifikan oleh ibu bapa yang melibatkan diri tentang pengetahuan dalam pemanduan di kalangan remaja, dan ini mencadangkan bahawa ibu bapa berupaya untuk memberi pengaruh positif tentang pengetahuan dalam pemanduan di kalangan remaja.

Kata kunci: *penglibatan ibu bapa, pendidikan, lesen pemanduan bergraduat, pembabitan, novis*

TABLE OF CONTENTS

	Page
DECLARATION	i
ACKNOWLEDGEMENTS	ii
ABSTRACT	iii
ABSTRAK	iv
TABLE OF CONTENTS	x
LIST OF TABLES	xi
LIST OF FIGURES	xv
CHAPTER 1: INTRODUCTION	1
1.0 Overview	1
1.1 Background of the Study	1
1.2 Problem Statement	3
1.2.1 Statistics of Road Accidents Among Teenage Drivers at Global Level	3
1.2.2 Statistics of Road Accidents Among Teenage Drivers in Malaysia	4
1.2.3 Causes of Accidents in Malaysia	6
1.2.4 Interventions in Managing Accidents in Malaysia	7
1.2.5 Handbook for Parental Involvement in Novice Teen Driving	10
1.3 Aim of Study	11
1.3.1 Objectives	11
1.4 Research Questions	11
1.5 Research Framework	12
1.5.1 The Theoretical Framework	12

1.5.2 Hypothesis	15
1.6 Scope of the Study	15
1.7 Significance of the Study	15
CHAPTER 2: LITERATURE REVIEW	17
2.0 Overview	17
2.1 Parental Involvement in Children's Learning Achievement	17
2.2 Parental Involvement in Malaysian Education	20
2.2.1 Barriers of Parent involvement in Education	21
2.3 Parental Involvement in Road Safety Education: Graduated Driver Licensing (GDL)	24
2.3.1 Benefits of Graduated Driver Licensing (GDL)	25
2.4 Road Education in Malaysia	28
2.4.1 Limitations of the Current Road Education Approach	32
2.5 Road Accidents Among Teenage Drivers in Malaysia	33
2.6 Epstein's Theory of Parental Involvement	35
2.6.1 Theory of Overlapping Spheres of Influence	
2.6.2 Types of Parental Involvement in the Driving Knowledge of Novice Teen Drivers based on Epstein's Model	37
2.6.2.1 Parenting	37
2.6.2.2 Volunteering	38
2.6.2.3 Learning at Home	39
2.7 Constructivist Learning	40
2.7.1 Constructivist Pedagogy	43

2.7.2 Endogenous Constructivism	45
2.7.3 Exogenous Constructivism	45
3.7.4 Dialectical Constructivism	48
2.8 SOI Model of Learning	48
2.8.1 Means to Assist Information Encoding	50
2.9 CAPE Model	51
2.9.1 Connect	54
2.9.2 Attend	55
2.9.3 Participate	55
2.9.4 Enactment	56
2.10 Summary	57
 CHAPTER 3: METHODOLOGY	 59
3.0 Overview	59
3.1 Handbook Development	60
3.1.1 Content Analysis of the Learning Problem	60
3.1.2 Activity Analysis of the Learning Problem	63
3.2 Handbook Design	64
3.2.1 Handbook Design Principles	64
3.3 Research Design – Quasi-Experimental	75
3.4 Instructional Design Theoretical Framework	76
3.5 Sampling	76
3.5.1 Data Collection Procedure	77
3.6 Instrumentation	78

3.6.1	Research Material	78
3.6.2	Research Instrument	79
3.7	Data Collection	81
3.7.1	Procedure for Data Collection: Control Group	81
3.7.2	Procedure for Data Collection: Non-Parental Involvement Group	
3.7.3	Procedure for Data Collection: Parental Involvement Group	82
3.8	Procedure for Data Analysis	72
3.8.1	Pilot Study	85
3.8.2	Data Analysis for Intervention Study	85
3.8.3	Procedures to Ensure Internal Validity of the Study	87
3.9	Summary	89
		90
CHAPTER 4: DESIGN AND DEVELOPMENT		92
4.0	Overview	92
4.1	Design and Development Chronology	92
4.1.1	Handbooks on Parents' Involvement in Teen's Driving	92
4.2	Define Phase	108
4.3	Dissemination Phase	110

CHAPTER 5: ANALYSIS AND FINDINGS	111
5.0 Overview	111
5.1 Characteristics of Sample	112
5.2 Distribution of Learners	112
5.3 Appropriateness of Covariate	113
5.3.1 Reliability of Pretest	113
5.3.2 Homogeneity of Pretest Score	114
5.3.3 Correlation between Pretest Score (Covariate) and Gain Score (Dependent Variable)	115
5.4 Testing of Hypothesis	116
5.4.1 Testing Assumptions of ANCOVA	117
5.4.2 Testing of H_{01}	129
5.4.2.1 One-way ANCOVA	130
5.4.2.2 Pair wise comparisons for one-way ANCOVA	132
5.5 CAPE Model: Enactment Stage	134
5.6 Discussion	136
5.6.1 Effects of the Interventions on Driving Knowledge	136
5.6.1.1 Parental Involvement Group versus Control Group	136
5.6.1.2 Parental Involvement Group versus Non- Parental Involvement Group	140
5.7 Summary	140

CHAPTER 6: DISCUSSION AND CONCLUSION	142
6.0 Overview	142
6.1 Study Outcomes	142
6.2 Design and Development Major Outcomes	144
6.2.1 Instructional Design Theoretical Framework	145
6.3 Implications of the Study	145
6.4 Limitations of the Study	146
6.5 Recommendations for Future Investigations	148
6.6 Summary and Conclusions	149
 REFERENCES	 150
 APPENDICES	 177

LIST OF TABLES

	Page
Table 1	Fatality index by vehicle type 4
Table 2	World road traffic accidents with death rate per 100,000 where Malaysia ranked 20 5
Table 3	List of handbooks used 61
Table 4	Content analysis of the handbooks according to title 62
Table 5	Stages of Graduated Driver Licensing (GDL) 63
Table 6	Description of alphabets used in the quasi-experimental design 75
Table 7	Table of difficulty index 86
Table 8	Guidelines for interpreting item discrimination index (Hopkins, 1998) 87
Table 9	Feedbacks from shareholders and revisions 109
Table 10	Learners' distribution across the learning modes 113
Table 11	Levene's test of equality of error variance of pretest score across the learning modes 114
Table 12	One-way ANOVA for pretest score by learning mode 114
Table 13	Pearson product-moment correlation coefficient 115
Table 14	Paired samples statistics 116
Table 15	Paired samples test 116
Table 16	Tests of normality 119
Table 17	Levene's test of equality of error variances of post-test score across the three groups 125
Table 18	Homogeneity of regression slopes test 129

Table 19	One-way ANCOVA of post-test score by group with pretest score as covariate	130
Table 20	Means, standard deviations, adjusted means, and standard errors of post-test score by learning mode	131
Table 21	Summary of post hoc pair wise comparisons across the three groups	132
Table 22	Summary of findings	140

LIST OF FIGURES

	Page
Figure 1	Pillars of strategies in Malaysia Road Safety Plan 2014-2020 8
Figure 2	Research design 12
Figure 3	The enhancement plan of driver education curriculum 29
Figure 4	Illustration depicting the flow of driver training and licensing in Malaysia 29
Figure 5	Overlapping spheres of influence 36
Figure 6	Constructivism and its paradigms 42
Figure 7	SOI model of constructivist learning from words and pictures 49
Figure 8	CAPE Model of Parental Engagement 54
Figure 9	The usage of images in the handbook 65
Figure 10	The usage of arrows in facilitating the learning process 65
Figure 11	The usage of large fonts, italics and boldface in the handbook 66
Figure 12	The usage of bullets in the handbook 66
Figure 13	Introduction page of the handbook 68
Figure 14	Steps on how to use the handbook 69
Figure 15	Parent-teen driving contract 70
Figure 16	A note for parents in the handbook 71
Figure 17	Introduction of Chapter 7 of the handbook 72
Figure 18	Learning outcomes and content of learning in Chapter 7 of the handbook 73
Figure 19	Quasi-experimental design 75

Figure 20	A sample question related to parking rules	80
Figure 21	R2D2 Instructional Design Model	93
Figure 22	A sample of available checklist	95
Figure 23	A sample of handbook with lesson tips	96
Figure 24	A sample of handbook with safety tips	97
Figure 25	Driving log	98
Figure 26	A sample of parent-teen agreement	99
Figure 27	Questionnaire	100
Figure 28	A sample of a handbook with images and safety tips	101
Figure 29	A sample of a handbook with images and tips	103
Figure 30	A sample of a checklist	104
Figure 31	A sample of an exercise practice that can be carried out by parents and teens	106
Figure 32	A sample of step-by-step manoeuvres and definitions	107
Figure 33	Distribution of participants based on gender	112
Figure 34	Histogram of post-test score for the whole sample	121
Figure 35	Normal probability plot of post-test score for the whole sample	122
Figure 36	Histogram of post-test score for Control Group	122
Figure 37	Normal probability plot of post-test score for the Control Group	123
Figure 38	Histogram of post-test score for Non-Parental Involvement Group (B)	123
Figure 39	Normal probability plot of post-test score for Non-Parental Involvement Group (B)	124
Figure 40	Histogram of post-test score for Parental Involvement Group (C)	124

Figure 41	Normal probability plot of post-test score for the Parental Involvement Group (C)	125
Figure 42	Scatter plots between gain score and pretest score for (a) Control Group, (b) Non-Parental Involvement Group, and (c) Parental Involvement Group	127

CHAPTER 1

INTRODUCTION

1.0 Overview

The aim of this study is to investigate the effects of parental involvement on the driving knowledge of novice teen drivers. The background of the study highlights the involvement of parents in their children's learning and the problem raised in this study. The scope as well as the significance of the study were explained in this study.

1.1 Background of the Study

This section discusses on parental involvement in their children's learning, the benefits of this involvement and some of the related research issues that guide the focus of this study.

Teachers in 1990s are aware that they were not able to effectively teach children to their fullest potential unless parents step up and partnered along (Epstein, 2001; Hoover Dempsey, Walker, & Jones, 2002). Parents play an important role in the life of children (Adewumi et al., 2012). "The act of taking part in any activity or event, or situation" can be the explanations of parental involvement (Macmillan Dictionary 2009-2012b). There are many books, journals, articles and stand-alone that report on parental involvement in their children's education and these include involvement via telephone and written home-school communication, attending school functions, being volunteers in classroom, attending parent-teacher conferences, tutoring and homework assisting, home educational enrichment and parent involvement in decision making.

Most of the up to date studies on the effects of parent involvement were conducted either in countries which are English-speaking or in Asia (Alvarez-Valdivia et al., 2012). It has been acknowledged that parental involvement plays an important role in children's academic and behavioural success. Children perform better in education and in school when parents were involved (Desforges, 2003; Harris & Goodall, 2008, 2009; Lindsay, 2008). Greenwood and Hickman (1991) discovered that parental involvement affects students' academic success. Higher academic achievement, sense of well-being in children, positive attitudes and behaviour, better school grades, as well as higher educational aspirations among children and parents are the positive consequences from the benefits of parental involvement (Greenwood & Hickman, 1991).

The important element of effective education for the past 40 years is parental involvement (DES, 1967). Extensive research literature stated that parental involvement is advantageous for children regardless of their age (Cox, 2005; Desforges & Abouchaar, 2003; Eccles & Harold, 1993; Epstein, 2001). Reviews and meta-analyses of the literature on the effectiveness of parental involvement both home-based and school-based in assisting academic achievement was done by Fan & Chen (2001), Henderson & Mapp (2002), Jeynes (2005, 2007), Pomerantz, Moorman & Litwack (2007). Many past studies discovered that regardless of any age of the child and at any level of grade, parental involvement is vital in increasing children's achievement, attendance, behaviour and other vital outcomes (Bryk et al., 2011; Marzano, 2003, Sheldon, 2003).

Some of the major findings can be seen through the meta-analyses from 52 studies on the effect of parental involvement on children's learning (Jeynes, 2007). Many of the studies were correlational or case studies, descriptive and non-intervention studies which reported positive findings and a few of the studies were experimental or quasi-experimental design

which also reported the improvement of children's learning (Jeynes, 2007). Generally, these studies reveal that programmes and interventions which engage families in facilitating their children's learning results in higher achievement (Jeynes, 2007).

1.2 Problem Statement

1.2.1 Statistics of road accidents among teenage drivers at global level

Almost 1.3 million die resulting from road traffic collision, making it 3000 of deaths every day (who.int, n.d.). Ninety percent from these deaths happened in low and middle-income countries. Road traffic injury is currently among the three leading sources of death among people between 5 to 44 years old, which is also the number one cause of death among young people worldwide (who.int, n.d.). This statistics show that road traffic accidents kill more people than Malaria.

By 2020, if there are no intervention made the annual deaths are expected to increase to 1.9 million people involved in road traffic injury (Sarani et al., 2012). The present day of interventions and actions are not enough to stop or alleviate the rise in road traffic deaths. Even with the increasing awareness from the society and the commitment to road safety, the problem could not be solved unless there are aspiring vision and effective collaboration as well as bigger investment were made.

In March 2010 then United Nation has declared 2011-2020 as the Decade of Action for road safety. The global goal of this General Assembly resolution 64/255 is to stabilize and reduce the predicted level of global road deaths through various activities carried out at national, regional and global levels (who.int, n.d.).

By taking on the responsibility to take actions in this Decade of Action, it is assumed that up to five million lives can be rescued with 50 million injuries can be averted. This means that up to 50% of decrease in the expected global death toll by the year 2020 (who.int, n.d.).

1.2.2 Statistics of road accidents among teenage drivers in Malaysia

Car accidents are the leading cause of death among 15 to 29 year old drivers worldwide. Among these who are involved, most of them are men and boys who took more risks and uses the road more.

According to the annual statistical report from the year 2007 to 2010, motor vehicle ranked second highest fatality index of 0.55, after motorcycle accidents with the index of 0.63.

Table 1: Fatality index by vehicle type (Adapted: Ahmad Noor Syukri et al., 2013)

Parameters	Total number of occupants	Number of fatal occupants	Index
Passenger vehicle	1381	763	0.55
Lorry	285	69	0.24
Bus	1924	146	0.08
Motorcycle	72	45	0.63

Car crash among teenage drivers have the highest fatality risks even after few years of licensure. The Malaysian Government had initiated the Road Safety Department under the Ministry of Transport in the year 2004 as an action to address the rising numbers of road traffic injuries in the country.

Malaysia was listed and ranked as top number 20th in countries with most road accidents deaths by the World Health Ranking 2011 (Nasa, 2014). Road traffic accidents were acknowledged as one of the major causes of deaths in Malaysia after coronary diseases, stroke, influenza and pneumonia (Nasa, 2014). Malaysian Institute of Road Safety (MIROS) had done a research which found out that there is a daily average of 18 person were killed on Malaysian roads. Table 2 described the world road traffic accidents with death rate per 100,000 globally.

Table 2: World road traffic accidents with death rate per 100,000 where Malaysia ranked 20 (Source: www.worldlifeexpectancy.com)



Rank	Country	Rate	Rank	Country	Rate	Rank	Country	Rate
1	NAMIBIA	53.4	65	NIGERIA	21.5	129	GEORGIA	11.4
2	SWAZILAND	48.2	66	LIBERIA	21.5	130	MONACO	10.7
3	MALAWI	45.4	67	CHINA	20.8	131	CYPRUS	10.7
4	IRAQ	44.7	68	MALI	20.5	132	SERBIA/MONTEN.	10.6
5	IRAN	43.8	69	CAPE VERDE	20.5	133	PHILIPPINES	10.6
6	THAILAND	42.9	70	ECUADOR	20.4	134	ESTONIA	10.6
7	CONGO	42.4	71	TUNISIA	20.3	135	TURKMENISTAN	10.5
8	CENTRAL AFRICA	39.7	72	SOUTH AFRICA	20.2	136	HUNGARY	10.4
9	SUDAN	39.2	73	TOGO	19.6	137	NEW ZEALAND	10.3
10	MOZAMBIQUE	38.2	74	ZIMBABWE	19.3	138	TIMOR-LESTE	10.3
11	ZAMBIA	37.9	75	MOROCCO	19.3	139	NORTH KOREA	10.2
12	ETHIOPIA	37.8	76	UKRAINE	18.8	140	PORTUGAL	10.0
13	LESOTHO	37.4	77	INDIA	18.7	141	BELGIUM	10.0
14	YEMEN	37.3	78	BHUTAN	18.6	142	BARBADOS	9.9
15	BELIZE	36.9	79	COLOMBIA	18.0	143	SLOVENIA	9.8
16	ANGOLA	36.2	80	COSTA RICA	17.9	144	URUGUAY	9.6
17	VENEZUELA	35.8	81	SENEGAL	17.8	145	ALBANIA	9.3
18	DOMINICAN REP.	34.8	82	MADAGASCAR	17.4	146	TURKEY	9.0
19	UGANDA	34.7	83	SAINT KITTS	17.2	147	TUVALU	8.8
20	MALAYSIA	34.5	84	BELARUS	17.2	148	SAINT VINCENT	8.6
21	EQU. GUINEA	34.4	85	BOLIVIA	17.1	149	AZERBAIJAN	8.5

By the year 2020 it is believed that the figure will rise to 29 deaths daily. This would mean that a total of 10,716 deaths in the year 2020 as contrast to 6,914 deaths happened in recent years (Nasa, 2014). The death statistics are increasing yearly where the total number of accidents grow by 80 per cent from the interval of the year 2001 to 2013.

The statistics of death toll caused by road accidents in year 2020 was predicted by MIROS based on time series model known as ARIMA (Sarani et al., 2012). This model is widely used in other fields as predicting tools, making it suitable to be utilised since there were data accumulated over the years. MIROS used data dated back from the year 1972 to 2010 obtained through Statistical Report Road Accident and various documentation from Polis Diraja Malaysia (PDRM) (Sarani et al., 2012). ARIMA model was able to produce a pattern using the recorded data and past error and gave a predicted future values of road traffic deaths.

ARIMA model predicted that in 2015, there will be 8,760 deaths and 10,716 deaths in the year 2020. This number was an increment of 27% of deaths from 2010 which recorded a total of 6,782 deaths (Sarani et al., 2012).

1.2.3 Causes of Accidents in Malaysia

Based on an in-depth research carried out by Crash Reconstruction Unit (Unit Rekonstruksi Kemalangan) MIROS, one of the main causes of accidents on the road are risky driving, driving fast and driving in fatigue situations. These factors will be addressed on the Malaysia Road Safety Plan (Pelan Keselamatan Jalan Raya Malaysia) 2014-2020 to reduce the accident rates in Malaysia. The collaborations among JKJR, MIROS, Road Transport Department (JPJ), Royal Malaysia Police (Polis Diraja Malaysia PDRM), Ministry of Health,

Public Works Department (JKR), government agencies and private sectors as well as Non-Government Organisations (NGOs) have built the Malaysia Road Safety Plan 2014-2020.

Research shows that accidents happened were because of human factor, mainly the human behaviour (Liana et al., 2012). Human factor is the major contribution of road accidents, making 80% to 90% of the total car crash on the road (Suraji & Tjahjono, 2012). Among the driving behaviour which causes road accidents are the usage of mobile phone while driving, going over the speed limit, drunk driving, improper overtaking car and dangerous driving (Vaughn et al., 2012). In a research study conducted by Amiruddin Ismail, Gan Soon Yi and Mohd Kamarul Ifzam Mohd Zain (2015) on the drivers' behaviour relationships in reducing the road accidents in Puchong, Selangor Darul Ehsan, it is found out in the final modelling results that the causes of accident include improper overtaking manoeuvres. Overtaking is one of the reasons contributed to road accidents (Alonso et al., 2013). Young drivers did not made the right overtaking decision while older drivers made a wrong right turn (Alonso et al., 2013).

1.2.4 Interventions in Managing Accidents in Malaysia

In tackling the rate of accidents in Malaysia, five pillars of strategies were created in the Malaysia Road Safety Plan 2014-2020. Activities and programmes that were carried out to achieve the goals of reducing accident rates on the road were based on the five pillars of strategies, which are road safety management, the mobility and safer road traffic conditions, safer vehicle conditions, create safer road users and post-crash management. The pillars of strategies is shown in Figure 1.

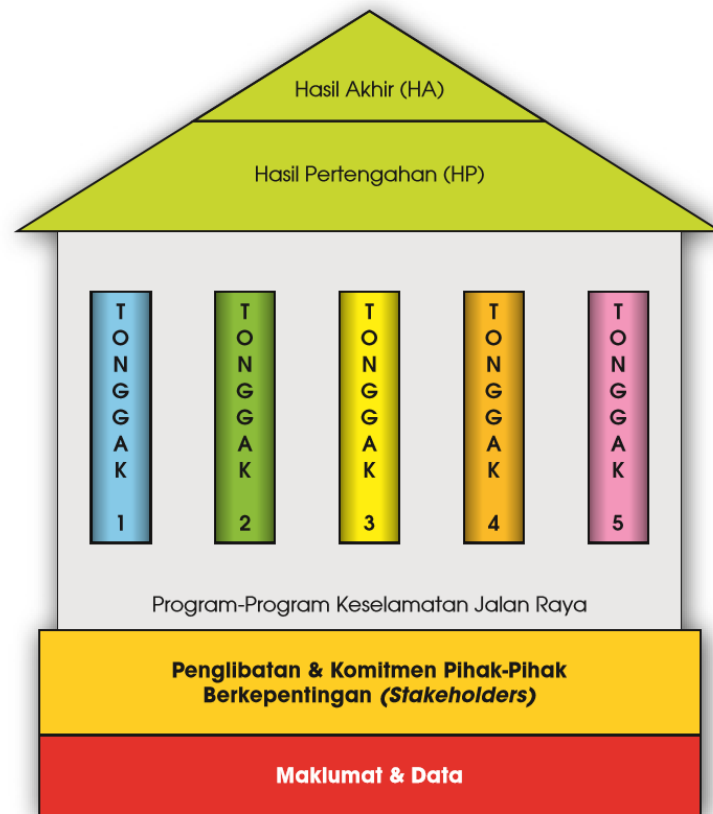


Figure 1: Pillars of strategies in Malaysia Road Safety Plan 2014-2020

These five pillars of strategies comprised of important elements on road safety. Among the activities and programmes which includes the communities are the improvement in the current road education, educational programmes and public awareness through media, road safety educational programme in school, heavier punishments through demerit system KEJARA for traffic offenders, and community services for traffic offenders.

The summary of the five pillars of strategies in Malaysia Road Safety Plan 2014-2020 are shown in Appendix Z. Based on the summary of the pillars of strategies aforementioned, there is still lack of parental involvement in road safety in Malaysia.

Car crashes are still the leading cause of death for young people of ages 15 to 20 year olds (Hoyert & Xu, 2012). This study focuses on the novice teen driving of the age between 16

to 25 years old who are categorised as the group with the highest risk in fatal car crash rate. Teen drivers involve in car crash accidents due to the fact that they are more likely to underestimate hazardous situations or unable to detect dangerous scenarios than older drivers (Bates et al., 2014). Teen drivers are also highly likely to make wrong critical decisions that would cost them their lives on the road. This risky driving behaviour are higher in the presence of male teenage passengers (Bates et al., 2014). The learning problem, which has connection with novice car drivers became the case in investigating the effects of parental involvement in novice teen driving.

Parental involvement in road education in other countries such as Australia, America and the United Kingdom employed the Graduated Driver Licensing (GDL) programme. There is a growing body of studies on parental involvement in road education, particularly on the effects of Graduated Driver Licensing (GDL) programme which reduces the car crash risk and fatal injuries of young novice drivers (Scott-Parker et al., 2015). The driving aspects in GDL programme and the involvement of parents was associated with a significant decrease in injury crash rates (Rusell, Vandermeer, & Hartling, 2011; Fell, Romano, & Voas, 2011; Rouse et al., 2013; McCartt & Teoh, 2015; Conner & Smith, 2016).

Despite the benefits that Graduated Driver Licensing (GDL) programme had bring about for the countries that implemented it, there is no parental involvement in road education in Malaysia. As most of the parents today know how to drive and are educated, it shows the readiness to take part in this initiative.

1.2.5 Handbook for Parental Involvement in Novice Teen Driving

In order to achieve the goal in this study, parents are required to involve actively in the driving knowledge and skills of novice teen drivers. For Graduated Driver Licensing (GDL) programme, handbooks were utilised as a tool for parents to include themselves in the learning process of their teen's driving skills and knowledge.

In the current era, the usage of devices and digital screens as a media for reading have become widespread. This creates a realisation on the issue of reading electronic text among researches (Dillon, 1992). The utilisation of handbook instead of digital screens were derived from critical reviews of empirical literature which describe the distinction between electronic text and a book.

Even though readers are able to access into reading materials through several common digital formats, physical printed books are still fundamentally more favoured as compared to e-books or audio books (Perrin, 2016). Parents commented that extra features using digitalised tools such as videos as well as interactive games are a distraction instead of a valuable alternative in learning (Greenfield, 2012). Greenfield (2012) also researched that less than ten percent of parents and their children prefer ebooks over print books.

Based on a study conducted by Anne Mangen, Bente Rigmor Walgermo and Kolbjorn Bronnick (2013) on the effects of the technological interface on reading comprehension in education context found out that participants who read electronic texts did not perform better than participants reading through paper. Mangen, Walgermo and Bronnick (2013) described that participants reading electronic texts were having difficulties in spotting specific information in electronic texts given. Texts printed on papers are easier to navigate and participants were able to perform well.

1.3 Aim of Study

The aim of this study is to examine the effects of parental involvement on the driving knowledge among novice teen drivers in Malaysia.

1.3.1 Objectives

The objectives are to:

- i. Identify aspects of driving that are feasible for parental involvement in novice teen driving.
- ii. Develop a handbook to attain parental involvement in novice teen driving.
- iii. Examine the effects of parental involvement on the driving knowledge among novice teen drivers.
- iv. Examine the changes in the driving behaviour of novice teen drivers after intervention programme was carried out.
- v. Examine if there is a significant difference in the score of the post-test on driving knowledge between parental involvement group and non-parental involvement group, between parental involvement group and control group, and between control group and non-parental involvement group.

1.4 Research Question

The research question for this study is what are the effects of parental involvement on the driving knowledge among novice teen drivers?

The sub-research question for this study is are there any changes in the driving behaviour of novice teen drivers after intervention programme was carried out?

1.5 Research Framework

The effects of parental involvement and non-parental involvement on the driving knowledge of novice teen drivers was measured using a multiple-group pretest-posttest quasi-experimental factorial design. Figure 2 shows the research design of this study.

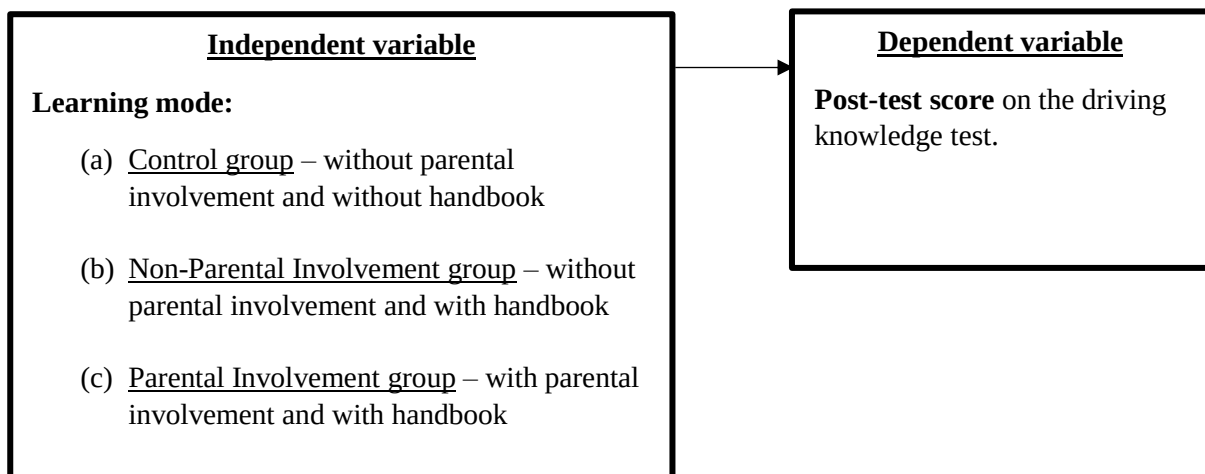


Figure 2: Research design

1.5.1 The Theoretical Framework

The theory supporting the investigation on the effects of parental involvement in children's learning are the CAPE Model for Parental Involvement. This theory will be further explained in Chapter 2.

CAPE Model of Parental Involvement

The CAPE model of parental involvement was proposed to assist educators in developing a comprehensive programme for parental involvement and engagement which was

created on latest models of parental involvement through elaborating the interdependent stages of engagement and its interparental or systemic context (Piotrowska et al., 2016). This model imparts a framework which takes note on parent engagement and associated facilitators and methods of parenting alternatives such as parenting skills, self-efficacy, characteristics, and the implementation context.

The CAPE model consist of four stages which are Connect, Attend, Participate and Enactment. Past studies reviewed and tested alternatives in improving family engagement (Ingoldsby, 2010) recognized some favourable technique in improving engagement which in the CAPE model, it is known as participation and attendance. Piotrowska et al. (2016) reviewed the studies made by Ingoldsby (2010) and Panter-Brick et al. (2014), and considered parental engagement as a difficult process which includes four discrete but interdependent stages, analysing the ways that engagement model functions across families, family partnerships, and providing new discernment into the formulation of engagement.

Each type of involvement in this model involves many different practices of partnership. The challenges of each type of involvement must be met to involve all families and redefinitions needed on some basic principles of involvement (Piotrowska et al., 2016). It is important to note that each type of involvement results in different outcomes for students, parents, teaching practices and school climates (Piotrowska et al., 2016).

The effective implementation of this framework produces a conducive home environment that will support learning, form effective school-parent interaction and a system for communication that observe learners' activities, combine parental skills and talents into the supportive programmes (Piotrowska et al., 2016). This framework would also encourage instruction and curriculum by assisting in homework activities, giving sense of school

ownership, acceptance and acknowledgements among parents and the extension of use of resources by parents, schools and their children for effective learning (Piotrowska et al., 2016).

The CAPE model which consists of Connect, Attend, Participate and Enact. This model was employed in this study to gain parental engagement in the learning process. CAPE model was used as it provides a framework of considering parent engagement and associated facilitators and mechanisms of parenting change. All stages in the CAPE model were used as the guideline in achieving the objectives of this study.

CAPE model consists of four stages which are Connect, Attend, Participate and Enact. These stages were built based on the past reviews on parental engagement which defines engagement as recruitment, retention and involvement. This includes what parents are attracted to, with sustained attendance and the extent to which parents are willing to participate (Ingoldsby, 2010).

In the first stage of the model, this study reached out to participants' parents and their willingness to enrol in this intervention studies. In the second stage, Attendance were done in logbook form, where parents and participants continuously commit themselves to this study. For the third stage of this CAPE model, the programme Participation were sets of action which goes beyond the Attendance stage in this study such as discussion between parents and participants, as it is believed that it enhances the proximal intervention outcome, in this case the parenting change (Piotrowska, 2016). For CAPE model, the Participation stage has the deepest impact on parenting.

There are two separate types of parental participation, namely direct or indirect participation. The active commitment, and the involvement of parents in this study physically

is what classified as direct participation. Indirect participation referred to obtaining information from other informants, especially in regard with a parenting team (Piotrowska, 2016).

1.5.2 Hypothesis

The following hypotheses was formulated where the probability level of 0.05 was used to test the statistical significance.

H_{01} : There is no significant difference in the score of the post-test on driving knowledge between parental involvement group and non-parental involvement group.

H_{02} : There is no significant difference in the score of the post-test on the driving knowledge between parental involvement group and the control group.

H_{03} : There is no significant difference in the score of the post-test on the driving knowledge between control group and non-parental involvement group.

1.6 Scope of the Study

This study only involved local Malaysian parents and their 17 to 19 years old teens from two secondary schools in Kuching and Serian districts of Sarawak. In addition, the driving knowledge examined in this study was limited to the car parking aspect.

1.7 Significance of the Study

This study is the first initiative to get parental involvement in road education in Malaysia, by providing comprehensive guidance to parents in enhancing their teens' driving

knowledge and skills. This study creates an alternative learning opportunity that enables novice teen drivers to enhance their driving knowledge and skills through the involvement of their parents.

Parental involvement in education, specifically in novice teen driving in this country is still lacking. This study is foreseen to be able to create awareness on the potentials of parental involvement in educating younger generations.

CHAPTER 2

LITERATURE REVIEW

2.0 Overview

The literature review was done based on extensive reviews from electronic databases such as Education Research Information Center (ERIC), EBSCO, NCBI and ResearchGate. This chapter provides a brief preview on related theories and models used to form the parental involvement in education. These include Epstein's Theory of Parental Involvement, CAPE (Connect, Attend, Participate, Enact) model of Learning (Piotrowska et al., 2016). This chapter also includes parental involvement in children's learning achievement, parental involvement in Malaysian education, Theory of Overlapping Spheres of Influence, constructivism and the three paradigms of constructivist learning. Under constructivism, this study employed SOI Model of Learning in enhancing the learning process of novice teen drivers. This chapter also described the road education in Malaysia, parental involvement in road education through Graduated Driver Licensing (GDL), and road accidents among teenage drivers in Malaysia.

2.1 Parental Involvement in Children's Learning Achievement

An exploration on the effect of parental contribution, parental help and family training on student accomplishment and alteration portrays that 'at-home great child rearing' reliably deliver a huge constructive outcome on kids' accomplishment (Desforjes, 2003). The broad assessment made in this examination likewise uncovers that there is an expanding need and request of parental contribution in younger generations' learning.

It is recognized broadly that with the goal for youngsters to expand their potential in accomplishment they require full consolation and support from their folks (Desforges, 2003) however there are some early investigations found that parental inclusion had no impact on their kids' accomplishment.

Parents have a tendency to be associated with their children's learning when they were young and are not ready to learn autonomously (Englund, Luckner, Whaley, and Egeland, 2004; Jeynes, 2005; Fletcher and Silverberg, 2006) however their inclusion enormously diminished as children matured or enter auxiliary school. Parents trust that when their children are more established they can deal with their own particular learning and requires least consideration from parents (Unger, Leod, and Tressell, 2000; Van Voorhis, 2003).

Hine (2009) expressed that parents are the good example for their children. Younger generations are taught right off the bat at home with the help and support from families which are the premise of their scholarly accomplishments in school and different perspectives in their lives. As per that, Bashir (1989) and Mohd Fadzli (2007) declared that families are the most grounded establishment in instruction for more youthful eras.

An exhaustive comprehension on the parental association is the actualisation procedure from parents' capability to encourage them in finding their own particular quality and ability and utilize them for the advancement of their family and themselves (Morrison, 1978). Parental contribution as discourse, childhood, and correspondence influences children's accomplishment (Houtenville and Conway, 2008). Ismail Ibrahim (2002) detailed that parents assume a critical part in shaping the identities of their children through an entire childhood in a symphonious situation since they were conceived until the point when they enter college life. All these can be overwhelmed by giving younger generations the correct care, great instruction,

enough consideration and abundant of adoration towards their children keeping in mind the end goal to deliver a cozy connection amongst parents and their children (Ibrahim, 2002). With this, children will be all the more eager to express and offer their questions or issues. It is vital for children to feel that they have somebody who thinks about them and if parents can give this feeling of having a place, their children will feel the gratefulness and penances that parents gave them and this will urge them to enhance themselves to reimburse their parents' graciousness and care (Ibrahim, 2002).

Five hundred and ninety-four (594) Latino adolescents through self-report information on parental inclusion and instructive inspiration where family structure which incorporates in place, stepfather and single parent or non-inhabitant father were examined (Henry, Plunket and Sands, 2011). Results from this investigation showed that the more parents are included, the more children are propelled in their learning (Henry, Plunkett and Sands, 2011). Cheung and Pomerantz (2012) led an investigation on how parental contribution enhances children's accomplishment, and distinguishing the part of parent-situated inspiration utilizing quantitative approach including overview sort and engaging exploration. The investigation includes seventh grade students contained American and Chinese kids and reasons that guardians who are more associated with their kids learning produce kids who are more persuaded to do well in school. The explanation for kids' improved self-administrative learning and grades is the parent-situated approach. Coleman and McNeese (2009) in any case, report an alternate finding in which the expansion in parental contribution is related with the diminishing in understudies' inspiration and scholarly accomplishment.

2.2 Parental Involvement in Malaysian Education

In 2001, Wee (1995) express that the present arrangement of instruction in Malaysia gives little accentuation on parents as co-accomplices in children's training. Rather, instructors are seen as the foundation of youngsters' learning. The level of parent contribution in our nation predominantly by means of Parent-Teachers Association is insufficient to support guardians' organization in youngsters' instruction (Wee, 1995).

In Malaysia, the activity in motivating guardians to include in their kids' instruction is as yet deficient. Adamu Zakiyu Ubale, Tahir Abdulrahman and Abdul Hakim (2016) revealed that the Ministry of Education in Malaysia made a move and updated the announcement over the part where guardians and the whole group play in their youngsters' school enhance their learning results. In understanding the push to get parental contribution, the service made a toolbox for guardians' engagement that encourages guardians on approaches to get themselves associated with the accomplishment of their youngsters' achievement in instruction (Ubale, Abdulrahman and Hakim, 2016). The arrangement was additionally utilized by the service to help schools in enhancing a personal association amongst instructors and guardians. Workshops for incorporating parental inclusion which required of 332,000 educators and 2.2 million guardians across the nation were led and an online information framework were imagined to gather information on parent participation to events held in schools and to review the aftereffects of parental engagement (Ubale, Abdulrahman and Hakim, 2016).

These initiatives made by the ministry eventually aspire the changes across the education system for future reference (Ubale, Abdulrahman & Hakim, 2016). The Ministry of Education also recommended that parents will be greater partners in their children's learning if

they work closely with school leaders and teachers in supporting their children's learning in school and at home (Malaysia Education Blueprint, Annual Report 2013).

There are many investigations led on training with regards to Malaysia that has little fixation to the subject of parental contribution in tutoring. This prompts a sign that reviews on parental contribution in Malaysia is as yet deficient (Vellymalay and Suresh, 2012a) in demonstrating the significance of parental association to secure youngsters' instructive achievement. Parental inclusion in Malaysia is not sufficiently dynamic and this was a direct result of the absence of satisfactory and legitimate sharpening on the impact of guardians' investment from administration and other private mediations (Vellymalay and Suresh, 2012b).

Zakaria, Zuwaiti and Ummu Kulsum (2013) led an investigation on family setting and its association with parental contribution in training of optional schools youngsters to analyze the setting of parental inclusion in educating their secondary school kids. This quantitative examination explored 950 Form Four understudies who were arbitrarily chosen in Selangor state in Malaysia. Results showed that parts of family setting, for example, collaboration and correspondence, child rearing practices, recreation receptiveness and acknowledgment are noteworthy and have constructive outcome to parental association in their youngsters' instruction.

2.2.1 Barriers of Parent Involvement in Education

Despite the fact that there are different inquiries about supporting for expanded parental association in instruction, parental contribution practically speaking is for the most part poor because of many variables. There are a considerable measure of boundaries to viable and fruitful parent association which can be recognized and sorted into teacher deterrents and parent

hindrances (Lemmer and Squelch, 1993). Building up and welcoming guardians to include in their kids' instruction in a non-debilitating condition can be trying to teachers' capacity in delivering an effective parent association.

Including parents into children's learning became a noteworthy objective in training experts, particularly those working with in danger students (Bermudez, 1993; Lemmer and Squelch, 1993). Members in this investigation contains youthful young drivers with their driving permit still under probation period are at high hazard in including themselves in auto collision mischances. A portion of the elements in constraining parental inclusion (Lemmer and Squelch, 1993; Heystek, 1998) are portrayed with regards to this exploration. For teachers in our country's street security instruction, driving educators are prepared for showing youngsters and not for working with parents. They should have been prepared to work with parents with a wide range of instructive and social foundations. Even though there are various researches supporting for increased parental involvement in education, parental involvement in practice is generally poor due to many factors. There are a lot of barriers to effective and successful parent involvement which can be acknowledged and categorised into educator obstacles and parent obstacles (Lemmer & Squelch, 1993). Establishing and inviting parents to involve in their children's education in a non-threatening environment can be challenging to educators' ability in producing a successful parent involvement.

Involving parents became a major goal in education professionals, especially those working with at-risk learners (Bermudez, 1993; Lemmer & Squelch, 1993). Participants in this study comprises of young teenage drivers with their driving license still under probation period are at high risk in involving themselves in car-crash accidents. Some of the factors in limiting parental involvement (Lemmer & Squelch, 1993; Heystek, 1998) are described in the context of this research. For educators in our nation's road safety education, driving instructors are

trained for teaching children and not for working with parents. They needed to be trained to work with parents with all kinds of educational and cultural backgrounds.

Parents are not prepared to incorporate themselves in their youngsters' preparation as a result of the possibility of their occupations are moreover one of the obstacles in parental consideration. Parents in like manner offered an explanation to have diverse obligations and this nonappearance of examinations for the necessities of these families made a basic block to parental incorporation (Hughes, Wikeley and Nash, 1994; Vincent, 1996; Smith, 2000). Attempts in finding ways to deal with make it workable for guardians to incorporate especially in privately settled activities are considered in this examination. Money related obstructions were also one of the confinements where it is represented that watchmen of lower pay groups by and large don't get drew in with school practices regardless of the way that they immovably supports guideline. This is in light of the fact that lower wage guardians every now and again compel their capacity to buy books and enlightening beguilement and also paying extra uncommon educational activities.

Families who are single parents face circumstances which prevents them from being able to involve in their children's education even though they may share the same interest and aspirations in education (Crozier, 2001; Crozier & Davies, 2007; Kim, 2009; Turney & Kao, 2009; Cooper, 2009). This can lead to the misconceptions that they are unsupportive and not caring.

2.3 Parental Involvement in Road Safety Education: Graduated Driver Licensing (GDL)

In the United States, parents customarily instructed their high schoolers to drive where driver training and permitting necessities were outlined with this idea of brain. Parents were the essential specialists capable in ingraining driving abilities for their high schoolers in autonomous driving in spite of the numerous different types of street instruction accessible in the United States (Simons-Morton and Ouimet, 2006). In the 1990s, more states began to institute the GDL (Graduated Driver Licensing) law where parents were to direct their adolescents and to finish enough driving hours with them before their youngsters are conceded with a driving permit (Governors Highway Safety Association, 2012).

GDL has turned into an approach which is looked for after and effective. North America directed examinations which demonstrated that the GDL program achieve a generous decline in crashes among youthful drivers (Williams et al., 2012). In any case, in Texas, an investigation of parent-showed driver training performed ineffectively and high schooler drivers submit more petty criminal offenses and accidents (Pezoldt et al., 2007). Assessments done in California delivered diverse conclusions on the home examination driver training programs, in spite of the fact that the investigation did not audit on car accidents and crashes as in Texas think about. The examination found no conceivable proof that home-consider courses are slightest viable than classroom courses for driver instruction (Masten and Chapman, 2003).

Graduated drivers permitting firmly stress on parental supervision and preparing hours and this allows to upgrade coordinated driver training inside a GDL structure. Guardians are viewed as good examples and they can give fundamental positive or negative impact on the driving practices of their adolescent drivers (Shope, 2006).

Driver education, licensing policies and parent management are the foremost actions taken to offset young driver risk (Simons-Morton & Ouimet, 2006). In US, a reasonably positive experience was reported by parents and teens where parents give instructions without getting distress often (Simons-Morton & Ouimet, 2006). Road education programme that involves the participation of parents and police in combination is one of the most promising intervention strategies to tackle young driver crash problem (William, 2006).

2.3.1 Benefits of Graduated Driver Licensing (GDL)

An examination to analyze the adequacy of Graduated Driver Licensing in decreasing accident rates among youthful drivers was finished utilizing meta-investigation of twenty-one Graduated Driver Licensing (GDL) programs from the United States, Canada, New Zealand and Australia (Russell, Vandermeer and Hartling, 2011). The consequences of this investigation portrays that Graduated Driver Licensing is powerful in decreasing accident rates among youthful drivers (Russell, Vandermeer and Hartling, 2011; Rouse et al., 2013; McCartt and Teoh, 2015; Conner and Smith, 2016). Similar outcomes were found in an investigation to assess the impacts of updated GDL law on engine vehicle crashes including high schooler drivers in Ohio (Conner and Smith, 2016). A cross-sectional investigation of engine vehicle in pre-GDL and post-GDL was done and bringing about the post-GDL period was related with bring down crash, damage crash and deadly crash among drivers and tenants of 16 and 17 years of age (Conner and Smith, 2016). Be that as it may, in view of the engaging investigation and populace based crash rates were computed, there is a higher general crash for drivers and tenants age 19 to 20 years of age (Conner and Smith, 2016).

Fell, Jones, Romano and Voas (2011) directed an examination utilizing Fatality Analysis Reporting System to analyze two youthful drivers amass which are 19 to 20 years of age gathering and 21 to 25 years of age gathering. By utilizing this framework, it was normal that Graduated Driver Licensing (GDL) program won't have any impact however the outcomes demonstrated something else (Fell et al., 2011). The appropriation of GDL was related with a noteworthy abatement in deadly crash inclusions of 16 and 17 years of age drivers and this investigation gives extra help to the states to receive, keep up and redesign GDL framework in bringing down the car accident fatalities (Fell et al., 2011).

An illustrative epidemiological examination analysing an enumeration of every single adolescent driver in Nebraska amid an eight year time span from 2003 to 2010 was led to decide if high schoolers acquiring their moderate level temporary administrators allow (POP) in Graduated Driver Licensing (GDL) condition through driver instruction varied in accidents and petty criminal offenses from youngsters who got their POP by finishing an administered driving accreditation log without taking driver training (Shell et al., 2015). The outcomes demonstrated that driver instruction seems to have any kind of effect in teenager activity results particularly when hazard is most astounding (Shell et al., 2015).

Another examination to assess the transient effect of Graduated Driver Licensing (GDL) in Arkansas on diminishing adolescent accidents and deadly crashes were finished by information correlation (Rouse et al., 2013) brought about a critical declines in crash rates in Arkansas. Parental inclusion with GDL framework are basic in assisting fledgling drivers with obtaining adequate practice (Bates et al., 2014a, 2014b; Taubman et al., 2014). A study done by Pezoldt, Womack and Morris (2007) states that numerous parents who are involved in GDL programmes are highly inspired to carry out and succeed in completing the programme to generate competent young drivers who are at least as provisioned as those novice drivers from

any public driving institutes. Parents are very interested to be their teen's primary driving instructor as their teen have their best interest at heart. However, parents are not well informed or prepared with important skills, orientation and experience to carry out the programme successfully (Pezoldt, Womack & Morris, 2007).

With the expanding of GDL (Graduated Driver License) programs and the decreasing number of driving establishment consistently, it is ending up more urgent for guardians to be engaged with drivers' training (Pezoldt, Womack and Morris, 2007). The points of any driver training are to pass on learning on street laws and tenets, fundamental driving abilities, brace and teach safe driving states of mind of youthful drivers. Another point is to produce safe drivers with bring down mischance rates (Pezoldt, Womack and Morris, 2007).

In the World Health bits of knowledge done in 2008, road movement wounds was at the ninth driving purpose behind death all around, with an inconsequential differentiation in rate underneath trachea, bronchus and lung infection. In light of current conditions, World Health Organizations (WHO) foresee that road development wounds will at some point rose to be fifth driving purpose behind death by the year 2030. In United States, motor vehicle crashes is the genuine purpose behind death among youngsters, where teenagers are three overlay the quantity of deadly crashes as each and every other driver (Seymour, 2011). Globally, there are many methodologies that has been produced in dealing with the dangerous driving conduct of youthful beginner drivers. Among the authentic methodologies are driver preparing and instruction, media crusades, law authorizations, remediation and retraining programs. These methodologies, nonetheless, have blended confirmation in regards to their viability. Contrast with Graduated driver authorizing (GDL) which has been done in numerous nations, for example, Australia, New Zealand and United States, delivered promising confirmations in its viability (Hartling, Wiebe, Russell, Petruk, Spinola, and Klassen, 2009). GDL perceives the

restrictions youthful fledgling drivers confront worried to their formative elements and freshness, and turns into a type of hazard administration in diminishing the danger of youthful tenderfoot drivers' driving conduct. Evaluations on GDL and programmes similar to it was conducted in New Zealand (Begg, Stephenson, Alsop, & Langley, 2001; Begg & Stephenson, 2003; Lewis-Evans & Lukkien, 2007; Lewis-Evans, 2010), Canada and United States (Shope & Molnar, 2003; Mayhew, Simpson, Singhal, & Desmond, 2006; Shope, 2007; Vanlaar et al., 2009; Fell, Jones, Romano, & Voas, 2011). An overall beneficial results was depicted in most evaluations (Shope & Molnar, 2003; Rice, Peek-Asa, & Kraus, 2004; Ferguson, Teoh, & McCartt, 2007; Twisk & Stacey, 2007), along with reports from studies that there are some betterment in young novice driver road safety (Cooper, Atkins, & Gillen, 2005). There are a few studies that reported no reductions in car crashes or death in young novice drivers (Masten & Hagge, 2004), peculiarly older novice drivers (Keating, 2007), and no distinction in car crash or deaths between places that implement formal GDL and places without formal GDL (Hartos et al., 2005).

2.4 Road Education in Malaysia

In the year 2000, Driver Education Curriculum (DEC) framework was introduced by the Road Transport Department to replace the previous curriculum format (Jawi et al., 2015). Enhancement Plan was mooted in 2007 for the Driver Education Curriculum (DEC) to rationalise the driver education framework and this can be seen from Figure 3. This framework was done based on the learning domains in Bloom's taxonomy (Jawi et al., 2015).

Training Phase / Domain	Cognitive	Psychomotor	Affective
PART I (KPP-01) <i>Theory</i>	LEVEL 2 (<i>Comprehension</i>) LEVEL 3 (<i>Application</i>)	-----	<i>Minimum is set for the entire training phases at:</i> LEVEL 3 (<i>Valuing</i>)
PART II (KPP-02) <i>Practical in Internal Track</i>	-----	LEVEL 3 (<i>Guided Response</i>)	
PART III (KPP-03) <i>Practical on the Road</i>	-----	LEVEL 4 (<i>Mechanism</i>) LEVEL 5 (<i>Complex Overt Response</i>)	

Figure 3: The enhancement plan of driver education curriculum (Adapted: Jawi et al., 2015)

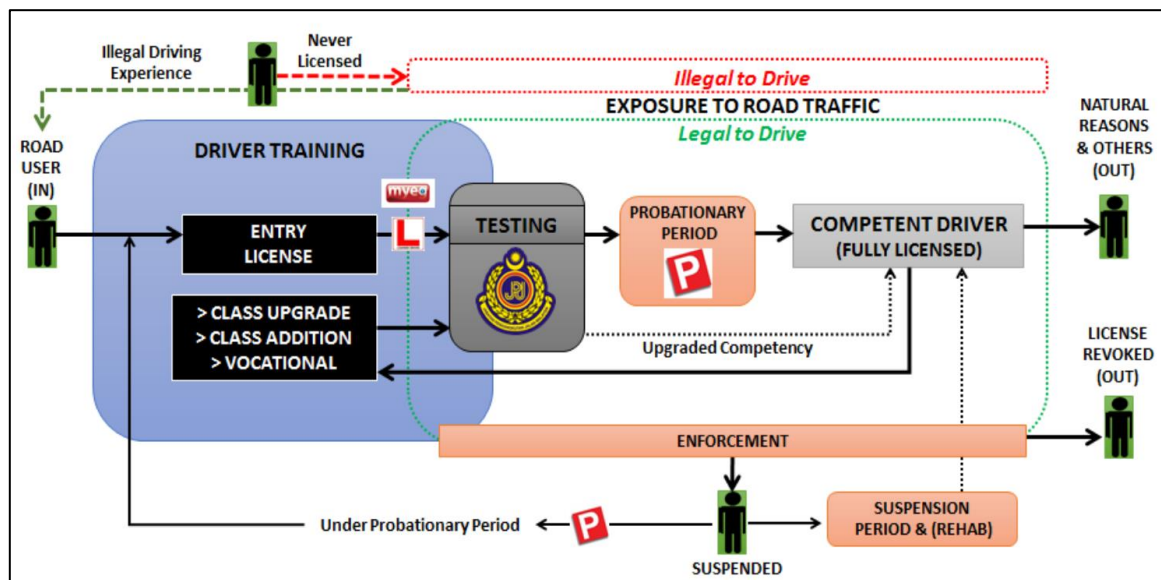


Figure 4: Illustration depicting the flow of driver training and licensing in Malaysia (Adapted: Jawi et al., 2015)

Driver training and licensing in Malaysia allows Malaysians for as young as 17 years old to obtain a formal licensing (Jawi et al., 2015). One are able to hold probationary driving license (PDL) which are classed as license D or DA. At entry level, the licensing begins with registration at any driver institutes (Jawi et al., 2015). The overall flow of driver training and

licensing can be viewed in Figure 4. Learners also must complete a 6 hours theoretical course which consists of 3 hours of talks on how to maintain a good car condition and another 3 hours of Practical session with the instructors. Altogether there are three major tests that is required for one to be granted a probationary driving license (PDL) (Jawi et al., 2015).

The first part of driver education is a theoretical test which are done through computerised testing allocated by third party companies such as MyEG Services Berhad (Jawi et al., 2015). When a learner had passed this theoretical test, they are granted the learner's driving license (LDL) (Jawi et al., 2015). This license allows learner to drive only the cars owned by driving institutions under the supervision of instructor with L plate displayed in the car (Jawi et al., 2015).

The second part of the driver test is the practical test in internal track. Learners are taught to do parking and slope driving (Jawi et al., 2015). The third and last part of the driver education is driving on actual traffic and practical test on the road. If learner passes the practical test on the road, they are granted the probationary driving license (PDL) which will end after two years upon possessing (Jawi et al., 2015). Drivers who are on probation were subjected to rules and merit points regulated by KEJARA (road safety) system (Jawi et al., 2015). Drivers with no traffic offences in two years are upgraded to competent driving license (CDL) drivers (Jawi et al., 2015).

The initial road education curriculum in Malaysia focuses on the cognitive and psychomotor domains and gives less attention to the affective domain. This curriculum programme emphasises on the proficiency and traffic rules comprehension. According to Wilson (2015), many studies on driver education reveal the needs to incorporate the cognitive, psychomotor and affective domains on drivers training to provide a holistic learning

experiences. Thus, the new Malaysian road education curriculum has incorporated the affective domain to fill the gap in boosting drivers with affective skills.

2.4.1 Limitations of the Current Road Education Approach

Employ decontextualized approach

The current road driving programme focuses less on contextualised learning in which learners can easily repeat skills that they have learned in that specific context for as long as they are in that context (Alessi & Trollip, 2001). In order to improve the transfer of learning to real life setting, placing pertinent, meaningful and practical like context in the instructional strategies can be done. A motivating and relevant instruction can be created through the efforts of contextualisation (Richey, Fields, & Foxon, 2000).

At the point when the use of information and abilities is not quite the same as how they are to be utilized as a part of genuine living, we encounter the burdens of decontextualized form of learning (Schank et al., 1999). We can just recall what we have been instructed by comparable encounters that incite our recollections. In the momentum street driving project, youthful amateur drivers are learning hypothetical materials as course reading and address, and later on tried on paper. There is likewise a restricted timeframe out and about experience, making it insufficient for amateur drivers to ace the driving information and aptitudes. Along these lines, a student may confront inconveniences in remembering when confronted with genuine driving circumstance and with absence of experience, they are in danger in including themselves in fender bender mischances. Students might have the capacity to take care of close exchange issue, for example, reading material issues in which the calculation can be

indistinguishably contrasted with yet they fall flat with apply what they have been educated, all things considered, circumstance.

2.5 Road Accidents among Teenage Drivers in Malaysia

Our country thrives to become a developed nation in the year 2020 but many of our Malaysians' life were put to an end on the road every year specifically those between the ages of 16 to 25 years old. Based on Road Safety Plan of Malaysia from 2014-2020, one third of the total fatalities for the year of 2013 are from the mentioned age group. In attempt to stabilise and to reduce the trend of increasing road fatalities, the Goal of Decade 2011-2020 was created (WHO, 2010). Therefore, for Malaysia to be in the same goal with World Health Organisation (WHO), it is very important to nurture first class drivers and road users in order to decrease the number of fatalities caused by road accidents each year. An amelioration of the current driver education curriculum is vital to achieve safer road users and the Road Safety Plan of Malaysia 2014-2020 has summarised safer road users as Strategic Milestone 4. One of the laws and regulations that could raise Malaysians' awareness and concern is through driver education curriculum.

One of the main source of death among teenagers are from engine vehicle crashes, with crash inclusion being significantly higher than that of experienced, more seasoned drivers (National Highway Traffic Safety Administration, 2009). For our nation itself, street mishaps are one of the real reasons for death among Malaysians after coronary illness, stroke, flu and pneumonia. The Malaysian Institute of Road Safety (MIROS) had done an examination to find that in one day there is a normal of 18 individuals passed on Malaysian streets and the figure is accepted to increment to 29 by the year 2020. The statistics of death toll caused by road

accidents in year 2020 was predicted by MIROS based on time series model known as Autoregressive Integrated Moving Average (ARIMA) (Sarani et al., 2012). This model is widely used in other fields as predicting tools, making it suitable to be utilised since there were data accumulated over the years. MIROS used data dated back from the year 1972 to 2010 obtained through Statistical Report Road Accident and various documentation from Polis DiRaja Malaysia (PDRM) (Sarani et al., 2012). ARIMA model was able to produce a pattern using the recorded data and past error and gave a predicted future values of road traffic deaths (Sarani et al., 2012). ARIMA model predicted that in 2015, there will be 8,760 deaths and 10,716 deaths in the year 2020. This number was an increment of 27% of deaths from 2010 which recorded a total of 6,782 deaths (Sarani et al., 2012).

2.6 Epstein's Theory of Parental Involvement

The theory of Epstein shows that academic achievement and progress in learner is build up through partnership between families, schools and community. The achievement and progress can be possible when the three levels of participants collaborate as a team and share a common goal with the similar objective and expectations (Epstein, 1995). When parents participate in their children's learning activities, there are positive effects and improvement in the children's academic achievement and social life.

Epstein built up this hypothetical model to depict parent association in the 1980s (Epstein, 1996) and recognized three points of view which direct scientists and specialists in their impression about the connection amongst family and school.

The three viewpoints said are separate duties of families and schools, shared obligations of families and school, and successive obligations of families and schools. Epstein

trust that school administrations and family associations are controlled by teachers and guardians independently, who can satisfy their objectives, parts and obligations individually (Epstein, 1996). This presumption implied that the reasonable objectives of guardians and of instructors can be accomplished when they keep an expert separation and equivalent models for the kids, as contrast with guardians who create individual association with and singular desires for their kids (Christenson, Rounds, and Franklin, 1992).h to find that in one day there is a normal of 18 individuals passed on Malaysian streets and the figure is accepted to increment to 29 by the year 2020.

The second assumption of Epstein's theory of parental involvement is the opposite from the first assumption, which describes the shared responsibilities of educators and parents. The coordination, corporation and complementary of educators and parents were emphasized and the collaboration as well as the communication between school and families are encouraged (Epstein, 1996). Educators and parents who share the same goals and beliefs for the children result in better and more effective when both educators and parents work together, where there are overlapping of responsibilities between them are expected (Christenson et al., 1992). This assumption was created based on models of inter-institutional interactions and ecological designs which focuses on the natural and necessary interactions between individuals and their groups and organisations.

The third assumption in Epstein's theory of parental involvement is on the sequential perspective as well as the critical stages of parents' and educators' contribution to children's development is emphasized (Epstein, 1996). Parents are to educate their children since they were born until the ages of five to six, where children learn the needed skills before educators take on the primary responsibility for their education.

In conclusion, Epstein (1996) indicates that these three perspectives in his model of parental involvement describes the basic differences in philosophies and the techniques educators and parents utilise to produce more or few, shallow or deep school-family connections. These perspectives however, does not explain the motivations in reinforcing or removing the limitations between schools and families, as well as not being able to describe the effect parents and educators have on each other in their children's development. To encounter this, Epstein (1996) comes up with an integrated theory of family-school relations through the overlapping spheres of influences.

2.6.1 Theory of Overlapping Spheres of Influence

The theory of overlapping spheres of influence has both external and internal structures, in which the external structure can be pulled together or pushed apart by forces (1996). These forces create conditions, space as well as possibilities for more or lesser shared activities between schools, families and communities. The forces are listed below (Epstein, 1990) where they determine the amount of and what type of overlap that occurs at any given time.

Force A: Time, age and learner's grade level affects the external structures in this theory.

Force B: Comes from the policies, philosophies and practices from family.

Force C: Comes from the policies, philosophies and practices from school.

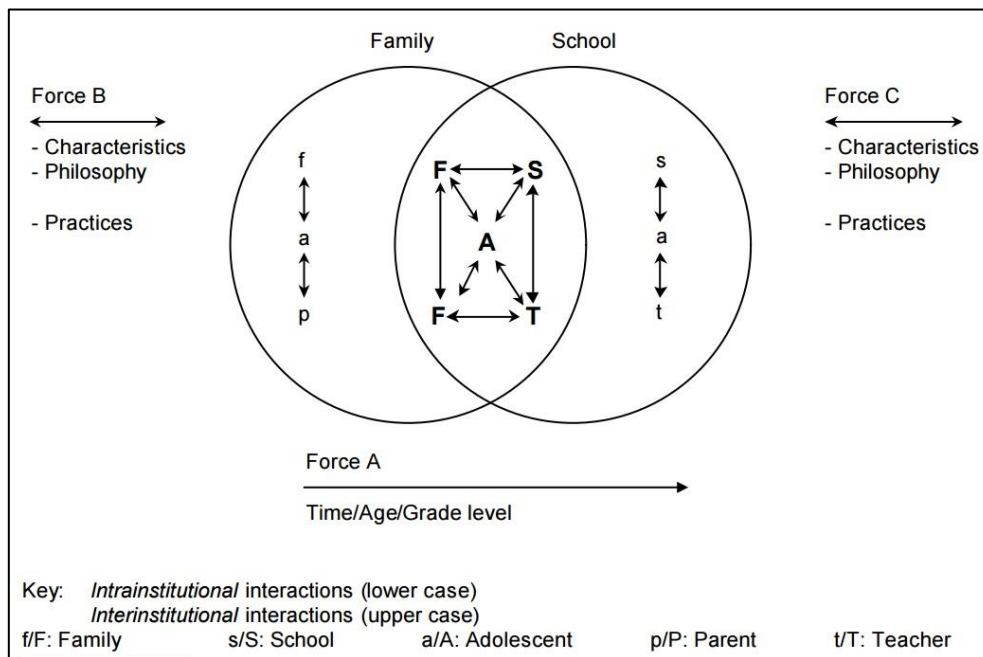


Figure 5: Overlapping spheres of influence (Adapted: Epstein, 1987, 1992, 1996, 2001)

The Overlapping Spheres of Influence Model in Figure 5 was motivated by the biological model of Bronfenbrenner (1979, 1986) and made from the points of view of social and hierarchical (Litwak and Meyer, 1974; Seeley, 1981; Epstein, 1996). This model concentrates on the participation and comparing amongst schools and families, and backings the correspondence and also joint effort amongst guardians and schools (Epstein, 1987, 1996).

The model incorporates circles assigning the family and the school which can be pushed together or pulled separated by three powers. At the point when guardians include in the instruction of their youngsters (Force B), the zone of collaboration between the two circles extends and increment. Additionally, when educator underpins parental inclusion in tutoring through the association of exercises (Force C), the cooperation zone between the two circles increments.

Consideration was given on the correspondence among instructor, families and understudies in this model, and understudies were recognized as the dynamic specialists in school-family relations. Epstein (1996, 2001) depicts this model as the presumption that the trading of aptitudes, capacities and premiums of instructors and guardians depend on corresponding love and appreciation among them and in addition sharing a shared objective can bolster youngsters' learning and advancement. This model likewise represents that at any given time, any school and any families, the parental association is a variable that can be expanded or diminished relying upon the acts of teachers, guardians, overseers and students (Christenson et al., 1992).

2.6.2 Types of Parental Involvement in the Driving Knowledge of Novice Teen Drivers based on Epstein's Model

2.6.2.1 Parenting

Child rearing in Epstein's Model for Parental Involvement depicts about the fundamental obligations of families, which incorporates guardians guaranteeing their youngsters are solid and safe, and giving guardians child rearing and tyke raising aptitudes they expected to prepare kids for school (Epstein et al., 2002). This sort of parental association is the place guardians react to the continuous need to manage, train and guide their youngsters at any ages, in the meantime to construct great home condition that empowers school learning and conduct fitting for any times of kids (Epstein et al., 2002). This type of parental involvement programme aims in assisting all families in establishing home environments that encourages and supports children as students (Epstein et al., 2002). In this study, a handbook is provided for parents to educate themselves and served as basis for parents to train before carrying out the

driving sessions with their children. This handbook becomes the family support programmes in facilitating families with driver and road skills.

Note that this kind of parental inclusion confronts challenges in ensuring that all the data for and from families are clear, usable and are identified with kids' prosperity (Epstein et al., 2002). Another test for this sort is the simplicity of getting to the data for all families who needs it or needs it (Epstein et al., 2002). In this investigation, this trouble has been overwhelmed with the handbook as a material which is anything but difficult to be gotten to, seen and perused whenever, anyplace.

Through this sort of parental inclusion, members know about family supervision and this makes regards for guardians (Epstein et al., 2002). Members will likewise create constructive individual qualities, propensities, convictions and qualities which was instructed by family. For guardians, this kind of inclusion gives them trust in child rearing, the advancement of their youngsters, and changes in home condition for learning. Guardians feel the help from driving educators and they know about claim and others' difficulties in guardians (Epstein et al., 2002).

2.6.2.2 Volunteering

Volunteering is one of the six sorts of parental inclusion incorporates program intended to help educators, directors, members and different guardians (Epstein et al., 2002). "Volunteer" in this system implies anybody, which in this investigation alludes to the guardians, who underpins kids' learning or advancement in any capacity, at any given place and whenever. Help and bolster programs for guardians are enlisted and composed and the work done in this kind

of parental association are trainings and additionally different endeavors which ensured members are gainful (Epstein et al., 2002).

Through this kind of inclusion, understudies enhance their relational abilities with grown-ups (Epstein et al., 2002). Other than that, their learning aptitudes increment as they get mentoring or focused on consideration from volunteers. This kind of parental association additionally result in guardians understand more about instructors' employment and to persist school exercises at home (Epstein et al., 2002). Guardians likewise increase particular aptitudes in charitable effort and this additionally brings about increasing self-assurance on the capacity to work in school and also with kids in finding a way to enhance their own particular training (Epstein et al., 2002).

2.6.2.3 Learning at Home

This sort of parental contribution is the place originator gives data and thoughts to families on the most proficient method to help kids with homework and different exercises, choices and arranging (Epstein et al., 2002). This kind of parental inclusion alludes to parent-started or tyke started demands for help (Epstein et al., 2002). In this examination, the data required for guardians to know are on the aptitudes required for youngsters on driving. Other data including the routes on observing and examining on the driving sessions or exercises at home. Calendars for investment and talk including the two guardians and their high schoolers are additionally part of this sort of parental inclusion.

The difficulties in this sort of parental inclusion is the outlining and arranging of standard calendar of intelligent exercises that let youngsters have duties in examining critical things that they are learning and this helps families in keeping them mindful of the substance

of the kids' learning (Epstein et al., 2002). Investment of guardians at home incorporates empowering, tuning in, responding, commending, directing, checking and talking about with their youngsters.

Accordingly, this sort of parental contribution produces youngsters with aptitudes picked up and inspirational state of mind towards learning (Epstein et al., 2002). They additionally create self-idea of capacity as student, and view their own folks as more like educator and their home as more like school. For guardians, this sort of contribution can tell guardians how to help, energize and help kids at home every year (Epstein et al., 2002). They are additionally ready to complete talks and comprehend the instructional program and what their kids are realizing. They additionally come to value showing aptitudes and mindful of their youngster as a student (Epstein et al., 2002).

2.7 Constructivist Learning

Constructivism is a mainstream instructional hypothesis that empowers test learning, hands-on learning, and community learning (Glaserfeld, 1989; Taber, 2011). In this examination, constructivism was utilized as a vital procedure for student focused approach. At the point when student utilize constructivism approach in their taking in, their understanding and also information increments and changes to larger amount considering (Mvududu & Thiel-Burgess, 2012).

Learning is not an item which can be exchanged starting with one individual then onto the next just and thus, teachers assume an imperative part as information provider (Akpan and Beard, 2016). In constructivism, instructors go about as facilitators and recognizing the way that students build information in real life (Akpan & Beard, 2016). Students comprehend

the world by separating new encounters into what they have already come to comprehend in their regular day to day existence (Brooks & Brooks, 1993; Steele, 2005; Ultanir, 2012). The development of information depends intensely on related knowledge of students (Akpan & Beard, 2016). Von Glaserfeld (1989) and Beyhan and Köksal (2013) depict that kids learn not through the perceptions in their quick condition but rather through reflections, considering and data preparing.

Adopting constructivism in this study strengthens the learning process of children by twofold. Constructivist allows parents to learn about their children better, and this facilitates them in tailoring suitable activities which promotes learning by doing (Watts & Pope, 1989). Secondly, the children are given the chance to reflect on their own creativity. Parents interact with children in positive ways to encourage critical thinking, which can be in the form of asking questions, building appropriate challenges and experience and providing new ways of thinking (Watts & Pope, 1989; Steele, 2005).

With a few scholars conflicting with constructivism by depicting it as a promulgation, low intellectualism showing methodologies (Mayer, 2004; Kirschner et al., 2006; Clements & Battista, 2009; Hayes, 2012), constructivism roots and rule ought to be unmistakably caught on. Constructivism enables students to make associations between the new information and past movement all alone (Akpan & Beard, 2016), which is otherwise called dynamic learning. There are three constructivist ideal models, in particular endogenous constructivism, exogenous constructivism and persuasive constructivism.

In this examination, parental inclusion in the driving information of amateur teenager drivers utilizes constructivism as an approach in learning. Constructivist takes after a rundown of directing standards which incorporate students in building his or her own particular

comprehension and not simply remembering the learning exhibited (Bhattacharjee, 2015). The profound structure of learning through constructivism contains three ideal models of realizing which are exogenous constructivism, endogenous constructivism, and rationalization constructivism.

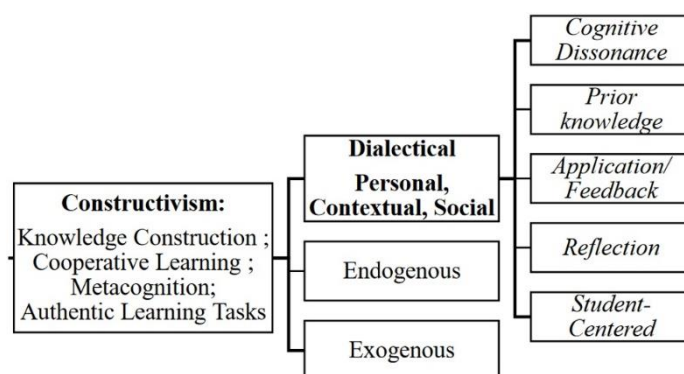


Figure 6: Constructivism and its paradigms

One of the principle attributes of constructivist learning is the various points of view and portrayals of learning and data to students (Bhattacharjee, 2015). In this examination, guardians include in the learning through exogenous, endogenous and rationalistic constructivism by administering their amateur high schooler drivers amid in the driver's seat viable sessions. High schooler drivers could learn by doing and this cultivates their insight when they could develop understanding in light of involvement and reflecting through these encounters (Bhattacharjee, 2015).

Parental inclusion in beginner teenager drivers underpins an understudy focused learning approach through constructivism which coordinates earlier information, subjective discord, application, criticism and reflection (Santoyo, 2016). Guardians fill in as facilitators when high schooler drivers participate in driving and information applications, all things

considered, circumstances. Guardians can give inputs in a reasonable, immediate and solid oral criticism through discourse with their high schooler drivers (Santoyo, 2016).

2.7.1 Constructivist Pedagogy

While constructivist instructional methods created by scholars and specialists delivers a variety of results (Johassen, 1991; Brooks and Brook, 1993; Driscoll, 1994), they share an arrangement of center outline standards. Through and through there are eight components which are essential in constructivist teaching method (Brooks and Brooks 1993; Steffe and Galle, 1995; Larochelle, Bednarz and Garrison, 1998). The primary factor depicts that learning should happen in real and certifiable conditions (Brooks and Brooks 1993; Steffe and Gale, 1995; Larochelle, Bednarz and Garrison, 1998). Experience on both socially situated or question arranged is the essential impetus in the development of information. At the point when the experience is real as far as through consensual implications in social exercises or by and by cognizant models of reality, the learning development is fortified (Doolittle, 2014).

The second factor expressed that learning ought to include social transaction and intercession (Brooks and Brooks 1993; Steffe and Galle, 1995; Larochelle, Bednarz and Garrison, 1998). Social association takes into account the improvement of socially significant abilities and learning. At the point when students encounter logical inconsistencies or disarrays, they can experience through arrangement and intercession so as to keep up a precise model of reality of a cognizant individual or social model of reality (Doolittle, 2014). One of the fundamental segment in social intervention is the use of dialect since dialect is the place learning and comprehension are built (Spivey, 1997). The third factor is the relevancy of the content and skills to the learner (Doolittle, 2014). Knowledge is constructed when the learner's

goal and understanding is related to the content and skills, which is able to motivate learner to learn (Pintrich & Schunk, 1996). Personal experiences and mental processes of a learner can be improved through the relevant tasks.

Other than pertinence, the substance and abilities ought to likewise remain inside the students' earlier learning (Doolittle, 2014). A lesson utilizing constructivist approach should give student with an arrangement of experience that empowers him or her to deconstruct and reproduce their non-versatile idea to learn better (Doolittle, 2014).

The fifth factor which is imperative in constructivism is the evaluation (Doolittle, 2014). Information accomplished by students are consistent and can't be seen specifically, it is essential to have a progressing foundation referenced assessment to beware of the authority level of students subjectively or psychomotor. Another factor is simply the consciousness of understudies to be administrative, self-interceded and mindful of their learning (Doolittle, 2014). Metacognition has a noteworthy impact in learning and it includes the information of perception and the control of comprehension (Brown and Palincsar, 1987).

In constructivism, teachers are only facilitators of learning (Doolittle, 2014). Instructors are to make encounters where students take part and procure information, in which Von Glaserfeld (1996) portrayed teachers as a man who does not apportion learning by to give students the chances to develop the information. The content and skills of the knowledge should be made applicable to learners (Brooks & Brooks 1993; Steffe & Galle, 1995; Larochelle, Bednarz & Garrison, 1998). The relevancy of the knowledge and skills to the learners can lead to the elevation in motivation (Pintrich & Schunk, 1996). The mental processes, social information and personal experiences of a learner were provided through relevant experience and tasks through constructivism.

In constructivism, learning starts inside the student's earlier information. To upgrade taking in, the substance and abilities of information ought to be exhaustive inside the mental guide of the student's earlier learning (Brooks and Brooks 1993; Steffe and Galle, 1995; Larochelle, Bednarz and Garrison, 1998).

2.7.2 Endogenous Constructivism

Endogenous constructivism focuses on the importance of learner directed discovery of knowledge (Applefield, Huber, & Moallem, 2000). Learners need to be allowed to control and to be active in their own learning through an environment they were placed in (Applefield, Huber, & Moallem, 2000). In this study, endogenous constructivism were utilised where learners can actively carry out their driving session and construct their knowledge through experience and reflection with the assistance from their parents.

Endogenous constructivism or known as cognitive constructivism (Moshman, 1982; Cobb, 1994) are stimulated by conflicts happened in the internal as learner strive to construct their knowledge either by revising or advancing their existing schema. These stimulations can be achieved either through the learner themselves or through social interactions learning activities (Applefield, Huber, & Moallem, 2000).

2.7.3 Exogenous Constructivism

The value of direct instruction is acknowledged in exogenous constructivism (Applefield, Huber, & Moallem, 2000). The direct instruction are however, learner-centered where they have the opportunity to construct knowledge actively (Applefield, Huber, &

Moallem, 2000). The construction of knowledge happens after instruction and learners are able to carry out realistic tasks based on the direct instruction.

Constructivist learning happens when learners actively building their own knowledge by understanding the materials given to them. Learners are able to construct knowledge from a well-designed direct instruction. There are three views of learning that has appeared over the last 100 years of research on learning, which are learning as response strengthening, learning as knowledge attainment, and learning as knowledge construction (Mayer, 1992).

Learning as response strengthening happens when learner improves or debilitates an association between stimulus and response (Applefield, Huber, & Moallem, 2000). This view was created largely base on the study on animal learning in laboratory. Learner plays the role of accepting rewards and punishments passively while educators are responsible in administering the rewards and punishments (Applefield, Huber, & Moallem, 2000). In this view of learning and instruction, instructional designer is to generate environment where learner is prompted frequently to response and accept feedback immediately (Applefield, Huber, & Moallem, 2000).

Learning as knowledge attainment is found through the idea where learning happens when a learner positioned newly acquired knowledge or information in long-term memory (Applefield, Huber, & Moallem, 2000). This view was largely based on human learning in laboratory where learner are to obtain knowledge passively while instructors or educators are to present information, making knowledge a product that can be transferred directly from instructor to learner. For this view, instructional designer is to produce an environment where learner is revealed with a lot of information such as textbooks, lectures and other media.

In knowledge construction view, learning happens when a learner constructs a knowledge representation actively in their working memory (Applefield, Huber, & Moallem, 2000). This view is largely based on the study of human learning outside of laboratory and in a more realistic settings, where learners actively make sense of their knowledge construction and teachers are mainly a cognitive guide. In this view, instructional designer are responsible in creating learning materials that are able to engage with learners, which includes nurturing learners' ability to select, organise and integrate information (Applefield, Huber, & Moallem, 2000).

Constructivist learning can be demonstrated by good retention and good transfer of knowledge (Mayer, 1984, 1996) where a learner owns and utilises a number of cognitive processes during the learning process. Cognitive processes mentioned include focusing on related information, organizing those information into rational representations, and fusing these representations with existing knowledge. A learning material can employ the SOI model of learning to foster learner to be cognitively active in order for constructivist learning to occur.

In Bloom's taxonomy the first level is in relation with the recalling of knowledge and the following five other levels propose different characteristics of transfer (Bloom, Engelhart, Furst, Hill, & Krathwohl, 1956). Therefore in designing instruction for constructivist learning, the hunt for information transfer is the major focus.

2.7.4 Dialectical Constructivism

Argumentative constructivism is the development of information through social associations with other individuals, or known as social constructivism (Brown, Collins, and Duguid, 1989; Rogoff, 1990). Social crossing point of individuals can be through sharing, contrasting and debating, and instructors give direction through exchange. The joint effort through social collaboration is key in persuasive constructivism, and it holds the most broad surviving viewpoint on constructivism with this attention on the social trade of the psychological development (Applefield, Huber, and Moallem, 2001).

The types of key segments of social constructivism incorporates positive autonomy, singular responsibility, measure up to support and concurrent collaboration (Kagan, 1994). Other than helpful learning (Slavin, 1990; McCrean 2012) exercises which are upheld by observers, for example, Beyhan and Koksai (2013), Naylor and Keogh (1999) and Taber (2011), up close and personal promotive communication, relational and little gathering aptitudes are the most critical criteria in argumentative constructivism (Johnson and Johnson, 1999).

2.8 SOI Model of Learning

The SOI Model concentrates on three basic subjective procedures in constructivist learning. S remains for choosing, O implies sorting out and I is for incorporating (Mayer, 1996). While prior speculations of learning focus on the procedure where data is encoded into long haul memory, constructivist learning hypothesis concentrates on the strategy where information is built by the student in working memory. This development procedure includes both approaching data and earlier information from long haul memory.

SOI Model as shown in Figure 7 demonstrate separate the visual working memory from the sound-related working memory (Baddeley, 1992; Sweller, 1994). Pictures and content which are outwardly introduced materials are put away in the visual working memory despite the fact that content can be changed into sounds which are kept in sound-related working memory (Mayer, 2005). Discourses or auditorily displayed data are put away in sound-related working memory. Not all data is assembled and put away in the working memory because of the constrained limit of the working memory itself. These tangible memory holds the correct tactile data for under 0.25 of a moment while the working memory holds a handled adaptation for under thirty seconds (Mayer, 2010a). Constructivist student need to rationally pick the applicable pictures and expressions of the data picked up and associate them together into pictorial and verbal circumstances and end results chains with earlier information (Reigeluth, 2013).

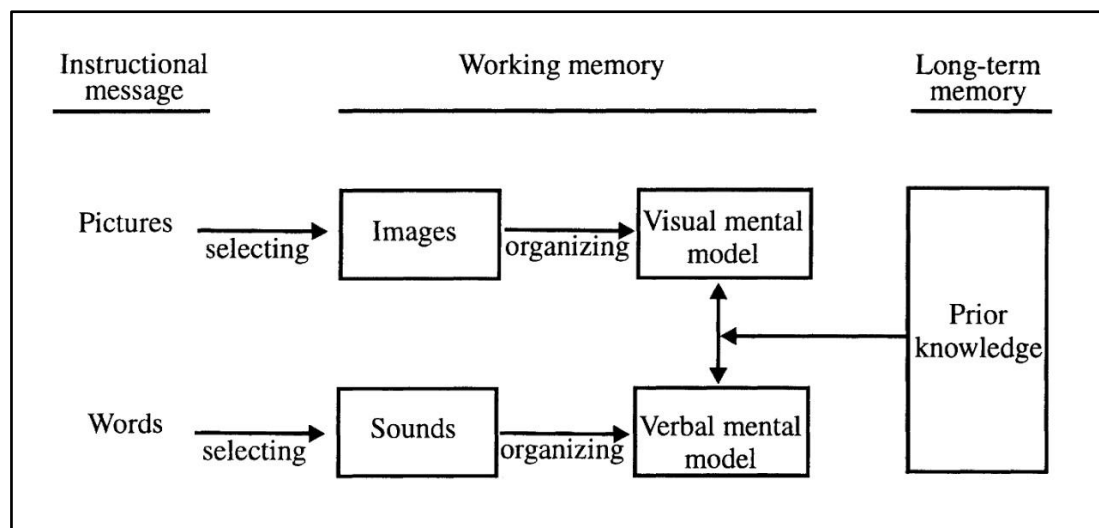


Figure 7: SOI model of constructivist learning from words and pictures (Adapted: Reigeluth, 2013)

SOI model are employed in the design of textbook, lecture and multimedia messages to facilitate the designing of instruction where learners are able to distinguish useful information, comprehend how the materials are placed together, and how do they relate to prior knowledge. Instructional messages are able to boost active cognitive processing in learners and the primary design issue for these instructional messages is on ways to prime the cognitive processes in learners so that they are able to make sense, select, organise and integrate information and knowledge.

2.8.1 Means to Assist Information Encoding

According to Mayer, Bove, Bryman, Mars and Tapangco (1996), issuing a summary could assist learners in focusing on relevant information. Learners performed better in remembering information and knowledge as well as in solving transfer problems when they have read the summaries when compare with learners who read the entire lesson (Mayer et al., 1996).

The use of headings, italics, boldface, large font, bullets, arrows, icons, underlining, margin notes, repetition and white space to highlight relevant information in textbooks can stimulate learners to focus on relevant information of a subject (Mayer, 1993). Other than that, additional questions and statements of instructional objectives can be employed to direct attention to relevant information.

Mayer (1993) has demonstrated the use of outlines, headings and pointer words to indicate the organisation of a passage. To assist learners in organising information and knowledge into logical and reasoned representation, it is also useful that these instructional messages have a fathomable structure (Cook & Mayer, 1988) such as cause-and-effect chain.

Another way to make the organisation easier to be understood is to refer them as steps in the text. Pointer words are also capable in connecting the link between steps clearer to learners. The utilisation of outlines, headings and pointer words resulted in a better performance in learners on memorising the key steps of a learning procedure (Loman & Mayer, 1983).

Keeping in mind the end goal to encourage student to actuate and orchestrate their various portrayals and set their earlier learning in connection to the material, the utilization of outlines, elaborative inquiries, and propel coordinators can fortify the incorporation of information (Mayer, 1993). The utilization of multi-outline delineations additionally supports information joining (Mayer, 1997) where a progression of studies (Mayer, 1989b; Mayer and Gallini, 1990; Mayer, Steinhoff, Bower, and Mars, 1995) were led on students who read entries with representations and relating subtitles and students who read sections with outlines isolated in various pages from their inscriptions. Students with delineations and liaised subtitle performed superior to the last mentioned.

2.9 CAPE Model

This model will manage the association of parents in instructing beginner high schooler drivers on different parts of driving. The Connect, Attend, Participate, Enact (CAPE) demonstrate (Piotrowska et al., 2016) was proposed as an applied model of parental engagement in child rearing projects. CAPE show was based on late models by stretching out on the interconnecting phases of engagement and additionally its fundamental setting (Piotrowska et al., 2016). This comprehensive model of parental engagement is best when include forms from association with institution of educated procedures in youngsters' condition and the thought of

the two guardians and also the energetic inclusion from the child rearing group (Piotrowska et al., 2016).

One of the issue with past parental projects is the absence of consistency in portraying engagement rates of guardians and in addition the absence of concurrence on the meaning of engagement, delineating a requirement for a more precise way to deal with the idea of parental engagement (Staudt, 2007; Chacko et al., 2016). There are definitions that offer in distinguishing the levels of parental engagement from the underlying scope of the program to resulting finish (Morawska and Sander, 2006).

One of the levels of parental engagement that have been offered is the enlistment and maintenance (Axford et al., 2012). Becker et al. (2015) offered participation, adherence, and psychological planning in the parental engagement, though Haine-Schlagel and Walsh (2015) depicted parental engagement in having stages from help-chasing, participation and home activity designs. Enrolment, steady loss, participation, inside session engagement and homework fruition was characterized by Chacko et al. (2016). McCurdy and Daro (2001) characterized parental engagement as the purpose to enlist, enrolment and detention.

The characterizing of parental engagement and surveys underpins the conceptualisation of engagement as a multidimensional develop that has various stages or levels (Becker et al., 2015). The CAPE demonstrate considered the procedure of engagement and the connection between various stages and how engagement identifies with parent and tyke results by introducing a far reaching model of parental engagement that incorporates four fundamental stages which are Connect, Attend, Participate and Enact.

CAPE demonstrate accompanies a system which considers parent engagement and the related facilitators and components of child rearing change (Piotrowska et al., 2016). These

systems incorporate child rearing abilities, self-adequacy, attributions and the execution setting. In any perspectives in our youngsters' life, the most intense indicator of the great parts of kids whether it be wellbeing, prosperity and positive social capacities is the nature of early family and child rearing situations to which the tyke is in. So also, the best proof for the capacity to emphatically impact the kids is identified with the projects that connect with guardians in enhancing nature to which their kids are in (Gardner et al., 2006).

In past studies, the science of parental involvement programmes circles around the effects of different parenting strategies on child outcomes, and the best ways in training and empowering parents to employ them (Piotrowska et al., 2016). The most pragmatic but nevertheless vital focus was simply on reaching out to parents, getting them to attend and actively participate in session, and employing these strategies in children's environment (Piotrowska et al., 2016). Reaching out to community is only as good as the ability of the programme to engage parents regardless of the quality or the content of the programme itself. Large group of parents described that they faced difficulties in accessing the programme (Owens et al., 2002).

The advancement of CAPE display was made in the wake of looking into confirmations on guardians in enabling positive child rearing condition produces kids with enhanced results (Piotrowska, 2016). This is trailed by the enrolments of these projects in contacting guardians brought about a profoundly factor and the results of kids are connected with parental engagement. The last stride in creating of the CAPE demonstrate is the portrayal and association of the segments into quantifiable builds contained Connecting, Attendance, Participation and Enactment by guardians at singular levels and parental frameworks.

The CAPE display is utilized as a part of this examination to illuminate the plan, dispersal and assessment of parental contribution in the learning issue of this investigation. Past inquiries about found that child rearing projects with social learning and subjective conduct hypotheses as premise are turned out to be the best sort of mediations in decreasing emotional wellness issues (Eyberg et al., 2008). Different names for this sort of projects are known as child rearing intercessions or parent preparing, concentrates on child rearing aptitudes and parent-youngster connections to enhance kid behavioural and passionate results.

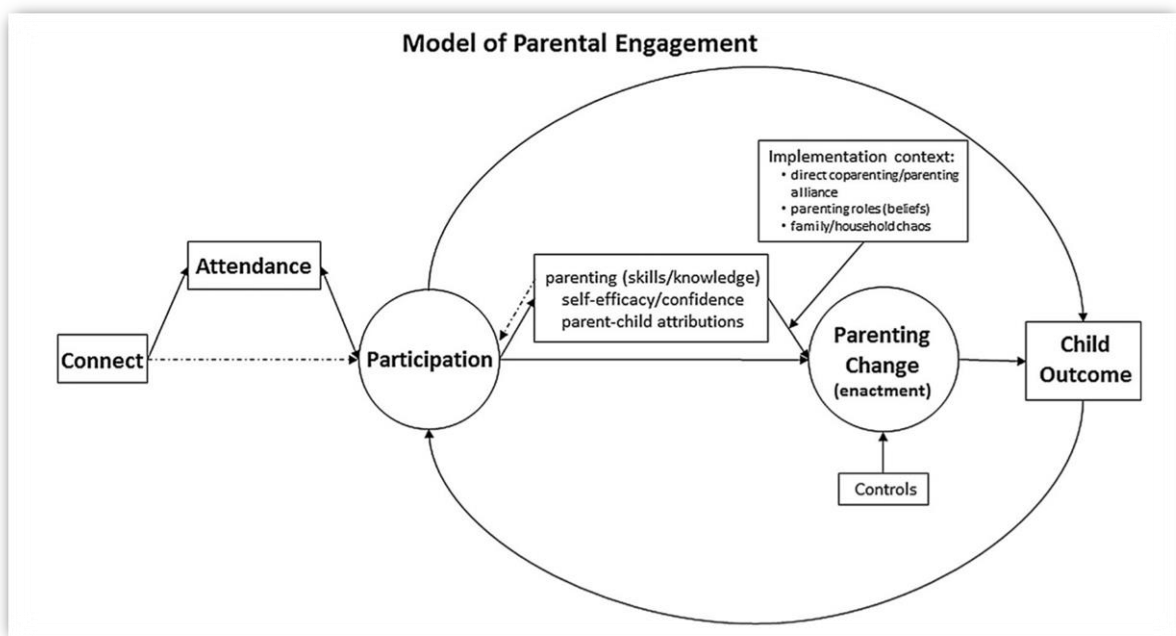


Figure 8: CAPE Model of Parental Engagement (Adapted: Piotrowska et al., 2016)

2.9.1 Connect

The first stage in CAPE model of Parental Engagement is Connect and this is the recruitment stage where participants were gathered and they were to enrol themselves in the programme. The extent to which the parental engagement programme is able to reach out to parents and connecting to them is carried out in this stage (Piotrowska et al., 2016). Parents are

informed about the programme either through promotional efforts or recommendations by a friend or professionals (Piotrowska et al., 2016). In recruitment phase in Connect stage, the interparental process of a family's characteristics are the predictors for their participation (Piotrowska et al., 2016). Issues such as child care, scheduling and gatekeeping can affect their decision to be enrolled in the parental engagement programme. Gatekeeping is the regulating of a parent's involvement with the other parent and this has not been clearly studied in the parental engagement programme (Piotrowska et al., 2016).

2.9.2 Attend

Attendance stage is the continuous presence of parents at sessions of the programme. The CAPE model is used in parental engagement programmes to encourage the parents' attendance. Similar to Connect stage, the attendance of parents are predicted by parental gatekeeping and scheduling. A study suggest that practical difficulties parents face in involving themselves in parental engagement programme can be the lack of transportation, child care, inconvenience and work commitments (Spoth & Redmond, 2000; Snell-Johns et al., 2004).

2.9.3 Participate

The participate stage for CAPE model varies greatly in the definition and operationalisation in studies (Piotrowska et al., 2016). In this study, the Participation refers to a list of actions which goes beyond Attendance at the session, which can be a home practice completion or group discussion that is believed to be able to boost the proximal intervention outcome (Piotrowska et al., 2016).

There are two types of Participation that is acknowledged in this model, namely the direct and indirect Participation (Piotrowska et al., 2016). Direct participation is the active commitment and the presence of parents physically, and parental involvement with the programme materials. Indirect Participation is the acquisition of information from other sources, which can be in the form of sharing between parents using relevant strategies (Piotrowska et al., 2016). The graphical explanation of Participation stage can be seen in Figure 6, where the dashed line from Connect to Participation stage indicates that Connect stage may affect Participation directly without Attendance.

When compare to the first two stages in this CAPE model which are Connect and Attend, the Participate stage hold the greatest impact on parenting (Piotrowska et al., 2016). This is shown by a study that indicate Participation has the substantial effect on outcomes in the context of parenting programme (Baydar et al., 2013). The active Participation of parents in turn, created a major effect on the last stage of the CAPE model, which is the Enactment. Discussions and homework completion can be a set of indicators that parents participated in the parental engagement programme, which importance for therapy outcome has been focused on (Kazantzis et al., 2000).

2.9.4 Enactment

Enactment stage is the implementation of learned strategies and techniques by parents (Piotrowska et al., 2016). The relationship between Participation stage and Enactment stage can be described into three potential mediators, such as parenting skills or knowledge, self-efficacy and confidence and parent-child attributions (Piotrowska et al., 2016).

Parenting skills and knowledge is the information regarding in parenting acquired by parents, the awareness of a range of parenting strategies, and the ability of parents to implement the parenting strategies. Parental sense of confidence is the second potential mediators where parents are confidence and have self-efficacy on enacting various parenting strategies (Piotrowska et al., 2016). The third mediator is parent-child attributions which refer to the thoughts and beliefs of parents towards their children mental health problems and associated behaviours (Piotrowska et al., 2016). Gardner et al. (2006) stated that parenting programmes are able to enhance the three mediators and this in turn leads to parenting change (Sanders & Woolley, 2005; Whittingham et al., 2009).

2.10 Summary

This chapter illustrates the theories and models which the instructional design theoretical framework of the designing and dissemination of the handbook for parental involvement on novice teen driving. A thorough study on the effects and benefits of parental involvement in learning achievement and in road safety education was carried out in this chapter. Barriers to parental involvement such as the nature of commitment and socioeconomic status of a family was explored. The benefits of Graduated Driver Licensing (GDL) was also discussed through extensive literature reviews on journals and published articles available and the limitations of road education in Malaysia was described. The suitability of constructivist approach in parental involvement on novice teen driving was explained with the three main pedagogies in constructivism. The application of SOI model of learning in designing the handbook as used as means to assist in information encoding. The suitability of employing

CAPE model that guided the parental involvement supported the utilization of constructivist approach.

CHAPTER 3

METHODOLOGY

3.0 Overview

The purpose of this study is to examine the effects of parental involvement on the driving knowledge among novice teen drivers. This study was conducted in collaboration with the Deputy Director of Sarawak Road Transport Department as well as parents and their young novice drivers. This chapter first discusses on a brief explanation on the learning problem, where the instruction programme for parental involvement on novice car driver in this country was addressed. This explanation also includes an analysis of the learning problem which clarifies why it is chosen as the case to inspect the issues listed in Chapter 1. The research material used in this study is done by describing in detail the design, development and evaluation of the handbook for parental involvement in novice teen driving. The numerous steps involved in the design process based on the proposed theoretical framework was described in this chapter. There is also the expansion of the CAPE model of parental involvement, which was used in this study to produce an intervention programme for parents' involvement in novice teen driving. The process of creating and supporting a participatory team, development of programme in this study, the procedure of data collection were explained. The respondents involved in this study were revealed using participants from upper secondary schools. The research instrumentation is described in this chapter. Finally, the series of steps in analysing data is provided in this chapter.

3.1 Handbook Development

The development of handbook for parental involvement in novice teen driving is associated with the analysis of the components in Graduated Driver Licensing (GDL). The analysis aforementioned are the content analysis from the available handbooks and the activity analysis of parental involvement in novice car driver instruction programme from countries practicing Graduated Driver Licensing (GDL). These analysis were used and localised to our context in this study, as the aspects of driving that are feasible for parental involvement in novice teen driving were identified.

3.1.1 Content Analysis of the Learning Problem

In light of the content analysis produced using a rundown of accessible handbooks, the parts contained in the handbooks were recorded in Table 3 and the outline was displayed in Table 4. Neighbourhood handbooks on street training were additionally dissected to make examinations amongst Malaysia and different nations street activity rules. The similitudes were considered and was put into utilization in the handbook where extra data were added to upgrade the comprehension of students. Handbook discharged by Kurikulum Pendidikan Pemandu (KPP) in 2015 was utilized as a part of building up the handbook for Parental Involvement in Novice Teen Driving for Malaysian.

Table 3: List of handbooks used

Bil	Title
1	North Carolina Parent/Teen Driving Handbook
2	New Jersey's Graduated Driver License (GDL) Programme
3	Illinois Graduated Driver Licensing Programme Parent-Teen Driving Guides
4	California Parent-Teen Driving Guide
5	The Oregon Parent Guide to Teen Driving
6	Florida Driver's Guide for Parents and Teens
7	Michigan's Graduated Driver Licensing: A Guide for Parents
8	How Parents Can Help Their Teens Become Safe Driver – Connecticut Department
9	45-Hour Parent/Teen Driving Guide – Virginia Department of Education
10	40-Hour Parents/Teen Driving Guide Parent Supervised on the Road Programme

Table 4: Content analysis of the handbooks according to title

Item Title	Checklist	Guided Practical Session	Emergencies	Driving Log	Parent-Teen Driver Agreement	Questionnaire	Exercise	Tips	Definitions	Images
North Carolina Parent/Teen Driving Handbook										
New Jersey's Graduated Driver License Programme										
Illinois Graduated Driver Licensing Programme Parent-Teen Driving Guides										
California Parent-Teen Driving Guide										
The Oregon Parent Guide to Teen Driving										
Florida Driver's Guide for Parents and Teens										
Michigan's Graduated Driver Licensing: A Guide for Parents										
How Parents Can Help Their Teens Become Safe Driver – Connecticut Department										
45-Hour Parent/Teen Driving Guide – Virginia Department of Education										
40-Hour Parents/Teen Driving Guide Parent Supervised on the Road Programme										

3.1.2 Activity Analysis of the Learning Problem

The Graduated Driver Licensing programmes were analysed to identify the activities that are to be carried out by learner drivers and supervising drivers. The activity analysis was presented in Table 5.

Table 5: Stages of Graduated Driver Licensing (GDL)

Stages	Activities
1 Learner's Permit	1. Driving are supervised by licensed adult 21 years of age or older. 2. Parent participation in driving process (in certifying the novice driver had undergone supervised hours of driving in the driving log provided). 3. Novice drivers are subjected to speed limits and are allowed to drive on certain type of roads, as well as the limit on the number of passengers allowed in the car. 4. Complete basic driver education.
2 Intermediate License	1. Behind-the-wheel practice under restricted conditions before attaining a full driving license. Novice drivers are exposed to more challenging and demanding situations where their decision making skills were put to test. 2. Unsupervised driving are allowed in lower risk situations. 3. Parent participation in driving process (in certifying the novice driver had undergone supervised hours of driving in the driving log provided). 4. Pass second level knowledge and on-road driving skills test.
3 Full or Unrestricted License	1. Complete advanced driver education. 2. Suspended or revoked drivers at all ages obtain a provisional license which they need to be free from violation and crash for a specific period of time before obtaining a full driving license.

3.2 Handbook Design

The handbook provides motivation to both parents and teen drivers because it assists in better learning. It also helps parents in giving better clarification on the subject matter easily. By using the handbook as guidelines for both parents and their teen drivers are able to learn actively, lively and participatory. The handbook was used to systematically guide parental involvement in this study. The content of the handbook was created based on the content analysis and activity analysis in Section 3.3.1.

3.2.1 Handbook Design Principles

The Handbook for Parental Involvement on Novice Teen Driving was designed using strategies which promotes learner's interest (Rubin, 1987; Oxford, Talbott & Halleck, 1990). The strategy used in designing the handbook assists parents to become more aware of their teen drivers' needs and this will boost the relationship between the instruction and teen drivers' styles and strategy. In this study, SOI Model of constructivist learning was employed as a guideline in designing the handbook.

Based on the SOI Model of constructivist learning, images and the headings, italics, boldface, large fonts, bullets, arrows, icons, underlining, margin notes, repetition and white space are able to facilitate in the active cognitive processing in learners (Mayer, 1993). The handbook employed the strategies as well as adding questions and statements of instructional objectives to direct learners' attention to relevant information. Figure 9 to Figure 18 shows the content of the handbooks which has used the strategies aforementioned.

69

REFLEKSI

Isikan ruangan di bawah dan nyatakan *kelemahan* dan *kelebihan* pemanduan anak remaja anda sebagai rujukan anda dan anak remaja anda untuk sesi pemanduan yang akan datang.

KELEMAHAN

BIL.	KELEMAHAN PEMANDUAN ANAK REMAJA
1	
2	
3	

KELEBIHAN

BIL.	KELEBIHAN PEMANDUAN ANAK REMAJA
1	
2	
3	

CADANGAN

Figure 11: The usage of large fonts, italics and boldface in the handbook

82

4. *Tayar pecah*

- Pegang erat stereng kenderaan.
- Bahagian belakang kenderaan akan menjadi tidak stabil sekiranya tayar belakang yang pecah.
- Cari kawasan yang selamat seperti di atas bahu jalan.
- Pandu kenderaan dengan perlahan-lahan ke atas bahu jalan dan nyalakan lampu isyarat kecemasan atau alat-alat amaran kecemasan yang lain.
- Hentikan kenderaan di kawasan yang selamat

5. *Lampu hadapan kenderaan terpadam*

Jika lampu hadapan kenderaan terpadam dan menyebabkan penglihatan terhad:

- Amalkan tindakan memegang stereng untuk meluruskan arah pergerakan kenderaan.
- Cuba hentikan kenderaan tanpa menyebabkan kenderaan terbabas. Pandu kenderaan beransur-ansur naik ke atas bahu jalan dan jauh dari aliran trafik.
- Pastikan lampu isyarat kecemasan dinyalakan supaya pengguna jalan raya yang lain memandu dengan was.
- Gunakan peralatan kecemasan seperti alat pemantul cahaya untuk memberi amaran kepada pengguna jalan raya yang lain.

Figure 12: The usage of bullets in the handbook

The content of the handbook for Malaysian parents on novice teen driving was produced through the content analysis of handbooks available and the feedbacks as well as revisions to contents. The overall table of content of the handbook are shown in Appendix T. Altogether there are nine chapters in the handbook, which consists of getting to know the car, preparations before driving, basic car manoeuvring, driving on roadways, driving in any situations, entering and exiting highways and multiple lane roadways, car parking, reversing or turnabouts. There is also a chapter on emergency situations at the end of the handbook.

The flow of the handbook starts with the introduction of the handbook (See Figure 13), including its purpose and what parents should practice and preach to their novice teen drivers. The steps on how to use the handbook as a guide to teach novice teen drivers to drive is included (See Figure 14) along with the parent-teen driving contract (See Figure 15) that is needed to be read and signed by parents and teen before carrying out the activities in the handbook.

Figure 16 shows a note for parents in the handbook, providing information for parents on what they should know in involving themselves in the novice teen driving.

PENGENALAN

Golongan remaja merupakan golongan pemandu yang mempunyai empat kali ganda lebih risiko untuk terlibat dalam kemalangan berbanding orang dewasa. A.F. Williams mengatakan penglibatan ibu bapa merupakan kaedah yang paling menjanjikan untuk mengurangkan kadar statistik tersebut.

Buku Panduan Ibu Bapa untuk Pemanduan Remaja ini merupakan satu inisiatif untuk melibatkan ibu bapa dalam proses pemanduan remaja.

Kajian yang dilakukan oleh D.R. Mayhew dan H.M. Simpson pada 1996 mendapati bahawa kursus memandu yang sedia ada tidak mempunyai bukti keberkesanan dalam mengurangkan kadar kemalangan dalam kalangan pemandu remaja. Menurut mereka, ibu bapa memainkan peranan yang penting dalam membimbing anak remaja tentang keselamatan trafik.

Buku ini bersesuaian untuk ibu bapa yang ingin membantu remaja yang baru memperolehi lesen memandu. Buku ini menyediakan panduan yang padat dan tepat untuk mengukuhkan kemahiran remaja serta membantu mereka menjadi pemandu yang selamat. Buku ini juga bertujuan untuk membantu pengguna mengenalpasti, mengetahui dan memahami konsep memandu yang berhemah.

Banyak tenaga, masa dan dedikasi yang diberikan oleh pengarang, ibu bapa serta remaja dalam menghasilkan buku panduan ini. Kami percaya keseluruhan istilah dalam buku panduan ini dibentuk atas dasar kehalusan, pengertian dan musyawarah antara pakar bidang dalam pendidikan lalu lintas.

Pada kesempatan ini, kami mengucapkan setinggi-tinggi penghargaan kepada semua pihak yang turut berusaha dalam menyelesaikan penerbitan buku panduan ini khususnya orang perseorangan yang turut memberikan sumbangan dalam menjayakan buku panduan ini.

Cecelia
Chen



Figure 13: Introduction page of the handbook



Figure 14: Steps on how to use the handbook

SURAT PERJANJIAN

Saya _____ (ibu / bapa/ penjaga) kepada
_____ (anak) berjanji:

- ✓ Menjadi contoh pemandu yang baik untuk anak remaja saya
- ✓ Memastikan kenderaan berfungsi dengan baik dan selamat untuk anak remaja saya
- ✓ Meluangkan masa untuk mendidik anak remaja saya untuk menjadi pemandu yang berhemah

Saya _____ anak remaja kepada
_____ (ibu/ bapa/ penjaga) berjanji:

- ✓ Melengkapkan sesi memandu yang dikehendaki dalam buku panduan ini dalam tempoh percubaan memandu.

Kami berjanji:

- ✓ Sentiasa memastikan semua penumpang menggunakan tali pinggang keledar dengan betul
- ✓ Mengekalkan had laju yang selamat.
- ✓ Menjadi pemandu yang tidak agresif dan sentiasa berhati-hati
- ✓ Memandu tanpa pengaruh alkohol atau sebarang jenis dadah
- ✓ Memberi tumpuan sepenuh semasa memandu seperti tidak menggunakan telefon bimbit atau bunyi radio yang kuat.
- ✓ Mematuhi segala undang-undang dan peraturan yang telah ditetapkan oleh Jabatan Pengangkutan Jalan.

Tandatangan

Anak remaja:

Ibu/ Bapa/ Penjaga:

Tarikh:

Figure 15: Parent-teen driving contract

SECEBIS NOTA UNTUK IBU BAPA

Pejam celik pejam celik, anak yang dahulunya duduk di tempat duduk belakang kenderaan kini pula akan duduk di depan dan memegang stereng kenderaan. Gementar dan gemuruh pasti menyerang pada masa yang sama.

Bagi anak remaja, proses belajar memandu adalah sesuatu yang menarik dan baru kerana ia merupakan satu pengalaman dan juga salah satu tanda bahawa mereka sudah cukup matang serta diberi kepercayaan dan kebebasan untuk memandu. Bagi anda pula, proses ini mendatangkan pelbagai emosi dan jika anda tidak bersedia untuk perubahan ini, isu-isu atau masalah akan timbul di mana keselamatan dan proses pembelajaran anak remaja akan terjejas.

Sebagai ibu bapa, anda harus bersedia dan mampu membimbing anak remaja anda supaya mereka akan menjadi pemandu yang berhemat dan kompeten di jalan raya. Salah satu langkah yang berkesan untuk mengajar anak remaja anda adalah dengan menjadi contoh yang baik kepada mereka. Hanya tunjuk ajar yang berkualiti dan latihan yang mencukupi dapat menyediakan diri anak remaja ketika proses belajar memandu untuk menguasai kemahiran hidup yang baru ini.



Figure 16: A note for parents in the handbook

Each driving chapter in this handbook starts with a brief introduction on the topics it discusses (See Figure 16). It is then followed by a list of learning outcomes prior to the content of the learning (See Figure 17).



Figure 17: Introduction of Chapter 7 of the handbook

7.1: PARKIR BERSUDUT 60°

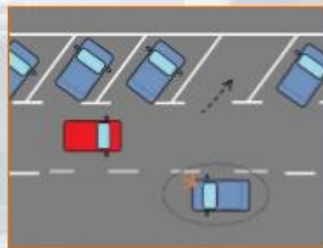
HASIL PEMBELAJARAN:

Pada akhir sesi ini, anda dan anak remaja anda dapat:

1. Mengenalpasti cara-cara yang selamat untuk memarkirkan kenderaan.
2. Menguasai kemahiran dalam memandu kenderaan ke dalam parkir bersudut 60°.

Langkah-langkah untuk membuat parkir bersudut:

1. Pastikan tempat parkir tersebut mempunyai petak parkir.
2. Beri keutamaan kepada kenderaan lain yang telah sampai ke petak parkir terlebih dahulu dan telah memberi lampu isyarat untuk petak parkir tersebut.



3. Berikan isyarat untuk mendapatkan perhatian daripada pemandu lain tentang niat anda untuk memarkirkan kenderaan.
4. Memandu masuk ke petak parkir dengan cermat dan memastikan kenderaan diparkir di tengah-tengah petak parkir.

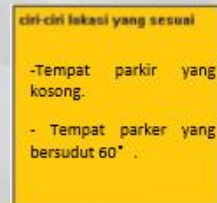


Figure 18: Learning outcomes and content of learning in Chapter 7 of the handbook

Driving sessions consisting of various car parking method were observed by having parents to fill up the logbook from the handbook after each session were carried out, which can be viewed in Appendix J. This activity is one of the direct participation of parental involvement in this study. The effect from this engagement between parents and their novice teen drivers were determined by the significance of the scores of novice teen drivers which are the participants in this study.

Demographic backgrounds and logbook were obtained from parents and participants for further analysis on the effects of parental involvement on novice driving. The researcher interviewed and observed parents and participants to obtain the final stage of the CAPE model, which is the Enactment. Enactment stage is described as the changes which happen beyond the programme itself, whether the effect of the parental involvement programme was still ongoing even long after the programme was carried out.

Learner-centred approach instructors employ many different learning styles instead of a single teaching method, changing the role of instructors as information givers to learning facilitators to their learners (Weimer, 2002). In this study, parents are merely giving guidance to their teen drivers and focuses more on the learning process.

3.3 Research Design - Quasi-Experimental

Multiple-group pretest-posttest quasi-experimental research methodology was used to examine the effects of parental involvement on the driving knowledge of novice teen driving. Observation, document analysis and interview method were utilised to gather information from participants and their parents.

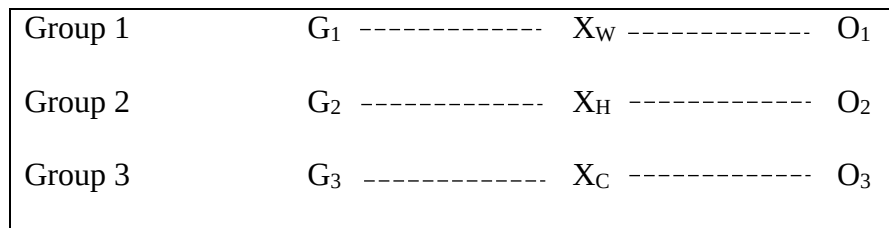


Figure 19: Quasi-experimental design

Table 6: Description of alphabets used in the quasi-experimental design

Alphabet	Description
G	Group
W	With parent and handbook
H	Without parent and handbook
C	Control (Without parent and without handbook)
X	Intervention
O	Data collection (Observation)

Quasi-experimental research methodology was employed in this study because it is not feasible to randomly select the participants. Intact classes were used to form the groups where one of the group were treated as Control Group, the other two classes were for the experimental groups.

3.4 Instructional design theoretical framework

The central principles in learning and understanding is constructivism. In this subsection, the usage of theoretical principals of constructivism in the instructional design, the practice of design and the practice of teaching in this study was described. Constructivism stresses that learning is a social activity. Learners are able to express concepts, ideas, beliefs, misconceptions, and inconsistencies through cooperative, collaborative and group investigation with their educators.

In this study, young novice drivers use constructivist approach to engage in dialogue with their parents and they are able to express what they have discovered and their personal knowledge can be built. By having their parents to guide them, learning to drive becomes meaningful for young novice drivers. Constructivist approach creates a contextualised learning through the setting of practice sites.

3.5 Sampling

Convenience sampling was employed in selecting the participants for this study. A total of 124 secondary school students who have possessed driving license and between the ages of 17 to 25 years old participated in this study. All participants volunteered to be involved in this research and in each respective schools participants were grouped by their intact classes known as the Control Group, Parental Involvement Group and Non-Parental Involvement Group.

A list of secondary schools in Kuching and Serian districts which met the specifications such as sharing the same socio-economic background, similar co-education and

multi-racial in representing the population of the country was created. Qualified students who possessed a driving license of the classes were included in the study.

The research population for this study comprised Form Six students from Sekolah Menengah Kebangsaan Serian and Sekolah Menengah Kebangsaan Wira Penrissen who are able to drive and just obtained their driving license. Form Lower Six students were chosen because they were of non-examination class and they were still teenagers and had just passed the minimum age to obtain a driving license. Students were used rather than volunteers or general public to obtain more controlled and consistent samples. The sample size was 124 and the average age of the participants was 17.81 years old.

Each parents which are involved in this study were given the inform consent form on how the tests were done and how the result and data obtained were kept confidential. Consent from parents and participants were acquired for this study.

3.5.1 Data Collection Procedure

Intervention study commenced just after participants had done their pre-test. Participants were grouped into three groups, namely the Control Group, Non-Parental Involvement Group, and Parental Involvement Group. The duration of the intervention study was for one month where they were given a briefing with their parents and handbook was handed out to Non-Parental Involvement Group and Parental Involvement Group. After one month, the participants were given the post-test. Appendix L explains the details of the data collection for this study.

Between the duration of the pre-test and post-test in this study, participants in Parental Involvement Group were to carry out the activities given to them in the handbook with

their parents. For participants in Non-Parental Involvement Group, they were to carry out the activities in the handbook on their own, without their parents' involvement.

All of the 124 participants underwent pre-test and the data collected from the pre-test was analysed and described. The outcome of each group were analysed and described statistically with graphs and histograms to show the effects of parental involvement.

3.6 Instrumentation

3.6.1 Research Material

The Handbook for Parents in Novice Teen Driving is used as one of the research material in this study. This handbook was used as the treatment for the intervention groups. This study made use of Bloom's Taxonomy as it is widely used and acknowledged by many educators. Bloom's Taxonomy, also known as Taxonomy of Education consists of three overlapping domains which are the cognitive, psychomotor and affective, which is also called as knowledge, skills and attitudes (KSA). This study used Bloom's Taxonomy as a means to express qualitatively the distinct types of intellectual skills and abilities in driving, producing suitable content material of the handbook. The content of the handbook was created by referring to content analyses done in this study and the Goals for Driver Education (GDE) matrix as guideline. The table of content of the handbook can be referred in Appendix T.

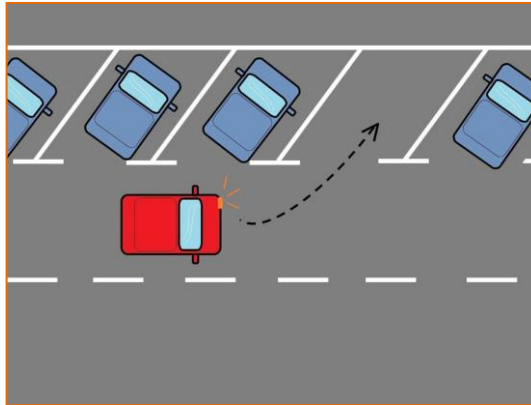
In this study the learners were teenagers where they need to know the skills they need to perform and develop in driving. Parents were informed the ways on how their children should perform their driving skills through the handbook. Other than parents and teenagers, subject matter experts, instructional design experts and potential learners were formed. The Head of Road Transport Department of Sarawak and driving instructors were involved as subject matter

experts while lecturers in University Malaysia Sarawak as instructional design experts were selected.

3.6.2 Research Instrument

The instruments utilised were the multiple choice test as both pre-test and post-test. The test paper that were used in this study consisted of 20 multiple choice questions and targeted to evaluate participants' understanding of driving rules and parking procedures. Pre-test and post-test were employed in order to identify the changes in performances of participants and the contents of both pre-test and post-test paper were the same. To avoid set response effect, the order of the questions were set differently in the pre-test and the post-test question paper. Appendix P shows the overall multiple choice question paper used in this study.

The multiple choice question paper were based on the content of Chapter 7 of the handbook which focused on the method and procedures for parking a car. These questions were selected and underwent a pilot test to check on the reliability. Most of the questions were filled with images and pictures to ease comprehension.



1. Yang manakah berikut **tidak harus** dilakukan ketika membuat parkir bersudut 60°?
 - A. Memberi isyarat.
 - B. Memberi keutamaan kepada kenderaan lain yang sampai di petak parkir terlebih dahulu.
 - C. Memarkir atas garisan petak parkir.
 - D. Memusing stereng kembali ke bentuk asal setelah membuat parkir.

Figure 20: A sample question related to parking rules

The questions were set in such a way so that they were similar to the current road education programme. Many materials published by Road Transport Department was done in multiple-choice question such as the theoretical test and exercises booklet.

Scoring. The overall score of each test was 20. For each of the question, participants gained a score of 1 for a correct answer and 0 for incorrect answer, with a total score ranging from 0 to 20. The total score was then converted to percentage by multiplying it by 100.

Test validity. Content validity of the multiple choice question paper was determined by expert judgement (Gay & Airsian, 2003). The study expert was requested to review the question paper and give critical feedbacks on how the items represented the intended content field.

Test reliability. A small group evaluation of 30 participants or pilot study was conducted after the items in the question paper were outlined and validated. Item analysis was carried out based on the results of the pilot study to acquire information which were useful in refining the question paper. Among the information are the item difficulty index, item discrimination index, and the quality of distracters in each item. The reliability test was calculated by utilizing the Cronbach's alpha procedure.

3.7 Data Collection

3.7.1 Procedure for Data Collection: Control Group

For the Control Group, participants were briefed with the entire process of the research, research purposes and their roles as participants. The briefing was done by introducing the researcher and the research study, followed by filling up forms on the demographic backgrounds. Inform consent forms were also given and participants were to read and sign the inform consent form before they were able to participate in the study. The briefing ended with question and answer (Q&A) sessions with participants. The briefing lasted for thirty minutes.

Participants in Control Group were to be present during the pre-test and post-test session. The gap between two tests was one month time where participants were given the same

test paper to answer. In this study, participants were gathered in an empty classroom during recess time where the test was able to be carried out in a conducive manner.

3.7.2 Procedure for Data Collection: Non-Parental Involvement Group

For the Non-Parental Involvement Group, participants were briefed with the entire process of the research, the research purposes and their roles as participants. The briefing was carried out by self-introducing and the details about this research. Participants were to complete a form on their demographic backgrounds as well as to sign an inform consent form. The briefing ended after question and answer (Q&A) session were done.

Participants in this group underwent pretest before they were given a handbook each. They were told to complete the activities in their handbook within a month time and in the interval, researcher will review each participants in making sure that they carried out the intended activities in the handbook. Participants were to read and understand the handbook, and state the time of completion of each chapter in logbook on their own time. By the end of one month, their logbooks were collected. Participants were then underwent post-test which were done in the same manner as participants in other groups in this study. Participants were gathered in an empty classroom during recess time to provide them a conducive location to answer the test paper.

3.7.3 Procedure for Data Collection: Parental Involvement Group

CAPE model was utilised as a guideline in the procedure for data collection of the parental involvement group.

Connect

The first stage in CAPE model is Connect. For the Parental Involvement Group, participants were briefed on the research purposes, research process and their roles in this study. Their parents were gathered and were briefed similarly and they were given an inform consent form as well as demographic backgrounds form to complete. Researcher connected with parents through the briefing where parents are recruited and enrolled as participants' parents in this study.

Attendance

Participants were then given a test paper as pretest before they were given a handbook for parents on novice teen driving. After the pretest were done, each participants was given a handbook. The second stage of CAPE model is Attendance. In this study, parents are to involve themselves in the activities described in the handbook with their novice teen drivers within a given amount of time. Parents and participants were to read and understand the handbook, and state the time of completion of each chapter in a logbook at their own pace. The logbook served as an indicator that parents are present at each driving sessions continuously.

Participation

Parents and participants collaborated in carrying out the activities in the handbook which are related to car parking. Researcher reviewed the logbook provided within one month and by the end of the duration, the logbook was collected. A sample of collected logbook can

be viewed in Appendix J. When review was done, researcher conducted interview sessions with participants' parents on their feedback on the research study and the handbook.

The interview was carried out at participants' house and parents were present to be involved in the interview sessions. Each session lasted for ten to twenty minutes and brief notes were taken while the interview was carried out. In one of the cases, observations were done with parents engaging a driving session with participants. For one of the participant in this study, the researcher was present in the car while participant and parent carried out the activities in the handbook practically. Field notes were taken for this case as shown in Appendix H.

Similar to other groups in this study, participants were gathered in an empty classroom and they were given the post-test. The test was done in a conducive manner for each participants.

Enactment

Three months after data collection and interview were made, twenty-one parents were gathered for a short interview on the changes in parenting three months after the intervention was carried out. The data collected can be viewed in Appendix Y.

3.8 Procedure for Data Analysis

Statistical Package for Social Sciences (SPSS) was used to analyse the data collected from all the respondents through questionnaire. One way analysis of covariance (ANCOVA) was used to determine the effects of parental involvement on the driving knowledge in novice teen driving.

3.8.1 Pilot Study

The pilot study involved 30 participants. The pilot study took place at multimedia laboratory of Faculty of Cognitive Science and Human Resources. With random participants selected ranging from the age of 21 years old to 23 years old, the pilot study was carried out after briefing was done upon them where they were informed on the purpose of the study, how are they going to answer the test in this pilot study and why are they being tested.

From Appendix V, it is shown that it took a minimum of 20 minutes to an hour for pilot participants to complete the test. The test paper were collected by the end of the day to be marked and the results were shown in Appendix W.

By using Microsoft Excel 2013, the difficulty index as well as discrimination index is calculated, and are summarised in table below:

Table 7: Table of difficulty index

Question no.	Difficulty index	Difficulty level
1	0.63	Moderate
2	0.53	Moderate
3	0.46	Moderate
4	0.67	Moderate
5	0.43	Moderate
6	0.60	Moderate
7	0.33	Moderate
8	0.67	Moderate
9	0.60	Moderate
10	0.50	Moderate
11	0.67	Moderate
12	0.57	Moderate
13	0.53	Moderate
14	0.30	Moderate
15	0.33	Moderate
16	0.50	Moderate
17	0.53	Moderate
18	0.50	Moderate
19	0.67	Moderate
20	0.67	Moderate

The difficulty indices ranged from 0.30 to 0.67, indicated that all the items were of moderate difficulty. The Cronbach's alpha reliability coefficient was 0.71, which depicted the test items were satisfactorily reliable. For distractors of all the 20 items were good, with no zero value of standard deviation. The values of the item distractors are shown in the Appendix D.

An item analysis was carried out on the pilot test. The answer sheets were collected and scored. The scores were arranged in ascending order and the highest third was known as "high achiever" group whereas the lowest third was classed as "low achiever" group. The fraction of the "high achiever" group (P_H) responding a certain item correctly was decided by dividing the number of correct answers for the "high achiever" group by the overall number of test items in the multiple choice question paper. The fraction of "low achiever" group (P_L) responding a certain item correctly was decided in the same way. The average of P_H and P_L was

calculated to estimate the item difficulty index (p) whereas the item discrimination index was calculated by subtracting P_L from P_H .

Discrimination index serves as to discriminate between students of higher and lower levels of knowledge. The index are able to inform us and reflects the degree of relationship between scores on the item and is relevant to be used with the 30 examinees. The table below shows the interpretation of the value of discrimination index:

Table 8: Guidelines for interpreting item discrimination index (Hopkins, 1998)

Discrimination index (D)	Item discrimination evaluation
0.40 and above	Excellent discrimination
0.30 to 0.39	Good discrimination
0.10 to 0.29	Fair discrimination
0.01 to 0.10	Poor discrimination
Negative	Item may be miskeyed or intrinsically ambiguous

A difficulty index between 0.25 and 0.75 for an item in the test is considered to have a moderate difficulty (Hopkins, 1998). The reliability of the multiple choice question paper was deduced using the Cronbach's alpha procedure.

3.8.2 Data Analysis for Intervention Study

Analysis of variance (ANOVA) was done with scores obtained from the multiple choice question paper pre-test as the dependent variable and the three learning modes (Parental Involvement Group, Non-Parental Involvement Group and Control Group) as the independent variables. This was done to test on the homogeneity of the control group and the experimental groups in terms of their existing knowledge on this subject matter. Pearson product-moment

correlation coefficient was used to check on any significant correlation between the gain score and pre-test scores. Based on the Pearson product-moment correlation decision rule, if the correlation coefficient value p is less than 0.05, there is a significant relationship between the gain score and pre-test scores whereas if the correlation coefficient value p is more than 0.05, there is not a significant relationship between the post-test score and pre-test scores.

Analysis of covariance (ANCOVA) was carried out as well to test the hypothesis of this study. The hypothesis was to determine whether there was a statistically significant difference in the adjusted mean scores of the dependent variable (post-test score) between the three modes (Control Group, Non-Parental Involvement Group and Parental Involvement Group) while controlling for the pre-test. Before ANCOVA was conducted, its assumptions needed to be fulfilled using a series of test analysis to ensure the assumptions were not violated. Among the assumptions are as follows:

Assumption 1: The dependent variable and covariate variables should be in a continuous scale, which are at the interval or ratio level.

Assumption 2: Independent variable should have two or more categorical, independent groups.

Assumption 3: There should not be any relationship between the observations in each group or between the groups themselves. This is also known as independence of observations.

Assumption 4: There should be no significant outliers within the data which does not follow the usual pattern where it can pose a negative effect on one-way ANCOVA.

Assumption 5: The residuals should be normally distributed for each category of the independent variable.

Assumption 6: There should be homogeneity in variances.

Assumption 7: Covariate should be linearly related to the dependent variable at each level of the independent variable.

Assumption 8: the scatterplot of the standardised residuals against predicted values should have homoscedasticity.

Assumption 9: homogeneity in regression slopes.

A follow-up post-hoc pair wise comparisons were administered if the one-way ANCOVA produced statistically significant result to evaluate the pair wise differences among the adjusted means.

Quasi-Experimental Design

For the evaluation, data collection was made from Serian and Kuching districts participants using driving knowledge test. This method of data collection was used as there is a need to acquire response from vast number of respondents. Driving knowledge test which discerned the driving skills of participants were adapted from the KPP exercise book to ensure the content test on the knowledge of the participants in this study.

3.8.3 Procedures to ensure internal validity of the study

The nature of this multiple-group pretest-posttest quasi-experimental design that was utilised in this study included intervention or treatment to intact groups instead of random

assignment to individuals posed threats to the internal validity of this study. Among the threats are the statistical regression and interactions between selection, maturation, history and testing (Gay & Airasian, 2003). The pre-test was used as covariate to collate the interchangeability of the groups and analysis of covariance (ANCOVA) was carried out to calculate all the groups.

For each of the group in this study a pre-test was conducted before intervention and post-test was carried out one month after the intervention. A gap of one month between pre-tests and post-tests is to desensitise the threat from pre-test. Other than that, the items in the multiple-choice question paper was rearranged in the post-test to minimise the threat.

3.9 Summary

Car crash accidents among novice teen drivers in this country had bring about the notion to get deeper understanding of the diverse related issues. The current methods of instruction only relies on driving instructors from driving institutions to inculcate safe driving skills. The lack of parental involvement in novice teen drivers are one of the initiative this study is trying to investigate. Therefore, the initial sections of this chapter explains this learning problem by expand on the limitations and focus on the potential of parental involvement in overcoming those limitations.

The chapter then progresses to elaborate on the methodology that was utilised for the design, development and evaluation of the parental involvement on novice teen driving. Overall framework model for this study is the CAPE Model. A pre-test post-test quasi-experimental design was used to evaluate the effects of each mode (Control Group, Parental Involvement Group and Non-Parental Involvement Group) on teen driving performance through their driving knowledge.

A total of 124 participants were totally involved in the intervention study. A multiple choice question paper test, which examined on comprehension on car parking was developed to assess participants' performance in car parking skills. The post-test score and pre-test of this test computed the effects of each of the three modes. The reliability of the multiple choice question paper test as measure by Cronbach's alpha procedure was 0.71.

CHAPTER 4

DESIGN AND DEVELOPMENT

4.0 Overview

This chapter provides and discusses on the sequences in designing and developing the handbook for parents in novice teen driving. There are four sections in this chapter, which are the process of the design and development, results of cooperative inquiry from shareholders, handbook overview and the technical steps in developing the different stages of the handbook. The design and development of the handbook composed of several stages which were broken down into few phases that utilised the R2D2 model which is a constructivist instructional design. The first one was on defining the handbook in such a way that it involved three main activities which were creating and supporting a participatory team, developing a progressive problem solution, and developing a contextual understanding or phronesis. Second phase was designing and developing the handbook itself by choosing the right tools such as the use of softwares, hardwares and the manipulatives in the study. The overall development of handbook was done using Microsoft PowerPoint 2013 and Microsoft Paint. In this phase there were constant and cooperative research and reflections made and the last phase were completed recursively until the handbook was completed.

4.1 Design and Development Chronology

In Chapter 3, the R2D2 model was described as spiral instead of being linear. This model signifies that there will be activities being done repeatedly at the design and development process. The list of activities done exactly in this research are documented throughout the design and development of the handbook.

In 2014, an interview was conducted with the Deputy Director of Road Transport Department Malaysia Sarawak and extensive analysis of linked documents for example the Driver Education Curriculum (Jabatan Pengangkutan Jalan Malaysia, 1997), handbooks for parents in novice teen driving from other countries, assisted to develop phronesis and selection of contents of the handbook.

After an extensive review of related literature and dialogue with experts in instructional design, the diverse components such as content analysis, task analysis as well as instructional strategies were carried out. Approximately three months of developmental activities were used to create a prototype known as single path prototype.

One of the three activities in this phase was to create and support a participatory team which is the target group such as parents. Task analysis was done by defining parents as target group, and they were informed on what they needed to know, how they were able to assist in the study and what skills the learners had developed in this research.

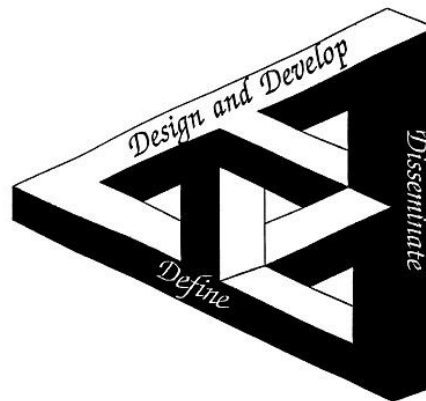


Figure 21: R2D2 Instructional Design Model. (Adapted: Dick, 1996)

4.1.1 Handbooks on Parents' Involvement in Teen's Driving

The National Safety Council explains that the handbook which serves as a guide is the logical next step for the research findings in the "Symposium of Graduated Driving License". It took ten years of reviewed scientific data which are translated into practical information that can be used by parents towards their teens to reduce teen crash risks.

The North Carolina Graduated Drivers Licensing Law has offered a driving aide as a major aspect of their devotion to help tenderfoot drivers and their folks with down to earth direction on the most proficient method to viably do driving sessions. A guide is made accessible on the most proficient method to utilize the handbook. Guardians are made a request to peruse the booklet before they start their driving sessions, showing the abilities and after that letting their high schoolers to execute the aptitudes. In this handbook, it contains nine which are ordered into four units. In Unit 1, every lesson comprises of exercises that guardians and their adolescents should complete. Crisis takeover of the vehicle article can be discovered where it indicates pictures on how guardians can control the auto directing wheel while doing driving sessions. This handbook utilizes the agenda approach where guardians are made a request to tick and audit the rundown with the goal that changes can be made. A specimen of audit agenda is shown in Figure 22.

HINT:

While observing your teenager complete a checklist:

- Use a pencil to check the items your teen missed while engaged in the activity.
- Review this list in future to help your teen remember all the steps needed. Adjust the list as improvements are made.

For example:

Very Good	(0-1 checked item)
Good	(2 checked items)
Average	(3 checked items)
Needs Improvement	(4 or more checked items)

Lesson 1 CHECKLIST

"The Pre-trip Inspection"

Grading:

Very Good	(0-1 checked item)
Good	(2 checked items)
Average	(3 checked items)
Needs Improvement	(4 or more checked items)

Activity 1: Checking the outside of the vehicle
The tasks are not listed in any order of importance. With experience however, your teen will develop a preferred sequence or procedure that works best.

Need Help!
Refer to page ... 34

☐ 1. Undereath and rear of vehicle — Check for leaks (coolant, brake fluid, motor oil, transmission fluid).

☐ 2. Lights

☐ • Brake lights

☐ • Taillights

☐ • Backup lights

☐ • Parking lights

☐ • Flashers

☐ • License plate light

☐ • Headlights

- Low beam
- High beam

☐ • Turn signals

- Left and right
- Front and rear

☐ 3. Tires

- Air pressure
- Tread

☐ 4. Wiper blades

☐ 5. Shocks and springs

☐ 6. Windows

☐ 7. Tailpipe (secure, free of objects). **Do Not Touch!**

LESSON TIP
If doing Activities 1—2 is inconvenient in your drive-way, you may wish to consider using a vacant parking lot.

Safety Tips
We suggest that the parent do a demonstration drive to a vacant parking lot to complete Activities 3—7. This will keep your teen from having to drive in live traffic until they have experienced basic starting and stopping.

13
The copyright in this Driver Education Parent/Teen Driving Handbook is owned by Costech Technologies Inc.

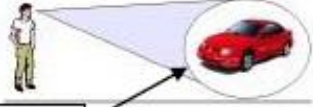
Figure 22: A sample of available checklist. (Adapted: “North Carolina Parent/Teen Driving Handbook” by Karl Logan and Paul Skulmoski, p.12 copyright by Costech Technologies Inc.)

In Unit 2 of the North Carolina Parent/Teen Driving Handbook, there are references and study guides for guardians for an indistinguishable taking in content from in Unit 1. Valuable pictures are utilized to encourage guardians' understanding towards the setting of the handbook. Other than pictures, this handbook additionally gives lesson tips for parents, for example, represented in Figure 23.

Lesson 1:
"The Pre-trip Inspection"

Activity 1: Checking the outside of the vehicle

The following is a list of tasks to help check the outside of the vehicle. The tasks are not listed in any order of importance. With experience however, your teen will develop a preferred sequence or procedure that works best.



Step 1: Observation (pre-enter check)

Check:

- 1) For leaks (coolant, brake fluid, motor oil, transmission fluid).
- 2) Tires (inflation, wear) including spare.
- 3) Windows, lights, and mirrors (cleanliness, damage).
- 4) Wiper blades (condition).
- 5) Tailpipe (secure, free of objects). **Do Not Touch!**




Step 2: Checking the outside

1. Look inside the vehicle to make sure you do not have any unwanted passengers
2. With keys in your hand, walk around your vehicle looking for any objects that may be in the path you intend to take. Check for water or oil marks under the vehicle.
3. Observe tires to see if they are inflated properly.
4. Observe the direction in which your front wheels are turned. Be aware that the vehicle will move in the direction the wheels are turned when the vehicle is started and put into gear.
5. Check to make sure the windshield, windows, headlights and taillights are clean.
6. Remove any loose objects from the back window area.

Step 3: Getting in the vehicle from the street

1. Have keys in hand ready to unlock the door prior to reaching your vehicle. If a remote-control device is used, unlock the vehicle before reaching the car.
2. Walk around the front of the vehicle toward the back allowing for oncoming traffic to be seen. Do not open the door if an oncoming vehicle is near.
3. Get in quickly, close the door and lock it. Put the key in the ignition.

Lesson tips

LESSON TIP
 The routine care you give your vehicle is called preventive maintenance. It includes items such as changing your engine oil, filling the tires with air, checking fluid levels, etc. Although these are very important tasks, they do not need to be done every time you use your vehicle. Refer to your vehicle's owner manual for additional information.

34
The copyright in this Driver Education Parent/Teen Driving Handbook is owned by Costech Technologies Inc.

Figure 23: A sample of handbook with lesson tips. (Adapted: "North Carolina Parent/Teen Driving Handbook" by Karl Logan and Paul Skulmoski, p.34, copyright by Costech Technologies Inc.)

In Unit 3, this handbook examines on crises in which drivers should know how to experience them. Pieces of data on security tips are given to guarantee drivers recognize what to do when crisis circumstance happens, which is shown in Figure 24.

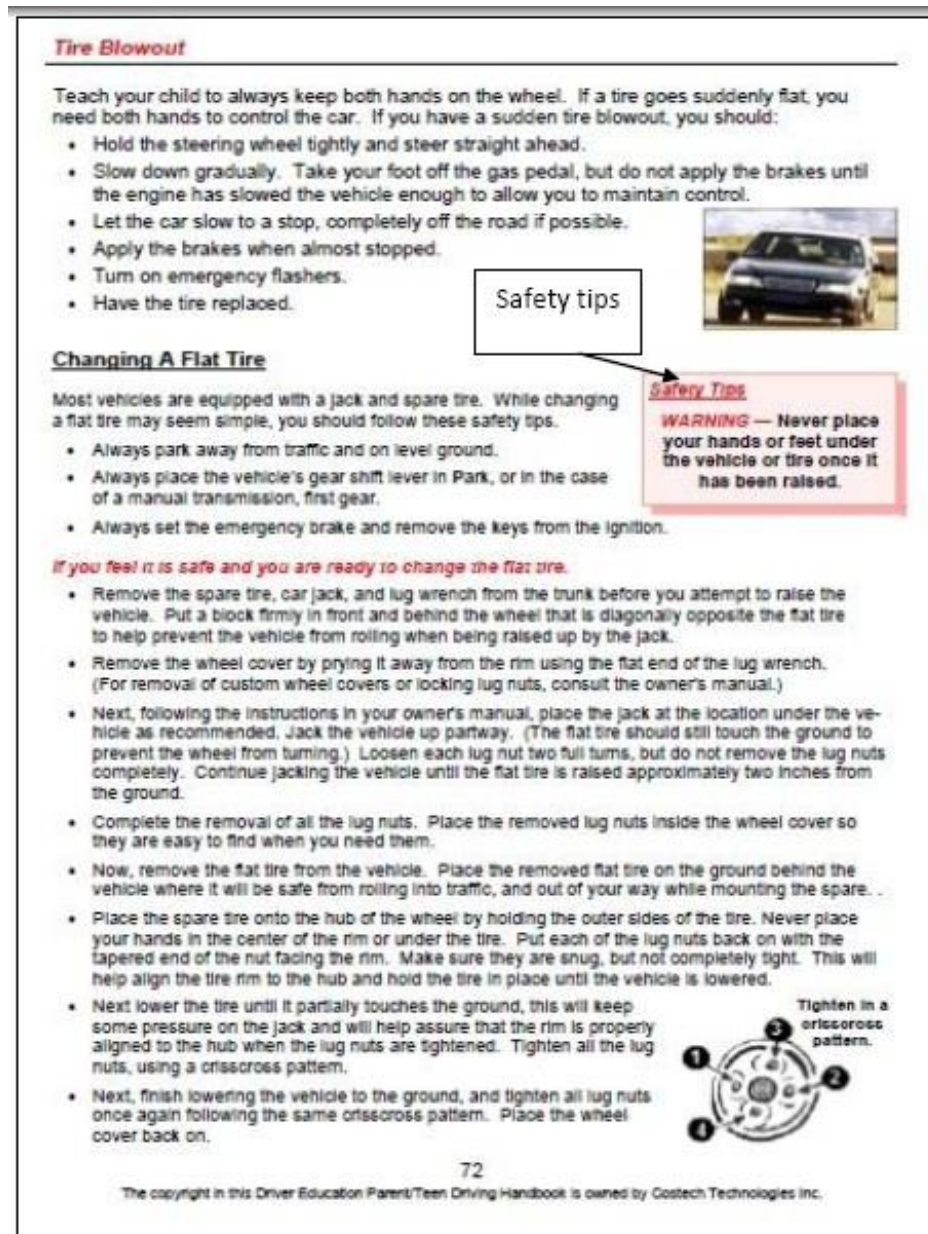


Figure 24: A sample of handbook with safety tips. (Adapted: “North Carolina Parent/Teen Driving Handbook” by Karl Logan and Paul Skulmoski, p.72, copyright by Costech Technologies Inc.)

[illegible]

Figure 25: Driving log. (Adapted: “North Carolina Parent/Teen Driving Handbook” by Karl Logan and Paul Skulmoski, p.78, copyright by Costech Technologies Inc.)

In another handbook distributed in 2011 by New Jersey Motor Vehicle Commission, it comprises of 5 lessons and fills in as a supplement to the New Jersey Driver Manual (Fischer, 2011). The substance of the handbook are basic with a following advancement agenda toward the finish of each lesson. Additionally examined is the New Jersey's Graduated Driver License (GDL) Program. There is likewise a page on parent-high schooler driver understanding, for example, in Figure 26 below.

Parent-teen driver agreement

This parent-teen driver agreement is meant to help parents and teen drivers work together to help make the driver-training process less stressful for everyone involved. Being clear about what you expect from your new driver, as well as what he or she expects from you, helps you work as a team.

Rules for everyone to follow

I will always:

- make sure everyone in the car uses his or her seatbelts correctly
- maintain a safe speed, including accelerating and decelerating appropriately
- avoid aggressive drivers
- always stop for pedestrians
- change lanes carefully and appropriately.

I will never:

- drive while under the influence of alcohol or other drugs, or ride with someone else who is impaired
- drive distracted, including using cell phones, texting or listening to loud music
- drive recklessly or aggressively
- pass drivers or merge with traffic when it is unsafe to do so.

For parents

I will:

- be a positive role model
- provide a safe vehicle in good working order
- sign all required documents for a Special Learners or Examination Permit
- help pay all required fees
- be available for practice driving.

For teens

I will:

- take an approved behind-the-wheel driver training course
- pass MVC's Knowledge and Vision tests
- complete the supervised driving period without any suspensions or postponements
- pass MVC's Road Test.

Permit/Probationary License drivers

Use the practice driving log on pages 25-26 to record your time behind the wheel. Remember:

Permit holders and Probationary License drivers:

- may not drive between 11:01 p.m. and 5:00 a.m.
- may transport only one passenger. This restriction is waived if the driver is accompanied by a parent or guardian or if the passengers are the driver's children. (Permit holders and Probationary License drivers over the age of 21 are not subject to passenger or hour restrictions.)

Signatures

I will follow all of the above conditions during the driver-training process:

Teen: _____ Date: _____

Parent/guardian: _____ Date: _____

For more information about parent-teen driver agreements, visit www.njteendriving.com.

Start date: _____

Notes/special considerations:

©2011 Channing Beale Company, Inc. All rights reserved.

Figure 26: A sample of parent-teen agreement. (Adapted: “New Jersey Motor Vehicle Commission” by Raymond P. Martinez, 2011, p.25, copyright by Channing Beale Company.)

The last piece of this handbook is the driving log for guardians to compose on. This log has comparative substance to North Carolina Parent/Teen driving handbook.

Parent-Teen Driving Guide distributed by Illinois Department of Transportation (cyberdriveillinois.com, 2008) talked about on driving sessions in 5 sections. In Chapter 1, polls are made for guardians and adolescent to reply. The surveys are fundamentally on their insight on Graduated Driver Licensing (GDL) programs, for example, in Figure 27.

Parent Questionnaire:	Teen Questionnaire:
1. Traffic crashes are the third-leading cause of death among young people ages 15-20. ☐ True ☐ False	1. Driving is considered a right rather than a privilege. ☐ True ☐ False
2. Safe drivers are rewarded with lower premiums and high-risk drivers pay a greater share of insurance costs. ☐ True ☐ False	2. Cell phone use while driving is against the law for drivers under age 19. ☐ True ☐ False
3. Illinois' GDL Program requires parents to spend 50 hours of practice driving, including 10 hours at night, with their teenagers behind the wheel. ☐ True ☐ False	3. Teenagers under age 18 are subject to night-time driving restrictions of 11 p.m.-6 a.m. on weekdays and 12 p.m.-6 a.m. on weekends. ☐ True ☐ False
4. A parent/legal guardian may withdraw consent for their teen to drive at any time prior to the teen's 18th birthday. ☐ True ☐ False	4. Every 15 minutes a teenager dies in an alcohol-related crash in the United States. ☐ True ☐ False
5. It is a crime to provide alcohol to a person under age 21 or to allow underage consumption at your home. ☐ True ☐ False	5. A teen driver is only allowed one traffic conviction per licensing phase in order to move to the next phase. ☐ True ☐ False
6. During the first six months of licensing, or until the driver turns age 18, the number of passengers is limited to the number of safety belts in the vehicle. ☐ True ☐ False	6. A teen driver and all passengers must wear safety belts. ☐ True ☐ False
7. Your teen must remain traffic conviction-free to graduate through the licensing phases of the GDL Program. ☐ True ☐ False	7. Any teen caught driving without an instruction permit prior to or during the permit driving phase will be ineligible to obtain a driver's license until age 18. ☐ True ☐ False
8. Drivers under age 18 are subject to nighttime driving restrictions of 10 p.m.-6 a.m. on weekdays and 11 p.m.-6 a.m. on weekends. ☐ True ☐ False	8. For the first 12 months of licensing, or until a teen driver turns 18, the number of unrelated passengers is limited to one person under age 20. ☐ True ☐ False
9. A driver under age 18 ticketed for a traffic violation must appear before a judge with a parent/guardian in order to receive court supervision. ☐ True ☐ False	9. Drivers under age 21 caught driving with any trace of alcohol or drugs in their systems will lose their driver's licenses. ☐ True ☐ False
10. A parent/guardian of a driver under age 18 may access the teen's driving record free online. ☐ True ☐ False	10. A conviction of two traffic violations in a 24-month period results in a minimum one-month driver's license suspension. ☐ True ☐ False

Figure 27: Questionnaire. (Adapted: "Parent-Teen Driving Guide" by Illinois Department of Transportation, p.4.)

Chapter 2 features the arrangements required before driving and furthermore on critique driving which high schoolers are required to do. Chapter 3 concentrates on the abilities on driving. Pictures, tips and the depictions of an aptitude are utilized and at the base left of every ability, guardians and high schoolers should compose their initials after they have finished and aced the expertise splendidly, for example, in Figure 27 and Figure 28.

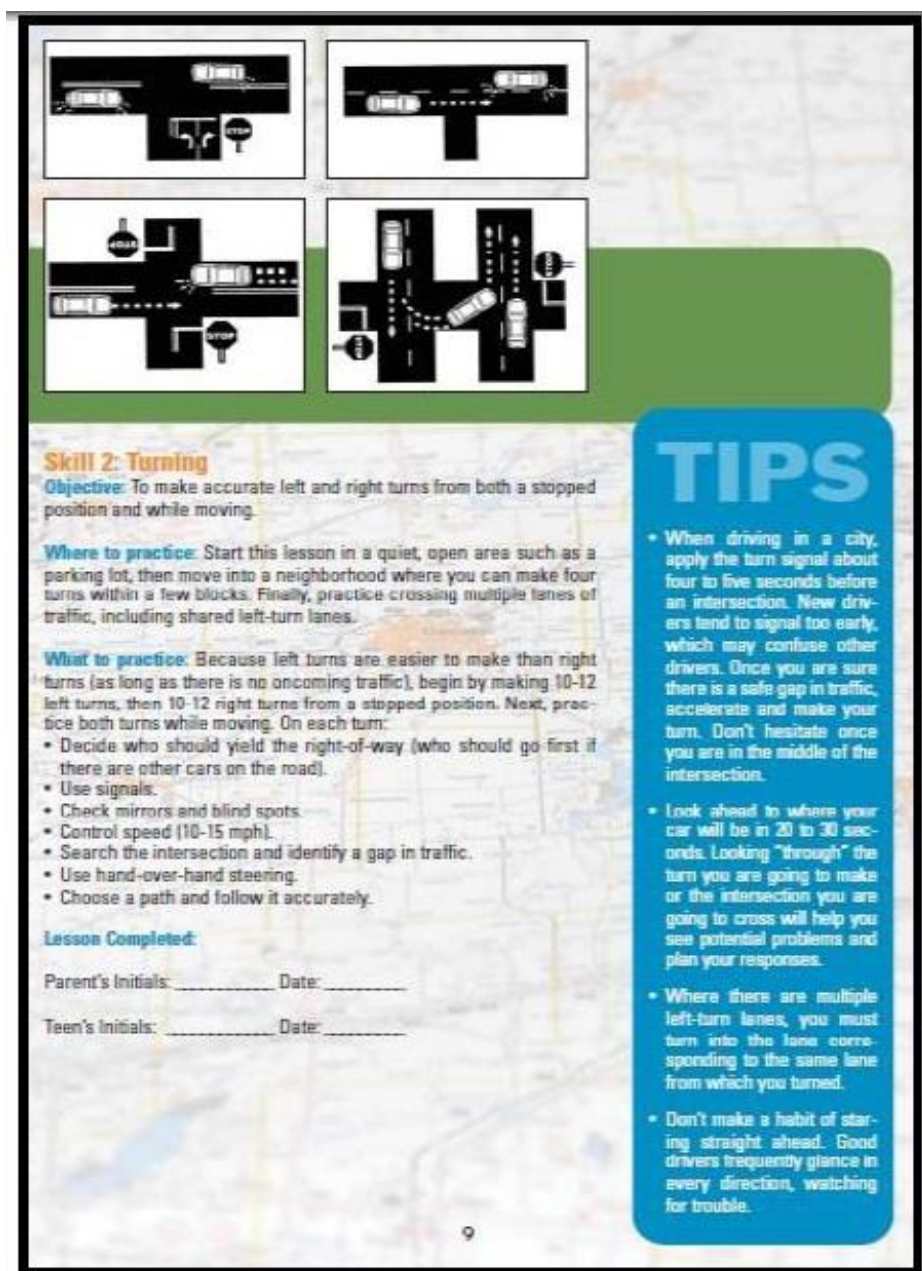


Figure 28: A sample of a handbook with images and safety tips. (Adapted: “Parent-Teen Driving Guide” by Illinois Department of Transportation, p.9.)

Chapter 4 gives the driving practice agenda and furthermore habitually made inquiries pages for parent's data. Section 5 specified about the technique to apply for a driver's permit upon the consummation of driver instruction preparing. Guardians are required to fill in imperative data in the structures and practice log to empower their high schooler to get a driving permit.

For California, the handbook is titled California Parent-Teen Training Guide from the Department of Motor Vehicles in 2011. This handbook talked about on driving sessions utilizing an approach where it expresses the guideline well-ordered for the entire procedure as opposed to separating it into parts. These guidelines depended on circumstances for instance, if their high schooler experience issues in turning left effectively, parents ought to take after the means, for example, backing off when moving toward the turn, trailed by complying with the signs or activity signals, at that point checking movement to one side, right, front and back. On the off chance that there are walkers they should yield and different strides to be taken after. Pictures are utilized for better understanding.

In this specific handbook there is likewise a Parent-Teen Driving Agreement where adolescents and their folks ought to comprehend and comply with the agreement consistently. This agreement ought to be filled by the two gatherings previously they can continue to any driving sessions.

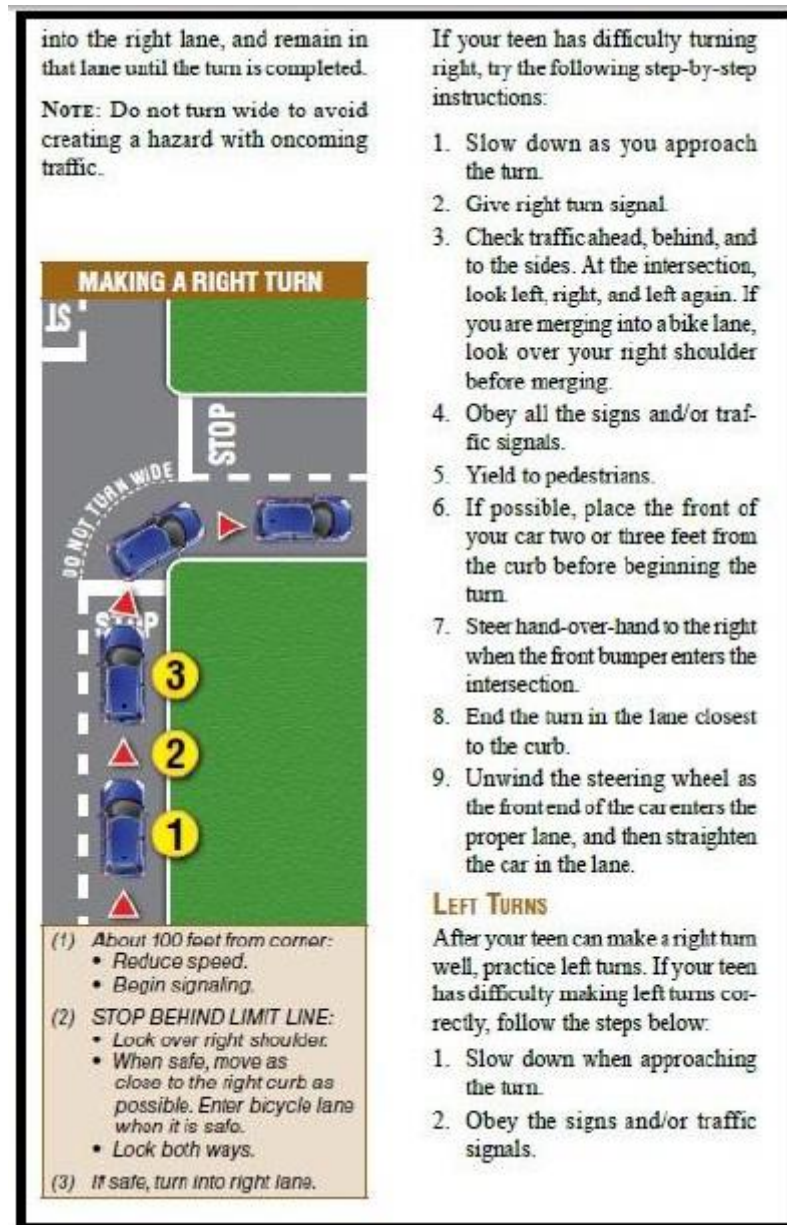


Figure 29: A sample of a handbook with images and tips. (Adapted: “California Parent-Teen Training Guide” by Edmund G. Brown Jr and George Valverde, 2011, p.10, copyright by Department of Motor Vehicles.)

The California Parent-Teen Driving Guide has also checklists that are used by parents only after their teens have finished practicing all the driving skills highlighted in this guide. Parents are to bring their teens to a long “test” ride. Finally this handbook also comes with a

driving log that needed to be filled by parents. A sample of checklist is illustrated as in Figure 30.

Locate the Controls Your teen locates the following controls and explains how they work: ☐ 4-way flashers. ☐ Emergency and parking brakes. ☐ Headlights. ☐ Heater/defroster. ☐ Horn. ☐ Windshield wipers. Before Starting the Vehicle ☐ Adjusts mirrors. ☐ Fastens safety belt. Starting the Vehicle ☐ 1. Vehicle is in "Park" or "Neutral." ☐ 2. Foot is on the brake. ☐ 3. Starts vehicle smoothly. Moving Forward ☐ 1. Signals. ☐ 2. Looks over shoulder before pulling into traffic. ☐ 3. Uses both hands on opposite sides of steering wheel. Stopping ☐ 1. Stops when necessary behind crosswalk or limit line. ☐ 2. Uses correct foot on brake pedal. Turns ☐ 1. Signals and slows for turns. ☐ 2. Begins and ends turns in correct lane. ☐ 3. Yields right-of-way when necessary. ☐ 4. Accepts legal right-of-way when safe. ☐ 5. Sees and reacts to hazards. Backing ☐ 1. Before moving, surveys the surroundings for possible obstacles. ☐ 2. Looks back over right shoulder when backing.	☐ 3. Checks mirrors and glances quickly to side while backing. Changing Lanes ☐ 1. Signals. ☐ 2. Checks mirrors. ☐ 3. Checks over shoulder. ☐ 4. Changes lanes safely. Parking on Hills ☐ 1. Signals. ☐ 2. Curls wheels properly. ☐ 3. Sets parking brake. ☐ 4. Signals and checks over shoulder before entering traffic. Parallel Parking ☐ 1. Signals. ☐ 2. Looks over shoulder while backing. ☐ 3. Yields to other vehicles when necessary. Entering the Freeway ☐ 1. Checks traffic flow. ☐ 2. Signals. ☐ 3. Times entry into freeway. ☐ 4. Checks over shoulder as he or she accelerates into gap in traffic. ☐ 5. Signals early and slows down on the exit ramp to posted speed limit. ☐ 6. Adjusts speed to road conditions. Defensive Driving Techniques ☐ 1. Checks mirrors frequently and before braking. ☐ 2. Checks cross streets before entering intersections. ☐ 3. Checks signal lights and signs. ☐ 4. Keeps eyes "moving" (watches sides and middle of road). ☐ 5. Keeps a "space cushion" around the car. ☐ 6. Follows at a safe distance.
---	--

Figure 30: A sample of a checklist. (Adapted: "California Parent-Teen Training Guide" by Edmund G. Brown Jr and George Valverde, 2011, p.25, copyright by Department of Motor Vehicles)

The Oregon Department of Transportation additionally distributed The Oregon Parent Guide to Teen Driving (oregon.gov, n.d.). In this handbook, guardians' parts are talked about, together with the Oregon Graduated Driver Licensing Law. Tips on managing adolescent driving are likewise featured and the utilization of a driving log was specified. The following substance is on the parent-youngster driving assentation where family rules are set to guarantee high schoolers are educated on the outcomes for damaging the standards or rules.

For this handbook, parents are required to do an activity to get comfortable with vehicle capacities. Teenagers should practice and display the capacity to work the apparatus selector, flag lights, headlights, brakes and gas pedals et cetera without the need to take a gander at the controls. Another activity is to recognize the blind sides of the driver in the auto. The action is completed and clarified utilizing a picture and steps, for example, Figure 31.

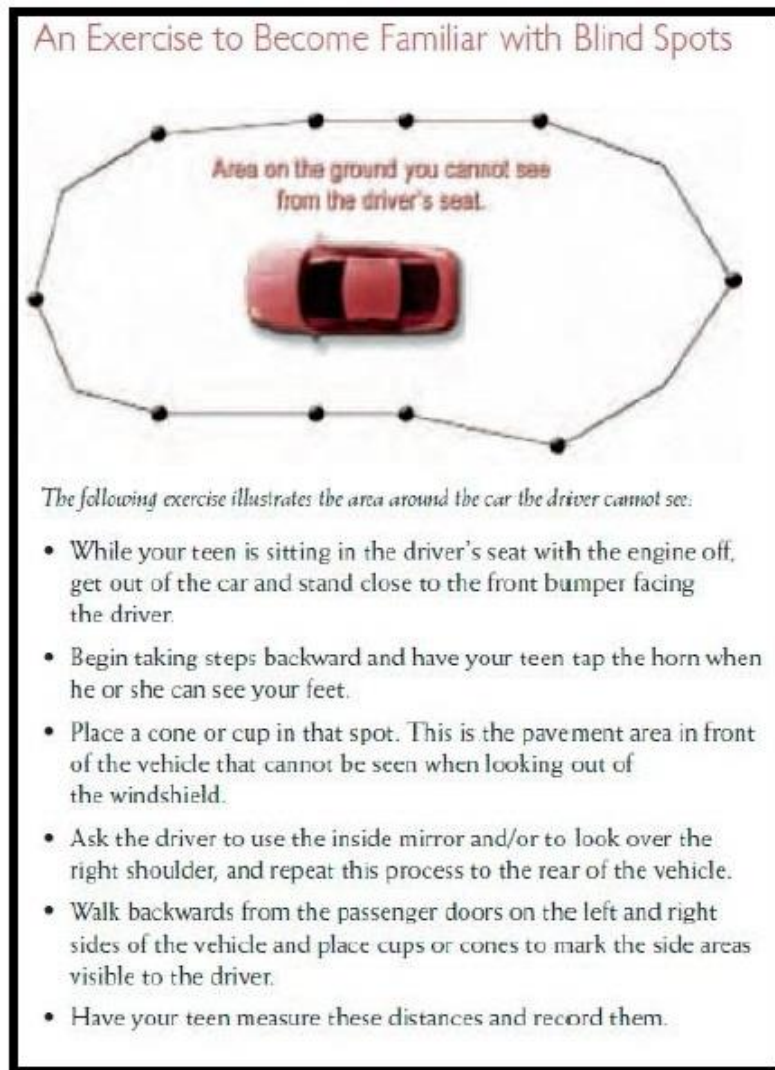


Figure 31: A sample of an exercise practice that can be carried out by parents and teens.
(Adapted: “The Oregon Parent Guide to Teen Driving” by The Oregon Department of Transportation, p.34, copyright Department of Motor Vehicles.)

For the driving aptitudes, the Oregon Parent Guide to Teen Driving handbook clarifies it well ordered, giving little pieces of definition to clear up the terms utilized. The substance of the driving sessions begins with fundamental driving abilities, trailed by well-ordered moves, at that point to the perplexing driving aptitudes, for example, Figure 32 below.

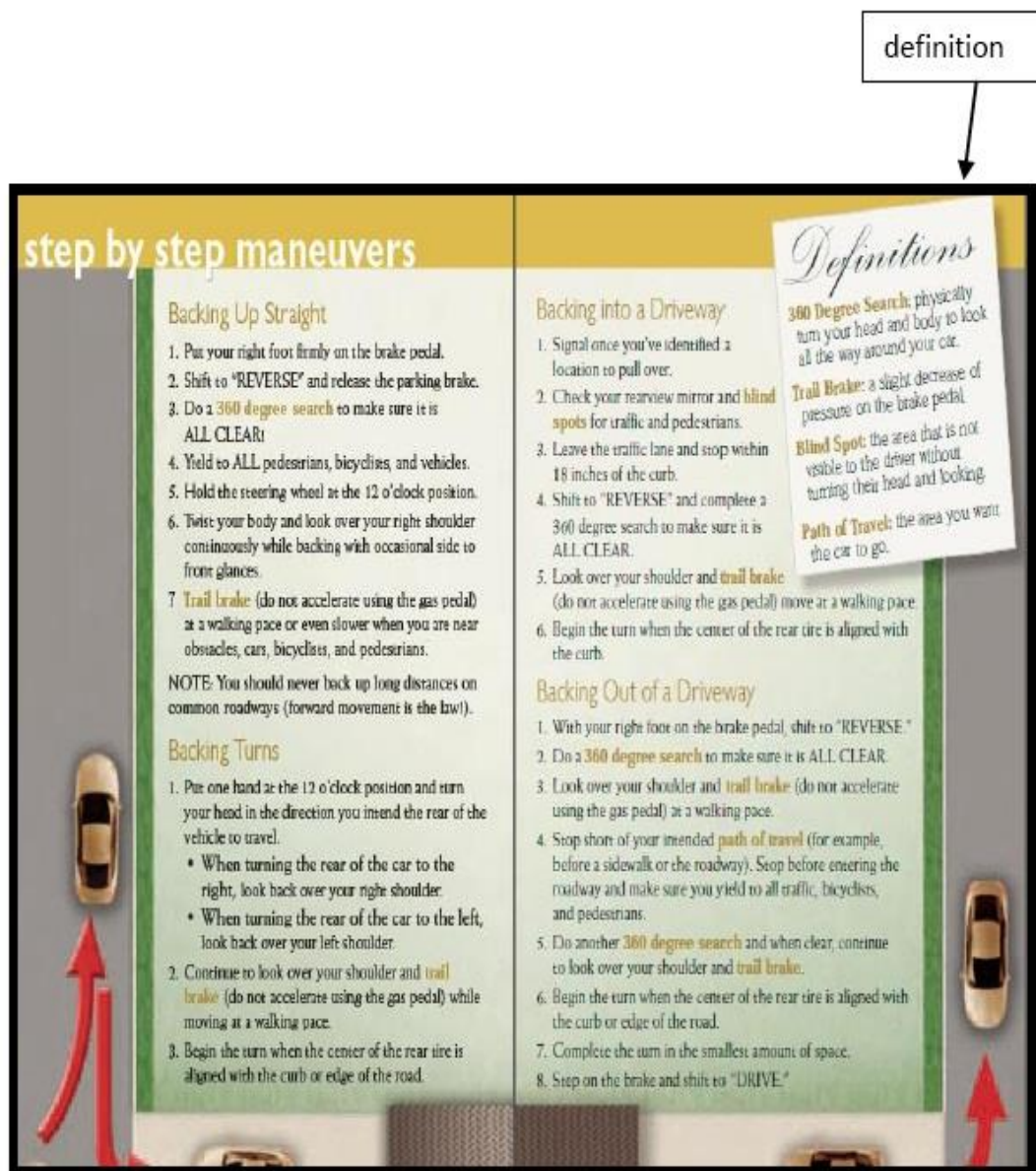


Figure 32: A sample of step-by-step manoeuvres and definitions. (Adapted: "The Oregon Parent Guide to Teen Driving" by The Oregon Department of Transportation, p.28, copyright Department of Motor Vehicles.)

4.2 Define Phase

In the characterize stage, this examination had characterized the objective of the investigation which was to decide the impacts of parental association on the driving information of beginner adolescent drivers. To accomplish the objective of this examination, there are essentials, for example, getting parental contribution in fledgling teenager's driving. This was finished by setting up a handbook which fills in as a rule for guardians be associated with fledgling youngster driving.

In planning the handbook, content investigation on accessible handbooks were done as one of the assignment examinations in which the necessities and parameters of learning circumstance was considered. Assignment examination was essential in instructional plan process on the grounds that the investigation endeavor to appreciate and express the strategies that students required to perform is critical in planning successful guideline and learning condition (Jonassen, Tessmer and Hannum, 2009). In this examination, students who are fledgling adolescent drivers were to perform driving abilities. Guardians included are to be educated on how their kids ought to play out their driving aptitudes through the handbook.

Guardians and amateur high schooler drivers were the important parts of the handbook for parental association in learner adolescent driving. Since they are the end clients of the handbook, they were incorporated into the outlining of the handbook appropriate from the earliest starting point to the end. Guardians and their high schoolers were asked on the kind of visual they incline toward in the handbook, alongside their contribution on the instructional methodologies to their want. Their productive criticisms and recommendations were arranged and took into contemplations.

In the underlying stages after the harsh type of the handbook was finished, it is called as single-way model. This model was tried on the end clients which are guardians and their amateur teenager drivers to decide the reason (Willis, 2000). The criticisms were appeared in Table 9.

Table 9: Feedbacks from shareholders and revisions

Feedbacks/ comments	Revision
Changes needed on the checklists pages so that parents are able to easily glance over which activity in the driving session were not done completely.	A tick box of each checklist page were done.
Contents in references and guidelines were too lengthy thus reduce interest of parents and teens to read.	Contents are simplified into point forms and parents were able to easily take note on the important tasks and memorize the tasks needed to be carried out.
Making the handbook more interactive by posing questions and leaving empty spaces for parents to fill in.	Questions regarding on the locations for parents to carry out the driving sessions allow parents to think and indicate early the exact location within their residential place to carry out the activity in safe environment.

These advantageous remarks were the gainful approach in the plan procedure arrange (Gomol, 1990). The underlying handbook which is known as the single-way model handbook was currently called alpha form of the handbook after changes were made. Utilizing the R2D2 instructional model, the outline procedure was recursive where the handbook was assessed every once in a while when it was likewise in the plan stage. The contribution of Sarawak Deputy Director in the plan procedure included into other supplementary components in the handbook to achieve the beta adaptation of the outline procedure of the handbook..

4.3 Dissemination Phase

In this study, the dissemination phase included final packaging of the learning materials which is the handbook and exercise book for parents on novice teen driving and the adoption of the handbook by parents. Summative evaluation was done using quasi-experimental design to identify the performance of novice teen driver's driving knowledge between before and after the intervention programme was carried out.

The dissemination phase of this study was explained in detail in the methodology of this study, which was in Chapter 3. Summative evaluation was done using multiple group-pretest posttest quasi experimental design with results and discussions included in Chapter 5 of this study.

CHAPTER 5

ANALYSIS AND FINDINGS

5.0 Overview

In this study, the results from evaluations are the empirical data used to find out the effects of parental involvement on the driving knowledge in novice teen driving, as implied by the post-test score of the pretest-posttest of the three different learning modes: (a) without parental involvement and without handbook, this mode is used as the control group, (b) without parental involvement with handbook, and (c) with parental involvement and handbook.

The results taken from this quasi-experimental study through data analyses are presented in this chapter. Analyses such as descriptive statistics analysis, one-way analysis of variance (ANOVA), bivariate Pearson product-moment correlation analysis, one-way analysis of covariance (one-way ANCOVA), two-way analysis of covariance (two-way ANCOVA) as well as post hoc pair wise comparisons for the analysis of covariance using /lmatrix command were included in the variety of statistical techniques. Data were gathered and analysed using Statistical Package for the Social Science (IBM SPSS Statistics 23).

This chapter also describes the hypothesis on the effects of parental involvement in novice teen driving based on the post-test score of the pretest-posttest carried out in the research. The overall findings of the research is presented. The pretest scores and post-test scores used in this research was changed to percentage values in all statistical analyses.

5.1 Characteristics of Sample

Participants were chosen from two secondary schools based on intact classes. In this study, there was a total of 135 Form Six students participated. In spite of that, out of the 135 students, 11 of them were not counted in the analysis because of attrition – they were absent either in the pretest or posttest during the time of testing. Therefore, only 124 participants' data were gathered in the analyses. Altogether there are 34% of the population were made up of male participants and 66% were female participants. The mean age of the participants was 17.81 years old.

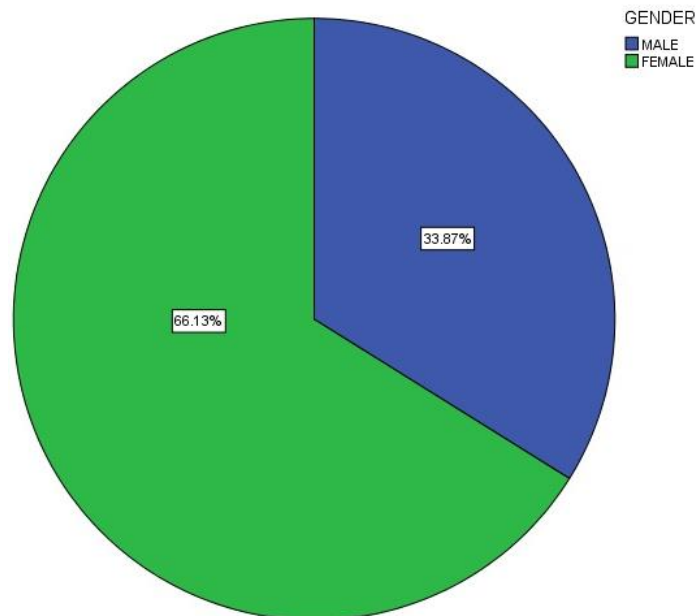


Figure 33: Distribution of participants based on gender

5.2 Distribution of Learners

In this study, all the participants were distributed into three separate groups. Each of the groups were placed to one of the three different learning modes, which are the control group, a group with handbook provided but no parental involvement and another group with both

handbook provided and parents involved. Table 10 describes the grouping of participants of different learning modes.

Table 10: Learners' distribution across the learning modes

Learning mode	Number of learners
Control Group	40
Handbook	39
Handbook with Parental Involvement	45
Total	124

5.3 Appropriateness of Covariate

One of an important criteria of a covariate that is should be a continuous variable. Covariate were measured before any interventions or treatments were carried out. The reliability of the measurements were calculated and correlated significantly with the dependent variable (Stevens, 1996; Tabachnik & Fidell, 1996). In this study, the pretest score was made a covariate as it is a continuous variable and it was done before any interventions were exposed to the participants to prevent any impacts of intervention towards the pretest score.

5.3.1 Reliability of Pretest

A reliability test was done where the Cronbach's alpha reliability coefficient was 0.71, indicating that the test were satisfactorily reliable.

5.3.2 Homogeneity of Pretest Score

The *Sig.* value shown in Table 11 was .492. With a value of greater than 0.05, the variance in pre-test score was similar for each of the three learning modes in this study.

Table 11: Levene's test of equality of error variance of pretest score across three learning modes

Levene statistic	<i>df1</i>	<i>df2</i>	<i>Sig.</i>
0.714	2	121	.492

One-way analysis of variance (ANOVA) was also carried out to discover if the three learning modes were homogenous in regard of the students' existing knowledge of the subject matter. This was done using the pretest score and Table 12 shows the results of this analysis. From the table, it shows that there was no significant difference in the pretest score for the three learning modes, $F(2,121) = 2.446$, $p = 0.091$. With the value of $p < 0.05$, this signified that the existing knowledge of the subject matter were homogenous.

Table 12: One-way ANOVA for pretest score by learning mode

Source	<i>Df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Sig.</i>
Between groups	2	700.263	350.132	2.446	0.091
Within group	121	17322.922	143.165		
Total	123	18023.185			

5.3.3 Correlation between Pretest Score (Covariate) and Post-test Score (Dependent Variable)

To test for any significant relationship between pretest score and post-test score, Pearson product-moment correlation coefficient was done. The purpose of this investigation is to prevent from administering a variable that has implausible relationship with the dependent variable is incoherent (Pallant, 2001).

By referring to the decision rule for assessing if the relationship is significant, the value of Pearson correlation were interpreted based on the suggestions made by Cohen (1988). For this study, the Pearson product-moment correlation analysis demonstrated in Table 13 that there is a strong correlation between the pretest score and post-test score, $r(124) = 0.418$, where $p < 0.005$. On that account, even though there is homogeneity of the pretest scores from the three learning modes based on Levene's test and ANOVA, as shown in Section 4.3.2, the result from this Pearson product-moment correlation indicated that it is appropriate to use pretest as a covariate in the analysis of covariance (ANCOVA). This was done to tackle the effect ascribe to the existing knowledge of subject matter.

Table 13: Pearson product-moment correlation coefficient

Source		<i>Pretest</i>	<i>Post-test Score</i>
Pretest	Pearson Correlation	1	0.418**
	Sig. (2-tailed)		.000
	N	124	124
Total	Pearson Correlation	0.418**	1
	Sig. (2-tailed)	.000	
	N	124	124

**.Correlation is significant at the 0.01 level (2-tailed)

Compare Means

The mean score of pretest in comparison with the posttest was carried out in this study by statistically analysing the paired t-test of pretest scores and posttest scores. The summary data is shown in Table 14 and Table 15.

Table 14: Paired samples statistics

Pair		Mean	N	Standard Deviation	Standard Error Mean
1	Pretest	12.98	124	2.421	0.217
	Posttest	18.40	124	3.656	0.328

Table 15: Paired samples test

		Paired Differences						
	Mean	Std deviation	Std. Error Mean	95% Confidence Interval of the Difference		t	df	Sig. (2-tailed)
				Lower	Upper			
Pretest	0.581	3.453	0.310	-0.033	1.194	1.873	123	0.063

From Table 14 and Table 15, there is a strong evidence ($t = 1.873$, $p = 0.063$) that parental involvement improves scores. In this data set, it improved marks, on average by approximately 1 point. The 95% confidence interval is from -0.03 to 1.2. This confirms that, although the difference in marks is statistically, it is relatively small.

5.4 Testing of Hypothesis

Information gathered was investigated utilizing ANCOVA. For this exploration examination, the pretest scores was utilized as the covariate. In this segment, the outcomes from the examination is portrayed by relating it to each of the theories recorded in Chapter 1. The

suppositions fundamental the ANOVA was inspected via doing a grouping of tests before the investigation was finished. This is to ensure the legitimacy of the information investigated (Rutherford, 2011). Point by point portrayals on how the satisfaction of the ANCOVA presumptions are appeared in the consequent subsection.

5.4.1 Testing Assumptions of ANCOVA

Before ANCOVA is conducted in this research, there are assumptions that is fulfilled.

1. Assumption 1: A dependent variable that is continuous

In this study, the dependent variable is the post-test score which is derived from the difference between pre-test and post-test. The post-test score is measured from 1 to 100, which means that the first assumption in ANCOVA was not violated.

2. Assumption 2: Independent variable consists of two or more categorical, independent groups

The independent variable in this study would be the type of groups which each of the group are independent and unrelated to each other. The types of groups are divided into three categories which are the control group, non-parental involvement group and parental involvement group. Therefore, the second assumption of ANCOVA was fulfilled.

3. Assumption 3: Covariate variable are measured in continuous level

A covariate means continuous independent variable which are added to ANOVA model to create ANCOVA model. The covariate acts in adjusting the means of the

groups of the categorical independent variable where it is similar to normal multiple regression but it is usually of less direct importance. In this study the covariate is the pre-test scores, which was measure from 0 to 100. This continuous level of measuring ensures that the third assumption for ANCOVA has been fulfilled.

4. Assumption 4: Random sampling

The first assumption is using random sampling in this research. ANCOVA uses the scores collected are gained from the population through random sampling. In real-life research, this might not be always feasible.

The sample in this study derived from Form Six students in two selected secondary schools in Kuching and Serian districts. Two or three intact classes were chosen in each school and students who are qualified were placed into one of the learning modes based on their intact classes. Qualified students are those who had their driving license within recent years. ANCOVA is used in this study as the sample subjects were not randomly assigned to contrasting groups, and using existing groups instead (Wildt & Ahtola, 1978; Pallant, 2001).

5. Assumption 5: Independence of observations

The second assumption is important because the result will be affected and inaccurate if it is violated. Each group in this research must have a measurement which is independent of one another. The data collected was tested to see that each of the group do not have impact on each other.

For this study, all participants that were involved had their pretest and posttest at the same time, using the same handbook and given the same duration of time to complete the handbook. Materials given out were exactly the same to steer clear from unnecessary interaction which can violate this assumption.

6. Assumption 6: Normal distribution of the dependent variable

Sixth assumption that needs to be fulfilled was that the dependent variable should be normally distributed. The score distributions from the population for this research where samples were collected is assumed to be normal.

To assess the normal distribution of the scores from sample size, Kolmogorov-Smirnov statistic test were done and shown in Table 16. For Kolmogorov-Smirnov statistics test, a significant value of more than 0.05 will indicate that the distribution of dependent variable is normal. For this study, the significant values for the whole sample and each learning mode were less than 0.05, except for non-parental involvement group. This shows that the third assumption which tests on the normality is violated.

Table 16: Tests of normality

Learning mode		Kolmogorov-Smirnov ^a		
		Statistic	df	Sig.
Gain score	Overall	0.089	124	0.018
	Control	0.181	40	0.002
	Non-Parental Involvement (B)	0.134	39	0.073*
	Parental Involvement (C)	0.134	45	0.041

^a Lilliefors Significance Correction

In spite of the violation of the assumption, the test will likely yield reasonably accurate results (Steven, 1996; Gravetter & Wallmau, 2000) as it is usual for the test to come out with a non-significant result when the sample size is larger or of more than 30 sample sizes (Pallant, 2001).

Because of the high sensitivity of the skewness and kurtosis values in large sample sizes which impart details involving the distribution of scores on continuous variables, a suggestion which is to investigate the shape of the distribution can be done (Tabachnik & Fidell, 1996). These investigations are carried out by looking at the shape from a histogram of all the learning mode.

Histograms in Figure 34, Figure 36, Figure 38 and Figure 40 depicted the actual shape of the distribution for the overall, Control Group, Non-Parental Involvement Group and Parental Involvement Group respectively. Based on these histograms, the post-test scores for all the modes gave the impression that they are reasonably normally distributed. To reassure the normality, graphs of normal probability plots such as in Figure 35, Figure 37, Figure 39 and Figure 41 were inspected. From the figures aforementioned, the observed value for each score was plotted against the expected value from the normal distribution and fairly straight line were depicted in each of the plots. These straight lines implies that the distributions are normal (Hair et al., 1998; Pallant, 2001) even though the values in Kolmogorov-Smirnov statistics stipulated otherwise.

To ensure that the assumptions are not violated, transformation can be done in order to obtain a valid results from the usage of parametric tests such as one-way ANCOVA. This is because in studies it is not uncommon for some or all of the groups to have data that are not normally distributed. In this study, the data were seen to be positively skewed and in order to

continue using one-way ANCOVA to analyse, transformation is applied to the data so that the previously non-normally distributed data can be normally distributed.

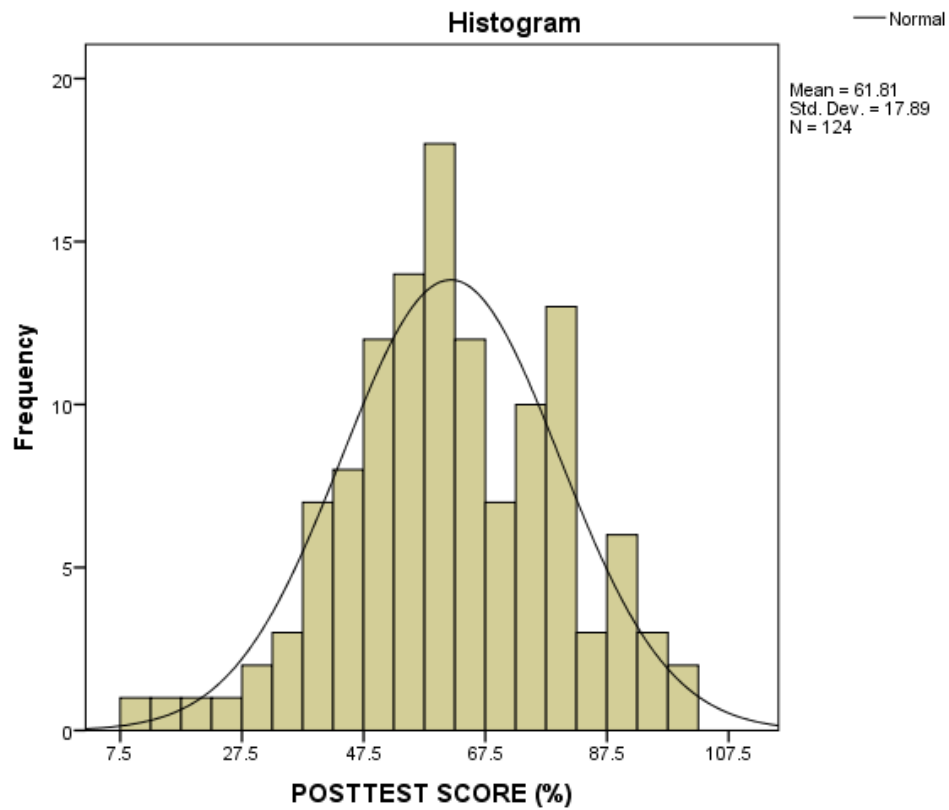


Figure 34: Histogram of post-test score for the whole sample

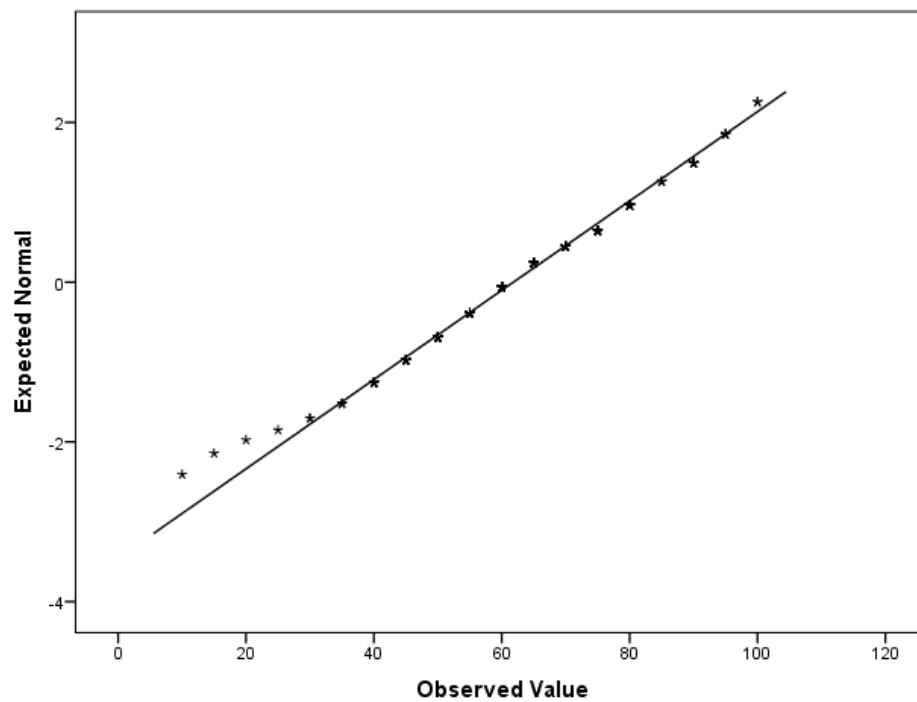


Figure 35: Normal probability plot of post-test score for the whole sample

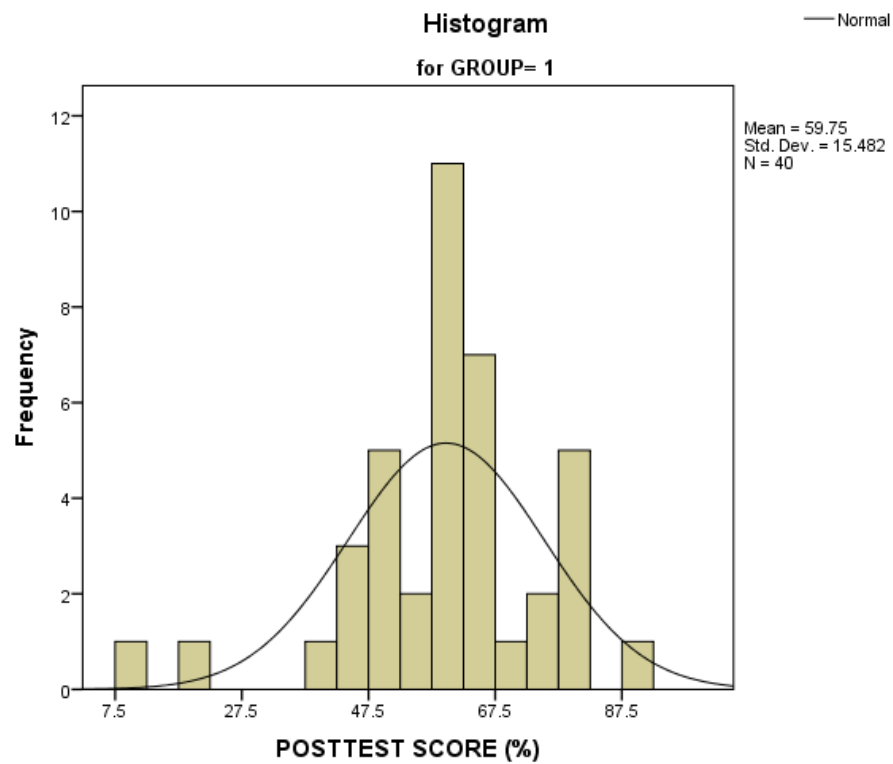


Figure 36: Histogram of post-test score for Control Group

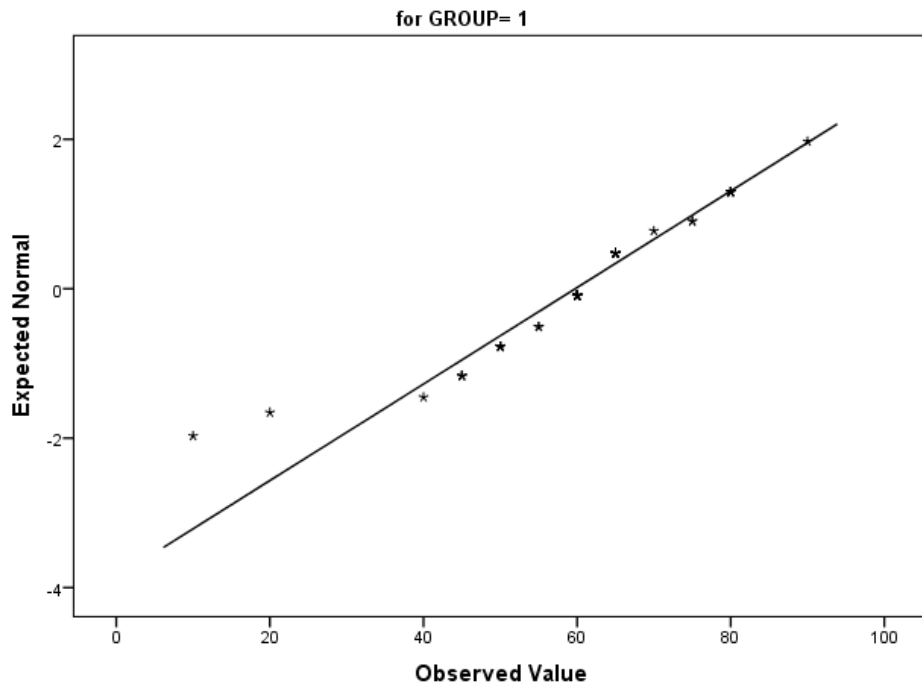


Figure 37: Normal probability plot of post-test score for the Control Group

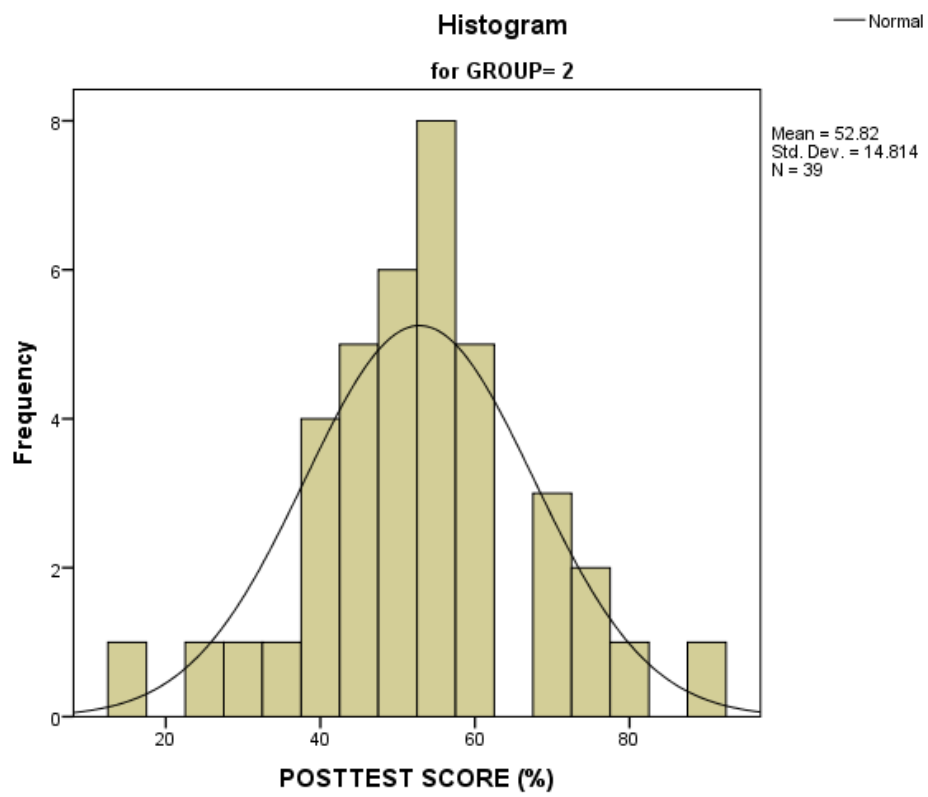


Figure 38: Histogram of post-test score for Non-Parental Involvement Group (B)

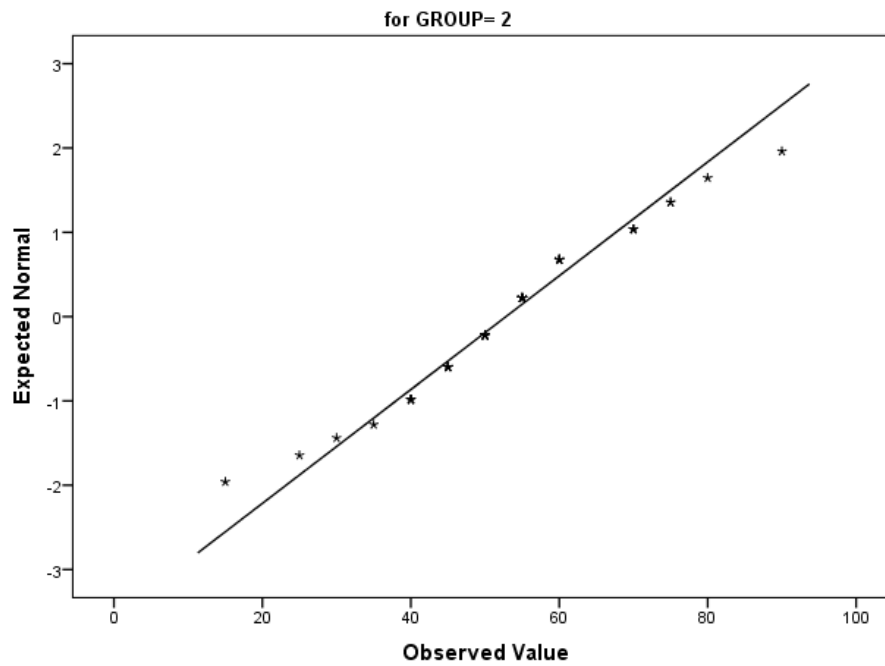


Figure 39: Normal probability plot of post-test score for Non-Parental Involvement Group (B)

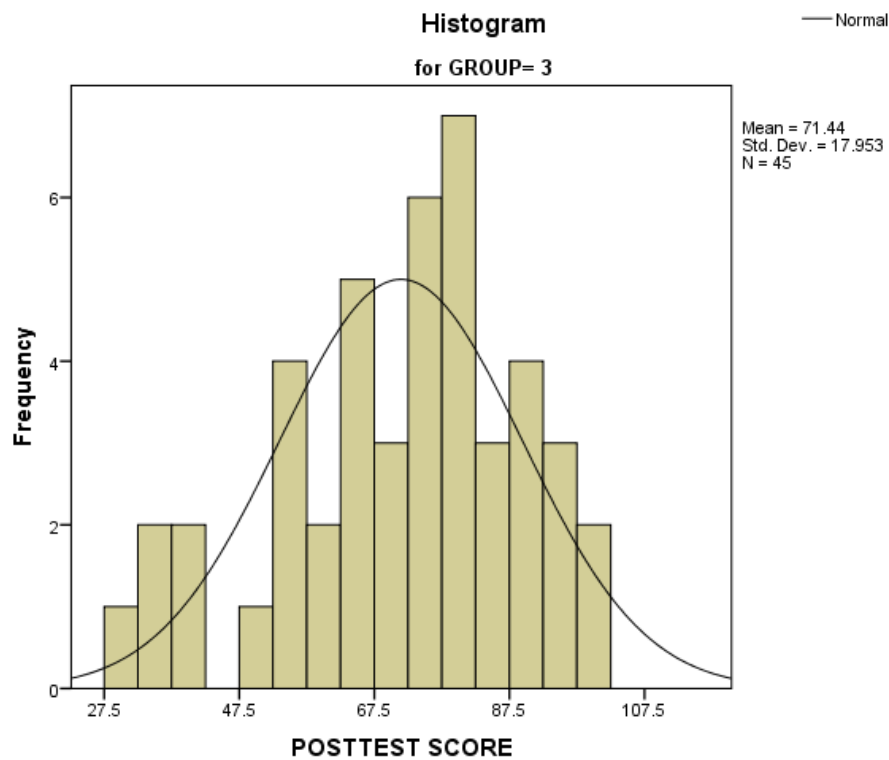


Figure 40: Histogram of post-test score for Parental Involvement Group (C)

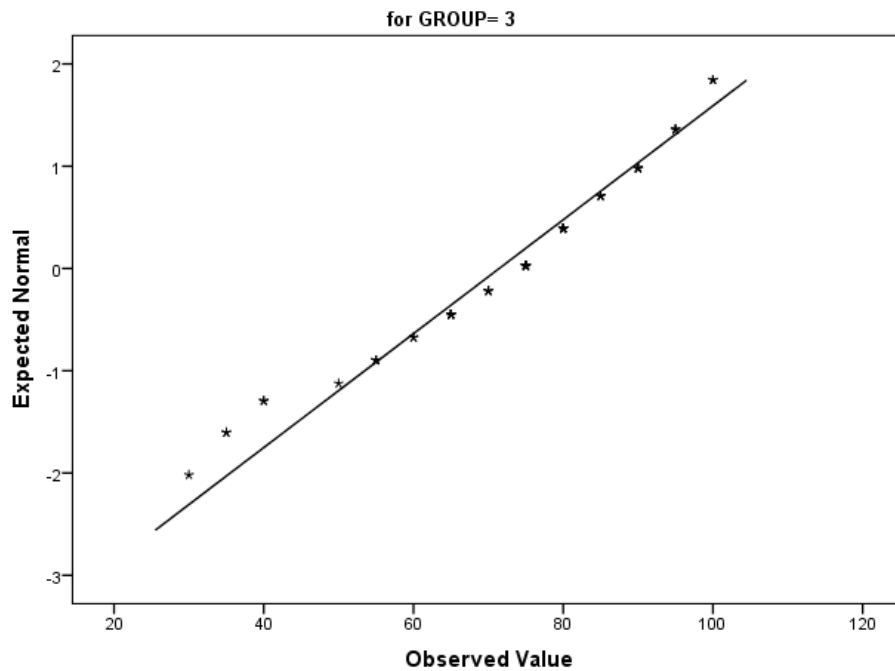


Figure 41: Normal probability plot of post-test score for the Parental Involvement Group (C)

7. Assumption 7: Homogeneity of variance of dependent variable

In ANCOVA, the variance of dependent variable is assumed to be equal. The group variance are similar to each other where the standard deviation will not be greater than the other. This is done using Levene's test. For this study, the results was shown in Table 17.

Table 17: Levene's test of equality of error variances of post-test score across the three groups

<i>F</i>	<i>df1</i>	<i>df2</i>	<i>Sig.</i>
1.717	2	121	0.184

Based on the table, it is shown that the Levene's test is not significant, indicating that the group variances are unequal. The Sig. value of more than 0.05 suggested that the assumption of homogeneity of variance was not violated.

8. Assumption 8: Linearity between the dependent variable and the covariate

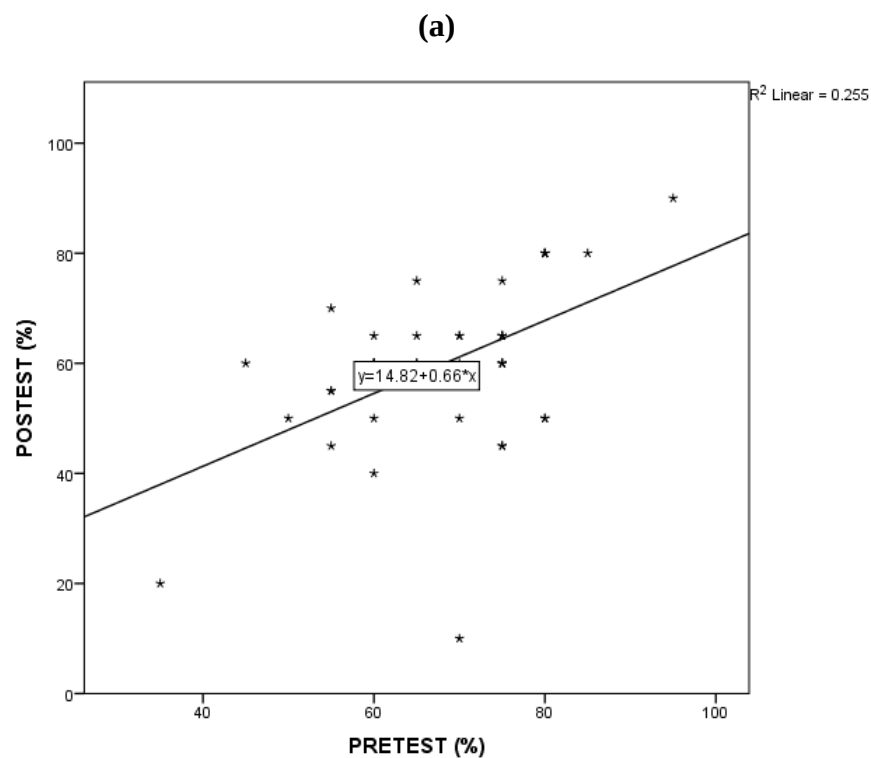


Figure 42: Scatter plots between post-test score and pretest score for (a) Control Group, (b) Non-Parental Involvement Group, and (c) Parental Involvement Group

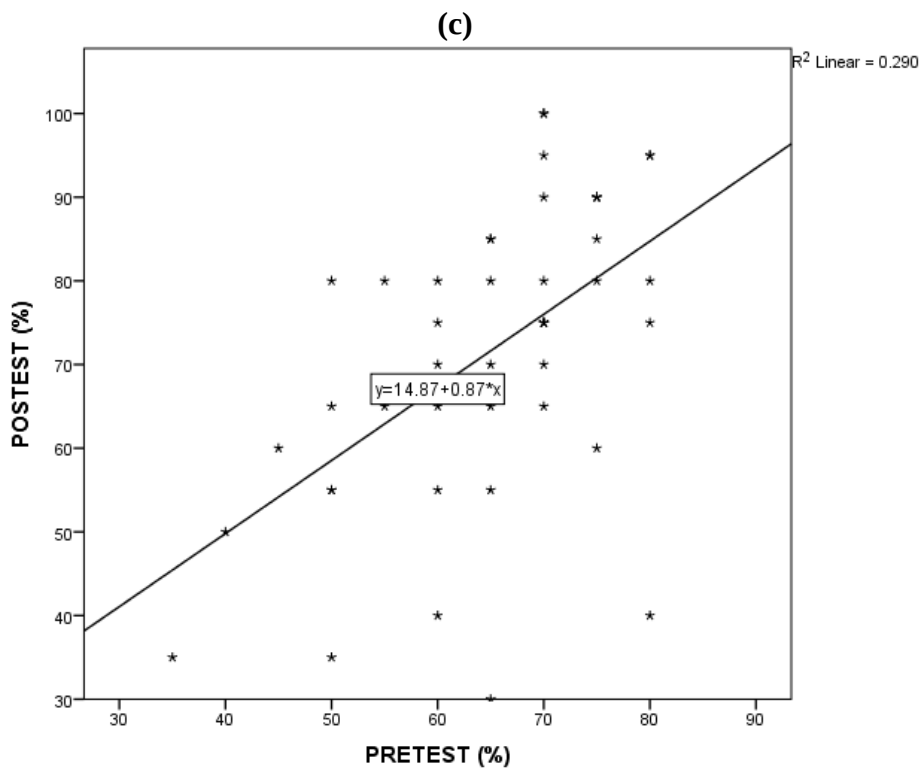
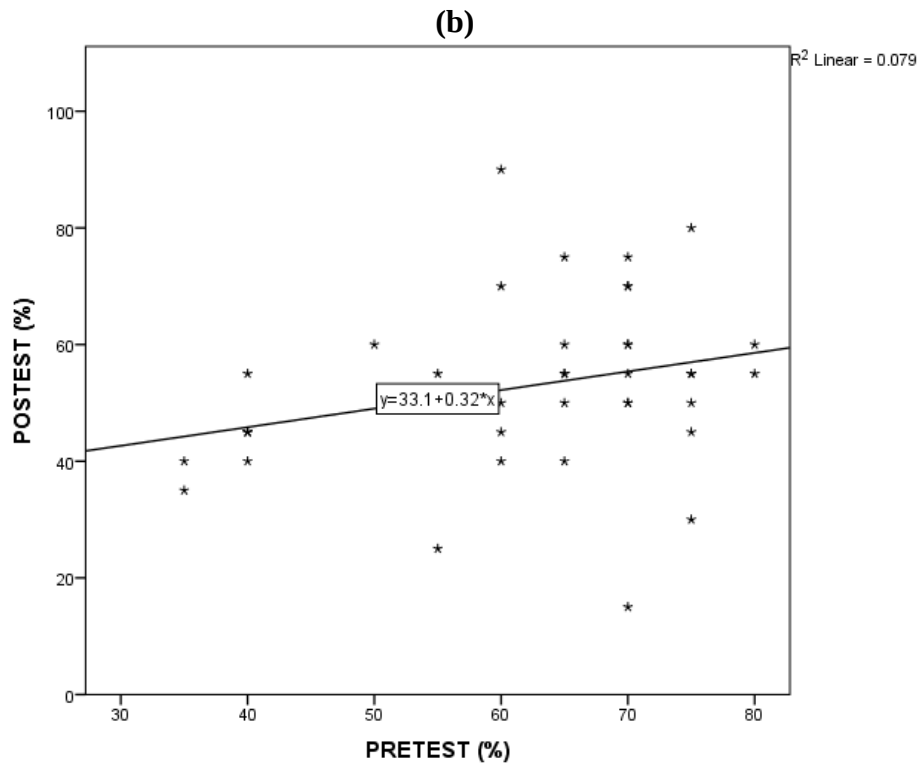


Figure 42: Scatter plots between post-test score and pretest score for (a) Control Group, (b) Non-Parental Involvement Group, and (c) Parental Involvement Group continued

A linear relationship should exist between dependent variable and covariate. This is done at the beginning of ANCOVA to make sure the covariates are truly confounding variables. Based on the scatter plots depicted in Figure 42, a linear relationship was clearly demonstrated between the dependent variable (post-test score) and the covariate (pretest score) for each group. Therefore, the assumption of a linear relationship was not violated. The strength of the relationship between the dependent variable and the covariate can be interpreted from the R squared value. For the Control Group, twenty-five percent (25%) of the variance in the post-test scores was explained by pretest scores, 8% for the Non-Parental Involvement Group and 29% for the Parental Involvement Group.

9. Assumption 9: Homogeneity of regression slopes

Another assumption in ANCOVA is the homogeneity of regression slopes. Covariate and other experimental intervention or treatment should not have interaction or else this violation would result in less accurate analysis results. For this assumption, the result of the homogeneity is calculated statistically and shown in Table 18. From the table it is shown that the interaction between covariate and intervention has a significant value of more than 0.05, resulting in it being insignificant. With that analysis, the homogeneity of regression slopes assumption was not violated.

Table 18: Homogeneity of regression slopes test

Dependent variable: Pretest score

Source	Type III SS	df	MS	F	Sig.
Group	322.344	2	161.172	0.770	0.465
Pretest score	6567.337	1	6567.337	31.364	0.000
Group x Pretest score	938.276	2	469.138	2.240	0.111
Error	24708.335	118	209.393		
Total	513175.000	124			

5.4.2 Testing of H_{01}

H_{01} : There is no significant difference in the score of the post-test on driving knowledge between parental involvement group and non-parental involvement group.

H_{02} : There is no significant difference in the score of the post-test on the driving knowledge between parental involvement group and the control group.

H_{03} : There is no significant difference in the score of the post-test on the driving knowledge between control group and non-parental involvement group.

5.4.2.1 One-way ANCOVA

In this study, a one-way analysis of covariance (ANCOVA) was carried out to collate the effects of parental involvement in novice teen driving. The analysis in this study was made to discover whether there was statistically significant difference in the adjusted mean of the dependent variable (post-test score) between the three groups, while controlling the pretest,

which can have effect in the dependent variable. Parental Involvement and Non-Parental Involvement was the independent variable in this study and the dependent variable was the post-test score. The covariate for this analysis was the participants' pretest score. Before analysis of covariance was conducted, a preliminary checks were carried out to make sure that the assumptions was not violated. Assumptions in ANCOVA includes assumptions of normality, homogeneity of variances as well as homogeneity of regression slopes, assumptions of linearity and the reliability of the covariate.

Based on Table 19, after altering the pre-test scores on the learning modes, there was a significant difference between the three learning modes on the post-test scores, $F(2, 120) = 16.176$, $p = 0.000$. The value of Partial Eta Squared, η^2 shows the effect size of 0.211, indicating that it has large effect size (Cohen, 1988). The general rule of thumb presented by Cohen, Miles & Shevlin (2001) for partial eta squared informs that 0.01 is a small effect, 0.06 is a medium effect while 0.14 and above is a large effect. There is also a relationship between pre-test scores and the post-test scores with a large effect size of $\eta^2 = 0.195$.

Table 19: One-way ANCOVA of post-test score by group with pretest score as covariate

Dependent variable: Post-test score

Source	Type III SS	Df	MS	F	Sig.	η^2
Covariate						
Pretest score	6221.744	1	6221.744	29.111	0.000	0.195
Main effect						
Group	6850.362	2	3425.181	16.026	0.000	0.211
Error	25646.611	120	213.722			
Total	513175.000	124				

$p < 0.05$

The means, standard deviations, adjusted means and standard errors of the dependent variable (post-test score) based on groups were presented in Table 20. The values are

descriptive and gives an overall impression of what the data is showing such as whether the participants are equal in each groups, groups having a higher or lower mean score and what it means for the analysis results and if all of the groups' variation is homogenous. The values shown in Table 20 also cover any adjustments made by the covariate in the analysis, and the estimate table is interpreted where the mean values of the groups of the independent variable have been altered by the covariate (pre-test score). After adjustments by the covariate, the values shown in the estimate table is called adjusted means.

Table 20: Means, standard deviations, adjusted means, and standard errors of post-test score by learning mode

Learning mode	Post-test Score (%)			
	<i>M</i>	<i>SD</i>	Adjusted <i>M</i>	<i>SE</i>
Control, N = 40	59.75	15.482	57.955 ^a	2.335
Non-Parental Involvement, N = 39	52.82	14.814	54.592 ^a	2.364
Parental Involvement, N = 45	71.44	17.953	71.505 ^a	2.179

Note: ^a Evaluated at covariate appeared in the model: pretest = 64.88

Based on Table 20, the value of standard deviation was shown and used to measure the variability of the dependent variable (post-test score). Standard deviation informs on the heterogeneity of the variances, which is demonstrated in the non-parental involvement group, by having a smaller value as compared to control group and parental involvement group. This means that the non-parental involvement group are less heterogeneous. For the adjusted mean, parental involvement has the greatest value of adjusted mean (adjusted *M* = 71.505), control group had a smaller adjusted mean (adjusted *M* = 57.955) and the non-parental involvement group had the smallest adjusted mean (adjusted *M* = 54.592).

5.4.2.2 Pair wise comparisons for one-way ANCOVA

As the result in ANCOVA showed that there is a statistically significant difference between the adjusted group means, a continuation post-hoc pair wise comparison is carried out to know where the differences lie among the adjusted means. The post-hoc pair wise differences is shown in Table 21, using the Bonferroni post-hoc test, which controls for the Type I error across the three pair wise comparisons.

Table 21: Summary of post hoc pair wise comparisons across the three groups

Comparison groups	Post-test score	
	Adj. mean difference	Sig.
Parental Involvement vs. Non-Parental Involvement	16.913	0.000
Parental Involvement vs. Control	13.551	0.000
Control vs. Non-Parental Involvement	3.362	0.955

Note: The adjusted mean difference shown in this table is the subtraction of the second group (on the lower line) from the first group (on the upper line); for example, 16.913 (adjusted mean difference) = adjusted mean of Parental Involvement Group – adjusted mean of Non-Parental Involvement Group

Based on Table 21, the value for the comparisons between parental involvement and non-parental involvement showed a value of less than 0.5, indicating that it is significant. Similarly, the comparison between parental involvement and control group shows a value of less than 0.5, demonstrated a significant effect on participant's performance in the test. The comparison between control and non-parental involvement group however, showed a value of more than 0.5, implying a non-significant value.

H_{01} : There is no significant difference in the score of the post-test on driving knowledge between parental involvement group and non-parental involvement group.

From Table 21, the hypotheses of this study can be analysed and determined whether it is accepted or rejected. For the first hypothesis, the null hypothesis is accepted where there is no significant difference in the score of the post-test on driving knowledge between parental involvement group and non-parental involvement group.

H_{02} : There is no significant difference in the score of the post-test on the driving knowledge between parental involvement group and the control group.

The null hypothesis for the second hypothesis in this study is accepted as there is no significant difference in the score of the post-test on the driving knowledge between parental involvement group and the control group.

H_{03} : There is no significant difference in the score of the post-test on the driving knowledge between control group and non-parental involvement group.

The null hypothesis for the third hypothesis in this study is rejected as there is no significant difference in the score of the post-test on the driving knowledge between control group and non-parental involvement group.

5.5 CAPE Model: Enactment Stage

To answer the sub-research question of this study which was to see if there are any changes to the driving behaviour of novice teen drivers after intervention programme was carried out. In CAPE model, the changes of behaviour is in the enactment stage. To test for the enactment stage of the CAPE Model, data were collected three months after the treatment was exposed to participants. Data was collected in the form of short interview and participants with their parents were contacted. Questions such as noticing changes in driving even after the treatment exposed has ended months after, whether parents or participants still practice similar kind of treatment, any differences between the two stages in terms of practicing collaboration and parental involvement on novice teen driving, and whether there is an effect between before and after the driving session intervention programme.

Based on the collective interview made, it is shown that 67 percent of participants and parents noticed changed in driving even after the driving session treatment has ended. Participants' parents described that their teen drivers have improved their driving skills and are more cooperative as compared to before the treatment was introduced. 33 percent of participants reported that they did not notice any changes in driving after the driving session treatment has ended.

For research question number 2, 95 percent of participants' parents revealed that they do practice similar kind of collaboration such as conducted in driving session without the usage of the handbook for parental involvement on novice teen driving. They described that they practiced it whenever they are on the road, indirectly as they go. Only 5 percent stated that they do not practice similar kind of parental involvement. This indicated that this study has

successfully inculcate enactment among parents to involve themselves in their novice teen driving.

When parents were asked to compare the differences between before the driving session treatment was introduced and after the driving session ended three months ago in terms of practicing collaboration and parental involvement on teen driving, only 29 percent of parents described that they have seen any differences while the other 71 percent have not seen any difference between before and after treatment was introduced. This can be explained by the short duration of treatment time in which there are no visible difference between before and after driving session treatment.

Participants and parents were also queried on whether they think there is any effect between before and after the driving session treatment. Based on the data analysis of the interviews, 62 percent claimed that there is an effect between before and after driving session treatment. 38 percent stated that they did not find any effect from the treatment whether it is before or after treatment was introduced. The overall results can be viewed in Appendix Y.

5.6 Discussion

5.6.1 Effects of the interventions on driving knowledge

The Parental Involvement had significant positive effect on the driving knowledge among novice teen drivers, as measured by participants' performance (post-test scores). Participants who were introduced to Parental Involvement significantly performed better when compared to participants in the Non-Parental Involvement Group and Control Group. Even though there was no significant difference in the outcome of the experimental results between participants in Non-Parental Involvement Group and Control Group, participants in Non-

Parental Involvement Group outperformed participants in Control Group which may be explained by the presence of the handbook provided.

5.6.1.1 Parental Involvement Group versus Control Group

Parental involvement has been seen to positively correlate with children's academic achievement (Barnard, 2004; Bower, 2011; Desimone, 1999; Hill & Craft, 2003; Hill & Taylor, 2004; Zellman & Waterman, 1998). In this study, the participants in the Parental Involvement Group performed better than participants in Control Group. Thus, this is in line with the finding of many existing studies.

This result can be explained by the sociocultural theory proposed by Lev Vygotsky (1978). Other than that, there are theories of the reasons as to why parents became more involved in their children's education, one of which is the psychological model proposed by Hoover-Dempsey & Sandler (1995).

The sociocultural theory stresses on the interaction between developing people and the culture they are in. This theory implies that human learning is largely a social process, which in this study, the parents were responsible in instilling higher order functions in participants. By involving themselves in driving education, parents were able to assist in the learning of information that is integrated into individual participants (Vygotsky, 1978). Parents play an essential role in cognitive development of their teenage children through social interactions.

The relationships between numerous personal and social characteristics of young teenagers were studied by Bingham and Shope (2004) and according to them, students with lower level of parental monitoring and weaker social development tend to become risky drivers as young adults. Young drivers were likely to be involved in a car crash due to less parental

monitoring besides getting lower grades, more deviant and tend to get into substance abuse such as alcohol, drug and smoking (Bingham & Shope, 2005).

There are three constructs which influence parents' involvement in their children's education (Hoover-Dempsey & Sandler, 1995). Parents now understand their role in their children's life. With a belief that parents hold to in involving themselves in their children's educational progress, this became one of the constructs in the Hoover-Dempsey & Sandler's psychological model.

Another construct in the psychological model is the parents' sense of efficacy. Parents believe that there is a positive influence that they are able to exert by involving themselves in children's educational progress. One of the prospective in this finding is associated to the anticipation that parents possesses strong and positive sense of their own masteries in assisting their children with learning. Self-efficacy theory is described as the extent to which parents have confidence in establishing and mastering their performance of a task as a way to reach their goal which is to improve their children's driving skills (Bandura, 1977).

Bandura (1977) found that a high sense of self-efficacy will produce positive effects on learners that they have higher possibilities in taking on difficult task, carry on with that particular task until it is done, and put in much effort in order to be successful. When overcoming challenges, this positive self-efficacy are able to assist parents to be persistent. When parents have strong sense of self-efficacy, researchers suggested that the child may also develop a strong sense of self-efficacy as well (Hoover-Dempsey & Sandler, 1995). This resulted in a better performance for participants in parental involvement group as compare to the control group in this study.

Self-efficacy are best developed when participants master the tasks that test their abilities or through perceiving someone identical to the participant accomplishing a task. In this study, parents and participants constantly mastering the driving tasks given to them. Participants are able to observe their parents perform on a particular driving skills that they are required to master. Verbal persuasion may also assist in the reinforcement of self-efficacy, as participants may require to be stimulated to accomplish a driving task or goal. Integration of the four elements which are task mastery, modelling, verbal persuasion and positive mind set can develop self-efficacy among parents (Bandura, 1977, Lane & Lane, 2001).

The third construct in the psychological model (Hoover-Dempsey & Sandler, 1995) was the chances given and the invitations for parents to be involved in the educational progress. Parents view that their children and road safety education want their involvement and this motivates parents in taking part in the learning process of driving skills among their novice teen drivers.

In this study, participants with parental involvement performed better as the distance between what learner can do without being assisted and what he or she can do assisted or their actual developmental levels was bridged by parents' scaffolding. This distance or gap is known as the zone of proximal development and the actual developmental levels in this study refers to the participants' driving skills and tasks. The basis of cognitive growth is social interaction between learner and more knowledgeable group, which in this study, their parents.

Scaffolding in learning context is the assistance and guidance, instructions, and procedures given by a more knowledgeable person in mastering driving skills. In the beginning of the learning process, parents give assistance to learners, slowly reducing the amount of help until there is no need to assistance when the learners are able to perform the skills on their own.

The model by Hoover-Dempsey & Sandler (1995, 1997) affects children in educational progress when parents are more involved through modelling, reinforcement and direct instruction. Based on the modelling theory, children are likely to follow their parents' behaviour. Young novice drivers are able to do well in the test when their parents were devoted in involving their interests and time to activities in this study.

Parents not only be able to influence the educational outcomes of their children through cited mechanisms which incorporate both cognitive skills and non-cognitive skills, but according to Hoover-Dempsey & Sandler (1995), parents are also able to influence their children's sense of efficacy of doing well, which is among the most significant in educational progress of their children. This theory predicted that children with parents who were involved in their education are more like to have strong, positive sense of efficacy in accomplishing a task than children whose parents are not involved.

5.6.1.2 Parental Involvement Group versus Non-Parental Involvement Group

Participants in parental involvement group performed better than participants in non-parental involvement group even though both groups were given a handbook as guideline to carry out the activities in this study.

The result indicated that even though there was no significant difference between non-parental involvement group and control group, the non-parental involvement group participants has higher scores as compare to the control group. This can be explained through the use of handbook as a tool of learning.

Handbook alone is not suffice in the learning process of novice teen drivers. It is vital to remember that the handbook is just a tool in teaching and learning. The handbook for parents

on novice teen driving comes with limitations and weaknesses, and it should be used wisely and there is a need to consider other aids or materials (Fredericks, 2005). For this study, parental involvement is one of the aids in teaching novice teen drivers other than the handbook itself.

5.7 Summary

Based on the ANCOVA test results, the statistical values rejected the null hypothesis, H_{01} . Participants who had handbook and parental involvement in their driving education obtained significantly higher post-test score for the test than participants with handbook but no parental involvement. Even though the control group produced higher post-test scores than the non-parental involvement group, there is no significance difference of the post-test scores between participants in the control group and non-parental involvement group. The findings are stated mathematically as below.

Table 22: Summary of findings

Parental Involvement > Non-Parental Involvement	S
Parental Involvement > Control	S
Control > Non-Parental Involvement	NS

S: significant **NS:** not significant

Overall, parental involvement in novice teen driving had significant positive effect on participants' performance in the test. The statistical results show that participants who are exposed to parental involvement acquired significantly higher score in the post-test than participants in the control group and non-parental involvement group. Both control group and non-parental involvement group had lower positive effects on participants' performance in the

test. Even though the score of the post-test for the control group was modestly higher than the mom-parental involvement group, the statistical results indicated that the difference was not significant.

The utilization of CAPE model as the instructional design theoretical framework in the study on the effects of parental involvement in the driving knowledge of novice teen drivers was feasible. Further discussion on this findings are discussed in Chapter 5.

CHAPTER 6

DISCUSSION AND CONCLUSION

6.0 Overview

The aim of this study is to examine the effects of parental involvement on the driving knowledge of novice teen drivers. The changes in the driving behaviour of novice teen drivers after intervention programme was carried out was also determined. A handbook was designed based on the SOI model of learning to facilitate the three critical cognitive processes in constructivist learning. The CAPE model of parental engagement was employed to guide the involvement of parent in the learning process. A quasi-experimental study was then conducted to examine the effects of parental involvement on driving knowledge of novice teen drivers. This chapter also summarises the outcome and insights into the three research questions raised in Chapter 1.

6.1 Study Outcomes

Research Question 1 - What are the effects of parental involvement on the driving knowledge among novice teen drivers?

Parental involvement has significant positive effect on the driving knowledge of novice teen drivers. The sample in this study comprised 124 Form Six students from two secondary schools in Serian district and Kuching districts (Sekolah Menengah Kebangsaan Serian and Sekolah Menengah Kebangsaan Wira Penrissen). They were assigned to three different groups of interventions in novice driving. The independent variables was the group (Control Group, Non-Parental Involvement Group, and Parental Involvement Group). The

dependent variable in this study was the performance of the participants as measured by the posttest score of the test.

Weeks before the initiation of intervention of this study, participants were given a short briefing in respective schools where they were explained on the purpose and the activities that they were expected to carry out in this study. Their background information were collected for filtering as this study requires novice teenage drivers with a valid driving license. Informed consent forms were given and participants were assigned to three groups. For the Parental Involvement group, participants collaborated with their parents in using the handbook provided to learn and enhance their driving skills especially car parking skills. The Non-Parental Involvement Group participants were only given the handbook to learn on their own and they were required to complete the learning skills in the handbook on their own while the Control Group participants were not exposed with any interventions such as handbook and parental involvement. The experimental groups (Parental Involvement Group and Non-Parental Involvement Group) were given a timeframe which is one month to complete a chapter in the handbook. After a period of time, the participants were given the similar driving based post-test. The statistical results in this study shows that participants in the parental involvement group has significant positive effect on the driving knowledge of novice teen drivers. Participants in the control group performed better than the group without parental involvement but with the presence of handbook of this study but statistically there is no significant effect.

Sub-research question - *Are there any changes in the driving behaviour of novice teen drivers after intervention programme was carried out?*

CAPE Model (Enactment) – Parenting Change

The results from short interviews done with parents showed that more than half of the parents notices changes in their novice drivers' driving. Parents also think that there are effects between before and after parental involvement in novice teen driving.

The Enactment stage which had hoped for a positive change was achieved as almost all of them still practice similar kind of collaboration such as conducting driving session with their novice drivers without the usage of the handbook for parental involvement on novice teen driving. When they were asked to elaborate more, some responded that they have let children to drive more often with them, in order to gain experience. Some parents described the collaboration as discussion sessions with their children by giving constructive comments from time to time. There are also respond saying that they exercise the collaboration through answering children's question or problem.

6.2 Design and Development Major Outcomes

The design and development of the initiative for parents' involvement on novice teen driving created two end products: the instructional design theoretical framework and instructional developmental model that served as guidelines.

6.2.1 Instructional Design Theoretical Framework

The complete development and the manifestation of the effectiveness of the parental involvement on novice teen driving demonstrates the feasibility of the CAPE model of parental engagement as a framework that served as the guide in the design, dissemination and evaluation of the parenting programme (Piotrowska et al., 2016). The CAPE model which was derived comprehensively after doing recent reviews on the issues of parental engagement such as having low rates of attendance and high rates of dropouts (Friars & Mellor, 2007; Kazdin 1996; Wierzbicki & Pekarik, 1993).

6.3 Implications of the Study

In this study, there are a few major implications as described below.

Handbook

A comprehensive handbook that covers the feasible driving aspects for parental involvement in the driving knowledge of novice drivers has been produced. This study has also shown the feasibility of employing the CAPE model to engage parents in their children's learning.

Parental Involvement – an effective approach

The significant positive outcomes of parents' involvement in Parental Involvement mode in novice teen driving when collated with the Non-Parental Involvement mode, gives further substantiation of the prospects of parental involvement for instructional use such as road safety education. This handbook provides guidelines and enable parents to participate in their

teenage children in their driving which were not practiced in the conventional method of novice driving.

The practicality of having parents to involve in novice teen driving in technicality, economically and social ways, and the validated effectiveness of this method over non-parental involvement gives convincing arguments to propose the Road Transport Department of Malaysia to consider integrating this approach into the current novice teen driver instruction programme.

6.4 Limitations of the Study

Throughout the process of completing this study, there are some limitations that may interfere the chances of generalising the findings and analyses.

One of the limitations are the samples used in the evaluation study which were limited to Form Six students, with the age ranging from 17 to 19 years old. This group of sample population was selected as the target group in this study because they constituted the large part of the young drivers in probation period. Therefore, the results acquired in this study may not be generalised to all the novice drivers who are in their probation period, who may include anyone with the age of 20 and above.

Secondly, the use of multiple choice test is not able to measure the driving skills of the participants. Thus, only driving knowledge can be inferred through the test. Since the test on their performance was in a form of driving test and it was designed to measure the post-test scores of the participants, it seems not to provide enough evidences on the participants' actual effects to the handbook and parental involvement in driving. Henceforth, the scores alone may not be sufficient in generalizing of data.

Other than that, the participants who were students might be overloaded with work and school activities. This to some extent might affect the result of the post-test score of the test carried out in this study. Participants may lose focus on answering the question since the test was conducted in classrooms during school hours.

The classroom settings may also affect the result as the arrangements of seats and the distance between the participants might vary from one class to another, allowing for cheating to happen in the process.

There are barriers to parent involvement in this study where other researches has indicated repeatedly that parents from low-income and may not be affordable to participate as compared to their counterparts (Cooper, 2010; Feuerstein, 2000; Griffith, 1998; Heymann & Earle, 2000; Huntsinger & Jose, 2009; Kohl et al., 2000; Turney & Kao, 2009).

Participants who were not able to completely commit to this study reported that their parents have not much time to carry out the activities in this handbook. This is one of the most cited cause for parents to not involve due to conflicting schedules (Lamb-Parker et al., 2001). Other unidentified causes that could play a part in the lack of parental involvement is the relationships parents have with their children, educators, and other parents.

Another limitations in this study is the inability to test all the driving knowledge of novice teen drivers available in the handbook due to the limitations of time. Only one chapter of the handbook which is related to car parking aspects were tested because to complete the whole handbook would need a longer time.

6.5 Recommendations for Future Investigations

There are a number of recommendations for future research that emerge from this research study.

For a more thorough and variation in data which can assist in generalization of findings, gathering a larger size of participants as well as from a wider resources is an alternative.

Instead of testing the participants in one particular chapter of the whole handbook over a period of four weeks, a longer period of time can be carried out and participants were to complete the whole handbook on novice teen driving. This may help in generalization of research finding where participants can be tested on all aspects of driving.

Other than measuring the gain score of the participants to see the effects of parental involvement, there are other aspects that can be carried out to gather enough evidence of the participants' actual effects on parental involvement in their driving. A performance test will be more authentic to examine the effects of parental involvement on both driving knowledge and skills.

To prevent participants from losing focus while answering the test paper, the test can be carried out outside of school hours. When conducting the pre-test and post-test, in the effort to reduce errors due to cheating, participants can be gathered in a specific place setting which is conducive for them to carry out the test. The place should be arranged in a way similar to major public examinations and each students can be monitored throughout the test sessions.

Another recommendation for this study is to test all the driving knowledge available in the handbook to obtain a more thorough result. The handbook contained all the important driving aspects which novice drivers should acknowledged.

6.6 Summary and Conclusions

The study on the effects of parental involvement in the driving knowledge of novice teen drivers results in the establishment of the aspects of driving that are feasible for parental involvement in novice teen driving. A comprehensive handbook for parental involvement in novice teen driving was also attained by employing SOI Model of Learning as a guideline.

The utilisation of CAPE model as a framework for data collection was practical. The results of the analysis showed that participants with parental involvement in their driving significantly outperformed participants with no parental involvement. This reveals that parental involvement in their children's novice teen driving is crucial to ensure better learning. This study also showed that participants in non-parental involvement group scores significantly better than control group. This shows the beneficial of the handbook as guideline for novice car drivers.

By using the handbook to encounter a real learning problem related to novice car driver instruction programme in this study which produces positive effects on the post-test score of participants in Parental Involvement group and Non-Parental Involvement Group over the Control Group, this gives ground for road education that parental involvement makes an alternative to teach young novice drivers.

REFERENCES

- 40-Hour Parent/ Teen Driving Guide Parent Supervised on The Road Program*. (2010). Retrieved from http://www.dds.ga.gov/docs/forms/40hour_parent_teen_drivingguide.pdf
- 45-Hour Parent/Teen Driving Guide With Freedom comes Great Responsibility*. (2010). Retrieved from http://www.doe.virginia.gov/instruction/driver_education/parent_teen_driving_guide.pdf
- Abubakar, T. A., Abdullah, A. H., Ubale, A. Z., & Embong, R. (2016). Islamic Education and the Implication of Educational Dualism. *The Social Sciences*, 11(2), 156-163.
- ADB-ASEAN Regional Road Safety Program (National Road Safety Action Plan 2005-2010)*. (2004). Retrieved from <http://www.adb.org/Documents/Reports/Arrive-Alive/Action-Plans/action-plan-05-mal.pdf>
- Adewumi, G., Olojo, J., & Famelu, A. (2012). Roles of Parent on the Academic Performance of Pupils in Elementary Schools. *International Journal of Academic Research in Business and Social Science* 2(1), 01 – 06.
- Akpan, J. P., & Beard, L. A. (2016). Using Constructivist Teaching Strategies to Enhance Academic Outcomes of Students with Special Needs. *Universal Journal of Educational Research* 4(2), 392-398.
- Alonso, F., Esteban, C., Calatayud, C. & Sanmartin, J. (2013). Speed and road accidents: behaviours, motives, and assessment of the effectiveness of penalties for speeding. *American Journal of Applied Psychology* 1(3), 58-64.
- Alvarez-Valdivia, I. M., Chavez, K. L., Schneider, B. H., Roberts, J. S., Becalli-Puerta, L. E., Pérez-Luján, D., & Sanz-Martinez, Y. A. (2012). Parental involvement and the academic achievement and social functioning of Cuban school children. *School Psychology International*, 34(3), 303-329.

- Ismail, A., Gan, S. Y., & Ifzam, M. (2015). Study on Drivers' Behaviour Relationships to Reduce Road Accidents in Puchong, Selangor Darul Ehsan. *Jurnal Kejuruteraan*, 27, 81-85.
- Applefield, J. M., Huber, R., & Moallem, M. (2000). Constructivism in theory and practice: Toward a better understanding. *The High School Journal*, 84(2), 35-53.
- Axford, N., Lehtonen, M., Kaoukji, D., Tobin, K., & Berry, V. (2012). Engaging parents in parenting programs: Lessons from research and practice. *Children and Youth Services Review*, 34(10), 2061-2071.
- Baddeley, A. D. (1992). Working memory. *Science*, 255, 556–559.
- Bandura, A. (1977). Self-efficacy: toward a unifying theory of behavioral change. *Psychological Review*, 84(2), 191.
- Bashir, A. S. (1989). Language intervention and the curriculum. *Seminars in Speech and Language*, 10, 181-203.
- Bates, L. J., Davey, J., Watson, B., King, M. J., & Armstrong, K. (2014b). Factors Contributing to Crashes among Young Drivers. *Sultan Qaboos University Medical Journal*, 14(3), e297–e305.
- Bates, L., Watson, B., & King, M. (2014a). The role of parents and non-parents in the supervision of learner drivers in Australia. *Accident Analysis & Prevention*, 70, 40-45.
- Becker, H., & Epstein, J. (1982). Parent involvement: A survey of teacher practices. *Elementary School Journal*, 83, 85-102.
- Becker, K. D., Lee, B. R., Daleiden, E. L., Lindsey, M., Brandt, N. E., & Chorpita, B. F. (2015). The common elements of engagement in children's mental health services: Which elements for which outcomes? *Journal of Clinical Child & Adolescent Psychology*, 44(1), 30-43.
- Begg, D., & Langley, J. (2009). A critical examination of the arguments against raising the car driver licensing age in New Zealand. *Traffic Injury Prevention*, 10, 1-8.

- Begg, D., Langley, J., & Stephenson, S. (2003). Identifying factors that predict persistent driving after drinking, unsafe driving after drinking, and driving after using cannabis among young adults. *Accident Analysis and Prevention*, 35, 669-675.
- Begg, D., Stephenson, S., Alsop, J., & Langley, J. (2001). Impact of graduated driver licensing restrictions on crashes involving young drivers in New Zealand. *Injury Prevention*, 1(7), 292-296.
- Bermúdez, A. B. (1993). Teaming with parents to promote educational equality for language minority students. *Families and Schools in a Pluralistic Society*, 175-188.
- Beyhan, A. P. D. Ö., & Köksal, O. (2013). Learner Perceptions of Building Constructivist Learning Environments in Secondary Schools. *Journal of Educational and Instructional Studies in the World*, 3(2), 171-180.
- Bhattacharjee, J. (2015). Constructivist Approach to Learning—An Effective Approach of Teaching Learning. *International Research Journal of Interdisciplinary & Multidisciplinary Studies*, 1(4), 65-74.
- Bingham, C. R., & Shope, J. T. (2004). Adolescent developmental antecedents of risky driving among young adults. *Journal of Studies on Alcohol*, 65(1), 84-94.
- Bingham, C. R., & Shope, J. T. (2005). Adolescent predictors of traffic crash patterns from licensure into early young adulthood. In *Annual Proceedings/Association for the Advancement of Automotive Medicine*, 49, 244.
- Bloom, B., Englehart, M., Furst, E., Hill, W., & Krathwohl, D. (1956). *Taxonomy of educational objectives: The classification of educational goals. Handbook I: Cognitive domain*. New York, Toronto: Longmans, Green.
- Bronfenbrenner, U. (1979). Contexts of child rearing: Problems and prospects. *American Psychologist*, 34(10), 844.

- Bronfenbrenner, U. (1986). Ecology of the family as a context for human development: Research perspectives. *Developmental Psychology*, 22(6), 723-742.
- Brooks, J. G., & Brooks, M. G. (1999). *In search of understanding: The case for constructivist classrooms*. Virginia, USA: ASCD.
- Brown, A. L., & Palincsar, A. S. (1987). *Reciprocal teaching of comprehension strategies: A natural history of one program for enhancing learning*. Westport, CT, US: Ablex Publishing.
- Brown, J. S., Collins, A., & Duguid, P. (1989). Situated cognition and the culture of learning. *Educational Researcher*, 18(1), 32-42.
- Bryan, J., Moore-Thomas, C., Day-Vines, N. L., & Holcomb-McCoy, C. (2011). School counselors as social capital: The effects of high school college counseling on college application rates. *Journal of Counseling & Development*, 89(2), 190-199.
- Bryk, A. S., Sebring, P. B., Allensworth, E., Easton, J. Q., & Luppescu, S. (2010). *Organizing schools for improvement: Lessons from Chicago*. Chicago, London: University of Chicago Press.
- Chacko, A., Jensen, S. A., Lowry, L. S., Cornwell, M., Chimklis, A., Chan, E., & Pulgarin, B. (2016). Engagement in behavioral parent training: Review of the literature and implications for practice. *Clinical Child and Family Psychology Review*, 19(3), 204-215.
- Charlotte Mcklenburg Schools Driver Education. (n.d.). Retrieved from <http://www.cmsdrivered.com/>
- Cheung, C. S. S., & Pomerantz, E. M. (2012). Why does parents' involvement enhance children's achievement? The role of parent-oriented motivation. *Journal of Educational Psychology*, 104(3), 820.
- Chiu, M. M., & Ho, S. C. (2006). Family effects on student achievement in Hong Kong. *Asia Pacific Journal of Education*, 26(1), 21–35.

- Christenson, S. L., Rounds, T., & Franklin, M. J. (1992). Home-school collaboration: Effects, issues, and opportunities. *Home-school collaboration: Enhancing Children's Academic and Social Competence*, 19-51.
- Christenson, S.L., Rounds, T., & Gorney, D. (1992). Family Factors and Student Achievement: An Avenue to Increase Students' Success. *School Psychology Quarterly*, 7(3), 178-206.
- Clements, D. H. & Battista, M. T. (2009). Constructivist learning and teaching. *Arithmetic Teacher*, 38(1), 34-35.
- Cobb, P. (1994). Where is the mind? Constructivist and sociocultural perspectives on mathematical development. *Educational Researcher*, 23(7), 13-20.
- Coleman, B., & McNeese, M. N. (2009). From home to school: The relationship among parental involvement, student motivation, and academic achievement. *The International Journal of Learning*, 16 (7), 459–470.
- Conner, K. A., & Smith, G. A. (2016). An Evaluation of the effect of Ohio's Graduated Driver Licensing Law on Motor Vehicle Crashes and Crash Outcomes Involving Drivers 16 to 20 Years of Age. *Traffic Injury Prevention*, 1-7.
- Cook, L. K., & Mayer, R. E. (1988). Teaching readers about the structure of scientific text. *Journal of Educational Psychology*, 80, 448-456.
- Cooper, C. E. (2010). Family poverty, school-based parental involvement, and policy-focused protective factors in kindergarten. *Early Childhood Research Quarterly*, 25(4), 480-492.
- Cooper, C. W. (2009). Parent Involvement, African American Mothers, and the Politics of Educational Care. *Equity & Excellence in Education* 42 (4), 379-394.
- Cooper, D., Atkins, F., & Gillen, D. (2005). Measuring the impact of passenger restrictions on new teenage drivers. *Accident Analysis and Prevention*, 37, 19-23.

- Cox, D. D. (2005). Evidence-based interventions using home-school collaboration. *School Psychology Quarterly*, 20(4), 473–497.
- Crozier, G. (2001). Excluded Parents: The Deracialisation of Parental Involvement. *Race Ethnicity and Education* 4 (4), 329-341.
- Crozier, G., & J. Davies. (2007). Hard to Reach Parents or Hard to Reach Schools? A Discussion of Home-Based Relations, with Particular Reference to Bangladeshi and Pakistani Parents. *British Educational Research Journal* 33(3), 295-313.
- Crundall, D., Chapman, P., Trawley, S., Collins, L., Van Loon, E., Andrews, B., & Underwood, G. (2012). Some hazards are more attractive than others: Drivers of varying experience respond differently to different types of hazard. *Accident Analysis & Prevention*, 45, 600-609.
- Deery, H. A. (1999). Hazard and risk perception among young novice drivers. *Journal of Safety Research*, 30(4): 225-236.
- DES (1967) *Children and their primary schools (The Plowden report)*. London: HMSO.
- Desforges, C., & Abouchaar, A. (2003). *The impact of parental involvement, parental support and family education on pupil achievement and adjustment: A literature review* (Vol. 433). Nottingham: DfES publications.
- Desimone, L. (1999). Linking parent involvement with student achievement: Do race and income matter? *The Journal of Educational Research*, 93, 1-30.
- Dillon, A. (1992). Reading from paper versus screens: a critical review of the empirical literature. *Ergonomics*, 35(10), 1297-1326.
- Doolittle, P. E. (2014). Complex Constructivism: A Theoretical Model of Complexity and Cognition. *International Journal of Teaching and Learning in Higher Education*, 26(3), 485-498.
- Driscoll, M. (1994). *Psychology of learning for instruction*. Boston: Allyn and Bacon.

- Eccles, J. S., & Harold, R. D. (1993). Parent-school involvement during the early adolescent years. *Teachers College Record*, 94(3), 568–587.
- Englund, M., Luckner, A., Whaley, G., & Egeland, B. (2004). Children's achievement in early elementary school: Longitudinal effects of parental involvement, expectations, and quality of assistance. *Journal of Educational Psychology*, 96, 723–730.
- Epstein, J. & Dauber, S. (1991). School programs and teacher practices of parent involvement in inner-city elementary and middle schools. *Elementary School Journal*, 91, 291-305.
- Epstein, J. L. (1987). Towards a theory of family-school connections. *Social intervention: Potential and Constraints*, 121-136.
- Epstein, J. L. (1990). School and family connections: Theory, research, and implications for integrating sociologies of education and family. *Marriage & Family Review*, 15(1-2), 99-126.
- Epstein, J. L. (1990). School and family connections: Theory, research and implications for integrating sociologies of education and family. *Marriage and Family Review*, 15, 99-126.
- Epstein, J. L. (1995). School, family, community partnerships: Caring for the children we share. *Phi Delta Kappan*, 76,701-712.
- Epstein, J. L. (1996). Perspectives and previews on research and policy for school, family, and community partnerships. *Family-school links: How do they affect educational outcomes*, 209-246.
- Epstein, J. L. (2001). *School, family, and community partnerships: Preparing educators and improving schools*. Philadelphia, PA: Westview Press.
- Epstein, J. L. (2011). *School, family, and community partnerships: Preparing educators and improving schools* (2nd Edition). Philadelphia, PA: Westview Press.

- Epstein, J. L., & Connors, L. J. (1995). School and family partnerships in the middle grades. *Creating School/ Family partnerships*, 137-166.
- Epstein, J. L., & Sanders, M. G. (2000). School, family, and community connections: New directions for social research. *Handbook of Sociology of Education*, 285-306.
- Epstein, J. L., Sanders, M. G., Simon, B. S., Salinas, K. C., Jansorn, N. R., & Van Voorhis, F. L. (2009). *School, Family, and Community Partnerships: Your Handbook for Action*. United States of America: Corwin Press.
- Epstein, J. L., Sanders, M. G., Simon, B. S., Salinas, K. C., Jansorn, N. R., & Van Voorhis, F. L. (2002). *School, family, and community partnerships: Your handbook for action*. United States of America: Corwin Press.
- Eyberg, S. M., Nelson, M. M., & Boggs, S. R. (2008). Evidence-based psychosocial treatments for children and adolescents with disruptive behavior. *Journal of Clinical Child & Adolescent Psychology*, 37(1), 215–237.
- Fan, X. and Chen, M. (2001). Parental Involvement and Students' Academic Achievement. *Educational Psychology Review* 13(1), 135 – 144.
- Fell, J. C., Jones, K., Romano, E., & Voas, R. (2011). An Evaluation of Graduated Driver Licensing Effects on Fatal Crash Involvements of Young Drivers in the United States. *Traffic Injury Prevention*, 12(5), 423–431.
- Ferguson, S. A., Leaf, W. A., Williams, A. F., & Preusser, D. F. (1996). Differences in young driver crash involvement in states with varying licensure practices. *Accident Analysis & Prevention*, 28(2), 171-180.
- Ferguson, S. A., Teoh, E. R., & McCartt, A. T. (2007). Progress in teenage crash risk during the last decade. *Journal of Safety Research*, 38, 137-145.

- Feuerstein, A. (2000). School characteristics and parent involvement: Influences on participation in children's schools. *The Journal of Educational Research*, 94(1), 29-40.
- Fischer, P. S. (2011). New Jersey Motor Vehicle Commission. Retrieved from http://www.state.nj.us/mvc/pdf/Licenses/2006_GDL_Safe_Driving_GDL.pdf
- Fleming, M. L., & Levie, W. H. (Eds.) (1993). *Instructional Message Design* (2nd ed.). Englewood Cliffs, NJ: Educational Technology Publications.
- Fletcher, R., & Silverberg, S. (2006). Involvement of fathers in primary school activities. *Australian Journal of Education*, 50, 29-39.
- Florida Drivers Guide for Parents and Teens. (n.d.). Retrieved from <http://www.flhsmv.gov/teens/teenguide.pdf>
- Fredericks, E. (2005). Cross-functional involvement in new product development: A resource dependency and human capital perspective. *Qualitative Market Research: An International Journal*, 8(3), 327-341.
- Friars, P. M., & Mellor, D. J. (2007). Drop out from behavioral management training programs for ADHD: A prospective study. *Journal of Child and Family Studies*, 16(3), 427-441.
- Gandolfi, J. (2009). Driver Education – A blueprint for success? Retrieved from http://www.injuryobservatory.net/documents/Driver_educationpdf.pdf
- Gardner, F., Burton, J., & Klimes, I. (2006). Randomised controlled trial of a parenting intervention in the voluntary sector for reducing child conduct problems: Outcomes and mechanisms of change. *Journal of Child Psychology and Psychiatry*, 47(11), 1123-1132.
- Gay, L. R., & Airasian, P. (2003). *Educational research: Competencies for analysis and applications* (7th ed.). Upper Saddle River, NJ: Prentice Hall.

- Glaserfeld, E. V. (1989). Constructivism in education. *The International Encyclopedia of Education Supplement, 1*, 162-163.
- Global Plan*. Santafé De Bogotá: n.p., 1993. *Road Safety*. World Health Organization. Retrieved from http://www.who.int/roadsafety/decade_of_action/plan/plan_en.pdf
- Governors Highway Safety Association. (2012). The State's Voice on Highway Safety. Retrieved from <http://www.ghsa.org/html/issues/teens/index.html>
- Gravetter, F. J., & Wallnau, L. B. (2000). *Statistics for Behavioural Sciences*. 5th ed. USA: Wadsworth Pub. Co.
- Greenfield, J. (2012). For reading and learning, kids prefer e-books to print books. *Digital Book World*, 9.
- Greenwood, G. E., & Hickman, C. W. (1991). Research and practice in parent involvement: Implications for teacher education. *Elementary School Journal*, 91(3), 279-288.
- Gregerson, N.P. (1996). Young drivers' overestimation of their own skill – an experiment on the relation between training strategy and skill. *Accident Analysis Prevention*, 28(2), 243-50.
- Griffith, J. (1998). The relation of school structure and social environment to parent involvement in elementary schools. *The Elementary School Journal*, 99(1), 53-80.
- Haine-Schlagel, R., & Walsh, N. E. (2015). A review of parent participation engagement in child and family mental health treatment. *Clinical Child and Family Psychology Review*, 18(2), 133-150.
- Hair, J. F., Black, W. C., Babin, B. J., Anderson, R. E., & Tatham, R. L. (1998). *Multivariate data analysis*. (5th ed.). Upper Saddle River, NJ: Prentice Hall.
- Harris, A., & Goodall, J. (2008). Do Parents Know They Matter? Engaging All Parents in Learning. *Educational Research* 50(3), 277 - 289.

- Harris, A., & Goodall, J. (2009). Helping families support children's success at school: review of the evidence. London: Save the Children Fund.
- Hartos, J. L., Eitel, P., Haynie, D. L., & Simons-Morton, B. G. (2000). Can I take the car? Relations among parenting practices and adolescent problem-driving practices. *Journal of Adolescent Research, 15*, 352-367.
- Hartos, J. L., Simons-Morton, B. G., Beck, K. H., & Leaf, W. A. (2005). Parent-imposed limits on high-risk adolescent driving: are they stricter with graduated driver licensing?. *Accident Analysis & Prevention, 37*(3), 557-562.
- Hartos, J., & Huff, D. C. (2008). Parent attitudes toward integrating parent involvement into teenage driver education courses. *Traffic Injury Prevention, 9*(3), 224-230.
- Hayes, N. (2012). Has constructivism increased special-education enrolment in public schools? Retrieved from [www.http://betrayed-whyeducationisfailing.blogspot.com/12/28/2015](http://betrayed-whyeducationisfailing.blogspot.com/12/28/2015)
- Henderson, A. T., & Mapp, K. L. (2002). A New Wave of Evidence: The Impact of School, Family, and Community Connections on Student Achievement. Annual Synthesis 2002. Austin, Texas: National Center for Family and Community Connections with Schools.
- Henry, C. S., Plunkett, S. W., & Sands, T. (2011). Family structure, parental involvement, and academic motivation in Latino adolescents. *Journal of Divorce & Remarriage, 52*(6), 370-390.
- Heymann, S. J., & Earle, A. (2000). Low income parents: How do working conditions affect their opportunity to help school age children at risk? *American Educational Research Journal, 37*(4), 833-848.
- Heystek, J. (1998). Empirical research: Parental involvement in school activities. *University of Pretoria: Unpublished research report.*

- Hill N. E., & Craft, S. A. (2003). Parent-school involvement and school performance: Mediated pathways among socioeconomically comparable African American and Euro-American families. *Journal of Educational Psychology*, 96, 74–83.
- Hill, N. E., & Taylor, L. C. (2004). Parental school involvement and children's academic achievement: Pragmatics and issues. *Current Directions in Psychological Science*, 13(4), 161-164.
- Hine, C. Y. (2009). The home environment of gifted Puerto Rican children. In *Third National Research Symposium on Limited English Proficient Student Issues: Focus on Middle and High School Issues*.
- Ho, S. C., & Willms, J. D. (1996). The effect of parental involvement on the achievement of eighth grade students. *Sociology of Education*, 69(2), 126–141.
- Holubowycz, O. T., & McLean, J. (1980). Evaluation of a road safety program for automotive apprentices. Adelaide, SA: Road Accident Research Unit, University of Adelaide.
- Hoover-Dempsey, K. V., & Sandler, H. M. (1995). Parental involvement in children's education: Why does it make a difference? *Teachers College Record*, 97(2), 310–331.
- Hoover-Dempsey, K. V., Walker, J. M. T., Jones, K. P., & Reed, R. P. (2002). Teachers Involving Parents (TIP): Results of an in-service teacher education program for enhancing parental involvement. *Teaching and Teacher Education*, 18, 843-867.
- Hopkins, K. D. (1998). *Educational and psychological measurement and evaluation (8th ed.)*. Allyn & Boston: Allyn & Bacon.
- Houtenville, A. J., & Conway, K. S. (2008). Parental effort, school resources, and student achievement. *Journal of Human Resources*, 43(2), 437-453.
- Hoyert, D. L., & Xu, J. (2012). Deaths: preliminary data for 2011. *National Vital Statistics Report*, 61(6), 1-51.

- Hughes, M., Wikeley, F., & Nash, T. (1994). *Parents and their Children's Schools*. Oxford, UK: Blackwells.
- Huntsinger, C. S., & Jose, P. E. (2009). Parental involvement in children's schooling: Different meanings in different cultures. *Early Childhood Research Quarterly*, 24(4), 398-410.
- Illinois Graduated Driver Licensing Program Parent-Teen Driving Guide*. (2011). Retrieved October 18, 2011, from http://www.cyberdriveillinois.com/publications/pdf_publications/dsd_a217.pdf
- Ingoldsby, E. M. (2010). Review of interventions to improve family engagement and retention in parent and child mental health programs. *Journal of Child and Family Studies*, 19(5), 629-645.
- Ismail Ibrahim (2002). Disiplin Keluarga Jadi Penentu. Retrieved from <http://www.cikgu.net.my/malay/berita/moreberita>.
- Jawi, Z. M., Deros, B. M., Osman, M. R., & Awang, A. (2015). Conference of ASEAN Road Safety 2015: A Systemic Overview on Driver Training and Driver Licensing System in Malaysia, Kuala Lumpur, 3 – 6 November 2015. Putrajaya, Malaysia: MIROS.
- Jeynes, W. H. (2007). The relation between parental involvement and urban secondary school student academic achievement: A meta-analysis. *Urban Education*, 42(1), 82-110.
- Johassen, D. H. (1991). Objectivism versus constructivism: Do we need a new philosophical paradigm? *Educational Technology Research and Development*, 39(3), 11-12.
- Kazantzis, N., Deane, F. P., & Ronan, K. R. (2000). Homework assignments in Cognitive and Behavioral Therapy: A meta-analysis. *Clinical Psychology: Science and Practice*, 7(2), 189-202.
- Kazdin, A. E. (1996). Dropping out of child psychotherapy: Issues for research and implications for practice. *Clinical Child Psychology and Psychiatry*, 1(1), 133-156.

- Keating, D. P. (2007). Understanding adolescent development: Implications for driving safety. *Journal of Safety Research*, 38, 147-157.
- Kim, Y. (2009). Minority parental involvement and school barriers: Moving the focus away from deficiencies of parents. *Educational Research Review*, 4(2), 80–102.
- Kirschner, P. A. & Sweller, J., & Clark, R. E. (2006). Why minimal guidance during instruction does not work: An analysis of the failure of constructivist, discovery, problem-based, experiential, and inquiry based teaching. *Educational Psychologist*, 41(2), 75-78.
- Kohl, G. O., Lengua, L. J., & McMahon, R. J. (2000). Parent involvement in school conceptualizing multiple dimensions and their relations with family and demographic risk factors. *Journal of School Psychology*, 38(6), 501-523.
- Kroth, R. L. (1985). *Communicating with parents of exceptional children: Improving parent-teacher relationships*. Denver, CO: Love Publishing Company.
- Lamb-Parker, F., Piotrowski, C. S., Baker, A. J. L., Kessler-Sklar, S., Clark, B., & Peay, L. (2001). Understanding barriers to parent involvement in Head Start: a research-community partnership. *Early Childhood Research Quarterly*, 16(1), 35-51.
- Lane, J., & Lane, A. (2001). Self-efficacy and academic performance. *Social Behavior and Personality: an International Journal*, 29(7), 687-693.
- Larochelle, M., Bednarz, N., & Garrison, J. (eds.). (1998). *Constructivism and Education*. Cambridge, NY: Cambridge University Press.
- Lee, J., & Bowen, N. K. (2006). Parent involvement, cultural capital, and the achievement gap among elementary school children. *American Education Research Journal*, 43, 193-218.
- Lemmer, E. M., & Squelch, J. (1993). *Multicultural education: A teachers' manual*. Pretoria: Southern Book Publishers.

- Leng, W. K. (1996). *Penglibatan PIBG di Sekolah: Persepsi Pengetua dan AJK Guru Dalam PIBG di Sekolah Menengah Taman Tasik*. Tesis Sarjana, Universiti Kebangsaan Malaysia, Bangi, Malaysia.
- Lewis-Evans, B. (2010). Crash involvement during the different phases of the New Zealand graduated driver licensing system (GDLS). *Journal of Safety Research*, 41, 359-365.
- Lewis-Evans, B., & Lukkien, C. (2007, October). Crash profile of New Zealand novice drivers. In *Proceedings of the Australasian Road Safety, Research, Policing and Education Conference* (pp. 17-19).
- Liana, N., Abdullah, L., Abdullah, I. & Salleh, Z. (2012). Weights of road accident causes using analytics hierarchy process. *ARPN Journal of Science and Technology* 2, 2, 39-44.
- Lightfoot, D. (2004) Some parents just don't care. Decoding the meanings of parental involvement in urban schools. *Urban Education*, 39, 91-107.
- Lindsay, G., Davies, H., Band, S., Cullen, M. A., Cullen, S. M., Strand, S., & Stewart-Brown, S. L. (2008). Parenting early intervention pathfinder evaluation. London: DCSF.
- Litwak, E., & Meyer, H. J. (1974). *School, family, and neighborhood: The theory and practice of school-community relations*. New York: Columbia University Press.
- Logan, K., & Skulmoski, P. (n.d.). *Parent / Teen Driving Handbook Drive For Life*. Retrieved from http://cmsdriversed.cms.k12.nc.us/Parent-Teenager_Handbook.pdf
- Loman, N. L., & Mayer, R. E., (1983). Signaling techniques that increase the understandability of expository prose. *Journal of Educational Psychology*, 75, 402-412.
- Lowestpricetrafficschool. (2012). Retrieved from <http://www.lowestpricetrafficschool.com/driver-education/florida-drivers-license.html>

- Mangen, A., Walgermo, B. R., & Brønnick, K. (2013). Reading linear texts on paper versus computer screen: Effects on reading comprehension. *International Journal of Educational Research*, 58, 61-68.
- Marzano, R. J. (2003). *What works in schools: Translating Research into Action*. United States of America: ASCD.
- Masten, S. V., & Chapman, E. A. (2003). The effectiveness of home-study driver education compared to classroom instruction: The impact on student knowledge, skills, and attitudes. Sacramento: California Department of Motor Vehicles.
- Masten, S. V., & Hagge, R. A. (2004). Evaluation of California's graduated driver licensing program. *Journal of Safety Research*, 35, 523-535.
- Mayer, R. E. (1984). Aids to text comprehension. *Journal of Educational Psychology*, 19, 30-42.
- Mayer, R. E. (1989). Systematic thinking fostered by illustrations in scientific text. *Journal of Educational Psychology*, 81, 240-246.
- Mayer, R. E. (1992). Cognition and instruction: Their historic meeting within educational psychology. *Journal of Educational Psychology*, 84, 405-412.
- Mayer, R. E. (1993). Illustrations that instruct. *Advances in Instructional Psychology*, 4, 253-284.
- Mayer, R. E. (1996). Learning strategies for making sense out of expository text: The SOI model for guiding three cognitive processes in knowledge construction. *Educational Psychology Review*, 8, 357-71.
- Mayer, R. E. (2010). Applying the science of learning to medical education. *Medical Education*, 44, 543-549.
- Mayer, R. E. (Ed.). (2005). *The Cambridge handbook of multimedia learning*. Cambridge, NY: Cambridge University Press.

- Mayer, R. E., & Gallini, J. (1990). When is a picture worth ten thousand words? *Journal of Educational Psychology*, 82, 715-727.
- Mayer, R. E., (1993). Outmoded conceptions of educational research. *Educational Researcher*, 22(9), 6.
- Mayer, R. E., (2004). Should there be a three-strike rule against pure discovery learning? *American Psychologist*, 59(1), 13-20.
- Mayer, R. E., Bove, W., Bryman, A., Mars, R., & Tapangco, L. (1996). When less is more: Meaningful learning from visual and verbal summaries of science textbook lessons. *Journal of Educational Psychology*, 88, 64-73.
- Mayer, R. E., Steinhoff, K., Bower, G., & Mars, R. (1995). A generative theory of textbook design: Using annotated illustrations to foster meaningful learning of science text. *Educational Technology Research and Development*, 43, 31-43.
- Mayhew, D. R., & Simpson, H. M. (2002). The safety value of driver education and training. *Injury Prevention*, 8(2), ii3-ii8.
- Mayhew, D. R., Simpson, H. M., & Singhal, D. (2005). *Best practices for graduated driver licensing in Canada*. Ottawa, Ontario: Traffic Injury Research Foundation.
- Mayhew, D. R., Simpson, H. M., Singhal, D., & Desmond, K. (2006). *Reducing the crash risk for young drivers*. Ontario: TIRF.
- McCartt, A. T., & Teoh, E. R. (2015). Type, size and age of vehicles driven by teenage drivers killed in crashes during 2008-2012. *Injury Prevention*, 21(2), 133-136.
- McCrea, B. (2012). Ingredients for the 21st century classroom. *Campus Technology*. Retrieved from campustechnology.com/articles/2012/01/11/6-ingredients-for-the-21st-century-classroom.aspx
- McCurdy, K., & Daro, D. (2001). Parent involvement in family support programs: An integrated theory. *Family Relations*, 50(2), 113-121.

- McKay, M. P., Coben, J. H., & Larkin, G. L. (2003). Driving beliefs and behaviors of novice teen drivers and their parents: implications for teen driver crash risk. In *Annual Proceedings/Association for the Advancement of Automotive Medicine*, 47, 197.
- Mckay, M. P., Coben, J. H., Larkin, G. L., & Shaffer, A. (2008). Attitudes of teenagers and their parents to Pennsylvania's graduated driver licensing system. *Traffic Injury Prevention*, 9(3), 217-223.
- Michigan's Graduated Driver Licensing: A Guide for Parents*. (2011). Retrieved from http://www.michigan.gov/documents/gdl_parent_16316_7.pdf
- Miles, J., & Shevlin, M. (2001). *Applying regression and correlation: A guide for students and researchers*. Great Britain: SAGE Publications.
- Ministry Of Education Malaysia. (2013). Malaysian Education Blueprint Annual Report 2013. Retrieved from http://www.padu.edu.my/files/ar/PADU_AR_2013_ENG%20FULL.pdf.
- Mohd Fadzli Abu Bakar (2007). Hubungan Antara Pendidikan Agama, Keseimbangan Kognitif dan Tingkah laku Positif di Kalangan Pelajar Darjah Khas Sekolah Agama Di Johor Bharu. Retrieved from http://eprints.utm.my/4019/1/AziziYahaya_kajian_agama.pdf
- Morrison, G. S. (1978). *Parent involvement in the home, school, and community*. Ohio: Charles E. Merrill Publishing Company.
- Moshman, D. (1982). Exogenous, endogenous, and dialectical constructivism. *Developmental Review*, 2(4), 371-384.
- Mvududu N.H., & Thiel-Burgess J. (2012). Constructivism in Practice: The Case for English Language Learners. *International Journal of Education*, 4(3), 108-118.
- National Safety Council. (n.d.). *The National Safety Council's Family Guide to Teen Driver Safety*. Retrieved November 22, 2011 from http://www.mdt.mt.gov/safety/docs/family_guide_teen.pdf

- Naylor, S., & Keogh, B. (1999). Constructivism in classroom: Theory into practice. *Journal of Science Teacher Education*, 10(2), 93-106.
- Novice Teen Driver Education and Training Standards*. (2009). United States: U.S. Department of Transportation, National Highway Traffic Safety Administration.
- Owens, P. L., Hoagwood, K., Horwitz, S. M., Leaf, P. J., Poduska, J. M., Kellam, S. G., & Ialongo, N. S. (2002). Barriers to children's mental health services. *Journal of the American Academy of Child & Adolescent Psychiatry*, 41(6), 731-738.
- Oxford, R. L., Talbott, V., & Halleck, G. (1990). Language learning strategies, attitudes, motivation, and self-image of students in a university intensive ESL program. In *annual meeting of International Teachers of English to Speakers of Other Languages*, San Francisco, CA.
- Pallant, J. (2001). *SPSS Survival Manual: A Step by Step Guide to Data Analysis Using SPSS for Windows (Versions 10 and 11): SPSS Student Version 11.0 for Windows*. Maryborough, Victoria: Open University Press.
- Panduan Pembelajaran Kurikulum Pendidikan Pemandu. (2006). *Jabatan Pengangkutan Jalan Malaysia: Kelab Jabatan Pengangkutan Jalan Malaysia Cawangan Ibu Pejabat*. Retrieved November 22, 2013 from <https://www.scribd.com/doc/16209617/Buku-KPP>.
- Panter Brick, C., Burgess, A., Eggerman, M., McAllister, F., Pruett, K., & Leckman, J. F. (2014). Practitioner Review: Engaging fathers—recommendations for a game change in parenting interventions based on a systematic review of the global evidence. *Journal of Child Psychology and Psychiatry*, 55(11), 1187-1212.
- Perrin, A. (2016). Book reading 2016. *Pew Research Center: Internet, Science & Tech*. Pew Research Center, 1.

- Pezoldt, V. J., Womack, K. N., & Morris, D. E. (2007). *Parent-taught driver education in Texas: A comparative evaluation*. Washington, DC: National Highway Traffic Safety Administration.
- Pintrich, P. R., & Schunk, D. H. (1996). Motivation in education: Theory, research, and practice. *Chapter, 5*, 153-197.
- Piotrowska, P. J., Tully, L. A., Lenroot, R., Kimonis, E., Hawes, D., Moul, C., Frick P.J., Anderson V., & Dadds, M. R. (2016). Mothers, Fathers, and Parental Systems: A Conceptual Model of Parental Engagement in Programmes for Child Mental Health—Connect, Attend, Participate, Enact (CAPE). *Clinical Child and Family Psychology Review*, 1-16.
- Plowden, B. H. P. (1967). *Children and Their Primary Schools: A Report. Research and Surveys*. London, England: HM Stationery Office.
- Pomerantz, E. M., Moorman, E. A., & Litwack, S. D. (2007). The how, whom and why of parents' involvement in children's academic lives: More is not always better. *Review of Educational Research*, 77(3), 373–410.
- Reigeluth, C. M. (Ed.). (2013). *Instructional-design theories and models: A new paradigm of instructional theory* (Vol. 2). New York: Routledge.
- Rice, T. M., Peek-Asa, C., & Kraus, J. F. (2004). Effects of the California graduated driver licensing program. *Journal of Safety Research*, 35, 375-381.
- Richey, R. C., Fields, D. C., & Foxon, M. (2001). *Instructional design competencies: The standards*. Syracuse, NY: ERIC Publications.
- Rogoff, B. (1990). *Apprenticeship in thinking*. New York: Oxford University Press.
- Rouse, H. L., Aitken, M. E., Lein, S. D., Leath, K. J., Halverson, P., & Thompson, J. W. (2013). Statewide policies for safer teen driving: An evaluation of the impact of graduated driver licensing in Arkansas. *Journal of Trauma and Acute Care Surgery* 2013, 75(4), S281-S4.

- Rubin, J. (1987). Learner strategies: theoretical assumptions, research history and typology In: Wenden, A. & Rubin, J. (Eds.) *Learner Strategies in Language Learning Hemel Hempstead: Prentice Hall International*.
- Russell, K. F., Vandermeer, B., & Hartling, L. (2011). Graduated driver licensing for reducing motor vehicle crashes among young drivers. *Cochrane Database of Systematic Reviews 2011*, 10, CD003300.
- Rutherford, A. (2011). *ANOVA and ANCOVA: a GLM approach*. Hoboken, NJ: John Wiley & Sons.
- Saffron, D. G. (1981). *Driver and rider education, training and licensing: A brief review*. New South Wales, Australia: National Highway Traffic Safety Administration.
- Sanders, M. R., & Woolley, M. L. (2005). The relationship between maternal self-efficacy and parenting practices: Implications for parent training. *Child: Care, Health and Development*, 31(1), 65-73.
- Santoyo, C. J. (2016). Changes in Teachers' Constructivist Beliefs and Practices from Preservice to Inservice Teaching: A Mixed Methods Approach. Retrieved from <http://digitalscholarship.unlv.edu/thesesdissertations/2731>
- Sarani, R., Rahim, S. A. S. M., Marjan, J. M., & Voon, W. S. (2012). Predicting Malaysian road fatalities for year 2020. In *Proc. 4th International Conference on Road Safety and Simulations* (pp. 23-25). Selangor Darul Ehsan, Malaysia: Malaysian Institute of Road Safety Research (MIROS).
- Schank, R. C., Berman, T. R., & Macpherson, K. A. (1999). Learning by doing. *Instructional-design Theories and Models: A New Paradigm of Instructional Theory*, 2, 161-181.
- Scott-Parker, B., Watson, B., King, M. J., & Hyde, M. K. (2015). I would have lost the respect of my friends and family if they knew I had bent the road rules: Parents, peers, and the perilous behaviour of young drivers. *Transportation Research Part F: Traffic Psychology and Behaviour*, 28, 1-13.

- Seeley, D. S. (1985). *Education through partnership*. Washington, DC: American Enterprise Institute for Public Policy Research.
- Seymour, W. K. (2011). *How Parents Can Help Their Teens Become Safe Driver*. Retrieved from <http://www.ct.gov/dmv/lib/dmv/20/29/howto.pdf>
- Sheldon, S. B. (2003). Linking school-family-community partnerships in urban elementary schools to student achievement on state tests. *Urban Review*, 35, 149-166.
- Shell, D. F., Newman, I. M., Córdova-Cazar, A. L., & Heese, J. M. (2015). Driver education and teen crashes and traffic violations in the first two years of driving in a graduated licensing system. *Accident Analysis & Prevention*, 82, 45-52.
- Shope, J. T. (2006). Influences on youthful driving behavior and their potential for guiding interventions to reduce crashes. *Injury Prevention*, 12(suppl 1), i9-i14.
- Shope, J. T. (2007). Graduated driver licensing: Review of evaluation results since 2002. *Journal of Safety Research*, 38(2), 165-175.
- Shope, J. T., & Molnar, L. J. (2003). Graduated driver licensing in the United States: Evaluation results from the early programs. *Journal of Safety Research*, 34, 63-69.
- Simons-Morton, B., & Ouimet, M. C. (2006). Parent involvement in novice teen driving: a review of the literature. *Injury Prevention*, 12(suppl 1), i30-i37.
- Slavin, R. E. (1994). Student teams-achievement divisions. *Handbook of Cooperative Learning Methods*, 3-19.
- Smith, D. K. (2000). From Key Stage 2 to Key Stage 3: Smoothing the Transfer for Pupils with Learning Difficulties. Tamworth: NASEN.

- Snell-Johns, J., Mendez, J. L., & Smith, B. H. (2004). Evidence-based solutions for overcoming access barriers, decreasing attrition, and promoting change with underserved families. *Journal of Family Psychology, 18*(1), 19.
- Spoth, R., & Redmond, C. (2000). Research on family engagement in preventive interventions: Toward improved use of scientific findings in primary prevention practice. *Journal of Primary Prevention, 21*(2), 267-284.
- Staudt, M. (2007). Treatment engagement with caregivers of at-risk children: Gaps in research and conceptualization. *Journal of Child and Family Studies, 16*(2), 183-196.
- Steele, M. M. (2005). Teaching students with learning disabilities: Constructivism or behaviorism? *Current Issues in Education, 8*(10). Retrieved from <http://cie.asu.edu/volume8/number10/index.html>
- Steffe, L. P., & Gale, J. E. (Eds.). (1995). *Constructivism in education* (p. 159). Hillsdale, NJ: Lawrence Erlbaum.
- Stevens, J. (1996). Exploratory and confirmatory factor analysis. *Applied Multivariate Statistics for the Social Sciences, 362-428*.
- Suraji, A. & Tjahjono, N. (2012). A confirmatory factor analysis of accidents caused by the motorcycle aspect in urban area. *International Journal for Traffic and Transport Engineering 2*(1), 60-69.
- Sweller, J. (1994). Cognitive load theory, learning difficulty, and instructional design. *Learning and Instruction, 4*, 295-312.
- Tabachnick, B. G., & Fidell, L. S. (1996). Analysis of covariance. *Using multivariate statistics, 8*(1), 321-374.
- Taber, K. S. (2011). Constructivism as educational Stheory: Contingency in learning, and optimally guided instruction. In J. Hassaskhah (Ed.), *Educational Theory*. New York: Nova.

- Taubman-Ben-Ari, O., Musicant, O., Lotan, T., & Farah, H. (2014). The contribution of parents' driving behavior, family climate for road safety, and parent-targeted intervention to young male driving behavior. *Accident Analysis & Prevention*, 72, 296-301.
- Teen Driver A Family Guide to Teen Driver Safety.* (n.d.). Retrieved from http://downloads.nsc.org/pdf/family_guide_teen.pdf
- Teen Drivers. Honest Talk. Real Solutions. A Handbook for Parents.* (2007). Retrieved from http://www.sfprojectignition.com/assets/yng_driver.pdf
- Teen emotions and driving.* (2010). Retrieved from <http://teens.lowestpricetrafficschool.com/2012/04/teen-emotions-and-driving.html>
- The National Safety Council's Family Guide to Teen Driver Safety.* (n.d.). Retrieved from http://downloads.nsc.org/pdf/family_guide_teen.pdf
- The Oregon Parent Guide to Teen Driving.* (n.d.). Retrieved from <http://www.odot.state.or.us/forms/dmv/7190.pdf>
- Trollip, S. R., & Alessi, S. M. (2001). *Multimedia for learning: methods and development*. Massachusetts: Allyn & Bacon.
- Turney, K., & Kao, G. (2009). Barriers to School Involvement: Are Immigrant Parents Disadvantaged? *The Journal of Educational Research*, 102(4), 257-271.
- Twisk, D. A. M., & Stacey, C. (2007). Trends in young driver risk and countermeasures in European countries. *Journal of Safety Research*, 38, 245-257.
- Ubale, A. Z., Abdullah, A. H., & Abdurrahman, T. (2015). A relationship between parental involvement and intrinsic motivation on learning Islamic education. *International Journal of Academic Research in Business and Social Sciences*, 5(7), 325-337.

- Ultanir, E. (2012). An epistemological glance at the constructivist approach: constructivist learning in Dewy, Piaget, and Montessori. *International Journal of Instruction*, 5(2), 195-212.
- Unger, D. G., Leod, L. E. M., Brown, M. B., & Tressell, P. A. (2000). The role of family support in inter-parental conflict and adolescent academic achievement. *Journal of Child and Family Studies*, 9(2), 191-202.
- Valverde, G. (2011). *California Parent-Teen Training Guide*. Retrieved from <http://dmv.ca.gov/pubs/dl603/dl603.pdf>
- Van Voorhis, E. (2003). Interactive homework in middle school: Effects on family involvement and science achievement. *Journal of Educational Research*, 96, 323-338
- Vanlaar, W., Mayhew, D., Marcoux, K., Wets, G., Brijs, T., & Shope, J. (2009). An evaluation of graduated driver licensing programs in North America using a meta-analytic approach. *Accident Analysis and Prevention*, 41, 1104-1111.
- Vaughn, M. G., Salas-Wright, C. P., & Piquero, A. R. (2012). Buckle up: non-seat belt use and antisocial behaviour in the United States. *Annals of Epidemiology* 22(2), 825-831.
- Vellymalay, S. K. N. (2012a). Parental involvement at home: Analyzing the influence of parents' socioeconomic status. *Studies in Sociology of Science*, 3(1), 1.
- Vellymalay, S. K. N. (2012b). The impact of parent's socioeconomic status on parental involvement at home: A case study on high achievement Indian students of a Tamil school in Malaysia. *International Journal of Academic Research in Business and Social Sciences*, 2(8), 11.
- Vincent, C. (1996). *Parents and Teachers, Power and Participation*. London, Routledge Falmer.
- Vygotsky, L. (1978). Interaction between learning and development. *Readings on the Development of Children*, 23(3), 34-41.

- Wang, Y., Zhang, W., & Salvendy, G. (2010). Effects of a simulation-based training intervention on novice drivers' hazard handling performance. *Traffic Injury Prevention*, 11(1), 16-24.
- Watts, M., & Pope, M. (1989). Thinking about Thinking, Learning about Learning: Constructivism in Physics Education. *Physics Education*, 24(6), 326-31.
- Wee Beng Neo, Jennifer (1995). The Role of Primary Schools in Soliciting Parent Involvement in Hulu Langat District. Unpublished Master of Science Thesis. Universiti Pertanian Malaysia.
- Weimer, M. (2002). *Learner-centered teaching: Five key changes to practice*. Hoboken, NJ: John Wiley & Sons.
- Weininger, E. B. & Lareau, A. (2003) Translating Bourdieu into American Context: The question of social class and family-school relations. *Poetics*, 31, 375-402.
- Whittingham, K., Sofronoff, K., Sheffield, J., & Sanders, M. R. (2009). Stepping Stones Triple P: an RCT of a parenting program with parents of a child diagnosed with an autism spectrum disorder. *Journal of Abnormal Child Psychology*, 37(4), 469.
- Wierzbicki, M., & Pekarik, G. (1993). A meta-analysis of psychotherapy dropout. *Professional Psychology: Research and Practice*, 24(2), 190.
- Wildt, A. R., & Ahtola, O. T. (1978). Analysis of covariance. Quantitative Applications in the Social Sciences series# 12. Thousand Oaks, CA: Sage.
- Williams, A. F. (2006). Young driver risk factors: successful and unsuccessful approaches for dealing with them and an agenda for the future. *Injury Prevention*, 12 (Supp), 14-18.
- Williams, A. F., McCartt, A. T., Mayhew, D. R., & Watson, B. (2013). Licensing age issues: deliberations from a workshop devoted to this topic. *Traffic Injury Prevention*, 14(3), 237-243.
- Williams, A. F., Tefft, B. C., & Grabowski, J. G. (2012). Graduated driver licensing research, 2010-present. *Journal of Safety Research*, 43, 195-203.

- Willis, J. (2000). *ELRC 7503: Instructional Design*. Retrieved from <http://jerrywillis.net/7503/>
- Willis, J. (1998). Alternative Instructional Design Paradigms: What's Worth Discussing and What Isn't. *Educational Technology*, 5-16.
- Wilson, L. O. (2015). Three Domains of Learning—Cognitive, Affective, Psychomotor. *The Second Principle Blog*. Retrieved from <http://thesecondprinciple.com/instructional-design/threedomainsoflearning/>
- Wilson, R. J., Meckle, W., Wiggins, S., & Cooper, P. J. (2006). Young driver risk in relation to parents' retrospective driving record. *Journal of Safety Research*, 37,325–332.
- Wolfendale, S., & Morgan, A. (1992). *Empowering parents and teachers: working for children*. London, New York: Continuum International Publishing Group.
- World Health Organization, & Unicef. (2010). Countdown to 2015 decade report (2000-2010) with country profiles: taking stock of maternal, newborn and child survival. Geneva, Switzerland: WHO Press.
- Zakaria, A., Zuwaiti, H., Umi kalsum, M. S., & Jal Zabdi, M. Y.(2013). Family context and its relationship with parental involvement in education of secondary school children. *International Journal of Asian Social Science*. 3 (4), 1071-1072.
- Zakiyu Ubale, Adamu & Abdullah, Abdul Hakim & Halabi, Kabara. (2016). The Effect of Parental Involvement in Preventing Children's Behaviour Disorders. *Journal of Philosophy, Culture and Religion*. 19, 1-6.
- Zellman, G. L, & Waterman, J. M. (1998). Understanding the impact of parent school involvement on children's educational outcomes. *Journal of Educational Research*, 91, 370-380.

APPENDICES

Appendix A

Between-Subjects Factors

	N
GROUP 1	40
2	39
3	45

Descriptive Statistics

Dependent Variable: PREPERCENTAGE

GROUP	Mean	Std. Deviation	N
1	67.88	11.815	40
2	61.92	13.059	39
3	64.78	11.076	45
Total	64.88	12.105	124

Levene's Test of Equality of Error Variances^a

Dependent Variable: PREPERCENTAGE

F	df1	df2	Sig.
.714	2	121	.492

Tests the null hypothesis that the error variance of the dependent variable is equal across groups.

a. Design: Intercept + GROUP

Tests of Between-Subjects Effects

Dependent Variable: PREPERCENTAGE

Source	Type III Sum of Squares	Df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	700.263 ^a	2	350.132	2.446	.091	.039
Intercept	519600.270	1	519600.270	3629.390	.000	.968
GROUP	700.263	2	350.132	2.446	.091	.039
Error	17322.922	121	143.165			
Total	539975.000	124				
Corrected Total	18023.185	123				

a. R Squared = .039 (Adjusted R Squared = .023)

Correlations

		PREPERCENT AGE	POSTPERCENT TAGE
PREPERCENTAGE	Pearson Correlation	1	.418**
	Sig. (2-tailed)		.000
	N	124	124
POSTPERCENTAGE	Pearson Correlation	.418**	1
	Sig. (2-tailed)	.000	
	N	124	124

** . Correlation is significant at the 0.01 level (2-tailed).

Tests of Normality						
	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	Df	Sig.	Statistic	df	Sig.
POSTPERCENTAGE	.089	124	.018	.984	124	.160

a. Lilliefors Significance Correction

Tests of Normality							
	GROUP	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
		Statistic	Df	Sig.	Statistic	df	Sig.
POSTPERCENTAGE	1	.181	40	.002	.917	40	.006
	2	.134	39	.073	.973	39	.476
	3	.134	45	.041	.954	45	.069

a. Lilliefors Significance Correction

Descriptives

		Statistic	Std. Error
POSTPERCENTAGE	Mean	61.81	1.607
	95% Confidence Interval for Mean	Lower Bound 58.63 Upper Bound 64.99	
	5% Trimmed Mean	62.14	
	Median	60.00	
	Variance	320.055	
	Std. Deviation	17.890	
	Minimum	10	
	Maximum	100	
	Range	90	
	Interquartile Range	25	
	Skewness	-.179	.217
	Kurtosis	.033	.431

Descriptives

	GROUP		Statistic	Std. Error
POSTPERCENTAGE	1	Mean	59.75	2.448
		95% Confidence Interval for Mean	Lower Bound 54.80 Upper Bound 64.70	
		5% Trimmed Mean	60.83	
		Median	60.00	
		Variance	239.679	
		Std. Deviation	15.482	
		Minimum	10	
		Maximum	90	
		Range	80	
		Interquartile Range	15	
		Skewness	-.944	.374
		Kurtosis	2.360	.733
	2	Mean	52.82	2.372
		95% Confidence Interval for Mean	Lower Bound 48.02 Upper Bound 57.62	
		5% Trimmed Mean	52.86	
		Median	55.00	

3	Variance		219.467	
	Std. Deviation		14.814	
	Minimum		15	
	Maximum		90	
	Range		75	
	Interquartile Range		15	
	Skewness		.054	.378
	Kurtosis		.817	.741
	Mean		71.44	2.676
	95% Confidence Interval for Mean	Lower Bound	66.05	
		Upper Bound	76.84	
	5% Trimmed Mean		72.04	
	Median		75.00	
	Variance		322.298	
	Std. Deviation		17.953	
	Minimum		30	
	Maximum		100	
	Range		70	
	Interquartile Range		25	
	Skewness		-.570	.354
	Kurtosis		-.245	.695

Tests of Between-Subjects Effects

Dependent Variable: POSTPERCENTAGE

Source	Type III Sum of Squares	Df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	14658.399 ^a	5	2931.680	14.001	.000	.372
Intercept	1723.270	1	1723.270	8.230	.005	.065
GROUP	322.344	2	161.172	.770	.465	.013
PREPERCENTAGE	6567.337	1	6567.337	31.364	.000	.210
GROUP * PREPERCENTAGE	938.276	2	469.138	2.240	.111	.037
Error	24708.335	118	209.393			
Total	513175.000	124				
Corrected Total	39366.734	123				

a. R Squared = .372 (Adjusted R Squared = .346)

Descriptive Statistics

Dependent Variable: POSTPERCENTAGE

GROUP	Mean	Std. Deviation	N
1	59.75	15.482	40
2	52.82	14.814	39
3	71.44	17.953	45
Total	61.81	17.890	124

Tests of Between-Subjects Effects

Dependent Variable: POSTPERCENTAGE

Source	Type III Sum of Squares	Df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	13720.123 ^a	3	4573.374	21.399	.000	.349
Intercept	2011.819	1	2011.819	9.413	.003	.073
PREPERCENTAGE	6221.744	1	6221.744	29.111	.000	.195
GROUP	6850.362	2	3425.181	16.026	.000	.211
Error	25646.611	120	213.722			
Total	513175.000	124				
Corrected Total	39366.734	123				

a. R Squared = .349 (Adjusted R Squared = .332)

Estimates

Dependent Variable: POSTPERCENTAGE

GROUP	Mean	Std. Error	95% Confidence Interval	
			Lower Bound	Upper Bound
1	57.955 ^a	2.335	53.331	62.578
2	54.592 ^a	2.364	49.912	59.272
3	71.505 ^a	2.179	67.190	75.820

a. Covariates appearing in the model are evaluated at the following values: PREPERCENTAGE = 64.88.

Pairwise Comparisons

Dependent Variable: POSTPERCENTAGE

(I) GROUP	(J) GROUP	Mean Difference (I-J)	Std. Error	Sig. ^b	95% Confidence Interval for Difference ^b	
					Lower Bound	Upper Bound
1	2	3.362	3.356	.955	-4.785	11.510
	3	-13.551 [*]	3.195	.000	-21.309	-5.792
2	1	-3.362	3.356	.955	-11.510	4.785
	3	-16.913 [*]	3.214	.000	-24.717	-9.109
3	1	13.551 [*]	3.195	.000	5.792	21.309
	2	16.913 [*]	3.214	.000	9.109	24.717

Based on estimated marginal means

*. The mean difference is significant at the .05 level.

b. Adjustment for multiple comparisons: Bonferroni.

Tests of Normality

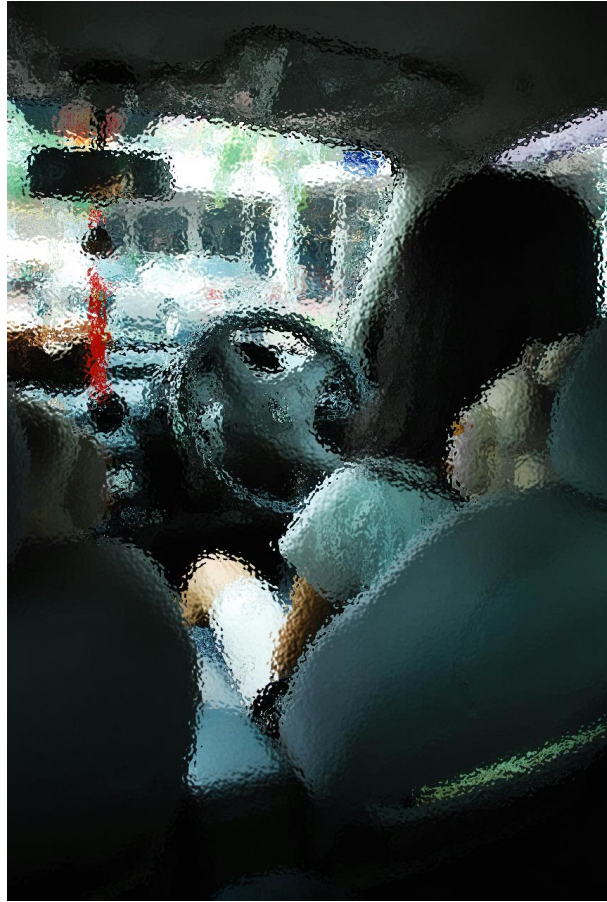
GROUP		Kolmogorov-Smirnov ^a			Shapiro-Wilk		
		Statistic	df	Sig.	Statistic	df	Sig.
DIFF	1	.180	40	.002	.872	40	.000
	2	.117	39	.200 [*]	.970	39	.363
	3	.159	45	.006	.942	45	.025

*. This is a lower bound of the true significance.

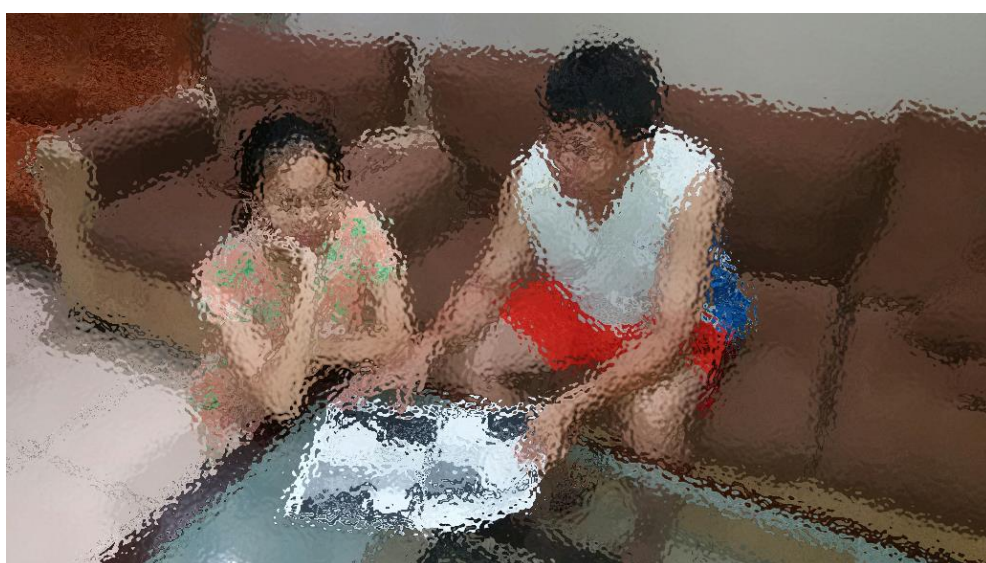
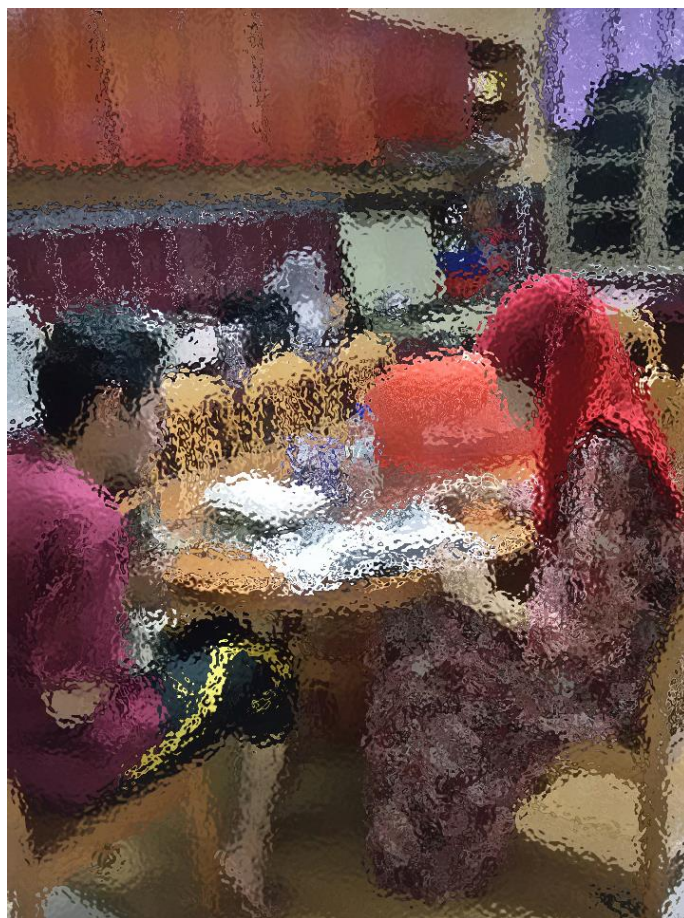
a. Lilliefors Significance Correction

Appendix B











Appendix C

i>id	nama_first	nama_last	umur	jantina	q1	q2	q3	q4	q5	q6	q7	q8	q9	q10	q11	q12	q13	q14	q15	q16	q17	q18	q19	q20
1.0000	caca		22.0000	1.0000	A	D	D	C	A	D	B	C	A	D	A	C	C	D	C	A	D	B	D	A
2.0000	rodiyah	murad	22.0000	1.0000	D	D	B	A	D	D	B	C	A	B	D	D	C	B	C	D	B	C	C	B
3.0000	coco	ling	21.0000	1.0000	D	D	A	C	A	C	B	C	A	B	C	D	C	B	B	B	C	C	D	A
4.0000	ester	kho	22.0000	1.0000	D	C	D	C	D	C	D	B	D	B	D	C	B	D	B	D	D	D	D	A
5.0000	hanan	bidin	21.0000	1.0000	D	A	A	A	D	B	D	D	A	B	D	B	D	D	B	C	B	B	D	A
6.0000	hanisah	zahrulail	21.0000	1.0000	C	C	D	C	B	B	A	D	A	D	C	C	A	A	B	B	C	B	D	A
7.0000	dayang	ayub	22.0000	1.0000	B	D	D	A	B	C	A	D	D	D	B	B	A	B	C	A	C	A	A	A
8.0000	muhamad	johar	23.0000	0.0000	D	D	B	C	D	C	A	D	D	D	D	D	A	B	C	B	B	C	A	A
9.0000	nurul	rosli	26.0000	1.0000	C	A	B	A	A	A	D	A	D	B	D	C	C	D	D	D	A	A	C	B
10.0000	chee	sok ming	22.0000	1.0000	D	A	A	D	D	D	B	C	A	C	D	C	B	A	A	A	D	A	C	B
11.0000	apphia	dicky	21.0000	1.0000	A	D	D	A	D	D	D	D	D	D	D	B	A	A	D	B	B	B	C	B
12.0000	sherrylina	hesta	21.0000	1.0000	D	C	A	C	B	C	C	C	A	D	C	B	D	A	C	D	B	A	C	B
13.0000	cece		21.0000	1.0000	D	C	A	A	A	D	C	D	D	D	C	B	B	C	A	B	D	A	C	B
14.0000	atifah	abdul	21.0000	1.0000	C	D	A	C	D	D	B	C	D	C	D	B	D	A	D	A	B	A	C	B
15.0000	athirah	ali	21.0000	1.0000	D	D	A	C	A	C	A	C	A	D	D	C	B	D	C	B	C	A	D	B
16.0000	leelashini	suprama...	22.0000	1.0000	D	C	D	B	C	D	D	C	C	D	A	B	B	C	A	C	B	A	C	B
17.0000	sonia	kandou	20.0000	1.0000	C	A	D	C	A	D	A	C	D	B	D	B	C	C	D	B	A	D	C	B
18.0000	ling	lee yien	22.0000	1.0000	D	C	B	C	B	D	D	C	D	B	C	B	B	C	D	B	B	A	C	B
19.0000	steffi	khoo	21.0000	1.0000	D	C	C	A	A	A	C	C	D	D	D	B	B	D	D	B	B	A	C	B
20.0000	lee	chai en	22.0000	0.0000	D	C	C	C	D	D	C	C	A	C	D	B	B	C	D	D	B	C	C	B
21.0000	phoebe	dharmaraj	22.0000	1.0000	D	C	A	A	D	D	C	C	A	D	D	B	A	C	A	B	C	A	C	A
22.0000	lim	hui sean	22.0000	1.0000	D	C	A	C	A	D	C	A	D	A	D	B	B	B	D	B	B	D	C	B
23.0000	najaa	mutalib	22.0000	1.0000	C	C	C	C	C	A	B	C	D	C	D	B	B	A	A	C	B	A	C	B
24.0000	beatrice	lawrence	20.0000	1.0000	D	C	D	C	A	D	C	C	D	D	D	A	B	C	C	A	A	D	C	C
25.0000	rabiatu	adzani	21.0000	1.0000	C	D	A	C	A	D	B	C	D	B	C	B	B	D	A	C	C	A	C	B
26.0000	articia	juli	21.0000	1.0000	B	C	C	C	C	D	D	C	D	D	D	B	B	C	D	B	B	D	C	B
27.0000	syamimi	shahirudin	20.0000	1.0000	D	C	A	C	A	D	C	C	D	A	D	C	B	B	B	A	B	A	C	B
28.0000	nurul ain	latif	21.0000	1.0000	D	C	A	C	A	D	C	C	D	D	C	C	B	C	B	B	B	C	C	B
29.0000	syamimie	jamal	21.0000	1.0000	D	B	A	C	C	D	C	A	D	D	D	A	B	B	D	B	A	A	D	B
30.0000	sook ying	lee	21.0000	1.0000	C	C	A	C	A	B	A	C	B	A	D	B	C	A	B	B	B	C	B	D

Appendix D

ITEM ANALYSIS 2nd.ITEMDISTRATOR April 1, 2016 11:39:29				
Item	Option (Score)	Difficulty	Std. Dev.	Discrimin.
q1	Overall	0.6333	0.4901	0.2009
	A(0.0)	0.0667	0.2537	-0.2843
	B(0.0)	0.0667	0.2537	-0.1480
	C(0.0)	0.2333	0.4302	-0.2867
	D(1.0)	0.6333	0.4901	0.2009
Item	Option (Score)	Difficulty	Std. Dev.	Discrimin.
q2	Overall	0.5333	0.5074	0.4357
	A(0.0)	0.1333	0.3457	-0.3317
	B(0.0)	0.0333	0.1826	0.0650
	C(1.0)	0.5333	0.5074	0.4357
	D(0.0)	0.3000	0.4661	-0.5321
Item	Option (Score)	Difficulty	Std. Dev.	Discrimin.
q3	Overall	0.4667	0.5074	0.1025
	A(1.0)	0.4667	0.5074	0.1025
	B(0.0)	0.1333	0.3457	-0.2584
	C(0.0)	0.1333	0.3457	0.2565
	D(0.0)	0.2667	0.4498	-0.4782
Item	Option (Score)	Difficulty	Std. Dev.	Discrimin.
q4	Overall	0.6667	0.4795	0.0437
	A(0.0)	0.2667	0.4498	-0.2781
	B(0.0)	0.0333	0.1826	0.0162
	C(1.0)	0.6667	0.4795	0.0437
	D(0.0)	0.0333	0.1826	-0.1289
Item	Option (Score)	Difficulty	Std. Dev.	Discrimin.
q5	Overall	0.4333	0.5040	0.0995
	A(1.0)	0.4333	0.5040	0.0995
	B(0.0)	0.1333	0.3457	-0.2829
	C(0.0)	0.1333	0.3457	0.1233
	D(0.0)	0.3000	0.4661	-0.3597
Item	Option (Score)	Difficulty	Std. Dev.	Discrimin.
q6	Overall	0.6000	0.4983	0.4408
	A(0.0)	0.1000	0.3051	-0.0233
	B(0.0)	0.1000	0.3051	-0.4720
	C(0.0)	0.2000	0.4068	-0.4794
	D(1.0)	0.6000	0.4983	0.4408
Item	Option (Score)	Difficulty	Std. Dev.	Discrimin.
q7	Overall	0.3333	0.4795	0.5883
	A(0.0)	0.2000	0.4068	-0.4595
	B(0.0)	0.2333	0.4302	-0.3830
	C(1.0)	0.3333	0.4795	0.5883
	D(0.0)	0.2333	0.4302	-0.2081

Item	Option (Score)	Difficulty	Std. Dev.	Discrimin.
q8	Overall	0.6667	0.4795	0.2566
	A(0.0)	0.1000	0.3051	0.0351
	B(0.0)	0.0333	0.1826	-0.2721
	C(1.0)	0.6667	0.4795	0.2566
	D(0.0)	0.2000	0.4068	-0.4992
Item	Option (Score)	Difficulty	Std. Dev.	Discrimin.
q9	Overall	0.6000	0.4983	0.2637
	A(0.0)	0.3333	0.4795	-0.4856
	B(0.0)	0.0333	0.1826	-0.1289
	C(0.0)	0.0333	0.1826	0.0162
	D(1.0)	0.6000	0.4983	0.2637
Item	Option (Score)	Difficulty	Std. Dev.	Discrimin.
q10	Overall	0.5000	0.5085	-0.0350
	A(0.0)	0.1000	0.3051	0.1535
	B(0.0)	0.2667	0.4498	-0.4245
	C(0.0)	0.1333	0.3457	-0.0069
	D(1.0)	0.5000	0.5085	-0.0350
Item	Option (Score)	Difficulty	Std. Dev.	Discrimin.
q11	Overall	0.6667	0.4795	0.0062
	A(0.0)	0.0667	0.2537	-0.2165
	B(0.0)	0.0333	0.1826	-0.3665
	C(0.0)	0.2333	0.4302	-0.0262
	D(1.0)	0.6667	0.4795	0.0062
Item	Option (Score)	Difficulty	Std. Dev.	Discrimin.
q12	Overall	0.5667	0.5040	0.2330
	A(0.0)	0.0667	0.2537	0.0964
	B(1.0)	0.5667	0.5040	0.2330
	C(0.0)	0.2667	0.4498	-0.3519
	D(0.0)	0.1000	0.3051	-0.4176
Item	Option (Score)	Difficulty	Std. Dev.	Discrimin.
q13	Overall	0.5333	0.5074	0.5565
	A(0.0)	0.1667	0.3790	-0.4428
	B(1.0)	0.5333	0.5074	0.5565
	C(0.0)	0.2000	0.4068	-0.4794
	D(0.0)	0.1000	0.3051	-0.1669
Item	Option (Score)	Difficulty	Std. Dev.	Discrimin.
q14	Overall	0.3000	0.4661	0.4535
	A(0.0)	0.2333	0.4302	-0.2672
	B(0.0)	0.2333	0.4302	-0.2476
	C(1.0)	0.3000	0.4661	0.4535
	D(0.0)	0.2333	0.4302	-0.3830

Item	Option (Score)	Difficulty	Std. Dev.	Discrimin.
q15	Overall	0.3333	0.4795	0.3167
	A(0.0)	0.2000	0.4068	0.0440
	B(0.0)	0.2333	0.4302	-0.3830
	C(0.0)	0.2333	0.4302	-0.4210
	D(1.0)	0.3333	0.4795	0.3167
Item	Option (Score)	Difficulty	Std. Dev.	Discrimin.
q16	Overall	0.5000	0.5085	0.1802
	A(0.0)	0.2000	0.4068	-0.2352
	B(1.0)	0.5000	0.5085	0.1802
	C(0.0)	0.1333	0.3457	-0.1841
	D(0.0)	0.1667	0.3790	-0.2672
Item	Option (Score)	Difficulty	Std. Dev.	Discrimin.
q17	Overall	0.5333	0.5074	0.2427
	A(0.0)	0.1333	0.3457	-0.0325
	B(1.0)	0.5333	0.5074	0.2427
	C(0.0)	0.2000	0.4068	-0.4195
	D(0.0)	0.1333	0.3457	-0.2829
Item	Option (Score)	Difficulty	Std. Dev.	Discrimin.
q18	Overall	0.5000	0.5085	0.1434
	A(1.0)	0.5000	0.5085	0.1434
	B(0.0)	0.1333	0.3457	-0.5462
	C(0.0)	0.2000	0.4068	-0.2143
	D(0.0)	0.1667	0.3790	0.1029
Item	Option (Score)	Difficulty	Std. Dev.	Discrimin.
q19	Overall	0.6667	0.4795	0.6100
	A(0.0)	0.0667	0.2537	-0.4182
	B(0.0)	0.0333	0.1826	-0.1289
	C(1.0)	0.6667	0.4795	0.6100
	D(0.0)	0.2333	0.4302	-0.5881
Item	Option (Score)	Difficulty	Std. Dev.	Discrimin.
q20	Overall	0.6667	0.4795	0.5667
	A(0.0)	0.2667	0.4498	-0.7541
	B(1.0)	0.6667	0.4795	0.5667
	C(0.0)	0.0333	0.1826	0.0650
	D(0.0)	0.0333	0.1826	-0.1289

RELIABILITY ANALYSIS

Method	Estimate	95% Conf. Int.	SEM
Guttman's L2	0.7486	(0.5969, 0.8622)	1.9166
Coefficient Alpha	0.7130	(0.5398, 0.8427)	2.0478
Feldt-Gilmer	0.7307	(0.5683, 0.8525)	1.9834
Feldt-Brennan	0.7238	(0.5571, 0.8486)	2.0089
Raju's Beta	0.7130	(0.5398, 0.8427)	2.0478

Appendix E

SENARAI PELAJAR KUMPULAN A

BIL	NAMA	KELAS
1.		
2.		
3.		
4.		
5.		
6.		
7.		6A2
8.		6A3
9.		6A3
10.		6A3
11.		6A3
12.		6A3
13.		6A4
14.		6A4
15.		6A4
16.		6A4
17.		6A4
18.		6A4
19.		6A4
20.		6A4
21.		6A4
22.		6A4
23.		6A4
24.		6B1
25.		6B2
26.		6B3
27.		6B3
28.		6B3
29.		6B4
30.		6B4
31.		6B4
32.		6B4
33.		6B4
34.		6B4
35.		6B4
36.		6B5
37.		6B5
38.		6B5
39.		6B5
40.		6B5
41.		6B5
42.		6B5
43.		6B5

44.		6B5
45.		6B5

SENARAI PELAJAR KUMPULAN B

BIL	NAMA	KELAS
46.		
47.		6A2
48.		6A2
49.		6A2
50.		6A2
51.		6A2
52.		6A2
53.		6A3
54.		6A3
55.		6A3
56.		6A3
57.		6A3
58.		6A3
59.		6B1
60.		6B1
61.		6B1
62.		6B1
63.		6B1
64.		6B2
65.		6B2
66.		6B2
67.		6B2
68.		6B2
69.		6B2
70.		6B3
71.		6B3
72.		6B3
73.		6B3
74.		6B3
75.		6B3
76.		6B4
77.		6B4
78.		6B4
79.		6B4
80.		6B4
81.		6B4
82.		6B4
83.		6B4
84.		6B4
85.		6B4
86.		6B4
87.		6B4
88.		6B5
89.		6B5
90.		6B5

Appendix F

TRANSCRIPT

Time : 5.15pm

Place : Participant's house

Interviewer : Cecelia anak Edmund John (Researcher)

Interviewee : Chung (Participant's mother)

Me : "Hi Mdm, very nice to meet you."

Mdm : "Nice to meet you again."

Me : "First of all, I would like to thank you so much for being able to spend some time to be interviewed today. I believe you just came back from work.."

Mdm : "Oh, it's okay. The pleasure is mine.. Come have a seat. I get you drink. Make yourself at home."

Me : "Where is Ah Hau today?"

Mdm : "He is still outside with his friends. I think they need to get something for the year end school project."

Me : "I see.. Is it alright if we get this interview start without him?"

Mdm : "Of course, no problem with that, dear."

Me : "Once again I would like to briefly introduce myself and the research that we are collaborating these days. I am Cecelia from UNIMAS, currently pursuing Masters in Learning Sciences and my thesis or research is called The Handbook for Parents on Novice Teen Driving. This research is interested to know what the effects of parental involvement are in their novice teen driving. As we might not be aware of our young children are at the highest risk especially those who just got their driving license of involving themselves in car accidents.

I would like to ask for permission that our conversation is recorded for research purpose only and it will be private and confidential. So far, is it okay for you, madam?"

Mdm : "Yes, it is okay.

I do agree that some of them can be very reckless when driving that they put other people lives in danger. Even for Ah Hau, sometimes he can be very impatient."

Me : "I understand, madam. Does Ah Hau ever involved in car accidents before?"

Mdm : "Yes, he did get into accidents but thank goodness all minor ones lah. The worst one was (when he) drove into the big drain and got trapped inside and (was) alone. The car had bad damages in front and the engine cannot (be) restart."

Me : “Oh no... What had made the accident happened?”

Mdm : “People said that time the road was quite empty. Ah Hau said the car steering wheel was locked suddenly. He got panicked and hit the emergency break, and the car lose control. For me he could have just slowly stopped the car instead of sudden break and went into the drain.”

Me : “Very sorry to hear that incident, madam. There are times drivers can be panicked and did things we should not do. We have a lot to learn especially from parents, which is why this research is one of the first initiative to get parental involvement in novice teen driving. After getting through few driving sessions with Ah Hau using the handbook, what do you think about it madam?”

Mdm : “It is indeed a very good initiative. We parents ah.. Should be involved in our children’s driving especially when it involve their lives on the road. I feel that I have the responsibility and commit myself to do the tasks in handbook with my Ah Hau, at the same time to talk with him not only about his day at school, but about this too.”

Me : “Do you feel the handbook helps?”

Mdm : “It does really help like in getting a head start with any driving skill sessions. I find it easier to plan the session on a skill one at a time. By the end of each session, we both have products and surprisingly, I was able to see his strengths and weakness from the sessions. He is really good in reverse parking as compare to any other people in this family.”

Me : “That is good to hear, madam”

Mdm : “Yes, while I think the time to complete the handbook was a bit a.. short, I allow for more practice time for sessions where Ah Hau was not good at, like side parking on the left side of the road. To be honest, I was not good in that also. So before he drive, I let myself practice using this handbook beforehand.”

Me : “How do you find the content of the handbook?”

Mdm : “The content is the same as the road driving book (KPP) but because now the purpose of using it was different, like before this I read just to pass my driving test, this time it is to teach my children, I read with a.. kind of.. a purpose.”

Me : “Do you think the handbook is necessary to be used in parental involvement in novice teen driving?”

Mdm : “I think if this programme going to be carried out in our country, the handbook is necessary. If there is no handbook then there is only all talk.. all talk only.. and no action. At least when there is a work can scribble and jot down.”

Me : “Was there any challenges you find while carrying out this programme?”

Mdm : “One of the challenges would be find a time to do the session. As a working mum I always forgot to do this and Ah Hau never remind me to do. When we actually fixed a time, there is always other things to do and we ended up put it off to another day.”

Me : “Does this affects the quality of the driving sessions you and Ah Hau face?”

Mdm : “No-*lah*. The discussions were still as fruitful and I get to do other chores while he becomes my driver for the day such as buying groceries or going to the park to jog together at the end of sessions.”

Me : “Happy to know that the programme did not interfere with everyday life, madam.”

Mdm : “One more thing I find this programme is good, is I get to discuss with my son without making him feel annoyed. Ah Hau never like me to talk over things as he always say I am naggy. I say a bit, he show sour face. But with this programme, he did not complain at all hahahahaha”

Me : “Oh haha... That is good to hear madam. Any other behaviour changes you find in him after doing the sessions?”

Mdm : “I find his driving become more and more bearable hahahaha. He is also more careful and calm during driving. I don’t find myself peeking over the speedometer to check on his speed or to look around and find fault on him.”

Me : “So the programme did change the driving behaviour of Ah Hau yea madam?”

Mdm : “Yea I think it did. It was not because before this that Ah Hau was not driving well.. He is a good driver, but after going through the driving sessions he more matured especially in decision making. When we talk about the accidents we met on the road, he can give constructive comments about the accidents.. what can be done to avoid such things happen. Normally he don’t say at all. It made me proud of him.”

Me : “I see.”

Mdm : “Actually this program also made me more self-conscious over my own driving. There are times I think Ah Hau can handle driving better than me. You know la, when we get older.. our driving get more bad. Hand eye coordination can be bad. When Ah Hau is driving he is more open to talk and doesn’t consider me as nagging hahaha”

Me : “So this program helped a lot in discussion without much arguments yes?”

Mdm : “Good.. Healthy arguments. After driving session we are back to normal, not like normal days where he would be annoyed and won’t talk to me whole day after I just commented on his driving.”

Me : “That is a good, madam. Thank you for sharing with me. If given the chances, would you like to be involved more in things like this in the future?”

Mdm : “Yes I do.”

Me : “It has been a lovely chat with you madam. I will see you again some time next week yea? Thank you so much.”

Mdm : “Thank you for coming. Take care and see you again yea.”

Me : “Okay. Bye, madam.”

TRANSCRIPT

Time : 7pm
Place : Participant's house
Interviewer : Cecelia anak Edmund John (Researcher)
Interviewee : Puan A*

Me : "Good evening, aunty"

Mdm : "Eh.. Arrive sudah.. Come come."

Me : "Thank you thank you.. I came here just to thank you for your kindness and cooperation for my research. I also have some questions to ask from aunty."

Mdm : "I see.. What is it?"

Me : "So I would like to introduce my research again to recap. My name is Cecelia from UNIMAS, currently pursuing my Masters in Learning Sciences."

Mdm : "Learning Sciences? What subject is that?"

Me : "In layman terms, Learning Sciences is a subject which is interested in how we learn and to come up with ways and implementations in enhancing learning."

Mdm : "Oh.. I see. Good-a!"

Me : "Hahaha thank you! The research I am currently doing is to find the effect of parental involvement on novice teen driving. As we all know, to this day parents are not involved in their teen driving directly. There are no proper guideline for parents to use as guideline to teach young teen drivers these days such as basic driving skills and what to do in case of emergency situations."

Mdm : "But aunty think sometimes we do teach our kids all the time whenever they are driving. Does that count as parental involvement?"

Me : "Yes, it does count as parental involvement. Which is why this research is interested to know whether these type of parental involvement has benefits the safety of our young novice drivers. Young Malaysian drivers of the age 18 to 25 years old are at the highest risk of involving themselves in accidents. With many types of initiatives made by the government for example law enforcements, improvement of road conditions and facilities, there are no initiatives to involve parents in tackling this problem."

Mdm : "Yea.. yea.."

Me : "And to get parent to involve in this research, a material and proper measurement to check on the effect of parental involvement. That is why the handbook was created along in this research. The handbook is a guide for aunty on what to teach Ornella, in

this study specifically on the types of parking. How did you find the handbook, aunty?"

Mdm : "The handbook good and filled with the things to carry out the activities. Though I think the content was more of general knowledge in driving."

Me : "I see. Do you feel it helps in the process of carrying out the activities?"

Mdm : "I find very straightforward. Just follow what it is to teach on that day and that the lesson more organised. Good."

Me : "That's good to hear. How about the driving sessions that is being carried out so far? What is your comment?"

Mdm : "The driving session was good.. Ornella and I had no problem carrying out the sessions."

Me : "Do you find any changes in Ornella's driving?"

Mdm : "Ornella's driving I must say is better. She is very careful in everything that she is doing, and a little guidance like this make her a lot better like we the whole family always ask her to drive us around."

Me : "That is good to hear, aunty. How do you find the content of the handbook, after using it to this day?"

Mdm : "The content.. easy to understand-lah. Easy for understanding even though it is in Malay.. After reading once we already have the idea on the whole driving sessions."

Me : "Was there any challenges you find while carrying out this programme?"

Mdm : "Challenges.. I must say is forgetful. It's not something we used to do, as in do stuff with our children. If we remember, our children might not remember to do together. If they remember, we are the ones who are not free to do.."

Me : "Ah.. So it is about time constraint as well other than forgetting to carry out the activity. Does this affect the quality of the driving sessions you and Ornella face?"

Mdm : "Not really... because-la.. aunty think parking the car is basic driving. So it is practice to make perfect. She drive the car almost every day, and also drive us whenever anytime. So for aunty, this activity is bonus to improve her driving."

Me : "Glad to know that, aunty.."

Mdm : "Yea... It is good."

Me : "Thank you so much for the feedbacks, aunty. If given the chances, would you like to be involved more in things like this in the future?"

Mdm : "If got time, why not? Is certainly not a bad thing, and it certainly brings good to the children."

Me : "Thank you so much for the lovely chat, aunty. See you around some other time."

Mdm : “You are welcome any other time, just inform me beforehand yea. And thank you for coming. Safe journey home.”

Appendix G

FIELD NOTES

Driving Session Observations

Date : August 21, 2016 (2PM)
Researcher : Cecelia anak Edmund John
Participants : Alfira [REDACTED] (Novice teen driver)
: S [REDACTED] ak [REDACTED] (Parent)

Topic: 7.3

Observations

Mr. Suin and his daughter Alfira agreed to let the researcher join in one of their driving session. Mr. Suin and Alfira had gone through the handbook beforehand and agreed to carry out the driving session inside army camp compound since it has a large empty parking lot. Alfira was able to drive both her parent and researcher from her house to the empty parking area. After some trials, tips and recommendations from her father, Alfira was able to improve on her parallel parking. When asked whether she has the confidence to perform in real driving situations, Alfira showed enthusiasm. Before heading home, she drove the car to a wet market nearby and performed parallel parking without much problem.

Comments

Alfira and her father are keen to collaborate with each other in this study. Mr. Suin hoped that Alfira are able to drive safely as this is an important skill for a lady. Alfira seemed calm when carrying out the activity in empty car parking but more nervous when she were at the wet market. Researcher noticed that she needed more guidance from her father since she was making a lot of eye contact with her father.

Appendix H

MAKLUMAT PERIBADI	
Nama Peserta*: Nama Ibu/ Bapa/ Penjaga*:- Jantina Peserta*: LELAKI No IC Peserta*: 	Gambar
Alamat Tetap*: JALAN LANDEH, KOTA PADAWAN, 93250 KUCHING, SARAWAK Nombor telefon*: 0112 Tarikh Mula*: 08.06.2016.	
Tandatangan Peserta:	Maklumat penyelidik: Nama: Cecelia anak Edmund John No. Telefon: 0195407389 Email: ceceliaedmundjohn@gmail.com Alamat Tetap: Taman Pasir, Serian By-Pass, 94700 Serian, Sarawak.

*Wajib diisi oleh peserta

LOG PERBINCANGAN

Lokasi perbincangan	Topik	Masa	Tandatangan Ibu/Bapa/Penjaga	Tandatangan Pemandu Remaja	Nota (*untuk diisi oleh penyelidik)
Rumah	7.0	7pm - 9pm			S/B CC (23/7) 
Rumah	7.1	4pm - 5pm	N  ia	 en	
Rumah	7.2	3pm - 4pm	N  ia	 en	
Rumah	7.3	4pm - 5pm	N  ia	 en	
Rumah	7.4	3pm - 4pm	N  ia	 en	
Rumah	7.5	4pm - 4.30pm	N  ia	 en	
Rumah	7.6	3pm - 4pm	N  ia	 en	
Rumah	7.7	4pm - 5pm	N  ia	 en	S/B CC (31/8) 
Rumah	7.8	3pm - 4pm	N  ia	 en	

MAKLUMAT PERIBADI

Nama Peserta*: S [REDACTED]	Gambar
Nama Ibu/ Bapa/ Penjaga*: L [REDACTED]	
Jantina Peserta*: Perempuan	
No IC Peserta*: 98 [REDACTED]	

Alamat Tetap*: Landeh, Jln Landeh, Batu 10 Kota padawan, 43250 Kuching.
Nombor telefon*: 019 [REDACTED]
Tarikh Mula*: 8/8/2016

Tandatangan Peserta: 	Maklumat penyelidik: Nama: Cecelia anak Edmund John No. Telefon: 0195407389 Email: ceceliaedmundjohn@gmail.com Alamat Tetap: Taman Pasir, Serian By-Pass, 94700 Serian, Sarawak.
---	---

*Wajib diisi oleh peserta

LOG PERBINCANGAN

Lokasi perbincangan	Topik	Masa	Tandatangan Ibu/Bapa/Penjaga	Tandatangan Pemandu Remaja	Nota (*untuk diisi oleh penyelidik)
Rumah	7.0	7pm - 9pm			S/B CC (12/7)
Rumah	7.1	5pm - 5:30pm 8.8.16			↓
Rumah	7.2	3pm - 4pm 10.8.16			
Rumah	7.3	5pm - 5:30pm 15.8.16			
Rumah	7.4	1pm - 2pm 20.8.16			
Rumah	7.5	2pm - 3pm 21.8.16			S/B CC (13/8)
Rumah	7.6	12pm - 2pm 21.8.16			
Rumah	7.7	4pm - 5pm 25.8.16			
Rumah	7.8	6pm - 7pm 27.8.16			

MAKLUMAT PERIBADI

Nama Peserta*: [REDACTED] y.	Gambar
Nama Ibu/ Bapa/ Penjaga*: [REDACTED] Sandy.	
Jantina Peserta*: Perempuan.	
No IC Peserta*: 980 [REDACTED] 8.	

Alamat Tetap*: [REDACTED] SARAWAK
Nombor telefon*: 014 [REDACTED]
Tarikh Mula*: 4 Ogos 2016.

Tandatangan Peserta: [REDACTED]	Maklumat penyelidik: Nama: Cecelia anak Edmund John No. Telefon: 0195407389 Email: ceceliaedmundjohn@gmail.com Alamat Tetap: Taman Pasir, Serian By-Pass, 94700 Serian, Sarawak.
------------------------------------	---

*Wajib diisi oleh peserta

LOG PERBINCANGAN

Lokasi perbincangan	Topik	Masa	Tandatangan Ibu/Bapa/Penjaga	Tandatangan Pemandu Remaja	Nota (*umak diisi oleh penyelidik)
Rumah	7.0	7pm - 9pm			s/b cc (22/7)
Rumah	7.1	6pm - 7pm			
Rumah	7.2	5pm - 6pm			
Rumah	7.3	3pm - 4pm			
Rumah	7.4	3pm - 4pm			
Rumah	7.5	4pm - 5pm			s/b cc (20/8)
Rumah	7.6	6pm - 7pm			
Rumah	7.8	7pm - 8pm			

Appendix I

	SMK Wira Penrissen Km 14, Jalan Kuching-Serian 94300 SAMARAHAN Tel : 082-612740 Faks : 082-619485 smkwirapenrissen@hotmail.com smkwirapenrissen@gmail.com			
Kepada: <i>Kami yg berkenaan</i>				
<table style="width: 100%; border: none;"><tr><td style="width: 50%; vertical-align: top;"> ☐ Untuk pertimbangan ☒ Untuk makluman ☐ Untuk semakan ☐ Untuk simpanan ☐ Untuk difailkan ☐ Untuk ditandatangani ☐ Untuk tindakan lanjut </td><td style="width: 50%; vertical-align: top;"> ☐ Sila uruskan ☐ Sila kaji ☐ Sila bincang ☐ Sila edarkan ☐ Sila beri pandangan ☐ Dikembalikan ☐ Tidak diluluskan </td></tr></table>			☐ Untuk pertimbangan ☒ Untuk makluman ☐ Untuk semakan ☐ Untuk simpanan ☐ Untuk difailkan ☐ Untuk ditandatangani ☐ Untuk tindakan lanjut	☐ Sila uruskan ☐ Sila kaji ☐ Sila bincang ☐ Sila edarkan ☐ Sila beri pandangan ☐ Dikembalikan ☐ Tidak diluluskan
☐ Untuk pertimbangan ☒ Untuk makluman ☐ Untuk semakan ☐ Untuk simpanan ☐ Untuk difailkan ☐ Untuk ditandatangani ☐ Untuk tindakan lanjut	☐ Sila uruskan ☐ Sila kaji ☐ Sila bincang ☐ Sila edarkan ☐ Sila beri pandangan ☐ Dikembalikan ☐ Tidak diluluskan			
<u>Catatan:-</u> <i>Cecoh ak Edmud Jih</i> <i>menyeru kebajikan</i> <i>bagi p dayer pelajar</i> <i>T-6.</i>				
Daripada:  Tarikh: <i>10/8/2016</i> HAMDAN BIN BUANG PENOLONG KANAN INGGATAN 6 SMK Wira Penrissen Samarahan				



SMK Wira Penrissen
Km 14, Jalan Kuching-Serian
94300 SAMARAHAN
Tel : 082-612740 Faks : 082-619485
smkwirapenrissen@hotmail.com
smkwirapenrissen@gmail.com



Kepada:

Guan Mole playasen
TG.

- | | |
|--|--|
| ☐ Untuk pertimbangan | ☐ Sila usulkan |
| ☒ Untuk makluman | ☐ Sila kaji |
| ☐ Untuk semakan | ☐ Sila bincang |
| ☐ Untuk simpanan | ☐ Sila edarkan |
| ☐ Untuk difailkan | ☐ Sila beri pandangan |
| ☐ Untuk ditandatangani | ☐ Dikembalikan |
| ☐ Untuk tindakan lanjut | ☐ Tidak diluluskan |

Catatan:-

Pelayan post-graduate

Cecelia Ak Edmund John

telah dibekalkan kepada Guan Mole
menghantar pelayan TG.
Sampek pelayan TG.

Mohon Guan-guan membenarkan
bekerja sebagai pelayan
untuk simpanan kuisin.

Tarikh:

4/8/2016

Daripada:

Hande Bujang





SMK Wira Penrissen
Km 14, Jalan Kuching-Serian
94300 SAMARAHAN
Tel : 082-612740 Faks : 082-619485
smkwirapenrissen@hotmail.com
smkwirapenrissen@gmail.com



Kepada: *Semua Guru Sijak*

- | | |
|--|--|
| ☐ Untuk pertimbangan | ☐ Sila usulkan |
| ☒ Untuk makluman | ☐ Sila kaji |
| ☐ Untuk semakan | ☐ Sila bincang |
| ☐ Untuk simpanan | ☐ Sila edarkan |
| ☐ Untuk dilantik | ☐ Sila beri pandangan |
| ☐ Untuk ditandatangani | ☐ Dikembalikan |
| ☐ Untuk tindakan lanjut | ☐ Tidak diluluskan |

Catatan:-

*Cik Cecelia Ak Edmune
memohon kebenaran utk
mengemukakan penyediaan
diagnosis pada pelajar T6
Hrup mskun.*

Daripada

Tarikh:

24/8/2016

[Signature]
HAMDAN BIN YUSOFF
PENOLONG KANAN/TINGKATAN 6
SMK Wira Penrissen
Samarahan

Appendix J

Event	Group A (control)	Group B (handbook)	Group C (handbook + parents)
Briefing (duration: 30 minutes) Venue: in school Procedure: 1. Self-introduction 2. Form-filling 3. Q&A	Person involve: Students	Person involve: Students	Person involve: Students
Filtering (duration: 1 day) Procedure: 1. scanning of participants (driving license, parents who drive, parents job, address)	Person involve: Researcher	Person involve: Researcher	Person involve: Researcher
Pretest (duration: 30 minutes) Venue: in school Procedure: 1. Briefing (5 min) 2. Test & consent letter (20 min) 3. Collect (5 min)	Person involve: Students	Person involve: Students	Person involve: Students
Intervention (duration: 30 days/ 1 month) Venue: depends on participants Procedure: before 1. Provide handbook 2. Briefing during 3. Review logbook	Person involve: Students Researcher Steps: No intervention needed until posttest.	Person involve: Students Researcher Steps: 1. Students were to read and understand the handbook, and state time of completion of each chapter in logbook (at own time). 2. Researcher were to review the students' logbook at least once a week (in school-recess time or	Person involve: Students Parents Researcher Steps: 1. Parents and students were to read and understand the handbook, and state time of completion of each chapter in logbook (at own time.) 2. Researcher were to review the students' logbook every 2 weeks (depends on both parents astudents, time and place)

	after school hours).	3. By the end of the month, logbook are collected.
	3. By the end of month, logbook are collected.	
Posttest (duration: 30 minutes) Venue: in school Procedure: 1. Briefing 2. Test & goodies 3. Collect test paper	Students	Students

Appendix K

MAKLUMAT PERIBADI

Nama Peserta*:	Gambar
Nama Ibu/ Bapa/ Penjaga*:	
Jantina Peserta*:	
No IC Peserta*:	

Alamat Tetap*:
Nombor telefon*:
Tarikh Mula*:

Tandatangan Peserta:	Maklumat penyelidik: Nama: Cecelia anak Edmund John No. Telefon: 0195407389 Email: ceceliaedmundjohn@gmail.com Alamat Tetap: Taman Pasir, Serian By-Pass, 94700 Serian, Sarawak.
----------------------	--

*Wajib diisi oleh peserta

Appendix L

TENTATIF PROGRAM

Berikut merupakan cadangan untuk tempoh melakukan aktiviti menggunakan buku panduan. Anda boleh mengubah mana-mana yang berikut berdasarkan kesesuaian anda sendiri.

AHAD	ISNIN	SELASA	RABU	KHAMIS	JUMAAT	SABTU
	1 <i>BAB 7. 1</i>	2	3 <i>BAB 7. 1</i>	4 *penyelidik	5	6 <i>BAB 7.2</i>
7	8 <i>BAB 7. 3</i>	9	10 <i>BAB 7. 3</i>	11 *penyelidik	12 <i>BAB 7. 3</i>	13
14	15 <i>BAB 7. 4</i>	16	17 <i>BAB 7. 5</i>	18 *penyelidik	19 <i>BAB 7. 5</i>	20 <i>BAB 7. 6</i>
21	22 <i>BAB 7.7</i>	23	24 <i>BAB 7.8</i>	25 *penyelidik	26	27
28	29	30	31	*penyelidik		

LOG PERBINCANGAN

[illegible]

Appendix M



MAKLUMAT PERIBADI

NAMA: _____

TARIKH LAHIR: _____

LESEN MEMANDU: ADA / TIADA *

NO. TELEFON: _____

ALAMAT: _____

MAKLUMAT IBU BAPA

NAMA BAPA: _____

PEKERJAAN (BAPA): _____

LESEN MEMANDU (BAPA): ADA / TIADA *

NAMA IBU: _____

PEKERJAAN (IBU): _____

LESEN MEMANDU (IBU): ADA / TIADA *

*sila potong mana-mana yang tidak berkenaan



MAKLUMAT PERIBADI

NAMA: _____

TARIKH LAHIR: _____

LESEN MEMANDU: ADA / TIADA *

NO. TELEFON: _____

ALAMAT: _____

MAKLUMAT IBU BAPA

NAMA BAPA: _____

PEKERJAAN (BAPA): _____

LESEN MEMANDU (BAPA): ADA / TIADA *

NAMA IBU: _____

PEKERJAAN (IBU): _____

LESEN MEMANDU (IBU): ADA / TIADA *

*sila potong mana-mana yang tidak berkenaan



MAKLUMAT PERIBADI

NAMA: _____

TARIKH LAHIR: _____

LESEN MEMANDU: ADA / TIADA *

NO. TELEFON: _____

ALAMAT: _____

MAKLUMAT IBU BAPA

NAMA BAPA: _____

PEKERJAAN (BAPA): _____

LESEN MEMANDU (BAPA): ADA / TIADA *

NAMA IBU: _____

PEKERJAAN (IBU): _____

LESEN MEMANDU (IBU): ADA / TIADA *

*sila potong mana-mana yang tidak berkenaan

Appendix N

Sekiranya anda mempunyai sebarang pertanyaan, anda bolehlah menghubungi:

CECELIA EDMUND JOHN
0195407389
ceceliaedmundjohn@gmail.com



**PEMANDUAN REMAJA
YANG SELAMAT**

Buku Panduan untuk Ibu
Bapa



Kenapa saya diberi pamphlet ini?

Kerana anda peserta terpilih dalam kajian yang sedang dijalankan oleh Universiti Malaysia Sarawak (UNIMAS).

Boleh tarangkan secara lanjut kajian penyelidikan tersebut?

Kajian penyelidikan ini bertajuk "Pemanduan Remaja yang Selamat Buku Panduan untuk Ibu Bapa" dan bertujuan untuk mengkaji kesan penglibatan ibu bapa dalam pemanduan remaja terutamanya yang baru mendapat lesen memandu.

Latar belakang kajian penyelidikan

Untuk mendapatkan lesen memandu di Malaysia, seseorang itu mestilah:

- Berumur 17 tahun ke atas
- Menjalani kursus teori (6 jam)
- Menjalani kursus praktikal bersama pelatih
- Lulus ujian undang-undang jalan raya.

Apakah kepentingan penglibatan ibu bapa?

Pemandu remaja merupakan golongan pemandu yang berisiko tinggi ketika memandu di jalan raya. Ibu bapa mampu mengubah dan mengelak perkara ini daripada berlaku dengan melibatkan diri dalam pemanduan remaja.

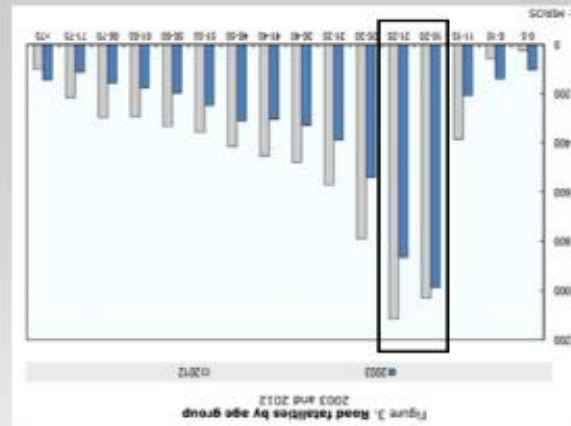
Apakah yang boleh ibu bapa lakukan?

Sebagai ibu bapa, anda boleh melibatkan diri dengan mengikuti kajian penyelidikan ini bersama-sama anak remaja anda. Gunakan sepenuhnya kelebihan buku panduan ketika menjalankan aktiviti dan pastikan anda mencatatkan masa dan lokasi aktiviti dilangsungkan. Sekiranya anda mempunyai soalan atau sebarang kemusykilan, anda boleh menghubungi penyelidik kajian ini (Cecelia Edmund John) pada bila-bila masa sahaja. No. telefon dan email terdapat pada bahagian belakang pamphlet ini.



Apakah faedah yang akan diperolehi jika mengikuti kajian ini?

Keselamatan anak remaja adalah faedah terbesar yang anda boleh capai di samping melahirkan pemandu-pemandu yang berhemah di jalan raya. Dengan melibatkan diri, anda juga berupaya untuk memahami dan mengeratkan silaturahim anda dengan anak remaja anda ketika membuat aktiviti ini.



Appendix O



KERTAS JAWAPAN OBJEKTIF

NAMA : _____
UMUR : _____
JANTINA : _____

MARKAH

Arahan: hitamkan bulatan jawapan anda dengan menggunakan pensel.

- | | |
|---|---|
| <p>1 ☐ A ☐ B ☐ C ☐ D</p> <p>2 ☐ A ☐ B ☐ C ☐ D</p> <p>3 ☐ A ☐ B ☐ C ☐ D</p> <p>4 ☐ A ☐ B ☐ C ☐ D</p> <p>5 ☐ A ☐ B ☐ C ☐ D</p> <p>6 ☐ A ☐ B ☐ C ☐ D</p> <p>7 ☐ A ☐ B ☐ C ☐ D</p> <p>8 ☐ A ☐ B ☐ C ☐ D</p> <p>9 ☐ A ☐ B ☐ C ☐ D</p> <p>10 ☐ A ☐ B ☐ C ☐ D</p> | <p>11 ☐ A ☐ B ☐ C ☐ D</p> <p>12 ☐ A ☐ B ☐ C ☐ D</p> <p>13 ☐ A ☐ B ☐ C ☐ D</p> <p>14 ☐ A ☐ B ☐ C ☐ D</p> <p>15 ☐ A ☐ B ☐ C ☐ D</p> <p>16 ☐ A ☐ B ☐ C ☐ D</p> <p>17 ☐ A ☐ B ☐ C ☐ D</p> <p>18 ☐ A ☐ B ☐ C ☐ D</p> <p>19 ☐ A ☐ B ☐ C ☐ D</p> <p>20 ☐ A ☐ B ☐ C ☐ D</p> |
|---|---|



SOALAN PEMANDUAN UNTUK REMAJA

Nota:

Tujuan penyelidikan ini dijalankan adalah untuk mengkaji keberkesanan buku panduan untuk ibu bapa bagi memantapkan kebolehan memandu kenderaan dalam kalangan remaja. Segala maklumat yang diberikan adalah RAHSIA dan hanya digunakan untuk tujuan penyelidikan semata-mata. Kerjasama dari pihak anda didahului dengan ribuan terima kasih.

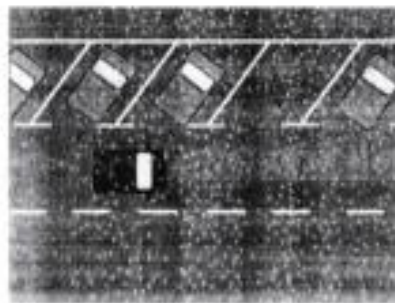
Arahan:

*Kertas soalan mempunyai 20 soalan objektif tentang pemanduan semasa membuat parkir di kalangan remaja. **JAWAB SEMUA SOALAN.***

NAMA : _____
UMUR : _____
JANTINA : L / P

1. Kemalangan semasa mengundurkan kenderaan **boleh** dielakkan sekiranya pemandu
 - A. Mengundur dengan kadar segeen supaya tidak mengganggu aliran trafik.
 - B. Mengundur sambil memusingkan kepala.
 - C. Memandang ke hadapan bagi melihat keadaan sebenar persekitaran jalan.
 - D. Melihat cermin pandang belakang dan cemin pandang sisi sebelum mengundur.

2. Dimanakah yang berikut yang **tidak harus** dilakukan ketika membuat parkir bersudut 60°?



- A. Memberi isyarat.
 - B. Memberi keutamaan kepada kenderaan lain yang sampai di petak parkir terlebih dahulu.
 - C. Memarkir atas garisan petak parkir.
 - D. Memusing stereng kembali ke bentuk asal setelah membuat parkir.

3. Apakah jarak yang selamat antara kenderaan dan pembahagi jalan?



- A. Lebih kurang 0.1 meter.
 - B. Lebih kurang 0.5 meter.
 - C. Lebih kurang 1 meter.
 - D. Lebih kurang 1.5 meter.

4. Sebelum bergerak keluar dari tempat parkir bersudut 60° , apakah perkara utama yang **tidak harus** dilakukan?
- A. Memeriksa cermin pandang belakang dan cermin sisi.
 - B. Melepaskan brek tangan kenderaan.
 - C. Menyalakan lampu isyarat kiri atau kanan.
 - D. Menukarkan gear ke "R" untuk mendapatkan perhatian daripada pemandu yang lain.
5. Pilih jawapan yang menunjukkan urutan yang **betul** dalam langkah-langkah untuk mengundur dari tempat parkir bersudut 90° :
- I Periksa keadaan trafik di belakang kenderaan dan tekankan injak brek.
 - II Lepaskan brek tangan dan undurkan kenderaan dengan perlahan-lahan pada masa yang sama.
 - III Mengundur masuk ke dalam lorong dan menekan injak brek.
 - IV Masukkan gear "R" untuk mendapatkan perhatian daripada pemandu lain tentang niat anda untuk mengundurkan kenderaan.
- A. I, IV, II, III
 - B. I, IV, III, II
 - C. IV, II, III, I
 - D. IV, I, II, III
6. Di manakah anda **dibenarkan** untuk meletakkan kenderaan?
- A. Di selekoh.
 - B. Di perhentian bas
 - C. Di atas jambatan
 - D. Di tempat letak kenderaan yang disediakan
7. Ketika membuat parkir di bukit dengan kenderaan menghala ke bawah, di manakah yang berikut merupakan posisi tayar yang paling selamat dan **betul**?
- A. Tayar depan dalam keadaan lurus selari dengan kenderaan.
 - B. Tayar depan menghala ke luar daripada pembahagi di bahu jalan raya.
 - C. Tayar menghala ke dalam dan menyentuh pada pembahagi di bahu jalan raya.
 - D. Tayar depan selari dengan pembahagi di bahu jalan raya.

8. Apakah sebab posisi tayar depan kenderaan harus menghala ke luar daripada pembahagi di bahu jalanraya ketika membuat parkir di bukit dengan kenderaan menghala ke atas?
- A. Supaya pemandu lain dapat memahami tujuan pemanduan anda.
 - B. Supaya tayar terpelihara daripada jalan yang tidak rata pada bahu jalan raya.
 - C. Supaya kenderaan tidak bergerak jauh jika brek tangan tidak berfungsi.
 - D. Supaya stereng kenderaan tidak mengalami kerosakan dari membuat parkir berikut.
9. Setelah anda memberhentikan kenderaan di tempat letak kenderaan, perkara-perkara yang perlu dilakukan ialah **pastikan** gear
- A. Pada kedudukan "D", tarik brek tangan dan matikan enjin.
 - B. Pada kedudukan "N", lepaskan brek tangan dan matikan enjin.
 - C. Pada kedudukan "N", tarik brek tangan dan matikan enjin.
 - D. Pada kedudukan "P", tarik brek tangan dan matikan enjin.
10. Apabila meletak kenderaan di bukit yang curam,
- A. Gunakan brek tangan, lepaskan gear dan pusingkan tayar depan agar menyentuh pembahagi jalan.
 - B. Letakkan sesuatu di hadapan dan belakang roda.
 - C. Masukkan gear, nyalakan lampu dan angkat brek tangan.
 - D. Gunakan brek tangan, masukkan gear dan pusingkan tayar depan agar menyentuh pembahagi jalan.
11. Apakah tindakan yang **perlu** diambil sekiranya anda memberhentikan kenderaan di tepi jalan dan ingin keluar dari kenderaan tersebut?
- A. Terus buka pintu dan keluar.
 - B. Menurunkan cermin tingkap sebelum keluar.
 - C. Memasang lampu isyarat ke kiri sebelum keluar.
 - D. Melihat cermin sisi dan memastikan tiada kenderaan lain dari belakang.

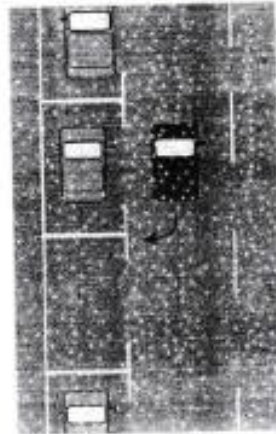
12. Apakah yang **harus** dilakukan jika anda berada di situasi di mana anda perlu memarkirkan kenderaan di lebuh raya ketika hujan lebat?
- A. Menyalakan semua lampu kenderaan.
 - B. Menyalakan lampu hadapan yang rendah dan lampu isyarat kiri atau kanan kenderaan.
 - C. Menyalakan lampu hadapan yang rendah dan lampu kecemasan kenderaan.
 - D. Menyalakan lampu besar kenderaan.
13. Seorang pemandu telah meletakkan keretanya di perhentian bas untuk membeli surat khabar dengan enjin kenderaan dihidupkan. Apakah kesalahan dari segi undang-undang yang telah dilakukan oleh pemandu kereta tersebut?
- A. Menimbulkan kemarahan kepada pemandu bas.
 - B. Meletakkan kenderaan di tempat yang dilarang.
 - C. Meninggalkan kenderaan dengan enjin dihidupkan.
 - D. Mengelirukan penumpang-penumpang bas yang sedang menunggu.
14. Pilih tempat-tempat yang dilarang untuk meletak kenderaan.
- I Perhentian bas.
 - II Berhampiran paip bomba.
 - III Di tempat letak kenderaan berbayar.
 - IV Di jalan yang mempunyai garisan berkembar.
- A. I, II dan III
 - B. II, III dan IV
 - C. I, III dan IV
 - D. I, II dan IV

15. Apakah yang **tidak perlu** anda lakukan ketika mengundurkan kenderaan?

- I. Mengenalpasti jika persimpangan jalan dikawal oleh lampu isyarat.
- II. Mengawasi takometer ketika mengundur.
- III. Nyalakan lampu hadapan bagi memberi isyarat anda sedang mengundur.
- IV. Pastikan tidak ada halangan di belakang kenderaan.

- A. I, II dan III
- B. I, II dan IV
- C. II, III dan IV
- D. I, III dan IV

16. Yang manakah berikut **harus** kita ikut untuk memarkirkan kenderaan kita dengan selamat?



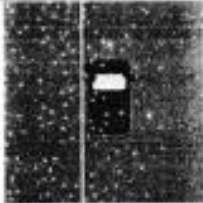
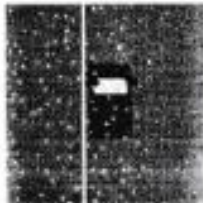
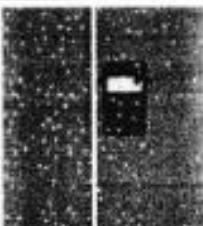
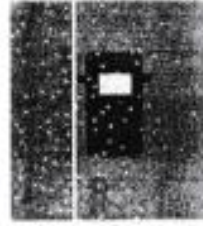
- I Berikan lebih ruang kosong kenderaan anda daripada kenderaan yang lain untuk mengelakkan dari penggeseran berlaku
- II Berhenti dengan segera jika ingin membuat parkir agar kenderaan lain dapat memahami niat anda untuk membuat parkir
- III Gunakan cermin sisi kenderaan untuk memantau kenderaan sekitar ketika membuat parkir
- IV Menggunakan brek tangan dengan perlahan-lahan semasa anda memarkirkan kenderaan

- A I, II
- B I, III
- C II, IV
- D III, IV

17. Ketika memandu keluar dari tempat parkir melintang, mengapa kita harus memandang ke belakang walaupun kita mempunyai cermin sisi untuk memberikan kita pandangan bahagian belakang kenderaan?

- A. Untuk membolehkan kita memandang pemandu kenderaan lain dan mendapatkan perhatian daripada mereka.
- B. Untuk mengatasi masalah titik buta yang dihadapi ketika menggunakan cermin sisi.
- C. Untuk memberikan isyarat kepada pemandu kenderaan lain.
- D. Untuk memastikan terdapat ruang yang mencukupi di antara kenderaan anda dengan kenderaan di hadapan.

18. Rashid ingin membuat parkir di bukit berdekatan dengan sebuah hospital untuk melawat emaknya yang sakit. Rajah manakah yang menunjukkan Rashid membuat parkir yang **betul**?

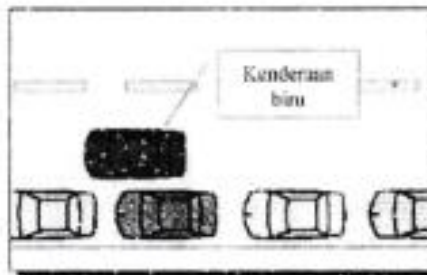
A	Kenderaan menghala ke atas	
B	Kenderaan menghala ke bawah	
C	Kenderaan menghala ke atas	
D	Kenderaan menghala ke bawah	

19. Anda ingin membuat parkir di kawasan bukit dengan kenderaan menghala ke atas. Anda **harus**



- A. Tarik brek tangan dan letakkan gear kepada "P".
- B. Membuat parkir hanya di kawasan yang rata dan selamat.
- C. Memusingkan stereng ke arah yang bertentangan dengan bahu jalan raya.
- D. Memarkirkan kenderaan hanya pada waktu siang.

20.



Anda memandu kenderaan anda di sepanjang lorong dan ingin berhenti untuk jangka waktu yang pendek. Adakah anda dibenarkan untuk membuat parkir seperti kenderaan berwarna biru pada rajah di atas?

- A. Ya, dengan syarat anda tidak meninggalkan atau keluar dari kenderaan anda.
- B. Tidak, tidak dibenarkan pada bila-bila masa.
- C. Ya, dengan syarat anda hanya membuat parkir untuk seketika sahaja dan memasang lampu hazard.
- D. Ya, dengan syarat anda merupakan pegawai kerajaan atau pegawai polis trafik.

Enactment stage: (please circle your answer)

1. Do you notice any changes in driving even after the driving session has ended? (Y/N)
2. Do you still practice any similar kind of collaboration such as conducted in driving session without the usage of the handbook for parental involvement on novice teen driving? (Y/N)
3. When compare to before the driving sessions was introduced, and after the driving session which has ended 3 months ago, do you find any differences between the two stages in terms of practicing collaboration and parental involvement on teen driving? (Y/N)
4. Do you think there' s any effect between before and after the driving session treatment? (Y/N)
5. Can you give me one example or one time that you have practiced the driving sessions after the programme was done? (If answered Y in No. 2)

Appendix P

TABLE OF SPECIFICATIONS (PRETEST)

DAY	OBJECTIVE	TIME SPENT	% OF CLASS TIME	NO. OF TEST ITEM	LOW LEVEL	HIGH LEVEL
1	7.1.1	1/2 hour	11.7%	3	✓	
2		1 hour			✓	
3	7.1.2	1 hour				✓
4		1 hour				
5	7.2.1	1 hours	13.3%	2	✓	
6		1 hours			✓	
7	7.2.2	1 hours				
8		1 hours				
9	7.3.1	1 hours	13.3%	4	✓	
10		1 hours			✓	
11	7.3.2	1 hours				✓
12		1 hours			✓	
13	7.4.1	1/2 hour	6.7%	1		✓
14		1/2 hour				
15	7.4.2	1/2 hour				

16		1 hour						
17	7.5.1	1 hour		21.7%	6		✓	
18		2 hours					✓	
19	7.5.2	1 hour						✓
20		1 hour						✓
21		1 hour						✓
							✓	
22	7.6.1	1 hour		13.3%	3		✓	
23		1 hour					✓	
24	7.6.2	1 hour						✓
25		1 hour						
26	7.7.1	1 hour		13.3%	3		✓	
27		1 hour						✓
28	7.7.2	1 hour					✓	
29		1 hour						
30	7.8.1	1 hour		6.7%	3		✓	

31	1 hour						✓
	TOTAL	60 hours	100%	25	15	10	

Appendix Q

Fakulti Sains Kognitif dan Pembangunan Manusia
Faculty of Cognitive Sciences and Human Development

Dekan/Dean Dr Shahren Ahmad Zaidi Adruce



UNIVERSITI MALAYSIA
SARAWAK

11 April 2014

Puan Hajah Normala
JPJ Negeri Sarawak
Lot 200, KM 18-5 Jalan Kuching/Serian
93250 Kuching, Sarawak

94200 Kota Samarahan

Sarawak, Malaysia

Tel + 60 82 581549

Fax + 60 82 581567

www.unimas.my

Puan,

MEMOHON KEBENARAN UNTUK MENDAPATKAN MAKLUMBALAS PIHAK JPJ NEGERI SARAWAK BAGI TUJUAN PENYELIDIKAN AKADEMIK

Dengan segala hormatnya, saya merujuk kepada perkara di atas.

2. Untuk makluman puan, penama seperti yang dinyatakan di bawah adalah seorang pelajar Sarjana dalam bidang Sains Pembelajaran di Universiti Malaysia Sarawak. Beliau kini sedang menjalankan satu penyelidikan akademik bertajuk *Handbook for Parents in Novice Teen Driving* di bawah penyeliaan saya.

Nama : CECELIA ANAK EDMUND JOHN
No. KP : 900710-13-5158 No. Matrik : 13020100

3. Satu daripada aspek penyelidikan ini ialah untuk menghasilkan satu buku panduan bagi ibu bapa untuk turut terlibat dalam memperkukuhkan kemahiran dan pengetahuan pemanduan anak remaja yang baru memperolehi lesen memandu. Setakat ini, pihak kami telah menghasilkan versi pertama untuk buku panduan berkenaan.

4. Oleh kerana buku panduan ini berkaitan langsung dengan aktiviti pemanduan, saya ingin memohon kebenaran pihak puan untuk membolehkan kami memperolehi maklumbalas dan komen daripada pegawai yang berkaitan di Jabatan puan bagi memantapkan lagi kandungan buku tersebut. Jasa baik puan untuk mengenalpasti pegawai yang bersesuaian untuk tujuan ini adalah amat dihargai.

5. Kami juga akan mengkaji keberkesanan buku panduan ini dalam fasa penyelidikan yang seterusnya dan akan memaklumkan pihak puan sekiranya buku panduan berkenaan menghasilkan kesan positif yang signifikan.

6. Kami amat berbesar hati sekiranya pihak puan dapat memberi pertimbangan yang sewajarnya terhadap permohonan ini. Sekiranya terdapat sebarang kemusyikilan, pihak puan boleh menghubungi saya melalui no. telefon dan emel seperti yang tertera di surat ini.

Sekian. Terima kasih.

Yang benar,

Professor Madya Dr Chen Chwen Jen
Tel : 082 581562
E-mail : cjchen@fcs.unimas.my





KEMENTERIAN PENDIDIKAN MALAYSIA
MINISTRY OF EDUCATION MALAYSIA
BAHAGIAN PERANCANGAN DAN PENYELIDIKAN DASAR PENDIDIKAN
EDUCATIONAL PLANNING AND RESEARCH DIVISION
ARAS 1-4, BLOK EB
KOMPLEKS KERAJAAN PARCEL E
PUSAT Pentadbiran Kerajaan Persekutuan
62604 PUTRAJAYA



KEMENTERIAN
PENDIDIKAN
MALAYSIA

Telefon : 03-8884 6591
Faks : 03-8884 6579

Ruj. Kami : KPMSP.600-3/2/3 Jidai (s7)
Tarikh : 09 Jun 2016

Cecelia Anak Edmund John
K.P.: 900710135158

No.22 Taman Pasir
Serian By-Pass
94700 Serian
Sarawak

Tuan,

KELULUSAN UNTUK MENJALANKAN KAJIAN DI SEKOLAH, INSTITUT PENDIDIKAN GURU, JABATAN PENDIDIKAN NEGERI DAN BAHAGIAN DI BAWAH KEMENTERIAN PENDIDIKAN MALAYSIA

Perkara di atas adalah di rujuk.

2. Sukacita dimaklumkan bahawa permohonan tuan untuk menjalankan kajian seperti di bawah telah diluluskan.

" Buku Panduan untuk Ibu Bapa dalam Pemanduan Remaja "

3. Kelulusan ini adalah berdasarkan kepada kertas cadangan penyelidikan dan instrumen kajian yang dikemukakan oleh tuan kepada Bahagian ini. Walau bagaimanapun kelulusan ini bergantung kepada kebenaran Jabatan Pendidikan Negeri dan Pengetua / Guru Besar yang berkenaan.

4. Surat kelulusan ini sah digunakan bermula dari **09 Jun 2016 hingga 31 Disember 2016**.

5. Tuan juga mesti menyerahkan senaskhah laporan akhir kajian dalam bentuk *hardcopy* bersama salinan *softcopy* berformat Pdf di dalam CD kepada Bahagian ini. Tuan diingatkan supaya mendapat kebenaran terlebih dahulu daripada Bahagian ini sekiranya sebahagian atau sepenuhnya dapatan kajian tersebut hendak dibentangkan di mana-mana forum, seminar atau diumumkan kepada media massa.

Sekian untuk makluman dan tindakan tuan selanjutnya. Terima kasih.

"BERKHIDMAT UNTUK NEGARA"

Saya yang menurut perintah

(DR MAMUNDH BINTI MUDA)

Ketua Unit
Sektor Penyelidikan dan Penilaian
t.p. Pengarah
Bahagian Perancangan dan Penyelidikan Dasar Pendidikan
Kementerian Pendidikan Malaysia



* UNIMAS/NC- 16.02/04-05 Jld. III (18)

28 April 2016

Pengetua
SMK Wira Penrissen
KM4 Jalan Koching-Serian
94300 Kota Samarahan
Sarawak
Tel: 082-612740

Tuan/Puan

**Permohonan Kebenaran Untuk Membuat Kutipan Data Berkaitan
Penyelidikan Ilmiah Untuk Pelajar Siswazah UNIMAS – Cecelia Anak Edmund
John (No. Pelajar : 13020100)**

Dengan hormatnya perkara di atas adalah dirujuk.

Dimaklumkan bahawa penama di atas merupakan pelajar siswazah UNIMAS Tahun 2013 bagi program Sarjana dalam bidang Pembelajaran Sains di Fakulti Sains Kognitif dan Pembangunan Sumber Manusia. Dimaklumkan, beliau sedang menjalankan penyelidikan yang bertajuk:-

Handbook for Parents in Novice Teen Driving

Sehubungan itu, saya memohon kerjasama dari pihak tuan/puan untuk memberi kebenaran dan bantuan kepada beliau bagi mendapatkan data dan maklumat berkaitan penyelidikan tersebut di organisasi tuan/puan. Maklumat ini akan digunakan untuk bidang kajian penyelidikan beliau sahaja.

Sekiranya terdapat sebarang kemasykulan berhubung perkara ini, mohon untuk terus menghubungi penyelia beliau iaitu Prof Madya Dr Chen Chwen Jen dari Pusat Pembelajaran Gunaan dan Multimedia yang boleh dihubungi di talian 082583688.

Sekian, harap maklum dan terima kasih.

Yang benar

Dr Philip Nuli Anding
Timbalan Dekan (Siswazah & Penyelidikan)



UNIMAS/TNC(AA)-05.03/09-01 (20)

28 Jan 2016

Tuan Suhaimi bin Mohd Mohtar
Pengetua
Sekolah Menengah Kebangsaan Serian
94700 Serian
Sarawak

Tuan,

**MEMOHON KEBENARAN UNTUK MENGUMPUL DATA BAGI TUJUAN PENYELIDIKAN
AKADEMIK DI SEKOLAH MENENGAH KEBANGSAAN SERIAN**

Saya, Cecelia Edmund John dengan nombor kad pengenalan 900710-13-5158, merupakan pelajar dalam bidang Sarjana dalam Sains Pembelajaran di Universiti Malaysia Sarawak dengan segala hormatnya merujuk kepada perkara di atas.

2. Dengan sukacita memohon kebenaran untuk menjalankan kajian saya di sekolah tuan bagi tujuan seperti yang tersebut diatas. Untuk makluman, tujuan penyelidikan ini dijalankan adalah untuk projek penyelidikan saya yang bertajuk *Handbook for Parents in Novice Teen Driving*.
3. Untuk melaksanakan kajian selidik ini, saya memerlukan maklum balas dari pihak tuan. Maklumat yang diberikan akan dirahsiakan dan hanya digunakan untuk tujuan penyelidikan akademik sahaja.
4. Untuk tujuan pengutipan data, saya akan dibantu dan dipantau oleh penyelia saya, Prof. Madya Dr. Chen Chwen Jen sepanjang kajian ini dijalankan. Kajian ini dijalankan pada April 2013 dan dijangka untuk berakhir tahun 2016.
5. Adalah menjadi harapan saya sekiranya kelulusan ini diberikan dan didahului dengan ribuan terima kasih. Saya mengalu-alukan pertanyaan daripada pihak tuan mengenai kajian ini dan boleh dihubungi melalui telefon dan emel seperti yang tertera di surat ini.

Sekian terima kasih.

Saya yang menjalankan tugas,


Cecelia anak Edmund John (B. Sc. Hons)
Student,
Faculty of Cognitive Sciences and Human Development
Universiti Malaysia Sarawak
94300 Kota Samarahan
Sarawak MALAYSIA
Tel : 019-5407389
Mail : ceceliaedmundjohn@gmail.com

Appendix R

Faculty of Cognitive Sciences and Human Development

University Malaysia Sarawak

CONSENT FORM FOR STUDY PARTICIPATION

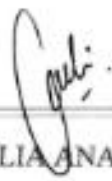
Handbook for Parents on Novice Teen Driving

I volunteer to participate in a research project conducted by Cecelia anak Edmund John from University Malaysia Sarawak (UNIMAS). I understand that the project is designed to gather information about academic work of faculty on campus. I will be one of approximately 30 people being interviewed for this research.

1. My participation in this project is voluntary. I understand that I will not be paid for my participation. I may withdraw and discontinue participation at any time without penalty. If I decline to participate or withdraw from the study, no one will be told.
2. I understand that interviewees might find the discussion interesting and thought-provoking. If, however, I feel uncomfortable in any way during the interview session, **I have the right to decline to answer any question or to end the interview.**
3. Participation involves being interviewed by researchers from University Malaysia Sarawak. The interview will last approximately 30-45 minutes. Notes will be written during the interview. An audio tape of the interview and subsequent dialogue will be made. If I do not want to be taped, I will not be able to participate in the study.
4. **I understand that the researcher will not identify me by my name in any reports using information obtained from this interview, and that my confidentiality as a participant in this study will remain secure.** Subsequent uses of records and data will be subjected to standard data use policies which protect the anonymity of individuals and institutions.
5. I understand that this research study has been reviewed and approved by University **Malaysia Sarawak** for studies on **Handbook for Parents on Novice Teen Driving.**
6. I have read and understand the explanation provided to me. I have had all my questions answered to my satisfaction, and I voluntarily agree to participate in this study.
7. I have been given a copy of this consent form.

My Signature

Date



CECELIA ANAK EDMUND JOHN

Appendix S

ISI KANDUNGAN

PENGENALAN

PENGENALAN	ii
CARA PENGGUNAAN	iii-iv
SURAT PERJANJIAN	1
SECEBIS NOTA UNTUK IBU BAPA	2

BAB 1 KETAHUI KENDERAAN ANDA

1.1 BAHAGIAN DALAM KENDERAAN	3
1.2 JENIS-JENIS LAMPU KENDERAAN DAN FUNGSINYA	5
1.3 ASAS PEMERIKSAAN KENDERAAN	9

BAB 2 PERSEDIAAN AWAL

2.1 SEBELUM SESI MEMANDU	15
2.2 MENGHIDUPKAN ENJIN KENDERAAN	19

BAB 3 ASAS PEMANDUAN

3.1 MENGGERAKKAN KENDERAAN	21
3.2 HALUAN MENUJU KE DALAM JALAN RAYA	23
3.3 MENGHENTIKAN KENDERAAN	25
3.4 MENUKAR LORONG	26
3.5 BERUNDUR DENGAN LURUS	28
3.6 SEBELUM MENINGGALKAN KENDERAAN	30

BAB 4 PEMANDUAN DI PERSIMPANGAN

4.1	PENGAWALAN STERENG RODA DI PERSIMPANGAN	32
4.2	DI SEMPANG EMPAT	34
4.3	MEMBELOK KE KIRI KETIKA LAMPU ISYARAT MERAH	36

BAB 5 PEMANDUAN DI PELBAGAI SITUASI

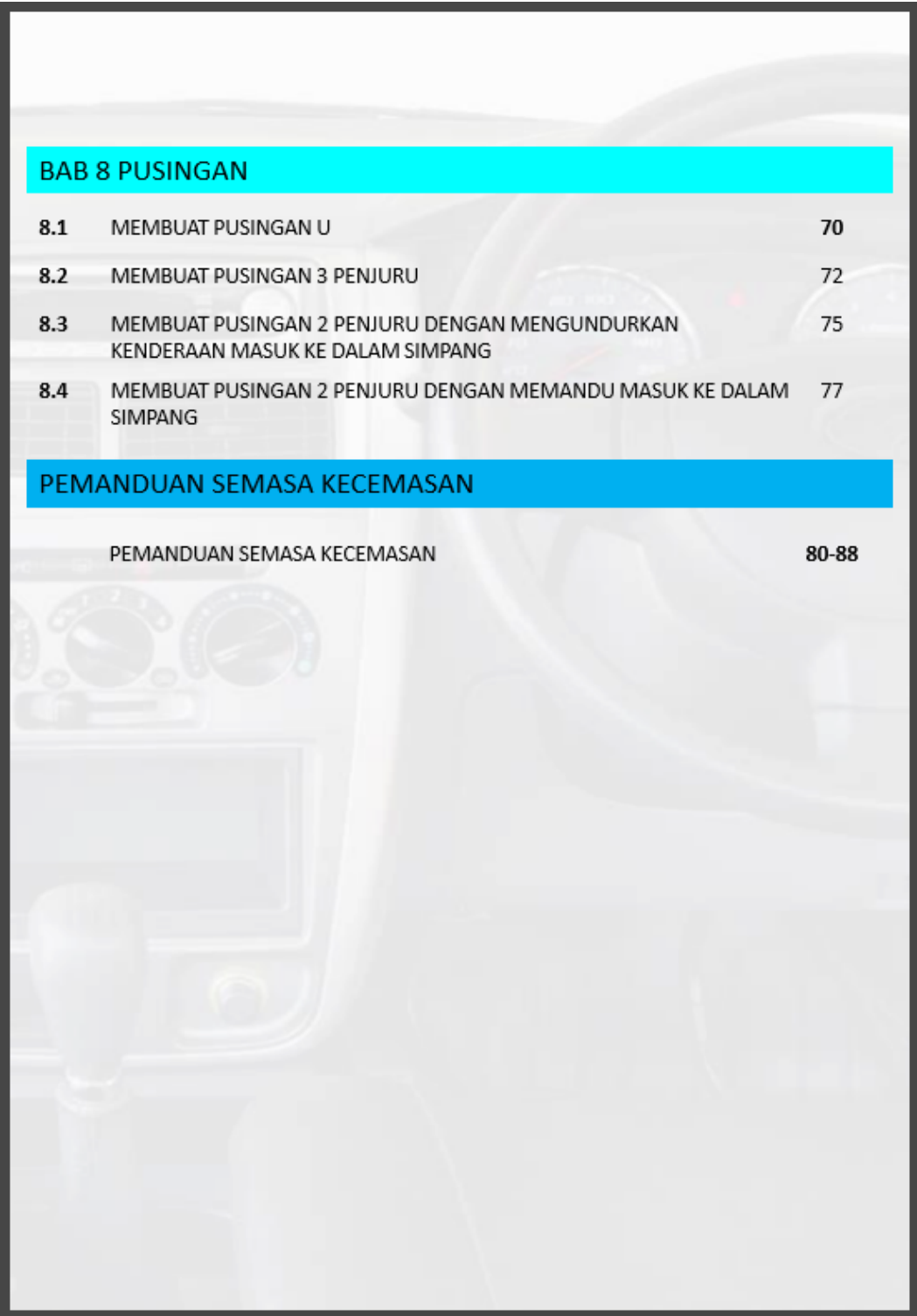
5.1	MEMANDU DI JALAN RAYA	38
5.2	KAWASAN SEKOLAH DAN LINTASAN PEJALAN KAKI	41
5.3	MEMOTONG KENDERAAN LAIN	43

BAB 6 PEMANDUAN DI LEBUH RAYA

6.1	MEMANDU DI LEBUHRAYA	48
6.2	MEMANDU KELUAR DARI LEBUHRAYA	51

BAB 7 PARKIR

7.1	PARKIR BERSUDUT 60°	53
7.2	BERGERAK KELUAR DARI TEMPAT PARKIR	55
7.3	PARKIR BERSUDUT 90°	57
7.4	BERGERAK KELUAR DARI TEMPAT PARKIR BERSUDUT 90°	59
7.5	PARKIR MELINTANG	60
7.6	BERGERAK KELUAR DARI TEMPAT PARKIR MELINTANG	63
7.7	MEMBUAT PARKIR DI BUKIT DENGAN KENDERAAN MENGHALA KE BAWAH	65
7.8	MEMBUAT PARKIR DI BUKIT DENGAN KENDERAAN MENGHALA KE ATAS	67



BAB 8 PUSINGAN

8.1	MEMBUAT PUSINGAN U	70
8.2	MEMBUAT PUSINGAN 3 PENJURU	72
8.3	MEMBUAT PUSINGAN 2 PENJURU DENGAN MENGUNDURKAN KENDERAAN MASUK KE DALAM SIMPANG	75
8.4	MEMBUAT PUSINGAN 2 PENJURU DENGAN MEMANDU MASUK KE DALAM SIMPANG	77

PEMANDUAN SEMASA KECEMASAN

PEMANDUAN SEMASA KECEMASAN

80-88

Appendix T

Participants	Time	Duration (min)
001	3:30pm – 4:10pm	40
002	3:30pm – 4:00pm	30
003	3:30pm – 4:30pm	60
004	3:30pm – 4:10pm	40
005	3:45pm – 4:15pm	30
006	3:45pm – 4:30pm	45
007	4:00pm – 4:35pm	35
008	4:00pm – 4:30pm	30
009	4:00pm – 4:40pm	40
010	4:00pm – 4:40pm	40
011	10:00am – 10:40am	40
012	10:00am – 10:40am	40
013	10:00am – 10:40am	40
014	12:00pm – 12:30pm	30
015	12:00pm – 12:30pm	30
016	12:00pm – 12:40pm	40
017	12:00pm – 12:40pm	40
018	12:00pm – 12:25pm	25
019	12:00pm – 12:30pm	30
020	12:00pm – 12:35pm	35
021	2:30pm – 3:25pm	55
022	2:30pm – 3:10pm	40
023	2:30pm – 3:15pm	45
024	3:00pm – 3:20pm	20
025	3:00pm – 3:35pm	35
026	3:10pm – 3:50pm	40
027	3:10pm – 3:55pm	45
028	3:30pm – 4:20pm	50
029	3:30pm – 4:20pm	50
030	3:30pm – 4:20pm	50

Test Duration of Participants in Pilot Study

Appendix U

Participants	Marks (/20)
001	5
002	7
003	6
004	6
005	5
006	4
007	4
008	7
009	7
010	9
011	10
012	12
013	15
014	12
015	11
016	12
017	12
018	15
019	16
020	14
021	13
022	16
023	11
024	13
025	11
026	15
027	15
028	16
029	13
030	9

Table of Participants' Marks

Appendix V

May 2016

Dear Parents/ Guardians:

My name is Cecelia anak Edmund John and I am a graduate student at University Malaysia Sarawak. I am currently studying Masters in Learning Sciences in Faculty of Cognitive Sciences and Human Development.

I am sending this letter to describe why I would like you to participate in my research study. While many parents have a great deal of influence over how their young teens in driving; this study will provide you with driving handbook for information to benefit you and your family's safety in driving. I am studying whether parental involvement can assist in young teen drivers to better their performance in driving. The research study will only include parents of teen drivers age 18 to 25 years old.

With your permission; I will ask you to participate in a few driving sessions, specifically on car parking skills with your teen driver. You and your teen driver will be provided with a handbook on parental involvement in novice teen driving and a driving log where you will be required to fill in the log after each driving session was carried out. The duration of this study will be one month in which I will visit once to update on the driving sessions as well as a short interview with parents. The interview would take about 20 minutes and a date would be set with the approval from parents. The study and all driving information will be provided in Bahasa Malaysia and English. The interview would be done in any language preferable.

Your participation in this study is completely voluntary and is not associated with your teens' school (Sekolah Menengah Kebangsaan Serian, Sekolah Menengah Kebangsaan Wira Penrissen) or the Ministry of Education Malaysia and will not affect you or your rights in any

way. You may quit this study at any time, by simply writing on the driving log “I want to stop” or “I do not wish to participate”. The study will be conducted beginning August 2016 through October 2016.

There are minimal risks involved; this study will be used for educational purposes only, as I seek to gain better understand of parental involvement in novice teen driving.

To protect your confidentiality, your name will not appear on the survey, I will only use data and results from the survey, without including your name, this study will not be shared with anyone other than myself, Cecelia anak Edmund John (student researcher), my supervisor, Professor Madya Dr. Chen Chwen Jen, and Ministry of Education. If you have any questions or if you would like to receive a final copy of this research study after completion, please feel free to contact me at 019-5407389.

This letter will serve as a consent form for your participation and will be kept in my personal locked file for a period of time after completion of the study. If you have any questions about this research, please email Dr. Chen Chwen Jen (cjchen@unimas.my), my research supervisor for this study or the Centre of Graduate Studies, University Malaysia Sarawak at +6082-581059).

Please return this form to me directly by 15th July, 2016.

Sincerely

An Eager Student

Appendix W

	A	B	C	D	E	F	G
1	participant	Q1	Q2	Q3	Q4		
2	1	1	1	0	1		
3	2	1	1	0	1		
4	3	1	1	0	1		
5	4	1	1	0	1		
6	5	0	1	0	0		
7	6	1	1	0	0		
8	7	0	1	0	0		
9	8	0	1	0	0		
10	9	1	1	1	0		
11	10	1	1	1	0		
12	11	0	1	1	0		
13	12	0	1	0	1		
14	13	0	1	0	1		
15	14	1	1	0	1		
16	15	1	1	1	1		
17	16	1	0	1	1		
18	17	1	1	0	1		
19	18	1	1	1	0		
20	19	0	1	0	1		
21	20	1	1	0	1		
22	21	1	1	0	1		
23							