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**Teaching Science and Technology in English  
for the Global Knowledge Economy:  
A Case Study of the Higher Education Policy-Making  
Process in Malaysia**

by

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Japan Advanced Institute of Science and Technology  
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# Abstract

## **Keywords:**

Policy-making process, agenda setting, policy formulation, and knowledge perspective

The purpose of this research is to clarify knowledge process during policy-making process of higher education policy in the context of teaching science and technology in English at PHEIs. The literature review on policy study is mainly from the political, legal, social, economic, and historical perspectives. Our research aims to analyze the policy-making process, i.e., agenda setting and policy formulation from the knowledge perspective. The policy-making process literature emphasizes on the stages, actors, and the influence of environment in public policy. There is an attempt to identify knowledge in the policy process on the utilization of research knowledge and the difficulties of knowledge to be utilized in the policy-making process. As a result, this has created a gap in the study of knowledge process in the policy-making process.

In order to accomplish the objectives, we conducted a case study. In the first stage of the case study, we analyzed the historical overview of the language policy in Malaysia from the colonial period until 1993. In the second stage, we conducted a case analysis of higher education policy-making process from 1993 to 2011.

All through the analysis, the major research question is, “How has the policy of teaching science and technology in English been made in Malaysia?” The subsidiary questions are (1) How has higher education policy been made in Malaysia?; (2) How have actors from different backgrounds make policy together?; and (3) What are the problems of the policy in itself and in the policy-making process?

The result showed that colonial knowledge and societal knowledge have influenced the policy-making process in the early independence. Lately, political knowledge, knowledge economy, administrative knowledge, legislative knowledge, socio-cultural knowledge, research knowledge, and external knowledge are utilized in the policy-making process. The policy-making process goes through four processes, i.e., choice of issues, research, consolidation, and discussion before

policy is formulated i.e. knowledge is created. Various policy actors are involved in the policy-making process.

Concerning theoretical implications, we are able to build a theoretical model that illustrate the knowledge sharing, utilization, acquisition that lead to knowledge creation in the policy-making process. The policy-making process goes through four phases of knowledge process. The first process begins with issues selected from government and non-government channels by knowledgeable senior researchers. The selected issues that are pertinent to related policy are approved by a committee that has administration and academic knowledge. The second process is for appointed research group to explore/study the selected issues. The research report required approval from other committees whose task is to foresee the research group is fulfilling the terms of reference and the frames of reference respectively. The third process is the research reports findings and recommendation, with reference to national policy, and communication with stakeholders to be integrated to become final policy draft/plan of action/ document/ report/law by a working committee. This is also need to obtain approval from a committee who has knowledge on current related policy and national policy. The fourth is deliberation process in the Cabinet/ Parliament whose members are knowledgeable in national policy and in constant communication with the society before the policy/plan of action/document/report/law is developed to become the next policy/plan of action/ report/ document of related policy.

Regarding the policy implications, the policy itself is multi-faceted and inconsistent. In addition, the policy-making process is complex because there are committees, divisions and groups whose roles as decision makers, policy administrators, and researchers. All of them have different jurisdictions, authorities, and tasks. There members' are only representative of few sectors. The possible solution is to enhance the existence of coordination function.

Finally, in order to understand the complexity of the policy-making process, our future research will conduct more interviews with high-ranking officers of relevant ministries, academics, members of Parliament, the industries and NGO. These interviews will be able to understand their perspectives on and contributions to this issue.

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# Contents

Abstract.....	i
Acknowledgments.....	iii
Contents .....	v
List of Figures .....	viii
List of Tables .....	x
Abbreviations.....	xi
<b>Chapter1:Introduction</b>	<b>1</b>
1.1 Background.....	1
1.1.1 Global Influence of the English Language.....	1
1.1.2 Malaysia .....	2
1.1.3 English Language in Malaysia.....	4
1.2 Research Objectives and Research Questions .....	5
1.3 Originality and Significance of the Study .....	5
1.4 Methodology of the Study .....	6
1.5 Organization of the Study.....	8
<b>Chapter2:Literature Review</b>	<b>9</b>
2.1 Introduction.....	9
2.2 Language Policy.....	9
2.3 Definition of Policy .....	12
2.3.1 Public Policy Studies .....	13
2.4 Attempts to Unfold the <i>Black Box</i> in the Policy Process .....	14
2.4.1 Theories and Models of the Policy-Making Process .....	17
2.4.1.1 Agenda Setting .....	17
2.4.1.2 Policy Formulation .....	19
2.4.1.3 Actor Models .....	24
2.5 Knowledge in the Policy Process.....	29
2.5.1 Knowledge and the Policy Process in Developing Countries .....	31
2.6 Knowledge Perspectives.....	32
2.7 Conclusion .....	41
<b>Chapter3:Language Policy in Malaysia</b>	<b>43</b>
3.1 Introduction.....	43
3.2 Historical Overview .....	43

3.3 Education Policy in the Colonial Period (1945-1957) .....	44
3.3.1 A Historical Analysis .....	46
3.3.2 Agenda Setting.....	47
3.3.3 Policy Formulation.....	48
3.4 The Education System after Independence.....	49
3.4.1 A Historical Analysis .....	50
3.4.2 Agenda Setting.....	51
3.4.3 Policy Formulation.....	53
3.5 Higher Education Policy in Malaysia (1960s-1993) .....	53
3.5.1 A Historical Analysis .....	55
3.5.2 Agenda Setting.....	59
3.5.3 Policy Formulation.....	60
3.6 Conclusion .....	60
<b>Chapter 4:Case Analysis</b> .....	<b>62</b>
4.1 Introduction.....	62
4.2 Policy Process in Malaysia in General .....	62
4.3 Higher Education Policy After 1993 .....	64
4.3.1 Legislation and Jurisdiction.....	68
4.4 Ministry of Higher Education (MOHE) .....	71
4.5 The Higher Education Policy-Making Process.....	72
4.5.1 The First Knowledge Process of Higher Education Policy-Making.....	72
4.5.2 The Second Knowledge Process of Higher Education Policy-Making.....	81
4.6 Knowledge Analysis.....	102
4.7 Conclusion .....	104
<b>Chapter 5: Conclusions</b> .....	<b>106</b>
5.1 Introduction.....	106
5.2 Answers to the Research Questions .....	106
5.3 Theoretical Implications .....	115
5.4 Policy Implications.....	117
5.5 Suggestion for Future Research .....	117
<b>References</b> .....	<b>119</b>
<b>Appendices</b> .....	<b>130</b>
Appendix A:.....	130
Appendix B:.....	136
Appendix C: .....	138
Appendix D:.....	148

Appendix E: .....	149
Appendix F: .....	151
Appendix G:.....	152
Appendix H:.....	153
Appendix J:.....	158
Appendix K.....	162
<b>Publication from this dissertation project.....</b>	<b>200</b>

## List of Figures

Figure 1-1: Location of Malaysia.....	2
Figure 2-1: A System Model of Politics and Policy .....	15
Figure 2-2: The Stages Model of the Policy Process .....	16
Figure 2-3: The Policy Cycle.....	17
Figure 2-4: A Rational Model of a Decision System.....	19
Figure 2-5 : Incremental Model .....	20
Figure 2-6: Single-Loop and Double-Loop Learning .....	21
Figure 2-7: The Systems Framework .....	22
Figure 2-8: Kingdon Model.....	23
Figure 2-9: The Elitist Model .....	24
Figure 2-10: The Sub-Government Model.....	25
Figure 2-11: The Pluralist Model.....	26
Figure 2-12: Typology of Public Entrepreneurs .....	28
Figure 2-13: Knowledge Management.....	33
Figure 2-14: SECI Model .....	35
Figure 2-15: Three Elements the Knowledge-Creating Process.....	37
Figure 2-16: Creating Knowledge Outside Constituents .....	38
Figure 2-17 Four Type of Ba .....	39
Figure 2-18: Conceptual Framework .....	41
Figure 3-1: Language-in-Education System from Colonial Period to Early Independence.....	49
Figure 3-2: Language-in-Education System Early Independence to the 1980s .....	53
Figure 3-3: The Continuation of English as Medium of Instruction for Science and Technology Courses at PHEIs .....	60
Figure 4-1: Higher Education Policy-Making Process in 2005 .....	81
Figure 4-2: Policy-Making Process of Higher Education at the Ministerial Level .....	82
Figure 4-3: Policy-Making Process for the Document of Higher Education Transformation, January 2007.....	90
Figure 4-4: Policy-Making Process for the National Education Strategic Plan, August 2007. ....	92
Figure 4-5: Input of higher education strategic plan formulation.....	94
Figure 4-6: Policy-Making Process of National Higher Education Strategic Plan: Laying the Foundation Beyond 2020.....	96

Figure 4-7: Policy-making process of Higher Education in.....	104
Figure 5-1: The Policy-Making Process Model.....	117

## List of Tables

Table 2.1: Types of Public Policies.....	13
Table 2.2: Participant in the Policy Process .....	27
Table 2.3: Typology of Public Entrepreneurs.....	27
Table 2.4: Advantages of Typology.....	28
Table 2.5: Four Categories of Knowledge Assets.....	39
Table 2.6: Summary of the Literature Review .....	40
Table 4.1: Round Table Discussions on National Higher Education.....	76
Table 4.2: Workshops on Future of Higher Education (FoHEM) .....	91

## Abbreviations

	<b>Full name</b>
DBP	Dewan Bahasa dan Pustaka ( The Institute of Language and Literature)
EPU	Economic Planning Unit
FMM	Federation of Malaysian Manufacturers
HED	Higher Education Department
ICMS	Integrated Compliant Management System
MAGERAN	Majlis Gerakan Negara (The Malaysian National Security Council)
MCA	Malaysian Chinese Association
MCSL	Malaysian Civil Service Link
MEF	Malaysian Employers Federation
MIC	Malaysian Indian Congress
MITI	Ministry of International Trade and Industry
MoE	Ministry of Education
MOHE	Ministry of Higher Education
MQA	Malaysian Quality Assurance
MQF	Malaysian Qualification Framework
NDP	National Development Policy
NEP	National Economic Policy
NUS	National University of Singapore
OUM	Open University of Malaysia
PCID	Policy Coordination and International Division
PRD	Planning and Research Division
PHEI	Public higher education institution
PrHEI	Private higher educational institution
PTPTN	National Higher Education Fund Corporation
UiTM	Universiti Teknologi MARA
UKM	National University of Malaysia

UMNO	United Malays National Organization
UM	University of Malaya
UPM	University of Putera Malaysia
UPNM	Defense University of Malaysia
UMS	University of Malaysia Sabah
USM	Science University of Malaysia
UTM	University of Technology Malaysia
UUM	North University of Malaysia

# Chapter 1: Introduction

## 1.1 Background

### 1.1.1 Global Influence of the English Language

It is unanimously agreed that the spread of the English language is associated with military, economic and technological influences (Grabe and Kaplan, 1986; Kaplan, 2001; Crystal, 2003). This began with colonial development in the nineteenth-century in the Americas, Asia and Antipodes. In the middle of the twentieth century, English was as an official language for the newly independent British ex-colonial countries. At the same time, the role of the United States of America (USA) in economic, scientific and technical knowledge, and consumer culture contributed to the further growth of the English language in the academic and non academic areas.

The migration of scientists from European countries especially from Germany to the United Kingdom (UK) and USA has contributed to the development of English as the world language for tourism, telecommunications, banking, business management, and science and technology (Kaplan, 1993; Kaplan and Baldauf, 1997).

These developments led to a great majority of the world's population using English as the first or second language (Kaplan, 1993; Kaplan and Baldauf, 1997). Developing countries, especially former British colonies, preferred to use English as the main or one of their official languages for securing the country's unity, since they are multi-ethnic and multi-lingual, and also for the economic development of the countries. Another view asserted that English became the official language because ruling elites with English education background believed that the English language allowed them to remain in power. Thus, English has become the *lingua franca* (Ammon, 2001).

The new globalization process is a continuation of the old colonization process. This new element offer opportunities for interpretation, hybridization and

postcolonial reinvention in ways that go beyond the essentialist, national identity and ‘two culture’ politics that defined the earlier phases of decolonization, nationalism and national culturalism in the process of nation building in many post colonial societies (Lin and Martin, 2005).

The discovery of scientific and technological inventions and innovations in English speaking countries stimulate the use of the language. Most former British colonies have legitimized the implementation of teaching science and technology in English through language policy, .i.e., language-in-education policy. In fact, since the 1960s, English has been used as a medium of instruction in higher education institutions in many European countries (Crystal, 2003).

### 1.1.2 Malaysia

Malaysia gained independence in 1957 as the Federation of Malaya. Then in 1963, Sabah, Sarawak and Singapore (Singapore opted out in 1965 to become an independent country) were granted independence and merged into Malaysia. Malaysia is located in Southeast Asia, the Peninsular and part of the Borneo Island known as East Malaysia. Peninsular Malaysia is located south of Thailand, north of Singapore and east of Indonesia. East Malaysia is located in the Borneo Island and shares borders with Brunei and Indonesia (see Figure1-1).



Figure 1-1: Location of Malaysia<sup>1</sup>

<sup>1</sup>Retrieved on April 21, 2011 from (cont.)

The Malaysian society consists of the ethnic groups of Malays, Chinese, Indians, the native and indigenous of Sabah and Sarawak, and other minorities. The population is currently 28.2 million. The Malays and the indigenous groups make up 65% of the population and they dominate politics in Malaysia. The other 26% of the population is of Chinese descendents. They play an important role in the economic sector. The remaining 8% are the Indians and other minorities. The national religion is Islam, but other religions are allowed to be practiced.

The national and official language of Malaysia is *Bahasa Malaysia* or Malay. Other languages are spoken among Malaysians. These are English, Chinese, Indian and the native languages. English is widely spoken because Malaysia was a former British colony. In the global era, English language in Malaysia is gaining its importance not just in business but also in the education sector. Therefore, knowledge of English is vital for Malaysian to elevate class status.

Malaysia is a middle-income country since the economic transformation in the 1970s from raw material producer into a multi-sector economy. Due to globalization, Malaysia however, has experienced economic setback since the 1980s which affected the exports of consumer goods and consequently hampered economic growth. In 1997, due to another economic setback, Malaysia liberalized its education sector. This sector is not only the provider of workforce for the economy but also the contributor to economic growth. This development has allowed the current Prime Minister Najib Tun Razak to expand the economy into a value-added production chain. This was made possible by making Malaysia as the center of the 'Halal' hub, high tech and pharmaceuticals industries.<sup>2</sup> Within this economic development, knowledge of the English language has been the catalyst for Malaysia to be competitive in the global era.

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<http://tfe.cachefly.net/snm/images/nm/motw/middleeastandasia/malaysiaadm98.jpg/http://maps.nationmaster.com/country/my/11>.

<sup>2</sup> 'Halal' means products and services according to Islamic religion.

### **1.1.3 English Language in Malaysia**

Malaysia had retained English as the official language for the first ten years after independence, along with the Malay language as the national and official language. From 1970 onwards, English had become the second language. However, English was widely used in the business sector and University of Malaya (UM), which was set up during the colonial period, taught some science courses in English.

Since the 1990s, globalization has compelled Malaysia's leaders to embrace the English language as a force that would allow Malaysia to be integrated into the global world and boost its national economy (Tsui and Tollefson, 2007). Malaysia is a multi-ethnic and multi-religious society. Any approach to prepare Malaysia for globalization must be geared towards nation-building for national identity and national unity as well as economic equality in the multi-racial society. In 1991, a national vision called 'Wawasan 2020' (Appendix G) was launched to announce Malaysia's intention to become a developed country by the year 2020.

As a result, beginning in 1990s, English was used as a medium of instruction for science and technology courses at public higher education institutions (PHEIs). The Malaysian government legitimized the implementation of English as a medium of instruction for science and technology courses through the Higher Education Act 1996. In addition, the Education Act 1995 awarded the Minister of Education with greater power than before in many educational matters (Wong and James, 2000).

The continuing importance of English language in Malaysia reflects that the Malaysian government decision-making system in the education sector is highly centralized (Kaplan and Baldauf, 1997). In this context, how do policy makers share, acquire, utilize, and create knowledge in the policy-making process?

This study examines the higher education policy-making process by focusing on the policy of teaching science and technology in English at PHEIs.<sup>3</sup>

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<sup>3</sup> The focus is on PHEIs because Higher Education Act of does not explicitly allow PHEIs to teach science and technology in English. Malay language is the official and national language, as (cont.)

## 1.2 Research Objectives and Research Questions

The objectives of this study are to clarify how knowledge is shared, acquired, utilized, and created by policy makers during the higher education policy-making process and to propose a process model of how policy is created. In order to achieve these objectives, a case study is conducted to investigate the higher education policy-making process for teaching science and technology in English at Malaysian PHEIs.

The research questions that guide our study are as follows:

### **Major research question (MRQ):**

How has the policy of teaching science and technology in English been made in Malaysia?

### **Subsidiary research questions (SRQs):**

SRQ 1: How has higher education policy been made in Malaysia?

SRQ 2: How have actors from different backgrounds made policy together?

SRQ 3: What are the problems of the policy in itself and in the policy-making process?

## 1.3 Originality and Significance of the Study

Policy studies have argued from the political, legal, social, economic, and historical perspectives. There is a void in the study on the *black box* or policy-making process in the political system (Birkland, 2011).

The knowledge perspective has recently been emphasized in the public policy-making process. Scholars like Radealli (1995) and Pollard and Court (2005) argued that knowledge exists in all the policy-making process. However, the emphasis is on the utilization of research knowledge and actual difficulties for knowledge to be utilized in the policy-making process. This has created a gap in the study of policy-making process. Our study will address the issue of knowledge sharing, acquisition, utilization, and creation in the public policy-making process.

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written in Federal Constitution, the highest law in Malaysia. PrHEIs can use English as their medium of instruction according to the Private Higher Education Institution Act.

In Malaysia, previous policy studies have focused on historical, social, economic, and political factors, regarding how these factors influenced and shaped public policies. Other studies viewed public policy, especially language policy, from the perspective of social linguistics. So far no study has ever been done from the perspective of knowledge science on the language-in-education policy in Malaysia, especially in the context of teaching science and technology in English at PHEIs.

## **1.4 Methodology of the Study**

This research examines knowledge shared, utilized, acquired and created among the policy actors in the policy-making process. We adopted explanatory case study as the research strategy to examine the policy-making process from the knowledge perspective. Explanatory case study approach is used, because it gives an in-depth understanding of the policy-making process in Malaysia. Case study research is a preferred method first, when ‘how’ and/or ‘why’ questions are posed; second when researchers have little control over the events, and finally when the focus is on a contemporary phenomenon within a real-life context (Yin, 2009 and Swanborn, 2010). Case study research can also unfold events over time (Yin, 2004).

The data collection adopted documents analysis and 14 one to one interviews. At the first step, we conducted a historical overview based on library research to have a better understanding on the current policy-making process of language -in-education policy in Malaysia through academic journals. This enabled us to get a firm grasp of the research area (Yin, 2009). As for the phase after the reintroduction of teaching science and technology in English at PHEIs in 1993, we conducted secondary data collection through Malaysian newspapers in Malay and English obtained from the Ministry of Education (MoE) library and the Internet. There are also documents collected from MOHE and the Federation of Malaysian Manufacturers (FMM) (Appendix D). They are in the form of research reports, annual report, statistic reports, strategic plan, module, and commentaries.

In July and August 2010 and again in March 2011, we conducted elite interviews with 8 officers of MOHE. They were the Director and 2 Assistant Directors from the Higher Education Department (HED), the Under Secretary, the Deputy Under Secretary and the Principal Assistant Secretary from the Planning and Research Division (PRD),<sup>4</sup> and the Deputy Under Secretary and Assistant Under Secretary from the Policy and International Division (PCID), Policy Section. Regarding the higher education institutions, we interviewed 4 academics. They were the Deputy Vice Chancellor and a professor of physics from the National Defense University of Malaysia (UPNM), the Deputy Dean of Faculty of Administrative Science and Policy Studies from the Universiti Teknologi Mara (UiTM) and the Coordinator of Industrial Training and Soft Skills from the University of Malaysia Sabah (UMS). As for the industry, we interviewed 2 persons. They were the Executive Director of the Malaysian Employers Federation (MEF) and the Chief Executive Officer of the FMM. All the interviews ranged from 30 minutes to 2 hours. 9 interviews were recorded and 5 interviews were done by note-taking. All were transcribed in full. The interviewees were selected based on their roles in the policy-making process (Appendix B).

The elite interview strategy was adopted because a rich source of information can be obtained from a single interview.<sup>5</sup> It can facilitate and give direction to the research and provide access to unpublished information. We were cautious that these interviews could be politically biased and that *hidden agendas* may underpin the information obtained during the interview (Gilham, 2005). All the interviews were semi-structured (Appendix C).

The data from this case study were in the form of transcribed interviews and documents obtained from MOHE. The transcripts and documents were reviewed for the purpose of our research. In the first stage we looked at the phases in the

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<sup>4</sup> We also did email interview with her

<sup>5</sup> Elite interviewing involves talking to people who are especially knowledgeable about a particular area of research or about the context within which the area being studied. The interviewees are commonly in positions of authority or power by virtue of their experience and understanding. They are also part of a network-of other people and institutions- and may control access to these (Gilham, 2005, P.54)

policy-making process and in the second stage we looked at how the policy actors work together.

## **1.5 Organization of the Study**

We organized this dissertation into 5 chapters. The first introductory chapter addresses the background and the general outline of the study. The second chapter is the literature review on language policy, policy studies, theories and models of public policy, knowledge in the policy process, and knowledge perspective. The third chapter is a historical overview of the development of language policy, language-in-education policy, in particular of teaching science and technology in English at PHEIs during the end of the British colony until 1993. The fourth chapter is a case analysis of the higher education policy-making process for teaching science and technology in English at PHEIs, in particular. The last chapter summarizes important findings that answer the research questions, argues the theoretical and practical implication, and offers suggestions for future research.

## Chapter 2: Literature Review

### 2.1 Introduction

This chapter reviews the literature on language policy, policy studies, theories and models of public policies, knowledge in the policy process, and knowledge perspective.

### 2.2 Language Policy

For the purpose of our study on knowledge sharing, acquisition, utilization and creation, we focus on the status planning. Therefore, we refer to this definition:

Language policy attempts to be less interventionist and to refer mostly to principles with regard to language use. Thus it may include a statement that a number of languages should be learned in a given country ....., but often does not go into which groups or which languages or how this should be implemented.<sup>1</sup>

One of the study areas in language policy is language-in-education policy. Tollefson (2002) explains that language policies in education are shaped and influenced by many positive and negative factors, i.e., social forces; political scenario, changes in government, changes in the structure of local economies, globalization and elite competition.

The leaders of developing countries, whose populations are multi-ethnic and multi-lingual believed that English as the official language during the colonial period did unite the country at that time. The continuation will maintain unity even after independence. This belief continued in India, Pakistan and Bangladesh

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<sup>1</sup> Shohamy, 2006, p.49.

and subsequently, English has retained its status and continued to be the medium of instruction for the elite and in the higher education institutions.

Another view suggested that with English as the official language, the colonial-educated elites who still rule the countries after independence believe that they can remain in power (Brown, M.E. and Ganguly, 2003; Kaplan and Baldauf, 1997; Kaplan, B.K. 2001; Shohamy, 2006). This is achieved as the newly independent developing countries continue to adopt a top-down approach.

Henceforth, though most educational policies continue until now to be national decisions, language policy-making is also internationalized, and the challenges are related to the sociopolitical, economic and cultural impacts for developing countries. The foreign presence after independence is both resisted and accommodated in ways that shaped the countries' language policies.

The knowledge economy in different form like outside sources of funding, have direct impact on language policies in education for developing countries. Financial assistance from English-speaking countries to developing countries like Cambodia, Vietnam, Nepal, which are still struggling against poverty and illiteracy, have played a critical role in shaping their language policies.

The knowledge economy is still dominated by the English speaking countries. In countries such as Singapore, the language policies allow the country to participate in global capitalism, and place the country as a leader in the global economy. In Brunei, English has been a working language and a medium of instruction in education (Tsui and Tollefson, 2007). In Korea, English language education is part of the country's national strategy. Globalization has made English a global language.

By the year 2000 it is estimated that over one billion people will be learning English. English is the main language in ..... international business and academic conferences, science and technology, diplomacy, sports, international competitions, ..... and advertising.<sup>2</sup>

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<sup>2</sup> Graddol, 1997, p.2

The spread of English language has posed a serious challenge to non-English-speaking countries (Tsui and Tollefson, 2007). The actions taken by them has been to increase and improve language education as part of a broad economic development, and English promotion policies have gradually begun to dominate educational language policies in many countries in the world (Tollefson, 2002). The English language, does not just continue to be widely used in the British ex colonies, but is also spreading to other countries like non British ex-colonial countries and European countries.

Ammon and McConnell (2002) evidently showed the wide use of English as the language of university teaching for European countries for example in Germany and Denmark. These countries' main intentions are to attract more foreign students and staff to come to their countries, and to ensure that their own students and professors are proficient in foreign languages, especially English for active involvement in globalization, in order to guarantee the proliferation of comprehensive scientific and economic international relations.

Kaplan (2001) explains that language does not have the means to become dominant; it is the English speakers who underlie the spread of English. And leaders of government instigate the spread of the language through policy.

In Saudi Arabia, the government sends its technocrats to study at the tertiary institutions in the UK and the USA. Once the technocrats return back to their country, they are among the individuals involved in the development of the educational sector of the country.

In Thailand, the government legalized English language as the second major language due to Thailand's increasing involvement in global trade (Hengsadeekul, Hengsadeekul, Koul and Kaewkuekool, 2010). In China, the government allows an adjustment strategy of the level structure in China's higher education, by creating a strategy in the form of Sino-foreign cooperation (He, Feng and He, 2010).

In Malaysia, although Malay language is the national and official language, English once again becomes one of the medium of instruction for science and technology courses at PHEIs in the 1990s, and the teaching of science and

mathematics in English at primary and secondary levels from 2003 to 2010 were decided by the leaders of the country. This reflects the fact that decision-making in the Malaysian education system is a highly centralized and bureaucratic system (Kaplan and Baldauf, 1997).

This is achieved where the new independent developing countries continue to adopt a top-down approach. The knowledge shared among the policy makers refers to the world scenario and their values, beliefs and experiences during colonialism. As a result, knowledge utilized among the policy makers is their selected external knowledge and their beliefs and experiences. The highly centralized policy-making process allows countries, especially the British ex-colonies, to legitimize the implementation of English as the medium of instruction through their language-in-education policy.

Language policy on corpus planning literature focuses more on top-down approach for the study of policy-making process. Therefore, there is a gap on knowledge sharing, knowledge acquisition, knowledge utilization and knowledge creation. Policy study literature attempts to clarify this gap.

### **2.3 Definition of Policy**

Anderson (1997) defines policy as a purposive course of action by an actor or set of actors in dealing with matters that concern society while Ranney defines policy as a list of action (Lester & Stewart, 2000). Dye (2002) defines policy as something that governments do or do not do, why they do it, what difference they make and the effect on the society.

Bogenschneider and Corbett (2010) referring to Bogenschneider (2006) definition, explained policy is the development, enactment and implementation of a plan or course of action carried out through a law, rule, code, or other mechanism in the public or private sector. Birkland (2011) defines policy as law, regulation, ruling, decision and order respectively or any combination of these.

Based on these definitions, we define policy as intentional government actions to deal with public issues or to pursue certain objectives. All these definitions are referring policy to action, intention and to achieve certain goals.

### 2.3.1 Public Policy Studies

Public policy is a process of government activities or decisions, which is designed to rectify some societal problem either real or forecasted (Lester and Stewart, 2000). Public policy is studied mainly in socio-cultural, politics, law, public administration and economic disciplines.

Researches done by scholars of the above disciplines are mainly on policy analysis, policy research, applied social science research and types of policies (Table 2-1). There are many researches on public policy in USA and other developed countries (Sabatier, 2007; Lester and Stewart, 2000) as compared to developing countries. Types of policies apply by any governments reflect whether public policy represent the government self-interest or the society interest.

**Table 2.1: Types of Public Policies**

No	Type	Purpose
1	Liberal	Use extensively to bring about social change and social equality Prefer concentration of power in higher levels of government Effective constituency exists at the national level and the regulatory and distributive capacities are stronger at the national level than at the state and local levels
2	Conservative	Generally oppose the use of government to bring about social change but may approve government to preserve the status quo or to promote favored interests Prefer decentralization of power and authority Public policy problems should be solved at the level of government that is nearest to them Prefer state and local governmental involvement
3	Substantive	Concern with government action to deal with substantive problems
4	Procedural	Relate to how something is to be done or who is going to take action
5	Material	Provide concrete resources or substantive power to their beneficiaries or impose real disadvantages on those adversely

		affected
6	Symbolic	Appeal more on cherished values
7	Collective	Benefits that cannot be given to some but denied to others
8	Private	Those goods provided that may be divided into units and consumer can be charged

Sources: Adapted from Lester and Stewart (2000).

## 2.4 Attempts to Unfold the *Black Box* in the Policy

### Process

The focus of our research is on the policy-making process of public policy. The policy-making process is part of the policy process, it is a process for agenda being set and policy is formulated. This is the process for policy actors to process the feedbacks (inputs) they receive externally and internally and transform the feedbacks into policy (outputs). Therefore, there is a need to understand the political system in the policy process.

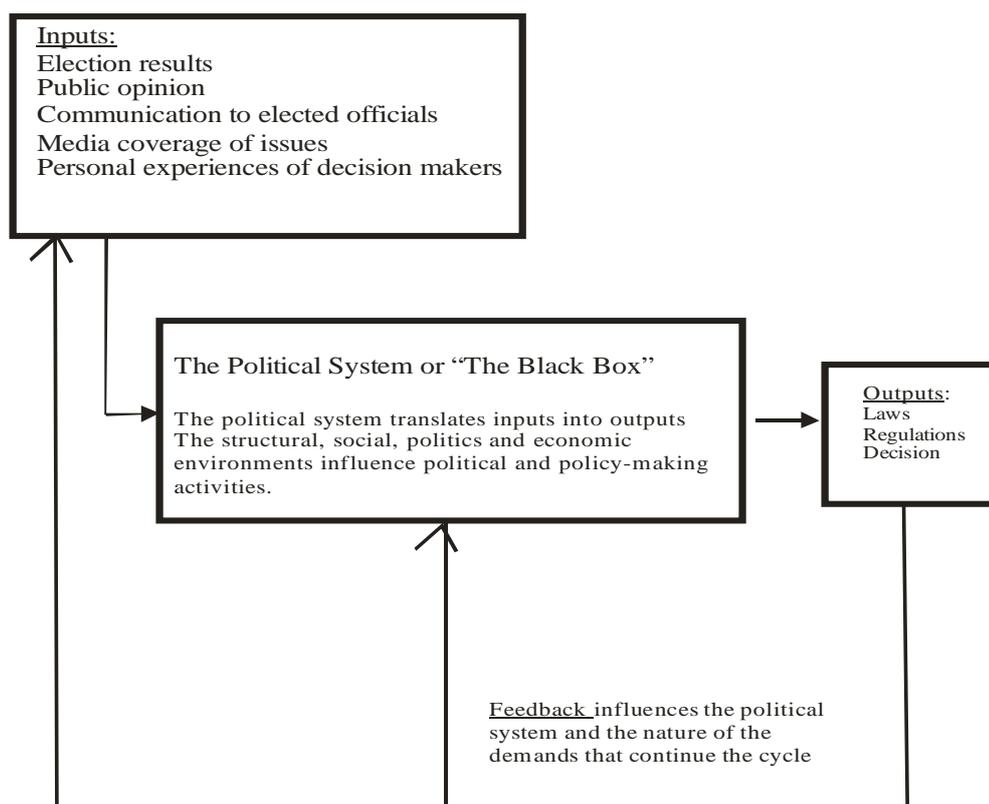
In the policy process literature, policy approach is to identify and analyze the determinants of each particular stage in the policy process. This approach is widely used among scholars as bases for discrete stages before further elaboration of the policy process. This approach is further elaborated in the policy process theories and models.

In reality policy process is not just made in stages but is more complex. Policy process is a system that translates policy ideas into policies that can be implemented and have positive outcomes (Birkland, 2011). The simplest model is the system model of politics and policy (Figure 2-1) expanded from input-output model created by Eastons (1979) (Figure 2-7).

The inputs comprise of various issues, information, pressure from concerned citizens and groups; and government officials. The outputs are policy formulation in the form of regulations, laws and decisions. Policy formulation is either new or an improvement of existing policy. Policy formulation can also either be implemented efficiently and effectively or inefficiently and ineffectively or just remains idle.

Policy formulation can be effective if based on shared belief between government and society. It is idle and inefficient because the public policy is a production of influence by environment/scenario that the government believes it is not beneficial for them. Easton (1979) argues that public policy process is the product of a system that is influenced by and influences the environment/scenario in which it operates.

The environment-structural,socio political, and economic-affects all parts of the system

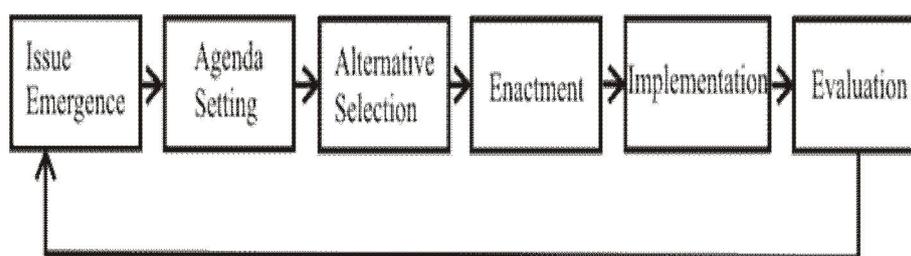


**Figure 2-1:** A System Model of Politics and Policy

Source: Birkland (2011), p.27.

In the mid of 1950s onwards the most influential framework to disclose policy process/ the political system/ the *black box* of Eastons (1979) model was, *stages heuristic* (Sabatier & Jenkins, 1993 and 2007) or *stages model* and also known as textbook approach developed by lasswell (1956), Jones (1975), Anderson (1979), Brewer, and DeLeon (1983).

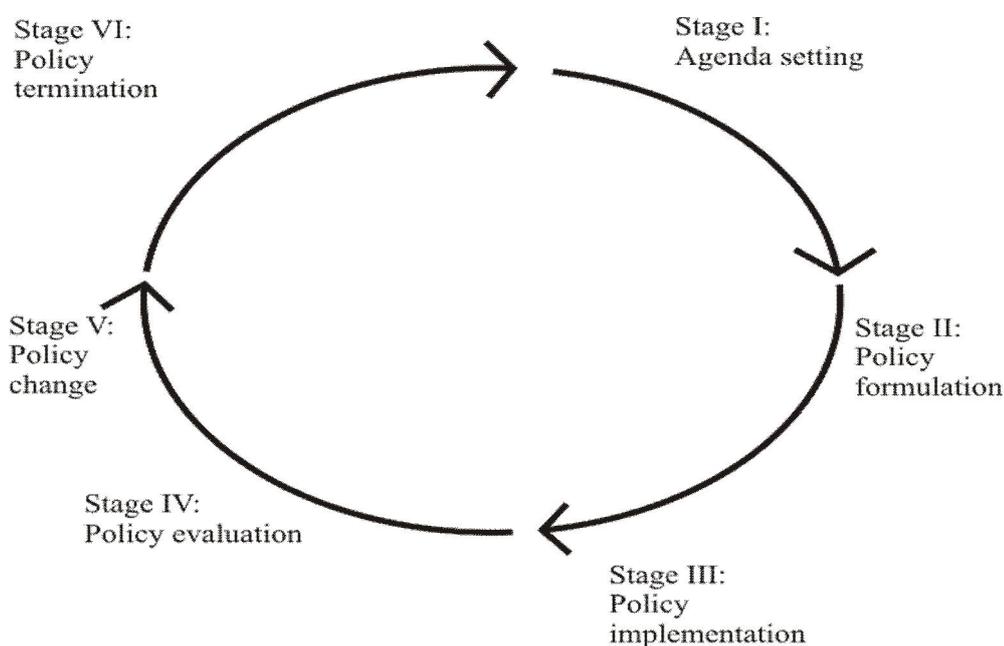
In an ideal world, the policy process presented in stages model as shown in (Figure 2-2) begins with the emergence of problems discovered by society through various means or by the advocacy of concerned citizens and interest groups (Birkland, 2011). The problems that gained attention will reach to agenda stage, alternative policy response and the selection of policy tools to address the problems. This then go through policy formulation, which involves legal process, i.e., a law is passed and regulation is issued or some formal decision is reached to take particular action to solve the problem.



**Figure 2-2: The Stages Model of the Policy Process**

Source: Birkland (2011), p.26.

There is also the policy process described in a *cyclical form model* (Figure 2-3), which has similar interpretation and criticism with the stages model.



### **Figure 2-3: The Policy Cycle**

Source: Adapted from Lester and Stewart (2000), P.5.

These *stages model* and *cyclical form model* (Lester and Stewart, 2000) are criticized because they do not reflect the reality of the policy process. There are problems that do not reach the agenda and as Nakamura (1987) and Sabatier and Jenkins-Smith (1993) stated, they are not causal theory. Each stage develops its own development model. Policy process is not idealistic because it is not in sequence and is an incoherent set of hypotheses within and across stages. In reality all public policies are overlapping and interrelated.

#### **2.4.1 Theories and Models of the Policy-Making Process**

Cob and Elder (1972) define agenda setting as a set of political controversies relating to legality that need to be addressed by decision-making body. Kingdon (1984) defines it as a list of issues or problem to which decision makers in government consider the issues are important for that period. We define agenda setting as a set of issues that is considered important and need attention by respective decision-makers in the public policy-making at the given time and environment.

Lester and Stewart (2000) define policy formulation as an important and acceptable course of action dealing with a certain pertinent public issues or problems that are selected and enacted into law. Stone (1988) says policy formulation is policy solution. The types of policy solution are inducement, rules, facts, rights and powers. Our definition of policy formulation is government actions towards raising issues or problems by society or the government itself within the jurisdiction and authority of the government.

##### **2.4.1.1 Agenda Setting**

Cob and Elder (1972) model of *shared concern, initiation* (Davies, 1974) and *outside initiative* (Cobb, Ross and Ross, 1976) of some of groups in the society, lead to issues that become widespread and *diffuse* (Davies model) among the society and the government; these issues would later be *mobilized* (Cobb, Ross and Ross model) or embraced/ *fed* in the government either holistically or by any

one or more government entity where these issues fall under their jurisdiction. This *shared concern* becomes *shared perception* when it reached to governmental level.

Cob and Elder (1972) elaborate in their model that there are two prominent types of agenda, *systemic agenda (popular agenda)* and *institutional agenda (public agenda)*. *Systemic agenda* consist of all issues that might be subject to action or where action has already been taken by the government. *Institutional agendas* are set of issues explicitly up for active and serious consideration by decision-making bodies. Issue needs to reach the *systemic agenda* before it reaches the *institutional agenda*.

The type of issues that are placed on the *systemic* or *institutional agenda* are subject issues that are relatively broad, specific issues that refer to specific legislation and/or project/locality, new issues, cyclical issues, and recurrent/reemergence issues because due to the failure of previous policy choices.

According to Davies (1974), the type of issue determines the success or failure for an issue to become an agenda item. He also argued that many issues are initiated within the government. These issues are not expanded to the general public but are exclusively shared and utilized within governmental arena.

Issue is recognized when it is considered important to prompt governmental action; or the government perceives that they have legitimate responsibility or there is avenue available to adopt the issue.

*Issue prioritization* (Davies, 1974), is a problem adopted as a potential issue. Once it becomes an agenda, it is reordered to accommodate the new issue. It is essential for the new issue to be viewed within the context of older issues already on the agenda.

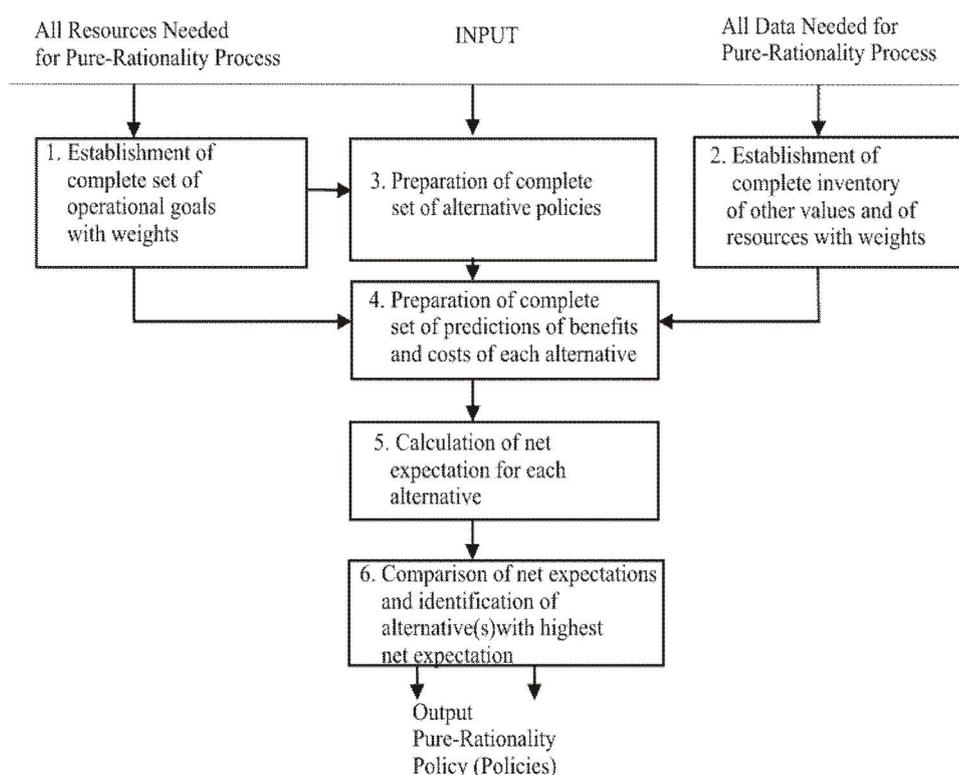
*Issue maintenance* (Davis, 1974) is an issue that reaches to the stage of decision making. The issue would be in the form of proposal to be put forth for the decision makers to consider. The considered/ not considered proposal is maintained/not maintained in the institutional agenda.

Nelson (1984) added stages in the agenda setting process. These additional stages gave further distinction on the processes in the agenda setting of

policy-making process. She focused on issue being *embraced/fed*, selected and being adopted as a *shared perception* of the legitimacy of government accountability for action on the issue. And a belief with these distinctive stages, an appropriate response could be found if the issue is adopted for consideration by government actors.

### 2.4.1.2 Policy Formulation

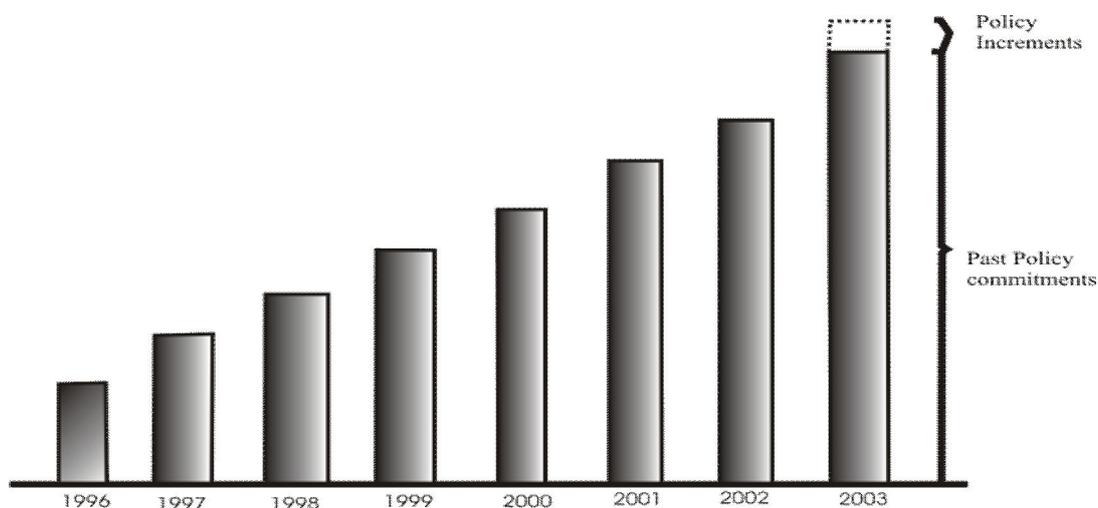
The rational-comprehensive model, incremental model and system model are the earlier models that describe policy formulation development process. Rational-Comprehensive model (Figure 2-4) is an ideal model, applying technological tools where policy makers are value free/neutral, policy makers work in isolation with preference on the existing alternatives. In reality policy/decision makers consist of the legislative, judiciary, executive, administrators, interest group, concerned citizens, and the mass that for instance, have similar/dissimilar beliefs, values, and perspectives.



**Figure 2-4: A Rational Model of a Decision System**

Source: Adapted from Dye (2002).

Incremental Model (Lindblom, 1990) (Figure 2-5) is similar to single-loop learning (Argyris and Schon, 1978; Argyris, 1976 & 1999) (Figure 2-6).



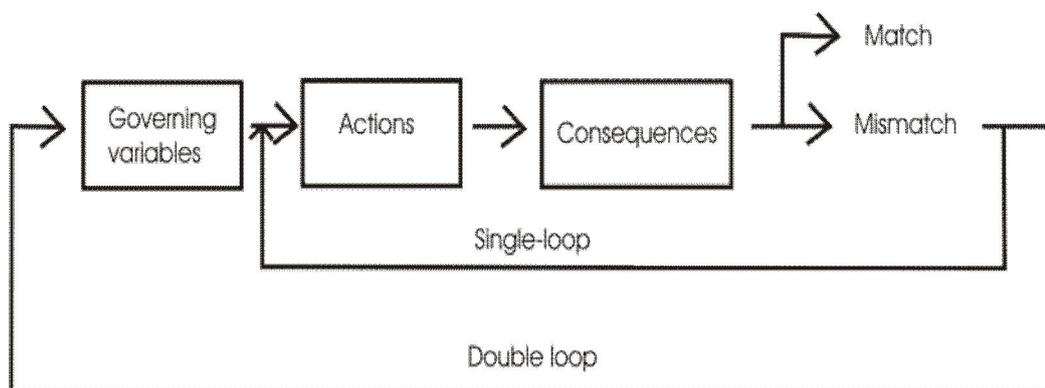
**Figure 2-5 : Incremental Model**

Source: Dye (2002), p.20.

Public policy formulation is a continuation of previous government actions with only minor modifications (Lester and Stewart, 2000). This occurs in the absence of societal consensus on public policy concern. This gives opportunity for pluralist government to continue with existing policies whereby the government then can engage in overall policy planning toward specific policy goals. This means policy makers and especially the decision makers consider only some alternatives for dealing with a problem. The different are only incremental from existing policies. It is merely redefining the problem confronting the decision maker. *Incrementalism* only allows for countless ends-means and means-ends adjustments of problem in public policies. Incremental decision making is only remedial and is geared more to the amelioration of present, concrete social imperfections rather than to promote future social goals. This model ignore that environment is dynamic not incremental.

This incremental model is similar to single-loop learning. Single-loop learning occurs when matches are created, or when mismatches are rectified by altering actions. Double-loop learning occurs when mismatches are rectified by firstly,

examining and secondly, altering the governing variables and following up with the actions.



**Figure 2-6: Single-Loop and Double-Loop Learning**

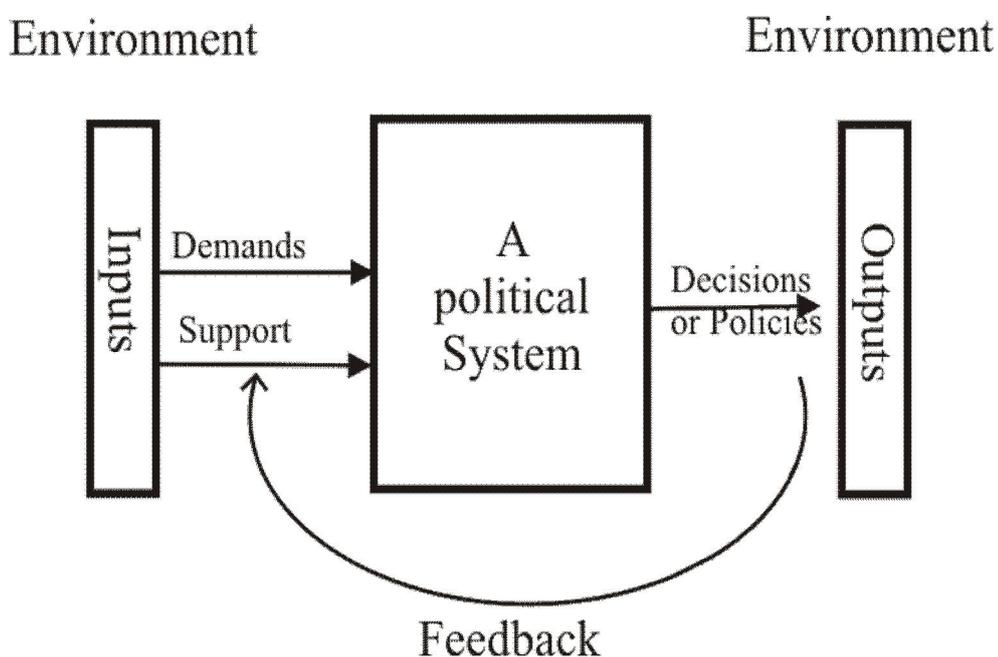
Source: Argyris (1999), p.68.

System model (Figure 2-7) by Easton (1979) is policy formulation in respond to demands for new policies or support for the existing policies. His policy formation proposes that inputs which become demands and supports are converted by the processes of the political system such as the legislature and judiciary. These then turn into outputs, i.e., policies and these in turn have consequences both for the system and the environment in which the system exists. Demand especially in limited or less societal involvement may be internal to the system for example political parties or interest groups. Demand is external to the system like ecology, economy, culture and demography if this is dominant.

A political system generates support by fulfilling demands of the mass. The outputs of the system are based on political decisions of public policies. They fulfill daily demands or system members anticipate the government as being generally favorable to their interests. Failure of a government to produce effective public policies (outputs) for the members of a system may lead to demand for changing the current government.

Dye (2002) modifies the model by including socioeconomic development variables in the states such as urbanization and industrialism, income and education which create demands and supports on political system which in turn produce state policy outcomes.

This model does not have variation in *needs* or the degree of seriousness of the problem. The model is vague on whether political parties are *demands* or an institution. The model has boundary problems as to what should be included in the *environment* of the political system.



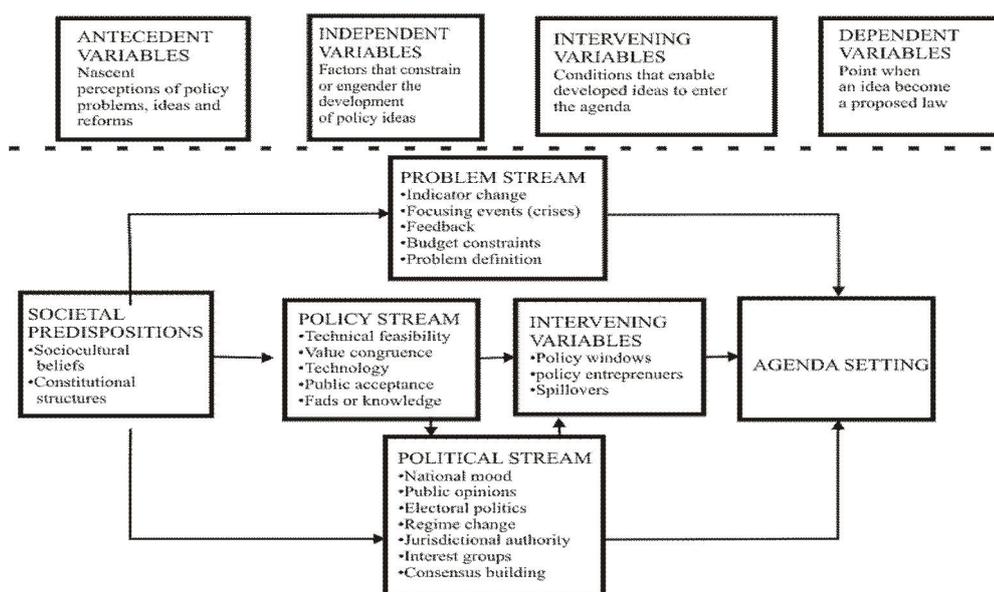
**Figure 2-7: The Systems Framework**

Source: Easton (1979), p.112.

The well known work by Kingdon (1984) (Figure 2-8) is more comprehensive. Kingdon's model begins with a set of knowledge and societal predispositions such as value, culture, and politics. Social predispositions set the context for issues getting on the agenda. The issues from many areas would mutually influence each other. His conceptual model is based on three streams:

1. Problem stream-the definition of the addressed problem
2. Policy stream-technical feasibility of dealing with the problem, the availability of the technology, and public acceptance of solution and legislation
3. Political stream-national mood, public opinion, electoral politics and interest-group activity

The three streams combine as *policy window*. Opportunities are opened and policy entrepreneurs are responsible not only for prompting relevant stakeholders and important people to notice and take interest, “but also coupling solutions to problems and for coupling both problems and solutions to politics”.<sup>3</sup> There are times issue could lead to solution and influenced individuals to make issue into agenda status. Kingdon (1984) also acknowledged the various variables during the agenda setting process.



**Figure 2-8: Kingdon Model**  
Source: Lester & Stewart (2000), p.72.

All these models focus on stages and factors in agenda setting and policy formulation. Cob and Elder (1972), Davies (1974), Cobb, Ross and Ross (1976), and Nelson (1984) explain that *shared belief* of the society become *shared perception* of the government; the type of issue determine what issue reach to agenda setting and the stages on how issue become agenda. Sabatier and his associates actors *learning* and *belief system* coupled with stable system and external system lead to policy change. Kingdon model explain in detail issues in

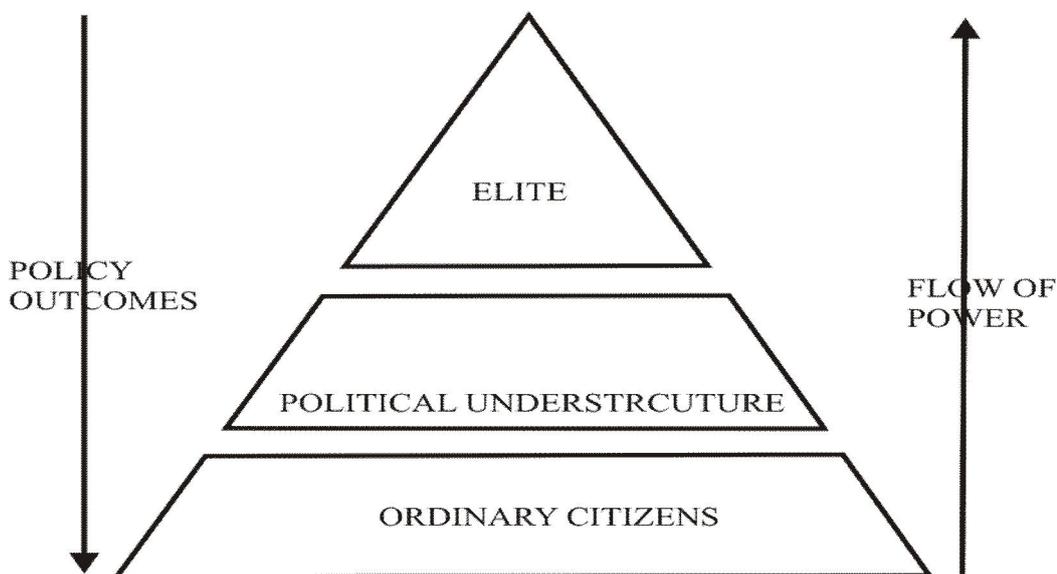
<sup>3</sup> Kingdon, 1984, p.21

the inputs to be potential agenda and variables that act as drivers for the issue to reach the agenda setting process.

### 2.4.1.3 Actor Models

Actor models identify the actors and entrepreneur that involve in the agenda setting and policy formulation such as the elite, sub-governmental and pluralist, and the Roberts and King models.

The elite model enlists the types of elite. This model does fit the current elite that rule the governments in the developed and developing countries. They are the politicians, businessmen and the militaries. These dominant elites' interest and choice of public policy is in collusion with the interest of the citizens. They are able to control the policy-making in the government (Figure 2-9).



**Figure 2-9: The Elitist Model**

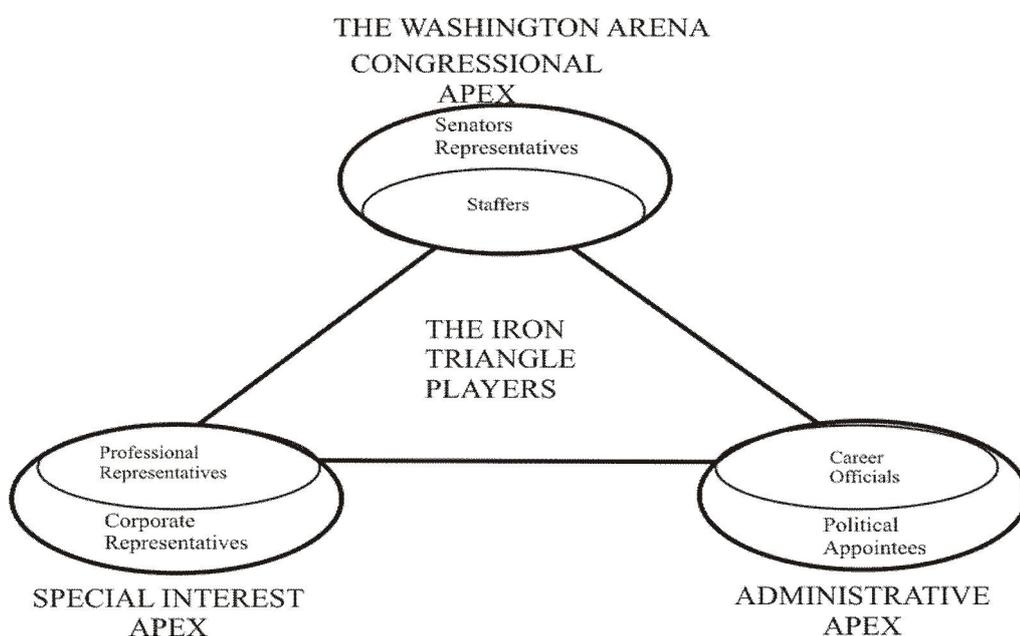
Source: Lester and Stewart (2000), p.55.

Sub-governmental model refers to the USA political arena. This model enlists elective representatives, bureaucrats, and stakeholders that have stake in the government to become actors who shape public agenda. A sub-government model (Figure 2-10) is usually evolved to a relatively specific policy field with specialized elective representative committee responsible for the field. Relatively

autonomous bureaucratic agencies are able to develop relationship independently outside the executive branch of government. The interest groups who are able to form a relationship with member in the legislative branch possess the following attributes:

- A clearly defined stake in the field of interest
- Legitimacy in the eyes of the legislatures
- Budget for committee to conduct research
- Fund for legislature personal agenda in the election
- Organizational bases at the local level and elsewhere from which the committee members come

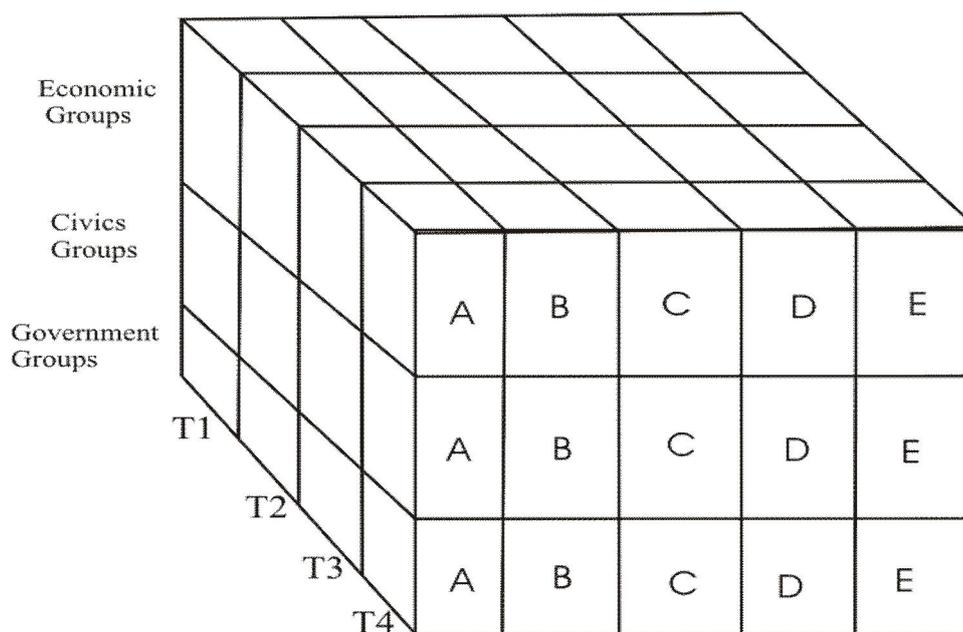
The sub-government arrangement works by a series of *exchange relationship*. This model only emphasized a substantial aspect in the public policy.



**Figure 2-10: The Sub-Government Model**

Source: Lester and Stewart (2000), p.75.

Pluralist model is against the elite and sub-governmental models. Instead the interest groups dominate the agenda-setting process. They identify the problems and apply pressure to have or not have them placed in the public agenda (Figure 2-11). The pluralist model and elite model forwarded external inputs to the agenda setting.



**Figure 2-11: The Pluralist Model**

Source: Lester and Stewart (2000), p.56.

Roberts and King (1996) use entrepreneurial design to show the breaks of the existence policy and permits a qualitative different policy take place.<sup>4</sup> Individual intention can make changes in the public policy provided it is appropriate in the chaotic system despite the fact that deliberative action is limited, bounded and constrained by many factors in change process. They evidently showed in Minnesota research how social actors can mold public policy by intervening in the policy system.<sup>5</sup>

Roberts and King (1996) defined public entrepreneur as individuals who introduce, translate and implement innovation in the public practice. It is difficult to identify public entrepreneur thus, they distinguish the public entrepreneurs in the policy process from other participants (Table 2.2), and the typology of public entrepreneur (Table 2.3):

<sup>4</sup> Design entails deliberative purposive planning (Roberts, 1996, p.3).

<sup>5</sup> Robert and King 1996, p.3.

**Table 2.2: Participant in the Policy Process**

No	Participants	Function	Institutional requisites/ phase
1	Public entrepreneur	Those who convert innovative idea into policy	Creation → new idea Design → prototype Implementation → Innovation
2	Policy champion	Those who are involved in both the design and implementation process	Design → prototype Implementation → Innovation
3	Policy intellectuals	Those who generates innovative ideas but do not engage in the design	Creation → new idea
4	Policy advocates	Those who contribute to invent or develop ideas and are involved in the design phase	Creation → new idea Design → prototype
5	Policy administrators	Those who are involved in the implementation process	Implementation → Innovation
6	System maintainer	Those who do not invent or develop new ideas	
7	Failed entrepreneur	Those whose innovative idea did not reach the implementation process	

Sources: Adapted from Robert and King (1996).

**Table 2.3: Typology of Public Entrepreneurs**

No	Participants	Function
1	Policy entrepreneur	Who are involved in the policy but has no position in the government
2	Bureaucratic entrepreneur	Who hold non-leadership post in the government
3	Executive entrepreneur	Who hold leadership position through appointment by the government
4	Political entrepreneur	Who hold elective office

Sources: Adapted from Roberts (1996).

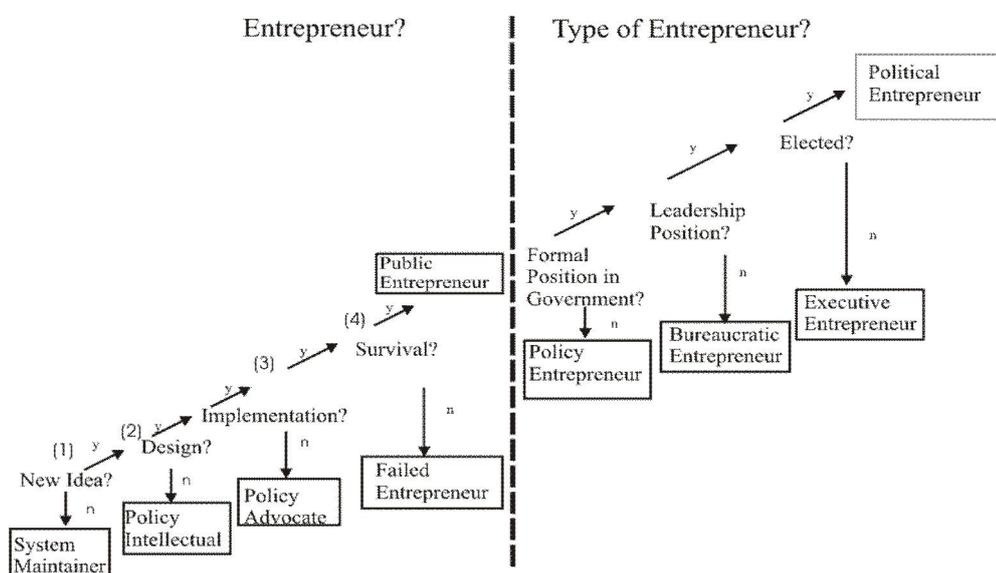
The advantages of typology as Robert (1996) outline in Table 2.4:

**Table 2.4: Advantages of Typology**

No	Advantages
1	To be able to track the movements of public entrepreneurs as their role change over time
2	To identify the association between the entrepreneur behavior, position and base of power
3	To be able to document the public entrepreneurs' histories, evolutionary path and learning experience as a result of the categorizing them in the innovative system

Sources: Adapted from Robert and King (1996).

Roberts and King (1996) display the typology of public entrepreneurs in Figure 2-12:



**Figure 2-12: Typology of Public Entrepreneurs**

Sources: Robert and King (1996), p.16.

Robert and King's (1996) policy change emphasis on who are entrepreneurs and the function of the entrepreneurs. Kingdon model, Sabatier model, Roberts and King's model, actors' model together with other theories and models provide a detailed explanation of policy process. These models and theories have a

disadvantage, the development emphasize only on a stage in the policy process. The policy process describe in models and theories of on the existence policy process emphasize more on unfolding rather than the authoritative decision with attention to structure, context, constraints and the dynamic of process (Sabatier, 2007). Sabatier (2007) “explain process as temporarily, unfolding actions, events and decisions that may culminate in an authoritative decision which at least temporarily binds all within the jurisdiction of the governing body”.<sup>6</sup>

The operation of the actors’ influence through their belief, values, action, experiences relevant to knowledge and policy-making in the policy process is not explored in the current disciplines. Lately, the knowledge perspective has been the emerging domain to unfold how actors operate especially in the decision making of the policy-making process. With the emergence of knowledge economy and knowledge worker; this lead to the recent increase study of knowledge in policy study in the 1990s.

## 2.5 Knowledge in the Policy Process

Previous literature in public policy, does acknowledge the existence of knowledge in all disciplines widely applied by public researchers. The emphasis is on explicit knowledge.

Currently, scholars have emphasized the role of knowledge in the policy process, particularly in the domain of public policy. The different theoretical approaches shared the belief that a knowledge perspective on the policy process provides many benefits (Radaelli, 1995).

Radaelli (1995) highlighted the findings by Hecllo (1974), Hecllo and Wildavsky (1974), and King (1973) that knowledge is an independent and highly significant variable in the investigation of the policy process. Research in knowledge utilization and evaluation, epistemic communities, studies in the diffusion of economic paradigms, agenda–setting and policy change and learning, are the approaches which constitute a *knowledge perspective* on the policy process.

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<sup>6</sup> Sabatier, 2007,p. 293.

Some scholars describe knowledge with terms and metaphors such as, *evolution* (Haas, 1992) and *learning* (Hecllo, 1974; Sabatier and Jenkins-Smith, 1993), *Unending social enquiry* (Lindblom, 1990), collective *puzzlement* (Hecllo, 1974) and *garbage-can with policy windows* (Kingdon, 1984).

Knott and Wildavsky's (1980) *knowledge transfer* was based on the dissemination of knowledge research to policy makers. Dissemination is equivalent to utilization.<sup>7</sup> According to Rose (1972), utilization occurs when research crosses policy makers cognitive screen and Caplan (1975) says research knowledge is utilized in policy formulation.

Multiple memberships in government enable transmission of information from one government to another in matter of public policy. There is limitation for research to be utilized or disseminated successfully. Large organization, frame of reference and professional background prevent policy-makers from utilizing the research findings. Rogers (1971) explains that information is likely accepted if the sender is perceived as part of the peer group. The strategies of dissemination are done by moving information to where it is needed or by moving people i.e. when research and policy makers interact, or by stimulating natural dissemination and using incentives to overcome obstacles to diffusion.

Pollard and Court (2005) explain that knowledge exists in all public policy processes. It is in agenda-setting, policy formulation, policy implementation, and evaluation.<sup>8</sup> Knowledge is at the greatest advantage when knowledge sharing, acquisition, utilization, and creation exist at the appropriate time and location. For example, knowledge of the economy is useful when the world is experiencing economic crisis and basic economics becomes irrelevant and unreliable. External Knowledge adjustment to local settings allows more adaptability and a greater sense of responsibility of the policy makers (Fergusson, Mchombu and Cummings, 2008). The synthesis of external knowledge, for example global knowledge

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<sup>7</sup> Knott and Wildavsky(1985) defined knowledge as a definitive statement of will happen, information is an educated guess/ a supposition and date become information when they change what decision-makers do (p.548).

<sup>8</sup>It is noted that a linear policy process is ideally a frame to assist in policy analysis, whereas in reality it is more complex

economy and internal knowledge with local knowledge economy creates appropriate agenda-setting in addressing issues. The formulation and implementation of policies becomes more effective and efficient. At the evaluation stage, to have a feedback system that can be referred to in the learning process is a requirement as well as a continuous improvement process on the current policy.

### **2.5.1 Knowledge and the Policy Process in Developing Countries**

In developing countries, the knowledge link to the policy process is widely studied in the development domain (Jones, 2009; Fergusson et al, 2008; Pollard and Court, 2005; Porter and Hicks, 1995). The main focus is on the importance of research in policy-making.<sup>9</sup> There is little being said explicitly on knowledge creation in the policy-making process in developed (Jones, 2009) and developing countries. In developed countries knowledge creation is actually highlighted as policy innovation (Roberts and King, 1984).

Hezri (2004) who studied the sustainability indicator system and policy process in Malaysia discovered that there are implementation constraints in the policy-making process in Malaysia. These consist of meta-policy issues, technical issues, communication issues and theoretical constraints that become constraints to knowledge sharing, utilization and creation within the policy process in Malaysia. He put forward a framework of utilization and learning as an option to overcome the implementation constraints.

The policy-making activity is active during crises either domestic or external crises. Nevertheless, at both time of crises and stable situations, the policy-making for creation, change or innovation of policy is greatly influenced by the interests and convictions of political entrepreneurs who are involved in policy-making (Horowitz, 1989). The top-down approach that is still practiced by many developing countries reflects the elite influence on public policy. In addition,

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<sup>9</sup>The United Nations organization and non- governmental organizations of the developed countries are the organizations that are doing this research.

international relations in terms of aid, political, economic, and social influences are also reflected in the public policy of most developing countries.

Ashford, *et al* (2006) explained that the policy process is complicated and policy makers extract information from various resources. All policy makers are influenced by their beliefs and values, and by various prominent individuals, i.e., politicians and businessmen with competing ideologies and long-standing practices. Because the policy environment in developing countries like Malaysia is highly centralized, a new idea must go through a complicated process of feedback, exchange and selection before it spreads through the policy environment, gets accepted by policy makers, and becomes part of an institutional agenda.

As mentioned in chapter 1, Scholars like Radealli (1995) and Pollard and Court (2005) argued that knowledge exists in all the policy-making process. The focus is on the utilization of research knowledge and the actual difficulties for knowledge to be utilized in the policy-making process. There is still vagueness/ gap in the study of policy-making process. Our attempt is to apply a knowledge perspective especially on knowledge creation to fill this gap.

## **2.6 Knowledge Perspectives**

### **2.6.1. Definitions of Knowledge**

Knowledge is about belief, commitment and action. It is a function of a particular stance, perspective or intention. Knowledge is comprised of the tacit and explicit, the formal and informal (Nonaka and Takeuchi, 1995). These statements reflect the complexity of knowledge.

Western philosophers view knowledge as articulated, codified, stored, and transmitted to others. For Japanese organizations, knowledge is emphasized on both explicit and tacit (Nonaka and Takeuchi, 1995). Tacit knowledge is difficult to transfer because it is in the mind of the individual. Tacit knowledge converts into wisdom, intuition, experience, talent, judgment, and expertise. It is also implicit, a previous experience embedded in mind, aiding the improvement of all

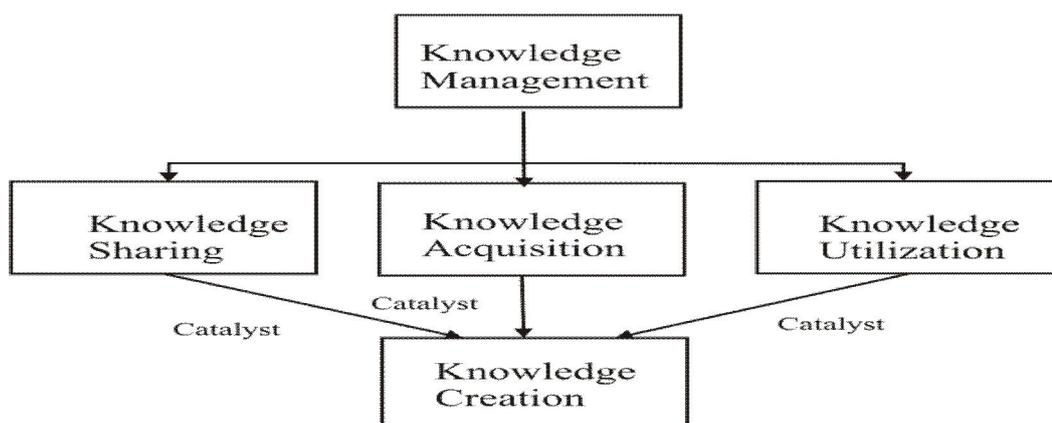
action (Curley & Kivowitz, 2004). Knowledge is know-how, applied information, expressed in action, decision making and innovation (McNabb, 2007; Curley and Kivowitz, 2004; Nonaka and Takeuchi 1995).

Nonaka, Toyama and Konno (2000) in their theory of Knowledge-creating process emphasize the term *justified* in the traditional definition of knowledge which connote as *justified true belief*. They define knowledge as the dynamic of human ability for justifying personal belief toward the *truth* (Nonaka, Toyama and Konno, 2000). They comment on the Western epistemology that stress on *truthfulness* as an important element that attribute to knowledge. For them this view is static and non-human which fail to acknowledge the relative dynamic and humanistic dimension of knowledge. Knowledge is dynamic. It is created through socialization among individuals and organisation.

Knowledge is only productive with management responsibility (Drucker, 1994). Therefore, there is a need to define knowledge management, since it is about the management of knowledge process.

## 2.6.2. Knowledge Management

Knowledge management in the organization focuses on knowledge process i.e. knowledge sharing, knowledge acquisition and knowledge utilization (McNabb, 2007; Tiwana, 2002). The three processes in knowledge management are the catalysts of knowledge creation (Figure 2-13).



**Figure 2-13: Knowledge Management**

Source: Zaaba, Ramadan, Aning, Gunggut and Umemoto (2011), p.159.

Knowledge sharing is disseminated and diffused, allowing easy access to knowledge for all channels and individuals in the organization. Conferences, meetings, media announcements, website and communities of practice are some examples of venues where knowledge can be shared.

Knowledge acquisition means developing and creating intellectual capital, which includes internal and external knowledge, for instance insights, experiences and relationships. Knowledge utilization occurs when the knowledge is applied (Drucker, 1994) and implemented. This process is achieved when knowledge is available at the right place and at the right time, and pertinent.

### **2.6.3. Knowledge Creation**

The key to leading the knowledge-creation process is dialectical thinking which transcend and synthesize such opposites. For the purpose of our study we focus on tacit knowledge and explicit knowledge, individual and organization, top-down and bottom-up approach, as well as hierarchy and task force.<sup>10</sup> In addition, we focus knowledge as *a dynamic human process of justifying personal belief toward the “truth.”*<sup>11</sup> This focus we believe can fill in the gap of understanding the policy-making process

#### **2.6.3.1. Synthesis of Tacit and Explicit Knowledge**

There are four modes of knowledge conversion to synthesize tacit knowledge and explicit knowledge. This process is in a spiral form as demonstrated in *socialization, externalization, combination and internalization* (SECI) model (Figure 2-14).

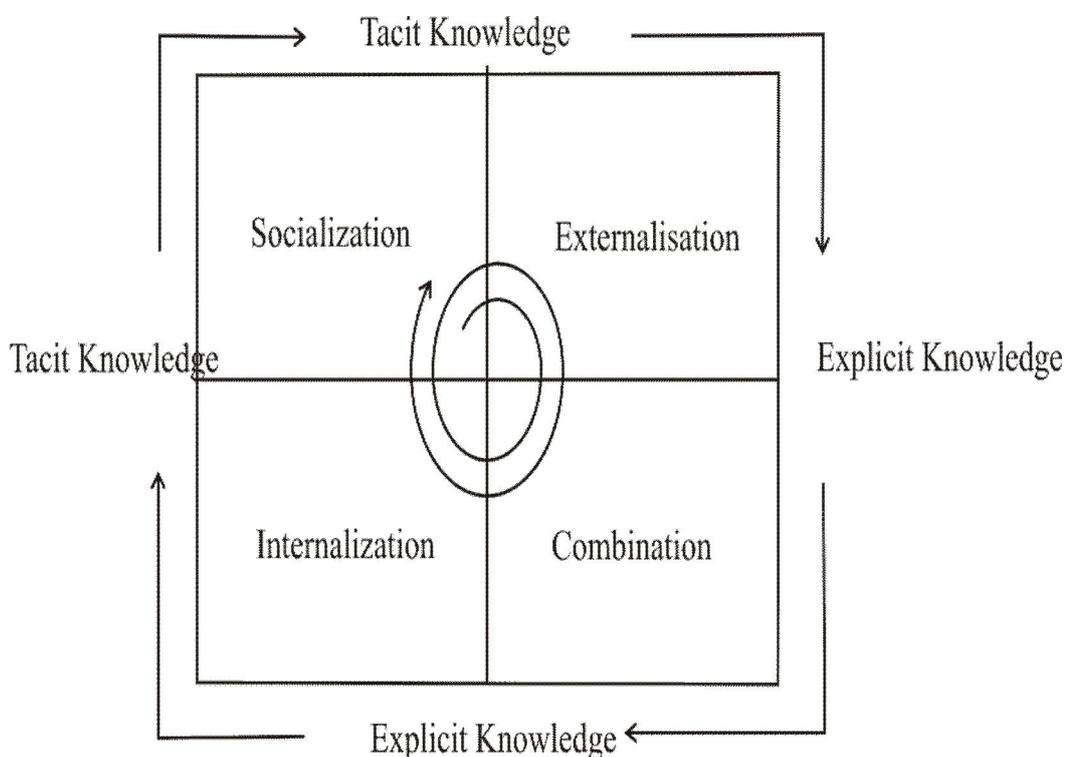
SECI begins with socialization; converting knowledge through shared experience more like empathy then externalization is done by articulating tacit

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<sup>10</sup> Takeuchi and Nonaka, 2004, p.6.

<sup>11</sup> Ibid., p.49.

knowledge into explicit knowledge.<sup>12</sup> Once it is explicit, the combination is further converted into a more complex and systematic set of knowledge connecting all the knowledge. This explicit knowledge is shared and embodied by individuals in the organization, .i.e., internalization. This process is continued, which form a spiral. In reality, knowledge creation is much more complicated. SECI model/ SECI spiral/ SECI process is one form of model to explain knowledge creation in the organization. SECI model depicts how tacit and explicit knowledge is amplified in terms of quality and quantify, individual to the group and then to the organizational level.<sup>13</sup>



**Figure 2-14: SECI Model**

Source: Adapted from Takeuchi and Nonaka (2004).

The development of this SECI model began with two dimensions—epistemological and ontological— of organizational knowledge creation. The epistemology dimen-

<sup>12</sup> Ibid., p.57; Nonaka, Toyama and Konno, 2000, p.9.

<sup>13</sup> Nonaka, Toyama and Konno, 2000, p.8.

sion is where knowledge conversion takes place between tacit knowledge and explicit knowledge. There are four modes of knowledge conversion. These four modes are interacted to produce a spiral when time is introduced as the third dimension. However, there are five conditions—intention, fluctuation/chaos, autonomy, redundancy and requisite variety—that enabled for the four modes to transform into a knowledge spiral.

The ontological dimension is where knowledge created by individuals is transformed into knowledge at the group and organizational levels. These levels are interacted with other iteratively and continuously. This time dimension is introduced as the third dimension to develop a five-phase process of organizational knowledge creation—sharing tacit knowledge, creating concepts, justifying concepts, building an archetype, and cross-leveling knowledge. Another spiral takes place at the ontological dimension. The five enabling conditions promote the entire process and facilitate the spiral.<sup>14</sup>

#### **2.6.3.2. Synthesis of Individual and organization**

Organizational knowledge creation should be understood as a process that *organizationally* amplifies the knowledge created by individuals and crystallizes it at the group level through dialogue, discussion, experience sharing, sense making, or community of practice.<sup>15</sup> The dynamics interaction of individuals and the organization create a synthesis on the form of a self organizing team, which play a central role in the knowledge-creation process. It provides a shared context in which individuals can interact with each other. Team members create new points of view and resolve contradictions through dialogue.<sup>16</sup> This is related to the concept of *ba*. *Ba* means place.

Nonaka, Toyama and Konno (2000) expand the SECI model by adding two elements that create knowledge dynamically. Their model of knowledge creation (Figure 2-15) consist of the SECI process, where knowledge creation is the

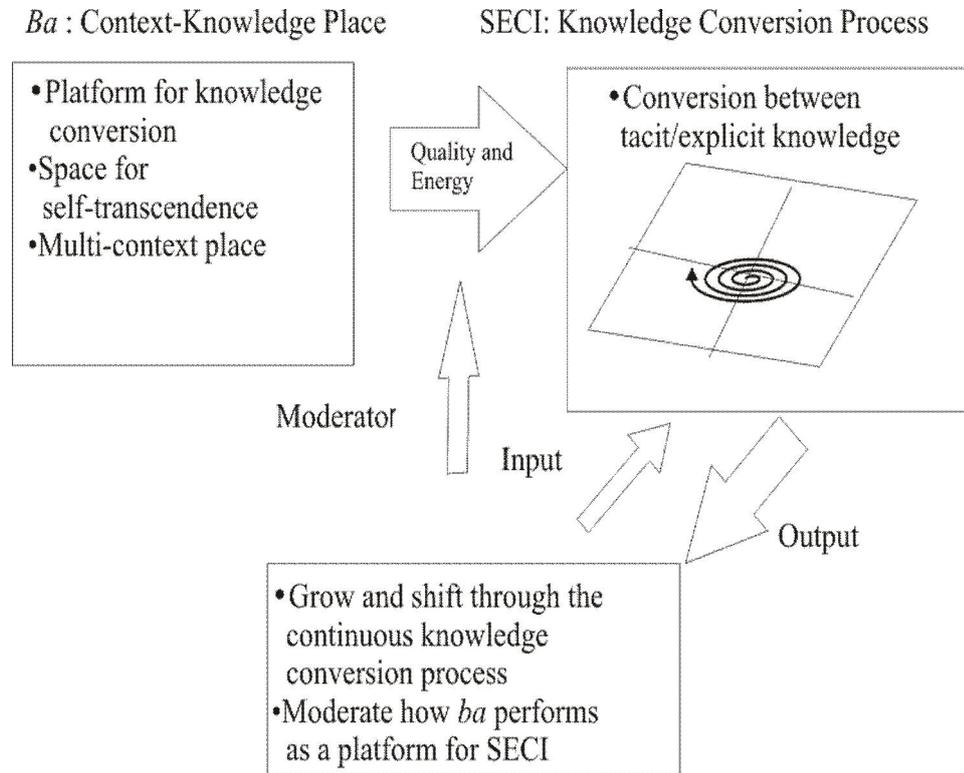
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<sup>14</sup> Ibid., p.82

<sup>15</sup> Ibid., p.11

<sup>16</sup> Ibid., p.12

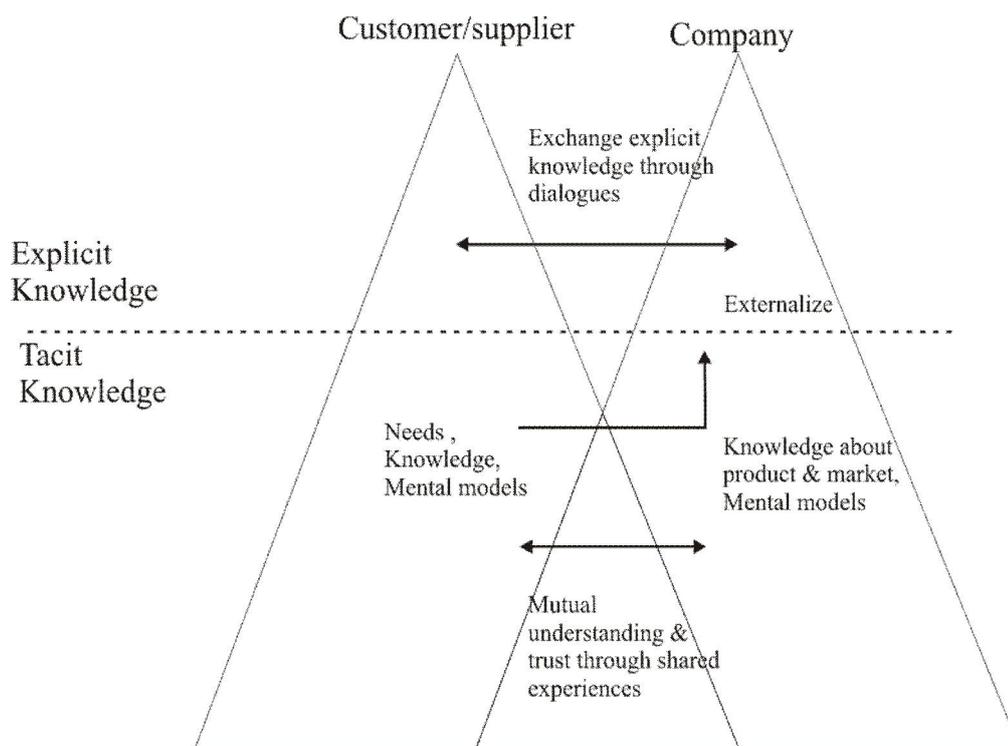
conversion of tacit and explicit knowledge, *ba* the environment that stimulate knowledge creation and knowledge assets are the inputs, outputs and moderator of knowledge-creating process.



**Figure 2-15: Three Elements the Knowledge-Creating Process**

Source: Nonaka, Toyama and Konno (2000), p.8.

This form of spiral also takes place both inside and outside the organization (Figure 2-16). Through dynamic interaction, knowledge created within the organization can trigger the mobilization of knowledge from the outside constituents. In the policy process, these constituents include the government, the society, the interest group, politicians and concerned citizens in the society, public sector and industry.

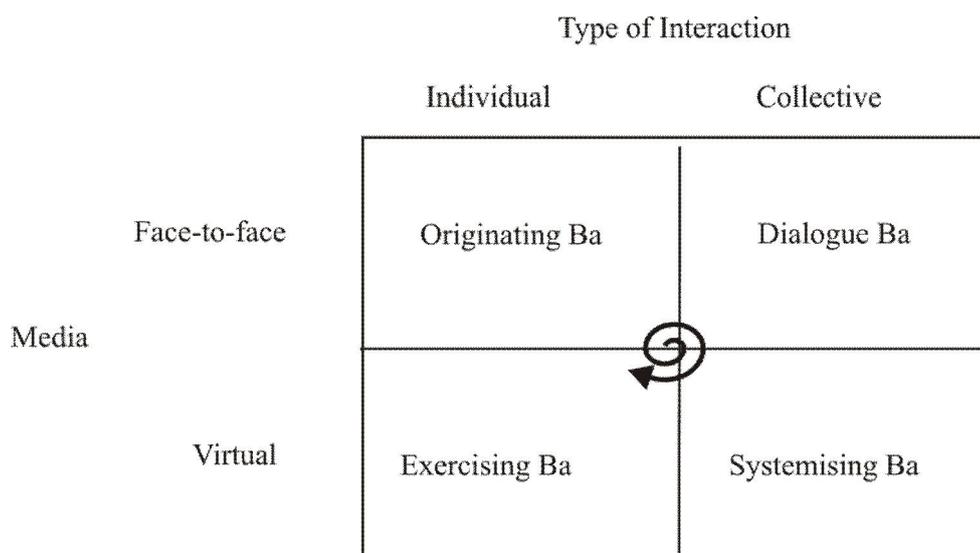


**Figure 2-16: Creating Knowledge Outside Constituents**

Source: Nonaka, Toyama and Konno (2000), p.13.

*Ba* has a type of interaction and media dimension (Figure 2-17). The type of interaction is the human interaction either individually or collectively. The media dimension can be real or virtual interaction. There are four types of *ba* to elaborate the dimensions. Originating *ba* is close approximate socialization, dialoguing *ba* is collective and face-to-face encounter; their mental models and skills are shared and acquired then converted into common term and created/articulated as concepts (Nonaka, toyama and Konno, 2000). Systemizing *ba* knowledge is collective and virtual interactions of a combination of explicit knowledge while exercising *ba* is individual and virtual interactions, an internalization that synthesizes the transcendence and reflection through action.

Finally, *ba* is the concepts that transcend the boundary between micro and macro. The interaction of this difference can amplify to knowledge-creating process (Nonaka, toyama and Konno, 2000).



**Figure 2-17 Four Type of Ba**

Source: Nonaka, Toyama and Konno (2000) p.16.

Resources are important for knowledge to be created. In the business organization accounting method is used to assess the value of knowledge. This is not an effective assessment as this accounted for only explicit knowledge. Knowledge assets are the combination of tacit and explicit knowledge (Table 2-5). They are as follow:

**Table 2.5: Four Categories of Knowledge Assets**

<b>Experiential Knowledge Assets</b> Tacit knowledge shared through common experience	<b>Conceptual Knowledge Assets</b> Explicit knowledge articulated through images, symbol and language
<b>Routine Knowledge Assets</b> Tacit knowledge routinized and embedded in action and practices	<b>Systemic Knowledge Assets</b> Systemized and packaged explicit knowledge

Source: Nonaka, Toyama and Konno (2000), p.20.

### 2.6.3.3. Synthesis of Top-Down and Bottom-Up

Takeuchi and Nonaka (2004) proposed a *middle-up-down* management model. Knowledge is created by middle managers. The model puts middle managers at

the very center of synthesis building. Knowledge is created neither through the top-down nor the bottom-up model, but through a synthesis of the two.<sup>17</sup>

#### 2.6.3.4. Synthesis of Hierarchy and Task Force

Takeuchi and Nonaka (2004) presented a *hypertext* organization. This organization reaps the benefit of the efficiency and stability of the hierarchy and the effectiveness and dynamism of the task force. Hypertext organization synthesizes the knowledge generated in the hierarchy (knowledge conversion through combination and internalization) and the task force (knowledge conversion through socialization and externalization).

In addition, this organization serve as a *clearinghouse* for new knowledge generated within the hierarchy and the task force. The knowledge is re-categorized and re-contextualized in a *knowledge base* for the entire organization. The distinguishing feature of this *hypertext* organization is the ability of the organizational members to go in and out of the multiple contexts or structures. The hypertext organization also serves as a *clearinghouse* for new knowledge generated outside the organization (Figure 2-16). It allows inter-organizational knowledge creation.

#### 2.6.3.5. Conceptual framework

Based on the literature review, we build our conceptual framework. This will be the bases of our case analysis.

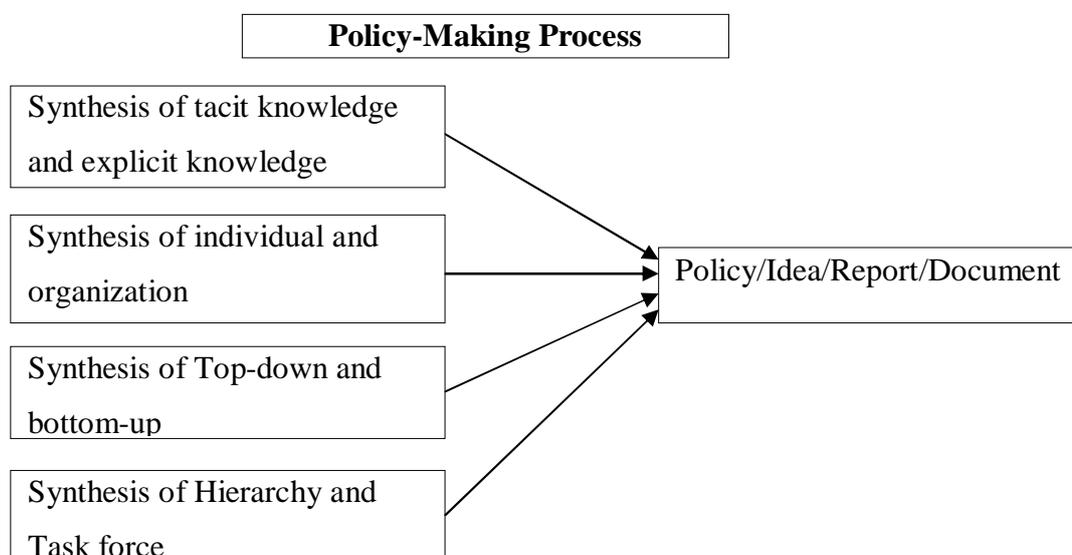
**Table 2.6: Summary of the Literature Review**

No	Literature	Focus	Approach	Gap
1	Language policy	Status planning	Top-down	Knowledge process: sharing, acquisition,
2	Policy process	Inputs and outputs	Stages	

<sup>17</sup> Ibid., p.13.

3	Current knowledge perspective	Research knowledge	Utilization	utilization and creation
4	Our knowledge perspective	Knowledge process: sharing, acquisition, utilization and creation	Synthesis of tacit knowledge and explicit knowledge	To close the gap

Our conceptual framework is summarized in Figure 2-18 below.



**Figure 2-18: Conceptual Framework**

## 2.7 Conclusion

In an attempt to unfold the *black box*, this chapter reviews the concept of knowledge perspective, the concept of the policy process focusing on the policy-making process, i.e., agenda setting and policy formulation theories and model and actors model, knowledge in the policy process, and the language policy that is relevant to our focus of research.

Based on the similarity in the definition of policy and knowledge, policy is considered as knowledge. Therefore, it is important to review the literature on

knowledge perspective with emphasis on knowledge creation. This perspective is able to explain the policy-making process.

The previous literature on the policy process is intensively studied in the political, social, economic and public administration disciplines. The policy process theories and models and actors models attempt to unfold the inputs and outputs, and stages rather than the *black box* that include authoritative decision with attention to structure, context, constraints and the dynamic of policy-making process, i.e., agenda setting and policy formulation.

The black box/system model of politics and policy explains that the content of the inputs and the outputs are determined by internal and external environment. All agenda setting and policy formulation theories and models identify stages in the political system or the *black box*. However, they do not elucidate intricately the actors' action, the knowledge shared, acquired and utilized through belief, value, experience, background, learning and perception.

The literature of knowledge perspective in the policy process only focus on the utilization of research and the difficulties of knowledge especially from society to be utilized in the agenda setting before being embedded in the policy formulation. Based on the knowledge perspective, we build our conceptual framework based on synthesis of tacit knowledge and explicit knowledge, to understand the policy-making process.

## **Chapter 3: Language Policy in Malaysia**

### **3.1 Introduction**

In this chapter we will present the historical overview of language policy in Malaysia. We begin with the explanation of the purpose for including this historical overview. We adopt a knowledge perspective to analyze the development of the language policy especially the language-in-education policy beginning from the end of the colonial period, then followed by the early independence era and ended with the higher education policy until 1993 with the emphasis of teaching science and technology in English at PHEIs.

### **3.2 Historical Overview**

Public policy scholars have argued that the development of the current public policies can be understood by viewing them from a longitudinal study (Lester & Stewart, 2000). Previous historical overviews of language policy only emphasized the political, economic and socio-cultural perspectives. The purpose of this historical overview is to have a better understanding of the current policy process, i.e., the policy-making process in Malaysia from the knowledge perspective. Knowledge shared, acquired, and utilized during the agenda setting and policy formulation is based on the *inputs* and *outputs* (Birkland, 2011; Dye, 1995; Easton, 1965). Previous works from scholars namely Saran K. Gill, Asmah Omar and Richard Mead focuses on the language policy in Malaysia while other scholars namely James W. Tollefson and Amy B. M. Tsui give critical views of the policy and relevant documents are analyzed in this chapter. The next chapter will be the in-depth analysis of the policy-making process in Malaysia, focusing on the higher education policy of teaching science and technology in English after the 1993 announcement of teaching of science and technology in English at PHEI.

### 3.3 Education Policy in the Colonial Period (1945-1957)

British involvement in Malayan education began at the end of the First World War.<sup>1</sup> This began when British administrators needed English-speaking employees to fill positions in the civil service and commercial organizations in Malaya. The British administration funded both the English schools and the Malay system of education at the primary level.<sup>2</sup> The Malay system of education was compulsory; this support was due to the fact that the British felt an obligation towards Malays as ‘sons of the soil’.<sup>3</sup> The other vernacular systems of education were the responsibility of the respective immigrant groups, namely the Chinese and Indians. Later the British provided limited aid for these schools.<sup>4</sup>

During the colonial period, the education system consisted of the English system of education using the English language; the other vernacular systems were the Chinese system of education using the Mandarin language, the Indian system of education using the Tamil language, and the Malay system of education using Malay language. There were also the Malay systems of education that concentrated on religious teaching based on the Quran.<sup>5</sup> The Chinese and Indian systems used their respective country’s curricula. The British developed the Malay system of education. The system introduced the Malays to Romanized writing and a curriculum to teaching the ‘three Rs’ (**R**eading, **W**riting and **A**rithmetic). Village-based vernacular schools were set up mainly to continue Malays’ involvement with land, sea and craftsmanship. The establishment of a Malay teachers’ training college with an enrollment that included students from Singapore and the Borneo Island provided Malays with the opportunity for a career in teaching. This college created a group of middle class Malays who were

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<sup>1</sup> Malaysia was named Malaya during the British Colony.

<sup>2</sup> The English schools were previously set up by missionaries before British government involvement.

<sup>3</sup> Malays are the people who were the earliest occupants of the land. Later, after Sabah and Sarawak joined Malaya to form Malaysia, the term *bumiputera* (‘sons of the soil’) was used to encompass Malays, aborigines (an indigenous minority in Malaya) and the indigenous peoples of Sabah and Sarawak.

<sup>4</sup> Financial grants

<sup>5</sup> The holy book of Islam. This was the first education for the Malay people after the Malay king embraced Islam. It was in the Arabic language.

aware of their socio-political situation.<sup>6</sup> The Chinese curriculum was more academic, ranging from language to science and mathematics. The Indian education system concentrated mainly on the ‘three Rs’.

All the vernacular systems of education were only at the primary level. Only the English system continued to secondary and tertiary levels. English education system concentrated in the urban areas.<sup>7</sup> This gave opportunity mostly to urban Chinese, a few upper-class Malays and wealthy Indians.<sup>8</sup> There were English-medium higher education institutions set up in Singapore and Malaya, for English-educated students either to further their studies in one of these institutions, or to study at other schools in the British Commonwealth. Those who did not pursue an education at the tertiary level may apply for positions as teachers or civil servants. English was thus perceived as the language of privilege, prosperity and modernity (Mead, 1988).

The education system during the colonial period contributed to the development of compartmentalization among the ethnic group. The Malays mostly stayed in rural areas and continued their ancestors’ work as farmers, fishermen and artisans after completing primary schooling. The Indians continued to work on the rubber plantations while the Chinese living in the urban areas engaged in business. They benefited more from the British education system, and this made them economically better off than the other two races. A few selected members of the Malay elite and wealthy Indians worked in the civil service and in commercial organizations. The British language policy through the educational system encouraged professional cooperation among the elites, separating them from the masses.<sup>9</sup>

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<sup>6</sup> The island consists of Sabah, Sarawak and Brunei, which also were colonized by the British (Omar, 2007).

<sup>7</sup> English schools were built in the urban areas. The urban population consisted mostly of Chinese who were engaged in business and trade, and a few upper-class Malays and Indians who were engaged in business and government service. The rural population, mostly Malays, was at a great disadvantage. Few children who went to the rural English schools did well enough to be given scholarships by the government.

<sup>8</sup> They were royals, aristocrats and Malay chieftains.

<sup>9</sup> Urban Chinese, royal and wealthy Malays and wealthy Indians. Those who were in the English education system assimilated the cultural values of the British. There were schools for the children of the Malay upper class: royals, aristocrats and chieftains such as Malay College Kuala Kangsar (cont.)

Towards the end of British rule in Malaya, there were attempts by the political parties from the Malay ethnic to impose the dominance of the Malay language in the education system for the newly independent Malaya.<sup>10</sup> The initiative was to start using only the Malay language for all primary schools. In 1950, the Barnes Committee stated that Malay primary schools should be employed as a tool to build up Malaya nationalism. The idea was abandoned after the Chinese published the Fenn-Wu report that urged greater autonomy for Chinese schools (Mead, 1988).

### **3.3.1 A Historical Analysis**

During the British colony, the hegemony of English language was widespread. This was reinforced, first, by its association with power and prestige (Chan and Tan, 2006). Second, the location of the English schools was in the urban areas. Third, enrollments comprised of the English, the non-Malays (mostly the children Chinese businessmen and a few Indians) and Malay elites. And finally, tremendous opportunity for the English educated students to further their education to the one and only university at that time, i.e., University of Malaya (UM) or to study abroad, to gain employment with the government and access to scholarships.

The British government, however, allowed vernacular schools to cater to the ethnic communities. Malaya's population was a multiethnic society comprising the Malay, Chinese, Indian and the indigenous. The vernacular schools during the British colony compartmentalized the society both in the education and employment domains.<sup>11</sup> The vernacular schools leavers produced the Chinese, who were involved in business and tin mines, the Malays, as literate farmers,

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(MCKK)for boys who were then sent to universities in the UK and Malay Girls College for girls (Omar, 2007).

<sup>10</sup> United Malay National Organization (UMNO) is a political party formed in 1946. UMNO is representing the Malay community. Currently, the party still one of the ruling parties

<sup>11</sup> All vernacular schools were managed by the British government except Chinese schools which were managed by the Chinese community

fishermen, traditional craftsmen and teachers, and the Indians, as rubber tappers. They continued their ancestors' works.

On the eve of independence, the British and the future ruling political parties formulated the language-in-education policy in Malaya.<sup>12</sup> The British formed the Barnes committee, which issued the Barnes Report that recommended a national school system, for 6 years at the primary level in two languages i.e. Malay and English language. This system ensured that the English language continued to be one of the official languages and over a period of time, the need to have separate schools in Chinese and Tamil would slowly disappear.

The Chinese and the Indians agreed with Malay as the principal language but felt that there should be some provisions to acknowledge Chinese and Tamil as part of the important components for a new definition of Malaya's national identity.

The British government proposed the “three languages solution” in Tamil and Chinese schools i.e. either Tamil-Malay-English or Chinese-Malay-English. By recommending a common curriculum for all schools, the national school system hopefully evolved. Nevertheless, the Barnes report was opposed by the Chinese and Tamil communities.

### **3.3.2 Agenda Setting**

Based on the elite model, the British who ruled Malaya was the only elite who influenced the agenda setting for language policy. The British created shared concern about the need to have English educated people to fill in government position. The position required the government staff to be proficient in English. In addition, the British acknowledged the Malay status as the son of soil. The British also developed schools with Malay as the medium of instruction. According to the pluralist model, the interest group, i.e., the Chinese and the Indian society were able to persuade the British government to allow vernacular schools to develop along with the English medium of instruction schools. The socialization /shared concern during the policy-making process in the colonial

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<sup>12</sup> The political parties were UMNO for Malay, Malaya Chinese Association (MCA) for Chinese and Malaya Indian Congress (MIC) for Indian.

period evolved was the need to have government staff with English educated background; the acknowledgement of the son of the soil rights in Malaya and at the same time gave freedom for the Chinese and the Indians to set their own school respectively.

As Malaya was going towards independence, the ruling elite, i.e., the British acted as the adviser and the political parties especially the Malay party influenced the issue chosen for the agenda setting. The systemic agenda and the institutional agenda were the Malay and English language as the medium of instruction in the education system. This was stated in the Barnes Report. However, these reports were opposed. In the early independent days, the vernacular education system continued at the primary level while the English education system continued until tertiary level.

The British continued to utilize the hegemony of the English language but they did acknowledge communal knowledge before finalizing the language-education-policy in the education system.

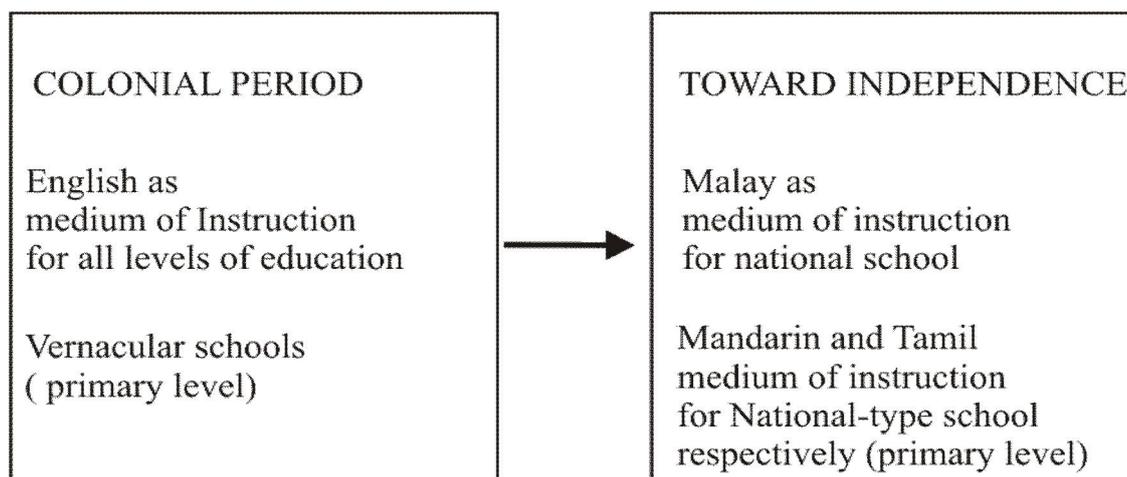
Objections from the Chinese and Indian communities replaced the Barnes Report with the Razak Report. The communal knowledge transpired in the political decision of the language-in-education policy. There were still vernacular schools (Chinese and Indian) which were described as *national-types schools* along with the *national schools* where the Malay language was the medium of instruction.

### **3.3.3 Policy Formulation**

The policy formulation during the colonial period was the set up of the English schools and vernacular schools. Towards the eve of the independence, the Razak Report endorsed the Malay language (national language) as the medium of instruction for the national schools (Figure 3-1); and second this report was then incorporated in 1957 into the Federal Constitution and the Education Act.<sup>13</sup>

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<sup>13</sup> Federal Constitution is the highest legal authority in Malaysia.



**Figure 3-1: Language-in-Education System from Colonial Period to Early Independence**

### **3.4 The Education System after Independence**

Since Malaysia gained independence, the national and official language is Malay, as stated in the Federal Constitution. To ensure that the Malay language was widely accepted, it was mandated for a wide range of activities, including media, government and most importantly, education. As Mead (1988) clearly explains, language and education policies are often synonymous because the greatest attention is paid to the education system.

The Federal Constitution legally established the Malay language as the medium of instruction in the education system. However, English was still allowed to share the official language status with Malay for ten years (1957-1967), a period to be used to develop Malay language textbooks, terminologies, and translations (Vikor, 1988). In 1956 the language agency, The Institute of Language and Literature (*Dewan Bahasa dan Pustaka* (DBP)) was established.

The Institute of Language and Literature is responsible until today for corpus planning. The agency's aim is to develop and enrich the national language (Omar, 1979). Corpus planning is done to the present to standardize spelling and pronunciation, and to coin appropriate technical terms in the national language. This institute goal is to ensure that the Malay language is developed and able to cope with the sociological development of Malaysia.

The transition from English to Malay was slow in the education system. This allowed the continuation of the English system of education, the Malay system of education, the Chinese system of education, and the Indian system of education. As a result, English-educated students and graduates continued to find employment in both the public and private sectors. Chinese-educated students and graduates were involved in the business sector while the Malay-educated students either worked as teachers or continued their ancestors' work. The Indian-educated students worked in the rubber plantations. This created a wide income disparity among the three races, and between urban and rural areas. After the 1969 election, only then the government began implementing the transition from English to Malay in the education system beginning in 1970.<sup>14</sup>

The transition from English to Malay was gradual; it was completed in 1983 for Peninsular Malaysia and in 1985 for the states of Sabah and Sarawak. Since 1970, all English primary and secondary schools and some Indian and Chinese primary schools were converted into *national schools* with Malay as the medium of instruction. Chinese and Indian schools continue at the primary level until present, as a mark of respect for Malaysia's multicultural society. Chinese and Indian schools are known as *national-type schools* in the Razak Report in 1956. The Malay language became a compulsory subject for *national-type schools*. English is the second language in all *national schools* and *national-type schools*.

### 3.4.1 A Historical Analysis

Communal knowledge was still strong in Malaysia. There were still *national schools*; Malay medium and English medium national schools. There were also Chinese and Indian schools known as *national-type schools* with their own curriculum. As they completed their study, the students resumed their career in the field opted by their ancestors. There was no widespread of inter-cultural communication and inter-ethnic relationship except for those who studied in the

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<sup>14</sup> The alliance in Peninsular Malaysia consisted of the United Malays National Organization (UMNO), Malaysian Chinese Association (MCA) and Malaysian Indian Congress (MIC) political parties, who lost most of their constituency to Democratic Action Party (DAP). This led to riots between the Chinese and Malays.

English schools that comprised of children of Chinese businessmen, professional Indians and Malay Elites.

The direction of the language policy was set toward the sentiments of nationalism and patriotism sentiments, since the new independent government was predominantly ruled by the Malays leaders, even though the ruling party was an alliance of three major parties. In the early independence, the ruling party comprised of the United Malays National Organization (UMNO), the Malaysian Chinese Association (MCA) and the Malaysian Indian Congress (MIC).

In the Malay leaders' opinion, Malay language was the best choice, because Malays are the majority in Malaysia and also because of its role as a lingua franca, its position as the main inter-ethnic communication tool before and after independence, its possession of high literature, and its previous use as a language of diplomacy and administration in the Malay archipelago (Omar, 1979 and 1987).

To ensure that the Malay language was widely accepted, it was mandated for a wide range of activities, including media, government and most importantly, education. Although the Malay language is the national and official language as stated in the Federal Constitution, the implementation was not efficient because the political parties that made up the government believed that the English language is still considered important for the development of the country. English schools still existed under the supervision of the government.

The education system compartmentalized the ethnic groups in economic fields. This created a wide income disparity among the ethnic groups which made the society aware of their economic deficiency.

### **3.4.2 Agenda Setting**

The policy-making process during the early independence period reflected the shift of knowledge sharing, acquisition, and utilization by the ruling parties.

#### **3.4.2.1 Knowledge Sharing**

Knowledge sharing in the policy-making process was concentrated on the ruling parties' beliefs and values. They legalized the Malay language for the

*national schools* and yet still maintained English national schools as well as Chinese and Indian *national-type schools* with their respective language and curriculum. The ethnic groups were compartmentalized in term of economic, socio-cultural and geographical location due to the continuation of the colonial education system.

### **3.4.2.2 Knowledge Acquisition**

Knowledge acquisition occurred among the politicians who ruled the government and through the existence of the education system. In the early independence, education system was the continuation of the colonial education system and the emphasis of Malay as the national and official language happened through diffusion of knowledge. After the 1969 election, knowledge acquired was based on the economic and social situation.

### **3.4.2.3 Knowledge Utilization**

Knowledge utilization concentrated in the Federal Constitution and statues related to education. The government only utilized societal level feedback after the public exercised their electoral rights and there was a racial riot in 1969. The Alliance party did not win the election in most of the main cities in Malaysia.<sup>15</sup> This displayed that societal knowledge is subordinate to the policy makers' interests, and society's best interests only became a priority if they coincided with the policy makers' interest.

At this stage, internal crisis influenced the utilization of knowledge in the policy-making process. In 1970, the National Economic policy (NEP) and a foreign economic approach were applied to resolve the problems. The foreign approach, however, did not resolve domestic problems since it was not adapted to local settings.

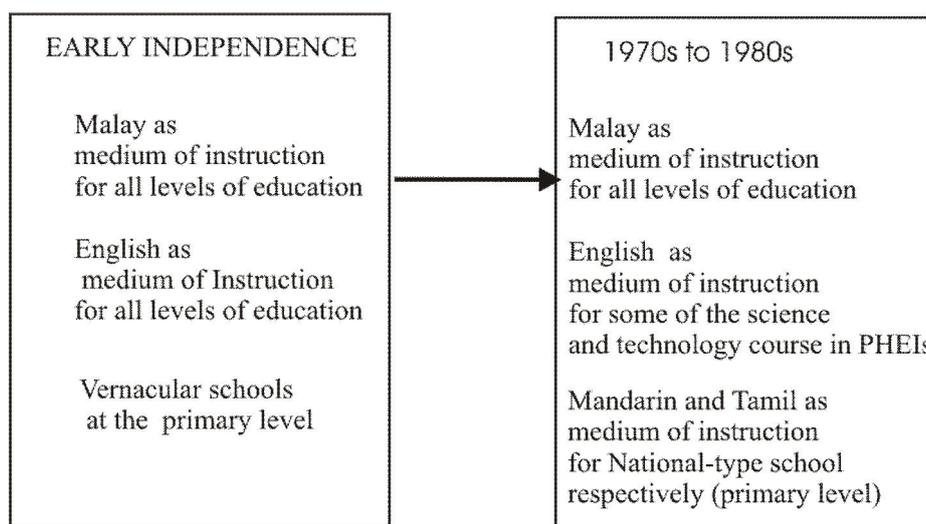
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<sup>15</sup>The second election after Malaysia independence in 1957.

### 3.4.3 Policy Formulation

Language policy is always incorporated in a nation’s Constitution. The Malay language as the national and official language and the rights of Malay are secured since independence in 1957. In 1969, the declaration of a state of national emergency led to the suspension of parliament, and the National Operation Council governed the country from 1969 to 1971. The outcome after 1969 was a transition from English to Malay at all levels of the education system (Figure 3-2). The transition only affected all English schools and some Chinese and Indian schools. There are still vernacular schools until present. To date there is no strong collaboration until present between the education sector and the industrial sector in term of market force.

NEP and the racial quota for public universities enrollment were examples of affirmative actions to address income imbalance, and emphasized development for the Malays (since many Malays’ standard of living was still low) since 1970. 1970 was the beginning of public policies in Malaysia being directly or indirectly linked to economic policy.



**Figure 3-2: Language-in-Education System Early Independence to the 1980s**

### 3.5 Higher Education Policy in Malaysia (1960s-1993)

The University of Malaya (UM), which was set up during the colonial period continues teaching all courses in English except those in Malay, Chinese and

Indian studies. Only in 1965 did UM and the Ministry of Education (MoE) formed an examination board to allow student admission examinations to be conducted in Malay. Also in 1965, the first enrollment of Malay-speaking students admitted into UM took place. This was the beginning of the movement toward a bilingual university. The transition was gradual however; science courses were still conducted in English. The Faculty of Arts and the Faculty of Economics and Administration also conducted their courses in both the national and English language.<sup>16</sup>

UM was the only university in Malaysia in the early days of independence, and UM is still a bilingual university. There were more public universities in order for Malay to replace English as the medium of instruction at the higher education institutions by 1983. In 1970, the National University of Malaysia (UKM) was formed, followed by the University of Technology Malaysia (UTM), University of Agriculture Malaysia (UPM) and the Science University of Malaysia (USM).

The first three new universities used Malay as the medium of instruction, while UM and USM largely used English. The reason these two universities continued to use English as a medium of instruction was stated in Malaysia's second five-year plan (1970-1975)<sup>17</sup>

...to continue to emphasize English as the language for acquiring and accessing knowledge in science and technology. This acceptance of a foreign language, particularly the English language, was meant to promote the development of the nation via science and technology (Omar, 1979).

These bilingual universities developed programs for staff and students to ensure that they would become fully Malay-medium universities. In 1970, UM students' enrollment in science courses comprised of 11.5% Malays, 82% Chinese and 6.5% others. In engineering courses, the enrollment was 1.3% Malays, 93.1%

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<sup>16</sup>English was for lectures and Malay was for tutorials. English was for English-speaking students and Malay was for Malay-speaking students.

<sup>17</sup>Malaysia Five Year Development Plan: 1971 a National Economic Policy was introduced. The five year plans continued until 1990.

Chinese and 5.6% others. The Chinese also formed a high percentage of enrollments in Medicine. In 1976, student enrollment was 21.9% Malays, 67.9% Chinese and 10.2% others for science courses, and for engineering courses 13.4% Malays, 81.3% Chinese and 5.3% others (Watson, 1984). The percentage of Malay students enrollment in all science courses is increasing until present.

### 3.5.1 A Historical Analysis

The fact that higher education institutions continue to use English in science and technology courses reflects their awareness that it is the fastest way to acquire and transfer knowledge in science and technology. There are few science publications in Malay language, but there are many publications in English language. There are many experts in science and technology who are proficient in English. The government is aware of the situation, and thus allows the universities to continue with English as the medium instruction for science and technology courses.

UM and USM are the universities that continue to teach some science and technology courses in English. At UM, departments that use English as the medium of instruction are the departments of Chemical, Electrical and Mechanical Engineering, the faculty of Medicine and the department of Chemistry. Since the Federal Constitution states that Malay is the official language, courses conducted in English require approval from the *Yang di-Pertuan Agong*<sup>18</sup> Usually the *Yang di-Pertuan Agong* approves such applications (Omar, 1996). Private colleges were established to provide pre-university courses, with joint programs for teaching courses and conferring degrees (Omar, 1996) as alternative higher education institutions for teaching science and technology courses in English.<sup>19</sup>

The continuation of teaching science and technology courses in English at few higher education institutions implies the shortcomings of the Malay language as a

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<sup>18</sup> Article 153 grants the Yang di-Pertuan Agong, or King of Malaysia, responsibility for safeguarding the special position of the Malay and other indigenous peoples of Malaysia.

<sup>19</sup> Other public universities such as the National University of Malaysia, are obliged to implement Malay as the medium of instruction.

scientific language. The development of a scientific Malay language only concentrated on scientific vocabulary items. This development does not resolve the challenges of using those technical terms in the context of actual scientific discourse (Omar, 1998). There have been efforts by scholars and DBP to publish articles and books in scientific Malay, but progress has been slow. It cannot keep pace with the ongoing process of development and the rapid expansion of new theories, methodologies, approaches and findings in science and technology. The translation initiative also cannot keep up with the voluminous expansion of scientific writings and new discoveries made by scientists globally. Translated works are outdated by the time they are ready for publication.

Malaysian scholars published more in English than in Malay, for both local and international consumption. The local distribution is limited to specific readers in Malaysia, usually university lecturers and students. The reason for publishing in English is to reach an international audience, achieve international recognition and excel in one's academic career. Omar (1998) wrote that knowledge is universal, and should be transmitted into language that is accessible to other scholars globally. In Malaysia, *Journal Fizik Malaysia* (Physics) published 20 English articles and one article in Malay from 1987 to 1991, the *Bulletin of the Malaysian Mathematics Society* published 35 articles in English only from 1990 to 1993, and *Bulletin Komputer* (Faculty of Engineering, UM) published 38 articles in English and only 10 in Malay. Even the *Malaysian Journal of Economic Studies* published 36 articles in English only from 1989 to 1993 (Omar, 1998). Internationally, in 1997, 95% of the articles indexed in the Scientific Citation Index (SCI) were published in English; the remaining 5% were published in Chinese, French, German, Italian, Japanese, Spanish and Russian (Garfield, 1998).

In 1970s, NEP was formulated with the following objective:

..to develop and strengthen the National Education System in support of the overall planned objective of promoting national unity; to redress the imbalance in education, opportunities and materials between the rural and urban areas; to implement still further the National Language Policy;

and to improve the education system in both quantitative and qualitative aspects at all levels so as to contribute to the country's economic, social, cultural and political development.<sup>20</sup>

NEP aims for higher education institutions is to balance enrollment among the different ethnic groups in Malaysia. Henceforth, there was a steady increase of Malays and the indigenous groups in higher education institutions.

For the government sector, the initiative made the Malay language a requirement for working in governmental services and for confirmation in the civil service. In the early days of independence the government held classes for civil servants to enable them to learn the national language. The medium of communication in the government sector was Malay. Commercial organizations and the private sector were not affected by this implementation process. They used English, since it was the main language of domestic and international business communication. Chinese language also was widely used because the Chinese ethnic monopolized the commercial sector in Malaysia.

The involvement of the private sector in the education system ensures that English continues to be used widely at the tertiary level, not just as a preferred language, but to meet the global demands of commerce. Today English is the dominant language in the fields of economics, science and technology. These factors make it necessary to continue the use of English as a medium of instruction, especially in science and technology courses. The shrinking of the government sector through privatization has resulted in an expanded private sector. This sector makes English proficiency a requirement for new recruits.

Globalization is a trend in which the factors of economic considerations, knowledge economy, and science and technology policy outweigh the traditional factors of politics and nationalism to influence language policy (Gill, 2009). Tollefson and Tsui (2004) highlighted that the globalization of economic structure, mass media, political institutions and local concern has an equally powerful impact on medium-of-instruction policies. They further stated that

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<sup>20</sup> Omar, 1992, p.38.

Globalization is effected by two inseparable mediational tools, technology and English; proficiencies in these tools have been referred to as global literacy skills. ...to respond to the rapid changes...., all countries have been trying to ensure that they are adequately equipped with these two skills.....(The) challenge....for non-English-speaking countries is dire because one of the most important mediational tools is not their native tongue. The intensity, simultaneity, and immediacy of interaction and knowledge generation have rendered obsolete the reliance on translation and have made a lingua franca indispensable. English, being the de facto lingua franca of international communication, has become a much sought-after commodity.<sup>21</sup>

English is the best medium of instruction because it is widely used in science and technology fields. In fact, since 1960s, English has been the medium of instruction in higher education institutions in many countries (Crystal, 2003). However, as we stressed in chapter 2, Kaplan (2001) elaborated that English speakers and the government of a country can instigate the spread of English through policy.

In response to globalization “Malaysia’s leaders embraced globalization as a benevolent force that integrated Malaysia to the rest of world and boosted its national economy”.<sup>22</sup> In 1992 *Wawasan 2020* was launched to state Malaysia’s intention to become a developed country by the year 2020. ‘*Wawasan 2020*’ laid out nine challenges (Appendix G). The sixth challenge of the nine challenges emphasizes:

...establishing a scientific and progressive society, a society that is innovative and forward-looking, one that is not only a consumer of

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<sup>21</sup> Tsui and Tollefson, 2007, p.1-2.

<sup>22</sup> Ibid., p.12.

technology but also a contributor to the scientific and technological civilization of the future.<sup>23</sup>

Beginning from 1993, the Prime Minister of Malaysia Mahathir Mohamad ( in office, 1981-2003) publicly allowed all higher education institutions to implement teaching science and technology in English. He redefined the term ‘nationalist’ to state the rationale of this implementation. In order to state the rationale of this implementation, he redefined the term ‘nationalist’ as:

...someone who has acquired all the knowledge and mastered all the skills and is capable of contesting against the rest of the world. Learning the English language will reinforce the spirit of nationalism when it is used to bring about development and progress for the country. True nationalism means doing everything possible for the country, even if it means learning the English language.<sup>24</sup>

Tsui and Tollefson (2007) believe that Mahathir’s redefinition of nationalist is in the context of language competence; in which learning English is seen as a patriotic act.

## **3.5.2 Agenda Setting**

### **3.5.2.1 Knowledge Sharing and Knowledge Acquisition**

Knowledge sharing and knowledge acquisition continued to concentrate on the ruling parties; the political parties that rule the country still believe English language usage enable Malaysia to be part of the global and knowledge economy. This is reflected on PHEIs preference to teach science and technology courses and to publish academic papers in English.

However, the society proficiency in English vary according to ethnic groups and geographical area were not considered in the higher education policy-making

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<sup>23</sup> <http://www.wawasan2020.com/vision2.html>.

<sup>24</sup> Gill, 2002, p.101.

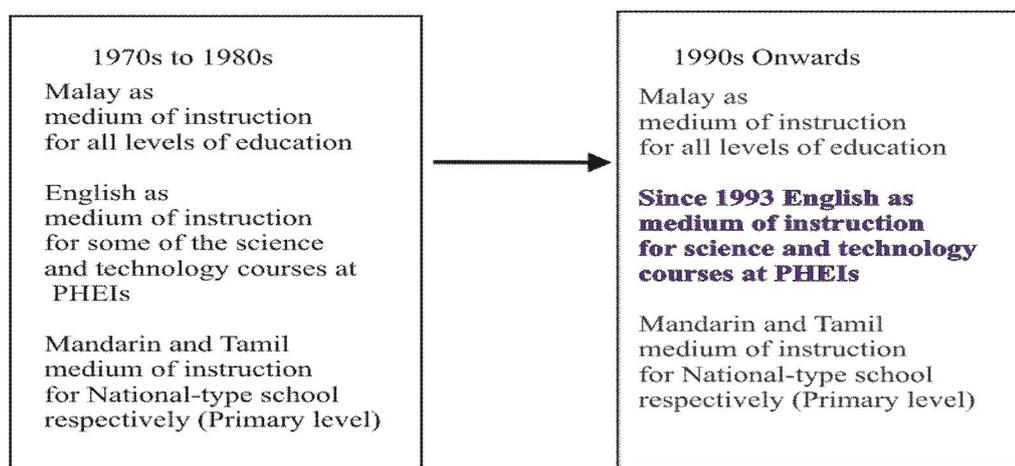
process even though, the mass media highlighted the problem and the result of low grade in English subject for national school examination result at rural areas.

### 3.5.2.2 Knowledge Utilization

Knowledge utilization was based on Federal Constitution; the Education Acts; complaint from industry on PHEIs graduate deficiency on English; the globalization impact on higher education and the early 1990s economic crisis. This led to the 1993 announcement of teaching science and technology in English at the PHEIs.

### 3.5.3 Policy Formulation

Policy formulation still concentrated in the legal (liberal and procedural form) and economic form. The cabinet, in 1993, endorsed teaching science and technology in English at the PHEIs (Figure 3-3). The initial policy was to address the problem of unemployed graduates who were mainly unable to seek employment because of their inability to speak English.



**Figure 3-3: The Continuation of English as Medium of Instruction for Science and Technology Courses at PHEIs**

### 3.6 Conclusion

In conclusion, we highlighted the historical analysis, agenda setting and policy formulation, i.e., knowledge sharing, acquisition, and utilization in Malaysian

language-in-education policy from the end of colonial period until 1993. We also highlighted the continuous importance of English, even though Malay language is the national and official language.

During the colonial period, the public voice was taken seriously by the policy makers. The Barnes Committee fell through due to the Chinese and Indian communities' disapproval of the idea of trilingual schools.

After independence, the ethnic group which led the political sphere shaped the public policy. The medium of instruction for national education was Malay and affirmative action policies were implemented. As the economy began to become globalized, economic factors gradually shaped the public policies. The implementation of teaching science and technology in English at higher education institutions in Malaysia is a case in point. The initial idea of continuation and implementation of teaching science and technology courses in English at higher education institutions was caused by PHEIs' graduates' inability to converse in English that hindered them from securing a job in the expanding private sector.

The scholars of language policy, i.e., language-in-education; focus on meta-policy. Gill and Omar highlighted the importance of English. Mead studied the development of language policy in Malaysia. Tsui and Tollefson critically view the rationale of the continuation of English language in Malaysia. All of these literature emphasized language policy support other policy especially economic policy. Therefore, language policy does not complement economic policy. Rather the language policy supported the economic policy.

## Chapter 4: Case Analysis

### 4.1 Introduction

In this chapter, we will analyze higher education policy-making process in Malaysia. This analysis is to understand knowledge process of agenda setting and policy formulation in the policy-making process. This analysis begins with the policy process in Malaysia after 1993 announcement of teaching science and technology in English at PHEIs. The last part is the case analysis of higher education policy-making process focusing on the agenda setting and policy formulation in MOHE.

### 4.2 Policy Process in Malaysia in General<sup>1</sup>

We begin with analyzing the enabling condition for the government to formulate policy from a secondary data. Policy process in Malaysia begins with the responsible ministry intention to introduce a new policy. The responsible ministry intention is in respond to fluctuation and chaos of the current situation in Malaysia. This encourages the sharing redundant of information between the government and the public. Hence promotes the utilization of tacit knowledge and explicit knowledge between the industry and the government to address this problem.

The formulated policy is a combination of the responsible ministry, other Federal ministries and departments, external stakeholders' comments, and feedback. The national policy provides the reference to formulate policy. This is incorporated into the Cabinet paper prepared by the responsible ministry. This fit to the fifth condition of enable knowledge to be created that helps advance the knowledge spiral, i.e. requisite variety. A Cabinet paper containing the rationale and the need for a policy is compiled by the responsible ministry. This paper is

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<sup>1</sup>A *Profile of the Public Service of Malaysia*. (2004). London: Commonwealth Secretariat.

sent to the Cabinet Division.<sup>2</sup>

The Cabinet Division prepares copies for the Cabinet to refer during deliberation and approval in the weekly meetings.<sup>3</sup> The formulated policy is extended to Parliament for debate and approval if it is related to legislation. Once the new policy is approved by the Cabinet or Parliament, Department of Information is responsible for policy presentation and exchange of information between the government and the public. The Department of Information also acquires feedback from the public and persuades the public to accept and participate in the government policies. *Ba* is in the form of seminars, documentaries, dialogue sessions, lectures and film shows. The mass media is utilized as a means of publicity, announcement, awareness and providing information to the public. The department task is to synthesize tacit knowledge and explicit knowledge of between the government and the public, and to create *ba* environment.

The Malaysian Civil Service Link (MCSL) provides a virtual *ba*, i.e., single main gateway linking to all government websites, and access to government information and various government policies. The Implementation and Coordination Unit (ICU) of the Prime Minister's department monitors the implementation of program components. Policy evaluation is undertaken by the responsible ministries, the implementers, and the Macro and Evaluation Division of the Economic Planning Unit (EPU) of the Prime Minister's Department. The responsible ministry and the implementing institutions or organizations evaluated the outcome of the policy and EPU evaluates the impact of government policy on the quality of life and the country as a whole. All this government's entities are responsible to synthesis tacit knowledge and explicit knowledge between the government and the public. Therefore, policy process is in a cyclical form, because policy as knowledge is created.

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<sup>2</sup>A division of the Prime Minister's Department, which functions as a secretariat to the Cabinet.

<sup>3</sup> Cabinet is consisting of all the ministers of the Federal government with the authority to consider and endorse government policies.

This policy process explains the overview of the policy process at the Federal government level. The focus is at the Federal government because at this level, the government first, has the jurisdiction to enact major public policy for the country such as education, language and economic; second, has ministries that accountable for agenda setting and public policy formulation, and third, has government entities which are responsible to disseminate information about government policies and to evaluate the outcome of the public policies.

### **4.3 Higher Education Policy After 1993**

1993 announcement of teaching science and technology in English at PHEIs was as a result of emergent policy-making process. This was due to multivocality. The private sector outcry of the public graduates' inability to converse in English and the government worried of the increase unemployment among the PHEIs graduates.<sup>4</sup> After the announcement, the government under the Prime Minister of Mahathir Mohamad only focused on indirect approach. The government began to formulate language-in-education policy that implicitly/indirectly legitimize and emphasize the importance of English language in higher education institutions. There was no amendment in the legislation related to official and national language in the Federal Constitution. As a result, not all public universities implemented teaching science and technology in English.

Since 1990s, private higher education institutions (PrHEIs) are expanding due to the 1993 announcement; and the 1997 liberalization of higher education as a result of currency crisis and private sector involvement in the development of higher education institution. In economic sector, English language is widely spoken; hence, PrHEIs are not obliged to use national language as a medium of instruction. There is no specific act to enforce national language as a medium of instruction in PrHEIs until present.

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<sup>4</sup>Interview: the Chief Executive Officer (CEO) of Federation of Malaysian Manufacturing (FMM) at Wisma FMM main office on the March, 18, 2011.

These further create fluctuation and chaos in the Malaysian higher education system. Two streams of higher education institutions emerged from this situation. Malay is still the medium of instruction except for some science and technology courses in PHEIs. PHEIs are subsidized by the government, and the enrollment is mostly from the lower-income group and Malays from rural areas. This puts PHEIs' graduates at a disadvantage when they seek employment in private sector. This was due to their lack of ability in English. PrHEIs implement English as the medium of instruction. PrHEIs are expensive. Enrollment is mostly middle-income group and Chinese Malaysian. PrHEIs graduates' competence in English language enables them to be employed in the private sector.

The transition from English to Malay from 1970s to 1983 led to a general loss of ability in mastering English language among Malaysians, though English language is still a second language in the education system. Students educated at the primary and secondary levels in Malay medium of instruction find it difficult to comprehend materials in English when they enroll science courses at PHEIs. This is something of a surprise, they have studied English during their early education, and English is used widely alongside the national language and other ethnic languages in all mass media, printed media and lately, in the internet.

The possible reason is the new English syllabus developed by the Curriculum Development Centre of the Ministry of Education is a communicative syllabus for secondary schools. The pupils are required to acquire communicative skills in spoken and written language. The syllabus indicates that English would continue to be important in their further studies, career prospects and daily life.<sup>5</sup> For the students in urban areas this communicative approach is successful, because the population is comprised of multi-ethnic groups and English is widely spoken. Unfortunately, in rural areas the Malay language is used almost exclusively.

In 1995 English was officially removed as a compulsory subject for the Malaysian Certificate of Education.<sup>6</sup> The reason for the removal was the previous

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<sup>5</sup> Omar, 1979.

<sup>6</sup> Malaysian Certificate of Education (*Sijil Peperiksaan Malaysia* [SPM] is taken for year 5 for secondary school and *Sijil Tinggi Pelajaran* [STP] is taken year 7 of secondary school).

Higher Learning Department Director Prof. Dr Hassan Syed was reported to have said English could not be made a compulsory subject to pass Malaysian Certificate of Education because according to him facilities and manpower were lacking in rural areas.<sup>7</sup> Since then, examination results have shown a drop in the percentage of students who pass and achieve credit in English subjects, and also a decline in English language proficiency among Malaysians.

Those who continue their study in higher education institutions experience difficulty from their pre-higher education institution entrance to the time they seek employment. They have to sit for the Malaysia University English Test (MUET). MUET and their Secondary School Leaving Certificate results determine which courses they qualify to enroll. A good result including a credit in English in their Malaysian Certificate of Education allows them to enroll in science and technology courses. The students educated in Malay schools encounter a language barrier at this level. Their approach of study is more to memorization than to comprehension because there is not enough information in the Malay language they have to access information in English. Once they graduate, it is not easy for them to find employment in either the public or private sector if their English is inadequate.

“Job seekers have poor command of English...give up to fill up application forms in the language...opted to apply only for government jobs....more comfortable with Malay language... State Manpower Department Director, Zaharah Atan said the department only managed to fill 19% of 4870 vacancies available...poor command of English....fear to converse in English language and the shame of exposing their language weakness.... a hurdle for ...to gain employment.”<sup>8</sup>

Currently, even the public sector requires their potential employees to be proficient in English. In 1997 Asian currency crisis inevitably made too expensive

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<sup>7</sup>“Fate of Hinges on Policy makers”(Star, 2001, January 6)

<sup>8</sup>“English an obstacle for job seekers: many shy away”(Star, 2001, October, 18).

to study abroad. PHEIs could not provide placement for all Malaysians. The increase of unemployed graduate and the importance of English language for acquiring scientific and technology knowledge has led to the reemphasizing of the important of English language in PHEIs. In addition, the importance of English language as a communication tool in the economic domain.

The policy regarding language instruction is a combination of educational, social, political, economic participation, social equality, and human rights.

Ironically “...as ideological constructs, policies often reflect the interests of groups that dominate the state policy-making apparatus, and they reproduce unequal relationships of power within the larger society.”<sup>9</sup>

This statement reflected in 1993 announcement of the use of English language for science and technology courses in PHEIs.<sup>10</sup> Unfortunately after 1993 announcement, in 2002, there were still 40,000 unemployed graduates from PHEIs, and a majority of them were Malay.<sup>11</sup> Teaching science and technology in English at higher education institutions was not sufficient to make the graduates competent in English. The government’s next immediate response to this increase unemployment percentage was to implement the teaching of science and mathematics in English at the primary and secondary levels in 2003 for all national schools and national-type schools.

The higher education policy and language education policy which directly related to the legitimacy of teaching science and technology in English at PHEIs and primary and secondary education respectively, created feared, and for and against among the society, politicians, industries, and interest groups. This was expressed explicitly in mass media.<sup>12</sup> But the government did not take the matters

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<sup>9</sup> Tollefson and Tsui, 2004, p.284.

<sup>10</sup>“English to be medium of instruction in some subjects” (News Straits Times,1993, December 28).

<sup>11</sup> Gill, 2009.

<sup>12</sup>“Fate of Hinges on Policy makers”(Star, 2001, January 6)

“ Make pass in English compulsory” (New Straits Times, 2002, May 16)  
(cont.)

seriously especially on the criticism; as it was not reflected in their attempt to ensure the higher education policy benefit for all society. Those who stay in the urban area gain benefit from the implementation of English as the medium of instruction. Those who stay in the rural area are mostly Malays, their English proficiency deteriorating as the policy implementation did not accommodate according to the level of proficiency in the society.<sup>13</sup>

The implementation of science and mathematics in English at the primary and secondary levels of education does not benefit the society as a whole. This again has created support and as well as opposition from the society. The urban high income and educated Malay, Chinese and Indian supported the implementation. The Chinese Malaysian educationists viewed the reform at primary and secondary levels of education posted a threat to their cultural identity and education system.<sup>14</sup> The conservative Malays feared that Malay language would be eroded, and believed teaching science and mathematics in English lead to Malay students to have difficulties to study the two subjects.<sup>15</sup> The implementation created difficulties for teachers whose English competency is low; this has negative effects on the quality of teaching and student comprehension of the two subjects. As stated in chapter 3, only the result and the outcome of election that political parties which rule the government took the mass opinion seriously.<sup>16</sup>

### 4.3.1 Legislation and Jurisdiction

English is to be the medium of instruction in some courses at PHEIs. However, there was no amendment to the language policy. Malay language is still the

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“Selesaikan isu BI cara muafakat” (solve the Usage of English through Unity) (Berita Harian, 2002, August 28)

“Usaha perbaiki pembelajaran Bahasa Inggeris perlu ditingkatkan” (The Initiative to Improve Learning English) (Berita Harian, 2002, September 5)

<sup>13</sup>“Fate of Hinges on Policy makers”(Star, 2001, January 6)

<sup>14</sup> Chan and Tan, 2006

<sup>15</sup> Ibid.

<sup>16</sup>Malaysia: Quality Assurance System in Higher Education, (2006). *Lembaga Akreditasi Negara*. Retrieved June 22, 2010 from <http://Siteresources.worldbank.org/EDUCATION/Resources/Malaysia-qa-system.pdf>.

national and official language since there was no amendment to official and national language in the Federal Constitution.<sup>17</sup>

As a result, there was no intention from PHEIs to implement the policy. The *ba*, i.e., the primary and the secondary education levels is still using the official language. All levels of education before 2004 were under the jurisdiction/ autonomy of Ministry of Education (MoE). The ministry vision is to uphold the national language. This slowed down the implementation of teaching science and technology in English at PHEIs after 1993. Higher education policy was under the jurisdiction of MoE until February 2004.

The solution was the Cabinet approved the formation of Higher Education Council under the MoE jurisdiction in 1995. The council was responsible for the strategic planning and the policy formulation of higher education development.<sup>18</sup> The government had regularity control over nine PHEIs but these universities still retained their autonomy.<sup>19</sup> As a result, the implementation was varied in time and approach after 1993. In 1994, USM launched the usage of English in the campus.<sup>20</sup> In 2001, English language course was compulsory during semester break in Northern University of Malaysia (UUM).<sup>21</sup> And in 2003, there was an evaluation of the usage of English for the 8<sup>th</sup> Malaysian plan.<sup>22</sup>

The policy-making process for higher education policy from 1993 to 2003 took place at MoE. Although there were feedbacks from the mass media, the public, the higher education institutions, NGO, professional bodies, and other levels of government, the finalization of the choice of issues for agenda setting and the policy formulation only occurred at the Federal government and MoE was the

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<sup>17</sup>“Dasar bahasa: Kerajaan tidak berganjak”(There is no amendment in the existence Language Policy” (Utusan Malaysia, 1993, December 31).

<sup>18</sup>“Minister: We’ll maintain control over varsities” (New Straits Times, 1995, July 13).

“Majlis Pendidikan Tinggi Negara akan di tubuhkan”( Utusan Malaysia, 1995, August 8)

<sup>19</sup>“Minister: We’ll maintain control over varsities”(New Straits Times, 1995, July 13)

<sup>20</sup> “Kempen penggunaan BI di USM” (The Usage of English Campaign in USM) (Berita Harian, 1994, December, 27).

<sup>21</sup> “BI-kursus wajib cuti semester di UUM” (Compulsory English Course during Semester Break in UUM) (Utusan Malaysia, 2001 June, 22).

<sup>22</sup>“BI di university sejauhmana pelaksanaannya di RMK8”(The Evaluation of the Implementation of English in the Universities for 8<sup>th</sup> MP) (Utusan Malaysia, 2003, November, 6).

responsible ministry.

The references were still mainly based on legislation, jurisdiction and environmental factors. The government still referred to the Federal Constitution with the emphasis of Malay or *Bahasa Malaysia* as the official and national language; and the Malays and the indigenous rights stated in the Federal Constitution. In addition, higher education is under the jurisdiction of MoE; PHEIs autonomy power; globalization trend in education; *Wawasan 2020*; NDP, and industry view, suggestions and recommendations.

The outcome of the implicit implementation of teaching science and technology in English language for PHEIs made it difficult for the evaluators to identify the progress of the implementation. This led the government to exercise their de jure authority to continue to impose procedure and liberal approach to amend the Education Act and create other policies that implicitly/indirectly make this policy accepted by the higher education sector; and to encourage PHEIs to use English language as a medium of instruction especially for science and technology courses. The 1997 currency crisis also was a factor to legitimize government implementation of teaching science and technology courses in English.

The government realized that PrHEIs flourished through freedom to select the medium of instruction.<sup>23</sup> To legitimize this freedom, the Higher Education Act of 1996 and the Private Higher Education Act of 1996 were formulated. The former implicitly allowed the use of English as the medium of instruction for technical areas and postsecondary courses, and the latter allowed the use of English in joint programs with overseas institutions and offshore campuses. The Higher Education Act of 1996 also requires Malay to be a compulsory subject in PrHEIs if the medium of instruction is other than the national language.

Fluctuation and chaos of Malaysian higher education environment was due to globalization, Asian currency crisis, the launched of *Wawasan 2020*, and the formulation of the 1996 Higher Education Act and Private Higher Education Act. Hence, the government began to create policy, i.e., the 1997 liberalization of

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<sup>23</sup> The private educational sector was largely driven by funding from corporations and wealthy individuals

higher education institutions, resulting in more private sector involvement and the corporatization of PHEIs in 1998.

This requisite variety allowed the development of PrHEIs and to have more PHEIs. The increase of higher education institutions in Malaysia offered placement not only for Malaysian, but also for overseas students. The liberalization of education allows Malaysia to create an educational hub for Asia beginning the new millennium.

#### **4.4 Ministry of Higher Education (MOHE)**

After the general election of 2004, MOHE was set up.<sup>24</sup> This was the focal point of shifting responsibility from MoE to MOHE on matters related to higher education policy. But, the meta-policy remains unchanged. MOHE is the current ministry responsible for the higher education policy. MoE and other related Federal ministries and departments are involved in the policy-making process of higher education policy. The policy-making process related to language usage is still occurs at the Federal government level. Whereas, some issues, are not under the Federal government authority such as land and forest which are under the State government jurisdiction.

MOHE was formally established on the March 27, 2004. MOHE's vision is for Malaysia to be a center of educational excellence, and to internationalize Malaysian education especially in the higher education sector. MOHE's mission is to create a higher education environment that enhances the development of academic and institutional excellence. This environment enables the development of a superior center of knowledge, and generates individuals who are able to serve not only the needs of the country but also globally. In summary, the mission comprises the needs:

- To formulate a strategic and systematic plan for higher education

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<sup>24</sup>Malaysia: Quality Assurance System in Higher Education, (2006). *Lembaga Akreditasi Negara*. Retrieved June 22, 2010 from <http://Siteresources.worldbank.org/EDUCATION/Resources/Malaysia-qa-system.pdf>.

- To reinforce the management system of higher education
- To increase capacity level, accessibility and participation in the higher education sector
- To enhance the quality of higher education in order to be at par with international standards
- To internationalize the Malaysian higher education sector

## **4.5 The Higher Education Policy-Making Process**

The knowledge processes identified from the literature and documents analysis 1993-2009 will be further elucidated in our case analysis of higher education policy-making process in MOHE. Data collection is in the form of semi-structured interviews from July to August in 2010 and March 7<sup>th</sup> to 22<sup>nd</sup> in 2011. Documents obtained from MOHE and Federation of Malaysian Manufacturing (FMM).<sup>25</sup> The interviewees were from MOHE, PHEIs and industries.

### **4.5.1 The First Knowledge Process of Higher Education Policy-Making**

After the setting up of MOHE in 2004, the first minister of MOHE, Dr. Haji Shafie bin Haji Mohd Salleh requested a feasible study on MOHE “development and direction of higher education in Malaysia.”<sup>26</sup> This study was in respond to the country’s leaders consistent and resolute to reiterate the call for higher education in the country to attain world class and become a regional center of excellence, and the idea/concept of the then Prime Minister Abdullah Haji Ahmad Badawi (in office 2003-2008) “education revolution”. This idea/concept was introduced during the Prime Minister speech “...we will need nothing less than an ‘education revolution’ to ensure that our aspirations to instill a new performance culture in the public and private sectors is not crippled by our inability to nurture a new kind

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<sup>25</sup>Documents obtained from MOHE and FMM (Appendix D). Other through government website.

<sup>26</sup>Report by the Committee to Study, Review and Make Recommendations Concerning the Development and Direction of Higher Education in Malaysia, 2006.

of human capital that is equal to the tasks and challenges ahead.”<sup>27</sup> This demand of “education revolution” was also shared among the society mainly the industry. The Prime Minister explicit knowledge as Minister of MoE before being appointed as Prime Minister and tacit knowledge for years serving as ministers for many portfolios and members of Parliament allowed him to deduce the concept of “education revolution”. His next action after this idea/concept was stated in this statement:

“To put into effect this concept of “education revolution”, the Prime Minister, Abdullah Haji Ahmad Badawi took the initial step of restructuring the MoE into the MoE and MOHE. This move is proof of the determination of the government to act to upgrade the capability of the education system to produce human capital of high quality, capable of competing and persevering in the international arena.”<sup>28</sup>

In January 2005, the first MOHE minister, Dr. Haji Shafie form a “Committee to Study, Review and Make Recommendation to the Development and Direction of Higher Education”. His wide knowledge in development study and as an academics enabled him to select suitable members for this Committee and to stipulate frames of reference. Dr. Haji Shafie received his Bachelor of Arts Degree from University Malaya (UM), Masters Degree and PhD in Development Studies from the Western Michigan University, USA, and the University of Wales, Swansea respectively.<sup>29</sup>

The chairman for this Committee was Tan Sri Dato’ Dr. Wan Mohd Zahid bin Mohd Noordin. He is an educationist, a senior administrator of Ministry of Education and his last position was the Director General of MoE. The members were from the MOHE, Professor Dato’ Dr. Hassan Said, Director General of

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<sup>27</sup>Ibid., p. xxiii. Extract from the speech of the Prime Minister at The National Economic Action Council (NEAC) Dialogue Forum on 13 January 2004, IOI Marriot Hotel Putrajaya.

<sup>28</sup>Ibid., p.4.

<sup>29</sup>[http://www.titangroup.com/AboutTitan/Dato\\_Sri\\_Dr\\_Hj\\_Shafie.aspx](http://www.titangroup.com/AboutTitan/Dato_Sri_Dr_Hj_Shafie.aspx), retrieved 3<sup>rd</sup> January, 2012.

Department of Institute of Higher Education (IHE) Management; from public universities, Professor Emeritus Dato' Dr. Khoo Kay Kim, History Department of UM, Professor Dato' Dzulkifli Abdul Razak, Vice Chancellor of USM; Professor Dr. Sahik Md. Noor Alam Shaik Mohd Hussain from Faculty of Economics and Management of UPM; from private universities, Professor Dato' Dr. T. Marimuthu, Vice President of International Graduate Studies College, Professor Dato' Dr. Ibrahim Ahmad Bajunid, Dean of Faculty of Humanities and Social Sciences Tun Abdul Razak University, and Professor Dato' Mohd Shukri Ab. Majid, President University College of Technology and Management Malaysia; from the industry, Dr. Haji Zainul Arif bin Haji Hussain, Chairman of Malaysia Development Bank, Datuk Mustafa Mansur, President of Federation of Manufacturer of Malaysia (FMM), and Datuk Dr. Sulaiman Mahbob, President Institute of Integrity Malaysia (IIM); and from the NGO, Datuk Dr. Abdul Monir Yaacob, Commissioner of Human Right (Suruhanjaya Hak Asasi Manusia [SUHAKAM]) (Appendix J).<sup>30</sup>

These multivocality committee members were the combination of decision-maker, implementers, and academics of HEIs. Their tacit knowledge as the user of the higher education system and explicit knowledge through direct involvement in higher education system were synthesized and crystallized through their shared context in dialogues among themselves and with their respondents.<sup>31</sup> This was described as emergent strategy-making process. This strategy is also effective in the relatively early stages of an organization's growth, because MOHE might have a greater number of possible strategies to explore.<sup>32</sup>

This Committee was instructed to prepare a report with a list of recommendations for the MOHE based on frames of reference stipulated by the Minister of MOHE. The frames of reference were the perspective of the National Philosophy of Education, the National Vision, and policies that have the goal of developing human capital that is resilient, competitive, cultured and intellectually rigorous.

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<sup>30</sup> The detail is Appendix J. Professor Khoo Kay Kim is one of the prominent historical professor his focuses on socio-political issues.

<sup>31</sup>The detail of the respondents in Appendix K.

<sup>32</sup>Takeuchi & Nonaka, 2004, p.252.

These qualities enabled the human capital to face challenges of globalization and contribute towards the attainment of national unity and the socio-economic development of the country.<sup>33</sup>

The terms of reference of the Committee were as follows:<sup>34</sup>

- To survey the current growth and the development of higher education in the country.
- To identify issues and problems related to the development of the higher education sector including polytechnics and community colleges
- To make a comprehensive study and review of the higher education policy formulated in the Higher Education Development Plan (2001-2010) aimed at making the country a center of excellence for education at the regional and international level.
- To study and review higher education policies that could become instruments of integration and national unity.
- To produce a report that contains recommendations concerning the development and the direction of higher education in Malaysia including the formulation of a sound and viable higher education in Malaysia including the formulation of a sound and viable higher education policy. This report will make a contribution to the efforts of the MOHE to make tertiary education one of the factors that enable the country to achieve glory, distinction and excellence in the fields of knowledge, culture and quality of life.

These terms of reference of this study focused on the achievement of excellence. The recommendations were for higher education in Malaysia to achieve world class status and establish the country as a regional center of excellence in education.<sup>35</sup>

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<sup>33</sup>Report by the Committee to Study, Review and Make Recommendations Concerning the Development and Direction of Higher Education in Malaysia, 2006.

p. xvii-xviii.

<sup>34</sup>Ibid., p. xxiii.

<sup>35</sup>Ibid., p. xviii.

The scope of this study covered the core functions of higher education: teaching and learning, research and development, service to the community, life-long learning, issues related to the democratization of education such as access and equity, and the commitment of these institutions by benchmarking with international best practices to unremitting efforts to upgrade the quality of the education that the higher education institutions provide.<sup>36</sup>

This Committee obtained feedbacks (tacit knowledge) through dialogue sessions and round table discussions as well as website commentaries overwhelmingly called for positive excellence in higher education. The dialogue sessions were on the 3<sup>rd</sup> February and 14<sup>th</sup> March 2005 with 181 participants and 160 participants respectively.<sup>37</sup> The participants on the two dialogue sessions were MOHE, other Federal Ministries, government statutory bodies, and private and public universities. There were round table discussions (Table 4-1). The Committee also visited foreign countries ministries/bodies of higher education and HEIs on international benchmarking and best practices study.<sup>38</sup>

**Table 4.1: Round Table Discussions on National Higher Education**

No	Group	Date (2005)	Participants/representatives
1	A	8 <sup>th</sup> March	Eminent Persons
2	B	1 <sup>st</sup> April	Academic officers Institute of Higher Education
3	C	23 <sup>rd</sup> April	NGO
4	D	24 <sup>th</sup> April	Professionals & Media Representatives
5	E	29 <sup>th</sup> April	Student Affairs Officers & Representatives of Financial Sponsors
6	F	9 <sup>th</sup> Jun	Officers of the Central Agencies, the Federal Government
7	G	10 <sup>th</sup> June	Academic Staff

Sources: Adapted from Report MOHE (2006)<sup>39</sup>.

<sup>36</sup>Ibid., p. xvii-xviii.

<sup>37</sup>The detail of the participants in Appendix K.

<sup>38</sup>The detail of the foreign countries and higher education institutions in Appendix K.

<sup>39</sup>Report by the Committee to Study, Review and Make Recommendations Concerning the Development and Direction of Higher Education in Malaysia, 2006.

Therefore, the core functions, perspectives of this Report, and the Committee shared context created another concept (externalized), .i.e., “towards excellence”. This concept was to excel on the core functions. Based on this concept, the Committee enlisted 138 recommendations for consideration by the government, MOHE, the various institutions of higher education in the country and by the society at large. These recommendations were group under five categories; excellence in teaching and learning, in research and development, in capability of institutions of higher education institutions to make contributions to the economy and society, in the capacity of higher education institutions to fulfill their own core functions, and in initiating the democratization of education in ensuring access and participation of all Malaysians irrespective of race, color or political royalty.<sup>40</sup> This is a process of systemizing concepts into knowledge system (combination).

The Committee was able to do two tasks, first to externalize the Prime Minister’s concept “education revolution” to a more cleared concept of “toward excellence”, and second with the assistance of Working Committee to combine all the tacit and explicit knowledge of multivocality stakeholders and their knowledge through meetings among themselves, dialogues and round table discussions with their respondents and documented in the form of Report. The Working Committee reconfigured of existing information through sorting adding, combining, and categorizing of explicit knowledge, i.e., 138 recommendations and elaboration of the concept of “towards excellence”. This led to a new knowledge.

The Working Committee did articulately elaborate this concept. There were seven part, Part I and II deal with imperatives, historical development, vision, policies, and values and laws pertaining to higher education, Part III related to empowering institutions of Higher education, Part IV excellence in teaching and learning focuses on the most basic yet foremost precondition for any educational institution to attain excellence and international pre-eminence. Part V on

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<sup>40</sup>Ibid., p. xvii.

excellence in research and development. Part IV, excellence in contributing to the Malaysian society. Part VII identifies certain limitations and constraint to this study as well several factors that inhibit the successful implementation of the recommendations that been put forward.

There were 11 priority recommendations that required immediate action. The reasons were because of their systemic, critical importance, and their implementation was not entailed complex and time consuming logistical orchestration.<sup>41</sup> One of the recommendations was related to the medium of instruction.<sup>42</sup>

### **Recommendation 72**

The Committee recommended Malay, as the National language, be used for all official purposes. English should be used as the medium of instruction for science, mathematics and professional subjects. Other subjects should be taught in the language that is most effective in the delivery of content. At the same time, students should be encouraged to master other international languages.

In addition

### **Recommendation 73**

The Committee recommends that institution of higher education (IHE) upgrade their capacity to offer the study of international languages.

### **Recommendation 74**

The Committee recommends that each student should master at least two international languages in addition to Malay language.

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<sup>41</sup>Ibid., p. xxxiii.

<sup>42</sup>Recommendation 72, 73 & 74, Ibid., p. xxxiv & xlv.

These recommendations were based on the review, study and observation of curriculum as stated in chapter 14 the curriculum section, the Report stated.<sup>43</sup>

#### Medium of Instruction

- The Committee understood that the use of English as the main medium of instruction in all IHE did not violate the country's Constitution. In fact, NGO and professional bodies had informed the Committee, in meetings and discussions that were held, that the use of English is important not only in diplomacy and international but also in the academic field.
- The Committee also found that English is widely used in many countries. Even in some countries which are not English-speaking, the language is used as the medium of instruction. In addition, the use of other international languages is encouraged besides the use of the mother tongue. The Committee has found that a number of countries in Europe, the Middle East, and South Asia permit the use of English as the medium of instruction especially for the study of science and technology and also for professional writing. Although these countries use English as the medium of instruction, this practice does not infringe on the role and development of the mother tongue
- The Committee has held discussions with the stakeholders and language experts in the country and it was clear that all were aware and accept the fact that in this area of globalization, English plays a major role in the development and dissemination of knowledge and information. This group had no objections to the wider use of English as the medium of instruction in higher education. At the same time, they were very concerned about the position of the Malay language and insist that its role as the main language that shapes a united and cultured Malaysian society be protected.

This multifaceted team provided a shared context in *ba* which members of the Committee carried out meetings, dialogues, discussions, visiting foreign countries

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<sup>43</sup>Ibid., p. xxxiv & p.133-135.

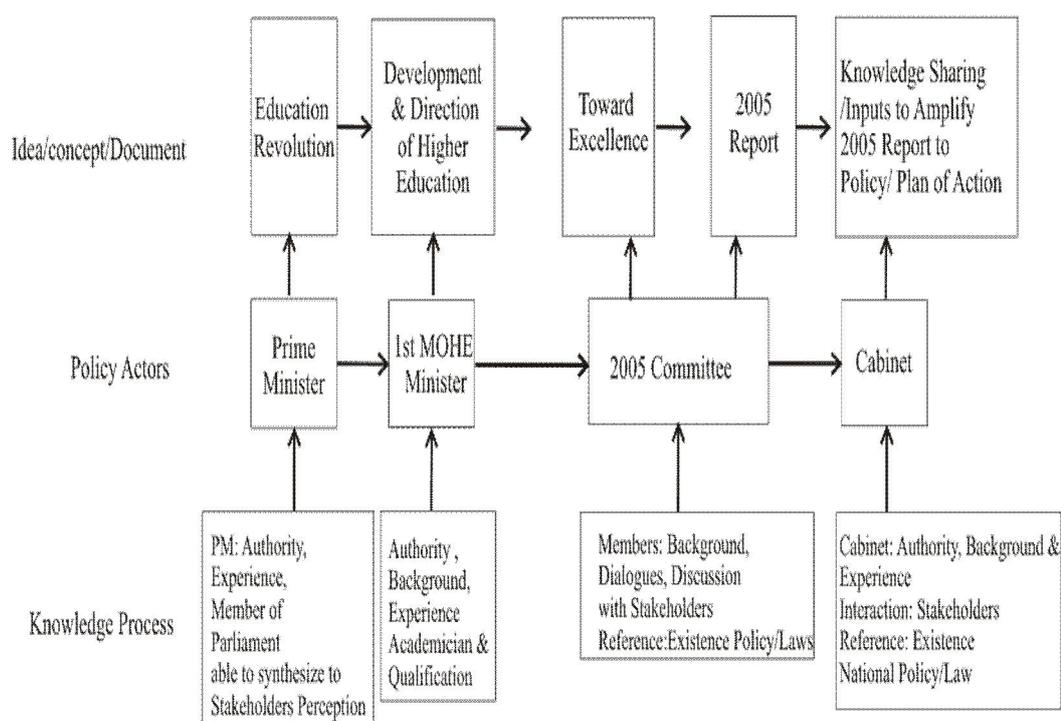
and institutions and website commentaries, which involved considerable conflict and disagreement among them as well with the stakeholders. This kind of dynamic interaction at this Committee level was able to facilitate the transformation of Prime Minister idea/concept of “education revolution”/personal knowledge, to group and finally into MOHE/organizational knowledge. This Committee was given autonomy/mandate to study the status of higher education in Malaysia taking into account contemporary regional and international developments in tertiary level.

This Committee acted as the task force, synthesis top-bottom and bottom up, and tacit knowledge and explicit knowledge. This Committee applied middle-up-down management by conducting several meetings with stakeholders for this 2005 Report being able to complete. This Report were presented in the Cabinet and made available to all members of Parliament and other relevant stakeholders. The process of amplifying the 2005 Report continued when the Cabinet shared their knowledge/ gave inputs for the 2005 Report to synthesize/combine with national policy to transform into national higher education policy/plan of action. This process is similar to Hypertext organization. Synthesizes of the knowledge was generated in the Cabinet and the Committee. This first policy-making process of higher education is summarized in Figure 4-1

After 2005 Report, the Transformation Document of Higher Education, January 2007 and the National Higher Education Strategic Plan, August 2007 were created. This led to the creation of National Higher Education Strategic Plan: Laying The Foundation Beyond 2020. All of these were formulated under the responsibility of MOHE.<sup>44</sup>

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<sup>44</sup>Interview: the Deputy Secretary, Chief Macro Section of PRD (Human Resource Development) at the PRD office on August, 17, 2010.



**Figure 4-1: Higher Education Policy-Making Process in 2005**

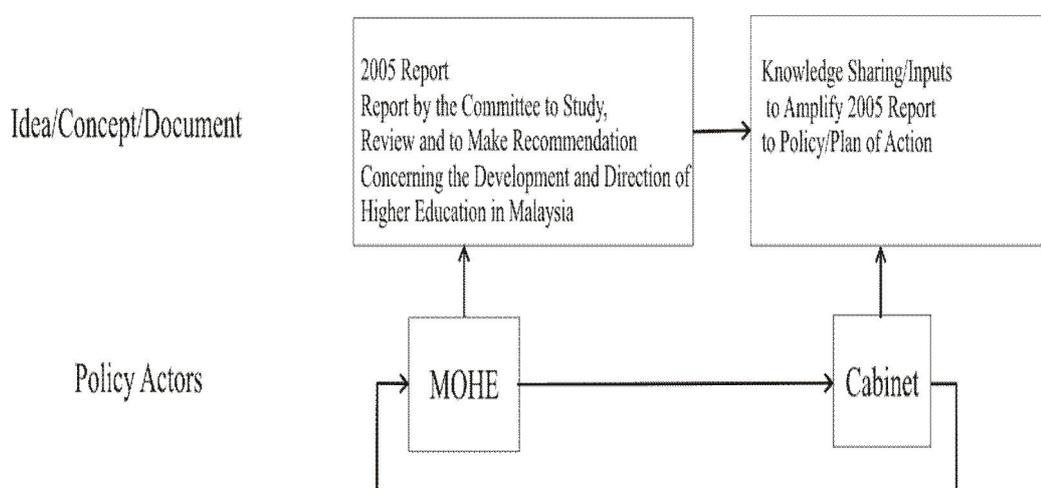
### 4.5.2 The Second Knowledge Process of Higher Education Policy-Making

From 2006 onwards, MOHE is the responsible ministry to conduct an in-depth study of the current issues related to the 2005 Report and inputs obtain from the Cabinet. MOHE, then synthesizes the updated 2005 Report with the national policy to amplify it into higher education policy/plan of action/law. MOHE also explore avenues to pragmatically implement as many recommendations as possible especially those been identified as requiring immediate action.<sup>45</sup>

MOHE policy-making process continues to emulate the approach that the first MOHE minister did to find direction of the national higher education in 2005. The policy-making process is centered at the ministerial level. However, the policy actors are Committees and Divisions from MOHE, appointed researchers, and

<sup>45</sup>Report by the Committee to Study, Review and Make Recommendations Concerning the Development and Direction of Higher Education in Malaysia, 2006, p. xv. Message from the Honourable Minister of Higher Education, Haji Shafie bin Haji Mohd Salleh (the first Minister of MOHE)

appointed Committees from other ministries, industry and NGO responsible for the policy-making of higher education (Figure 4-2).



**Figure 4-2: Policy-Making Process of Higher Education at the Ministerial Level**

The Planning and Research Division (PRD) of MOHE Department of Development is the permanent secretary. PRD function is the coordinator for the higher education policy-making process. PRD comprises of Research Unit, Planning Unit, Macro Planning Unit, and Policy and Parliament Unit. PRD main role is to ensure the agenda “the Development and Direction of Higher Education in Malaysia” is continuously transcended and crystallized in the higher education policy.<sup>46</sup> PRD middle-up-down management approaches continues to synthesize tacit and explicit knowledge of the stakeholders/society and the government before current issues related to 2005 Report are forwarded to the Head of Department meetings for approval of conducting researches. PRD use similar approach applied by the 2005 Report Committee that is to obtain feedbacks from all relevant stakeholders. They are from MOHE itself, other Federal Ministries, HEIs, industry, and NGO.

<sup>46</sup> Interview: the Principal Assistant Secretary of PRD Research Section at PRD office on August, 11, 2010; the Chief Assistant Secretary of Macro Section of PRD (Human Resource Development) at the PRD office on August, 17, 2010

The channels/*ba* are budget forum, international and national forum, and conferences organized by Federal government and MOHE. Their aim is to bring together the various stakeholders involved in higher education – experts, academics, researchers, practitioners, and policy makers to discuss issues emerging from current initiatives in the local and regional socio-economic setting.

The feedbacks from higher education institutions are from Vice Chancellors' meetings, Deans' meeting in respective fields, MOHE and other ministries meetings with the higher education institutions and MOHE jurisdiction on higher education policy and institutions.<sup>47</sup> Every now and then the minister requires reports from the Vice Chancellors on their progress, twice or more annually and during feedback sessions between minister and the Vice Chancellors. Inputs from PHEIs meetings with foreign higher education institutions on matters related to researches, industry linkages, collaboration and academics development.<sup>48</sup> These are ways how agenda is set before policy is formulated.<sup>49</sup>

There are also other feedback channels from NGO, Integrated Compliant Management System (ICMS), Prime Minister's Blog and Public Complaints Bureau of the Prime Minister Department.<sup>50</sup> As one of the officers confirmed, "...often times, the feedback can also come from issues frequently raised in Parliament or from the media; at times issues can also be raised by the

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<sup>47</sup>Interview: the Principal Assistant Secretary of PRD Research Section at PRD office on August, 11, 2010; the Chief Assistant Secretary of Macro Section of PRD (Human Resource Development) at the PRD office on August, 17, 2010; the PRD Under Secretary Division at the PRD office on the August, 19, 2010; the Assistant Director of Department of Higher Education (DHE/JPT), Public Higher Education Institution Sector at JPT office on August, 17, 2010; the Deputy Vice Chancellor and Department of Science Physic, Centre of *Asasi*, National Defence University of Malaysia (Universiti Pertahanan Nasional Malaysia (UPNM)) at the Deputy Vice Chancellor office on the March, 14, 2011; and Coordinator Industrial Training & Soft Skills, Sabah University of Malaysia.

<sup>48</sup>Active participation observation in a meeting between a Malaysian public higher education institution and a foreign higher education on the March, 7, 2011.

<sup>49</sup>Interview: the Deputy Vice Chancellor and Department of Science Physic, Centre of *Asasi* National Defence University of Malaysia (Universiti Pertahanan Nasional Malaysia (UPNM)) at the Deputy Vice Chancellor office on the March, 14, 2011.

<sup>50</sup>Interview: the PRD Under Secretary Division at the PRD office on the August, 19, 2010. Public Civil Department of Malaysia official Portal, [www.jpa.gov.my/lang/en/](http://www.jpa.gov.my/lang/en/) August, 1, 2011.

members of the meeting.”<sup>51</sup> The Parliament is one of the referred channels because MOHE believe that the members represent the society because they are elected by the people.<sup>52</sup>

PRD senior officers are coordinator for the policy-making process. PRD Principal Assistant Secretary of Research Section and Chief Assistant Secretary of Macro Section have experience/explicit knowledge as previous researchers of MoE Educational and Planning Research Division, and their tacit knowledge as academics and teachers. They have degree in physics and degree and postgraduate degree in engineering respectively. Whereas, the Under Secretary, his explicit knowledge is his working experience in Economic Planning Unit, Ministry of Tourism, Ministry of Cultural and Heritage, Ministry of Defense, and the Palace of Culture, and years of experience as senior officer of PRD before holding the current position in PRD. The Under Secretary has master and degree in economics. Hence, they are able to synthesize the issues they obtained from all feedback channels and to highlight the importance of English in HEIs.

The Heads of Department meetings that are held every fortnight are responsible to approve any current issues that update the 2005 Report. There are 50 members, comprised of Heads of Department, Sectors, Division and Agencies.<sup>53</sup>

The departments and sectors are:

- Higher Education Department
- Polytechnic Department
- Community College Department
- Management Sector
- Development Sector

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<sup>51</sup>Interview: the Principal Assistant Secretary of PRD Research Section at PRD office on August, 11, 2010. The Parliament consist House of Common; the members are elected during election and House of Senate; the members are appointed by the King and the ruling parties

<sup>52</sup>Interview: the Principal Assistant Secretary of PRD Research Section at PRD office on August, 11, 2010.

<sup>53</sup>Interview: the Chief Assistant Secretary of Macro Section, PRD (Human Resource Development) at the PRD office on August, 17, 2010. The members are shown in organizational chart Appendix F.

The agencies are:

- Malaysian Quality Assurance (MQA)
- National Higher Education Fund Corporation (PTPTN)
- Yayasan Tunku Abdul Rahman (TAR)

The divisions are from departments and sectors.<sup>54</sup> During the meetings, the members' tasks are to identify relevant issues related to higher education to be approved upon and to see if it warrants for further study. The Head of Department meetings also identify other relevant issues that may need further review.<sup>55</sup> Their explicit knowledge is based on their jurisdiction, autonomy/authority and tacit knowledge as academics and administrators. This influences their decision of selection of issues. The Heads of Higher Education Department (HED), Polytechnic, and College Community are Professors from PHEIs. The Heads of Sectors, Agencies, and Division are government administrators. Their decisions are based on their background, authority, and focus to the vision to make Malaysia higher education as a center of educational excellence to internationalize Malaysia higher education, the 2005 Report and the national policy.

“Generally, once these issues are chosen in the meetings. The macro issues are usually forwarded to PRD for research. These issues are related to higher education.”<sup>56</sup> Macro issues are related to other public polices and involved other Federal ministries jurisdiction. The micro issues related to the plan action for policy implementation within the jurisdiction of MOHE, HED is in charge. We will discuss this micro issue in another section.

There are three types of studies, they are:<sup>57</sup>

- Feasibility study

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<sup>54</sup>Appendix F.

<sup>55</sup>Email interview: the Principal Assistant of Secretary of PRD Research Section on February, 16,2010.

<sup>56</sup>Ibid.

<sup>57</sup>Interview: the Under Secretary Division of PRD at the PRD office on August, 19, 2010.

- the study of selected issues related to higher education whether they are feasible or not to become a higher education policy
- the study of the existence policies whether they still applicable or need adjustment or replacement
- Development study
  - the study of development of selected issues related to higher education
  - the evaluation of the progress of the higher education policy
- Impact study
  - the study on the impact of selected issues to the higher education sector
  - the outcome of the existence higher education policy

For the issues related to update the 2005 Report, and inputs from Cabinet, they are categorized under the development study. PRD will engage experts from higher education or non-academic institutions. The selection of experts is based on the higher education or non-academic institutions niche areas.<sup>58</sup>

The choice of experts is done by PRD. PRD refers from their database.<sup>59</sup> The database is developed by PRD is with reference to the information they obtain formally and informally. Formally, the database is developed by National Higher Education Research Institute/Institut Penyelidikan Pendidikan Tinggi Negara (IPPTN). This institute is under HED.<sup>60</sup>

Informally, it is during PRD officers direct correspond through series of formal meetings, workshops and forum with stakeholders.<sup>61</sup> The appointed research committee/ group/consultant is given frames of reference and terms of reference

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<sup>58</sup> Interview: the Chief Assistant Secretary of Macro Section of PRD (Human Resource Development) at the PRD office on August, 17, 2010; the Principal Assistant Secretary of PRD Research Section at PRD office on August, 11, 2010.

<sup>59</sup> This database consists of expertise from HEIs and external expertise from the industry.

<sup>60</sup> Department of Higher Education official website. Retrieved June 29, 2011 from <http://jpt.mohe.gov.my/menupenyelidik.php>.

National Higher Education Research Institute (Institut Penyelidikan Pendidikan Tinggi Negara [IPPTN]). Retrieved June 26, 2011 from

<http://www.ipptn.usm.my/v2/index.php/component/sobi2/?sobi2Task=addNew>.

<sup>61</sup> Interview: the Principal Assistant Secretary of PRD Research Section at PRD office on August, 11, 2010.

that include a budget and time frame for them to conduct a research.<sup>62</sup> The frames of reference is based on the National Philosophy of Education, the National Vision or *Wawasan 2020* and “policies that have the goal of developing human capital that is resilient, competitive, cultured and intellectually rigorous.”<sup>63</sup> The core functions and perspectives of the frames of reference of the study must also coincide with the vision of “toward excellence”.

The appointed research committee/group/consultant is given sufficient information including documents, articles, reviews and research findings to guide and assist in formulating its recommendation by PRD. This research committee/group/consultant obtains further information and data through dialogues, interviews, discussion and benchmarking visit to selected foreign HEIs.<sup>64</sup>

“PRD have two committees to review any issues that warrant further studies and findings for all conducted researches. The committees are the Technical Committee and the Steering Committee. The Technical Committee members are PRD senior officers, the Under Secretary Division, the Chief Assistant Secretary of Macro Section, and the Principal Assistant of Secretary of Research section.”<sup>65</sup> The members of the Steering Committees are the Secretary General of MOHE and the heads of departments and divisions that are considered accountable for the issues being researched, other Federal ministries and stakeholders.<sup>66</sup>

The Technical Committee is responsible to ensure that the appointed research consultant/committee/group findings and recommendations are complied with the terms of reference or guideline set up by PRD. While the Steering Committee is responsible to ensure that the research findings and recommendations are meeting the frames of reference of higher education.<sup>67</sup>

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<sup>62</sup>Interview: the Under Secretary Division of PRD at the PRD office on August, 19, 2010.

<sup>63</sup>Report by the Committee to Study, Review and Make Recommendations Concerning the Development and Direction of Higher Education in Malaysia, 2006.

<sup>64</sup> Ibid., p.17.

<sup>65</sup>Interview: the Under Secretary Division of PRD at the PRD office on August, 19, 2010.

<sup>66</sup>Ibid.

<sup>67</sup>Ibid.

The research findings and recommendations are presented initially in the Technical Committee and later, in the Steering Committee. There are four presentations. The reports are:

- The inception report
  - Ø This is a presentation of a proposal from the experts who form a consultant team in the first month
- The intermediate report
- The final draft
- The final report

The study for a six months period, the presentations of the report is in the second month, fourth and fifth and sixth month.<sup>68</sup> The approved final report is then disseminated among relevant stakeholders for feedback.<sup>69</sup> Unfortunately, this contradicts with what being practice and stated in the law. “Secrecy Act 1972, Malaysia government’s reports are confidential. Most reports are not sent to relevant external stakeholders.”<sup>70</sup> There is regulation stated that any government documents are only at public discretion after being officially gazette and completing a certain period.<sup>71</sup> This was confirmed by the PHEI top management that the reports and the finalized policy are only circulated within the government.<sup>72</sup> Nevertheless, the research presentation in the Technical Committee and the Steering Committee allow the accumulation of knowledge from outside is shared widely within relevant MOHE division, department, other Federal ministries, and stakeholders; this knowledge is stored as part of the MOHE and other members’ knowledge base, and utilized by those who are involved in the higher education policy formulation.<sup>73</sup> There is socialization

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<sup>68</sup>Ibid.

<sup>69</sup> Interview: the Chief Assistant Secretary of Macro Section of PRD (Human Resource Development) at the PRD office on August, 17, 2010; the Principal Assistant Secretary of PRD Research Section at PRD office on August, 11, 2010.

<sup>70</sup> Interview: the MEF Executive Director at the MEF main office on the March, 9, 2011.

<sup>71</sup> Undang-Undang Malaysia, Akta 88. Akta Rahsia Rasmi 1972, <http://202.75.6.111/Akta/Vol.%202/Akta%2088.pdf>

<sup>72</sup> Interview : the Deputy Vice Chancellor and Department of Science Physic, Centre of *Asasi* Defense of UPNM at the Deputy Vice Chancellor office on the March, 14, 2011.

<sup>73</sup> Nonaka and Takeuchi, 1995.

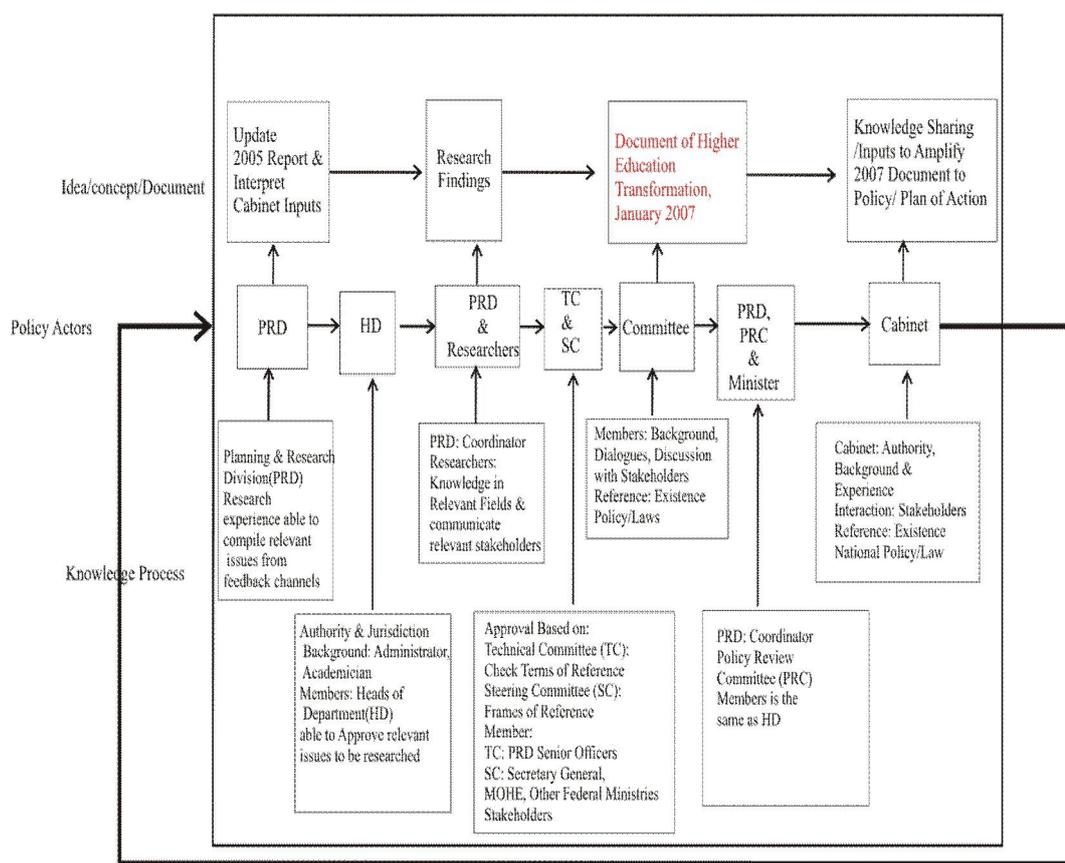
process during the research, externalization and internalization process during the presentation of research reports to the Technical Committee and the Steering Committee.

There were cases of final reports that did not get approval from the Technical Committee and Steering Committee despite undergoing all the levels of presentation. The report did not fulfill the terms of reference set by PRD. The research was done by the 2005 Committee. It was not published for public view.<sup>74</sup>

In 2006, research on issues related to 2005 Report obtained approval from the Technical Committee and the Steering Committee. With their tacit knowledge on the Report about the Development and Direction of Higher Education policy and their explicit knowledge in their respective departments, sectors, divisions and agencies, they were able to comprehend, gave inputs/shared knowledge for the “Document of Higher Education Transformation, January 2007” to be developed/amplified into plan of action. There was synthesized of knowledge generated in the Steering Committee and the research consultant/committee/group. The next task was this Committee with the assistant of PRD was responsible for the formation of a working committee to incorporate the updated 2005 Report, i.e., The Report by the Committee to Study, Review and Make recommendations Concerning the Development and Direction of Higher Education in Malaysia with the relevant elements of the Ninth Malaysian Plan. As a result “Document of Higher Education Transformation, January 2007” was compiled by the 2007 Committee (Figure 4-3).

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<sup>74</sup> Interview: the Chief Assistant Secretary of Macro Section of PRD (Human Resource Development) at the PRD office on August, 17, 2010.



**Figure 4-3: Policy-Making Process for the Document of Higher Education Transformation, January 2007.**

“Subsequently, a working group was formed to develop the MOHE’s long-term strategic plan based on the *Document of Higher Education Transformation, January 2007* and the *Report by the Committee to Study, Review and Make recommendations Concerning the Development and Direction of Higher Education in Malaysia.*”<sup>75</sup> A series of workshops were conducted to obtain tacit knowledge/ inputs from the key stakeholder groups. The workshops were (Table 4.2):

<sup>75</sup> National Higher Education Action Plan 2007-2010, p.6.

**Table 4.2: Workshops on Future of Higher Education (FoHEM)**

No	Workshop Topic	Year/2007	Venue
1	Emerging Issues on Higher Education	26-27 January	Sheraton Hotel, Penang.
2	Creating the Future of Higher Education	2-3 March	Melia Kuala Lumpur
3	Establishing Futures of Higher Education in Malaysia	4-6 April	Berjaya Hotel Langkawi.

Source: National Higher Educational Research Institute.<sup>76</sup>

Based on the two reports and inputs obtain from the workshops, the working Committee synthesized and crystallized the explicit knowledge from the reports and tacit knowledge from the stakeholders to create “The National Education Strategic Plan, August 2007” (Figure 4-4).

This document was then reviewed by the Policy Review Committee that had meetings every fortnight. The members are the same with the Heads of Department meetings members. These meetings are chaired by the Secretary General of MOHE.<sup>77</sup>

This Action Plan was presented in the Cabinet and was available to all stakeholders through hardcopy and website. This Action Plan outlined the key thrusts in four distinct phases:<sup>78</sup>

Phase 1: Laying the Foundation (2007-2010)

Phase 2: Strengthening and Enhancement (2011-2015)

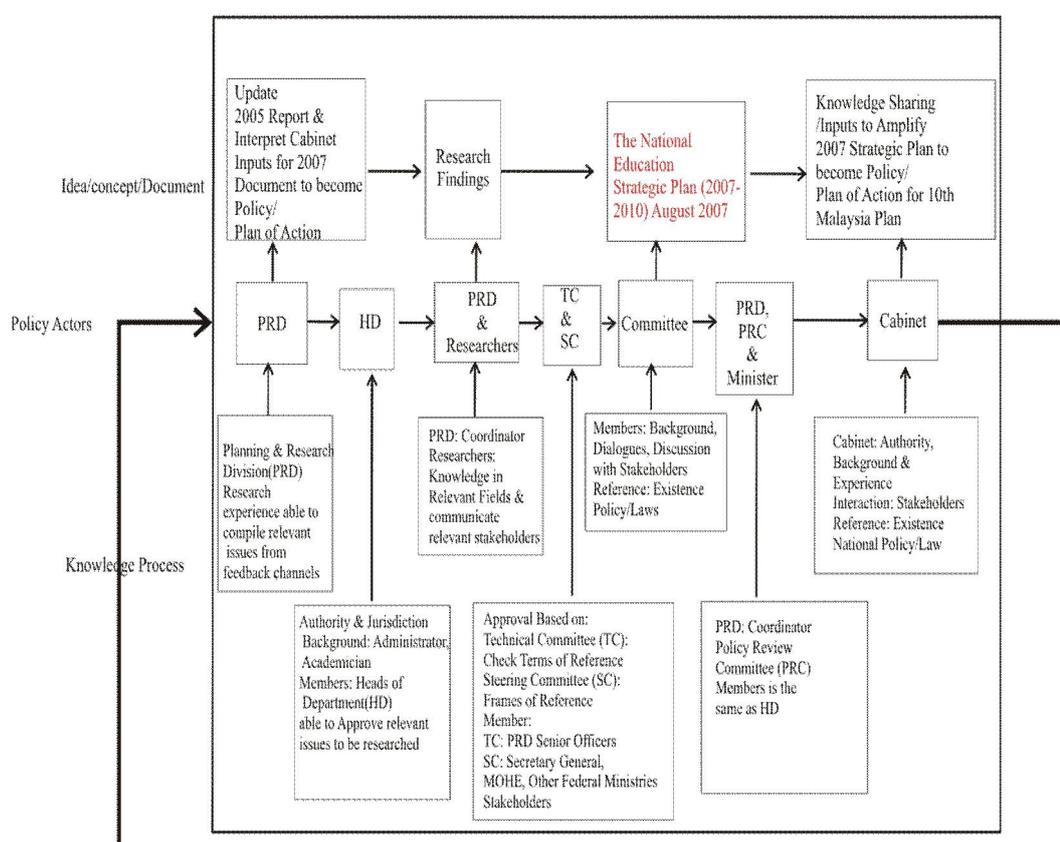
Phase 3: Excellence (2016-2020)

Phase 4: Glory and Sustainability (2020)

<sup>76</sup> <http://www.ipptn.usm.my/v2/index.php/research.html>, January,17, 2012.

<sup>77</sup> Interview: the Chief Assistant Secretary of Macro Section of PRD (Human Resource Development) at the PRD office on August, 17, 2010.

<sup>78</sup> National Higher Education Action Plan 2007-2010



**Figure 4-4: Policy-Making Process for the National Education Strategic Plan, August 2007.**

This Action Plan encapsulated phase 1 which laid the foundation and establishes prerequisite actions to be undertaken during the Ninth Malaysia Plan. These actions prepared the ground systemic changes necessary to the fulfillment of long-term plans for higher education as envisioned and conceptualized in the *Document of Higher Education Transformation, January 2007* and the *Report by the Committee to Study, Review and Make recommendations Concerning the Development and Direction of Higher Education in Malaysia* and *The National Education Strategic Plan, August 2007* or *National Higher Education Action Plan 2007-2010*.<sup>79</sup> In addition, two speeches by the Prime Minister Abdullah Ahmad Badawi (in office 2003-2008):

<sup>79</sup> Ibid.

“to develop the necessary first class human capital, so that the country can be intellectually self-sufficient and be able to engage as equals the world over, especially in advancing new theories and solution.”<sup>80</sup>

The Prime Minister developed this vision further in a notable speech on *Malaysia 50 years from now*:

“A hundred years of Merdeka will see this society, this nation, achieve the unimaginable. We will have Nobel Laureates, truly global corporations, respected and market leading brands, internationally acclaimed poets and artists, among the largest number of scientific patents in the world. Our students and professors will dominate Ivy League universities and our own universities will be citadels of excellence for international scholars.”<sup>81</sup>

The next process was to have plan of action to cover the Phase 2 to Phase 4. Based on this National Education Strategic Plan, August 2007 or National Higher Education Action Plan 2007-2010 that only cover the Ninth Malaysia Plan, the next Action Plan for the 10<sup>th</sup> Malaysia Plan was formulated. The policy-making process began again with PRD task as coordinator identify current issues related to National Education Strategic Plan 2007-2010 to formulate the next strategic plan for the 10<sup>th</sup> Malaysia Plan. The feedbacks as stated earlier were formally and informally from the government channels, HEI, NGO and industry. The issues then were presented by PRD in the Heads of Departments Meetings. After the approval, this was followed by the appointment made from PRD to form a research committee/group/consultant. Similar to previous research, this research committee was given relevant documents from PRD. PRD coordinated dialogues and consultations for sharing of knowledge between the committee and the

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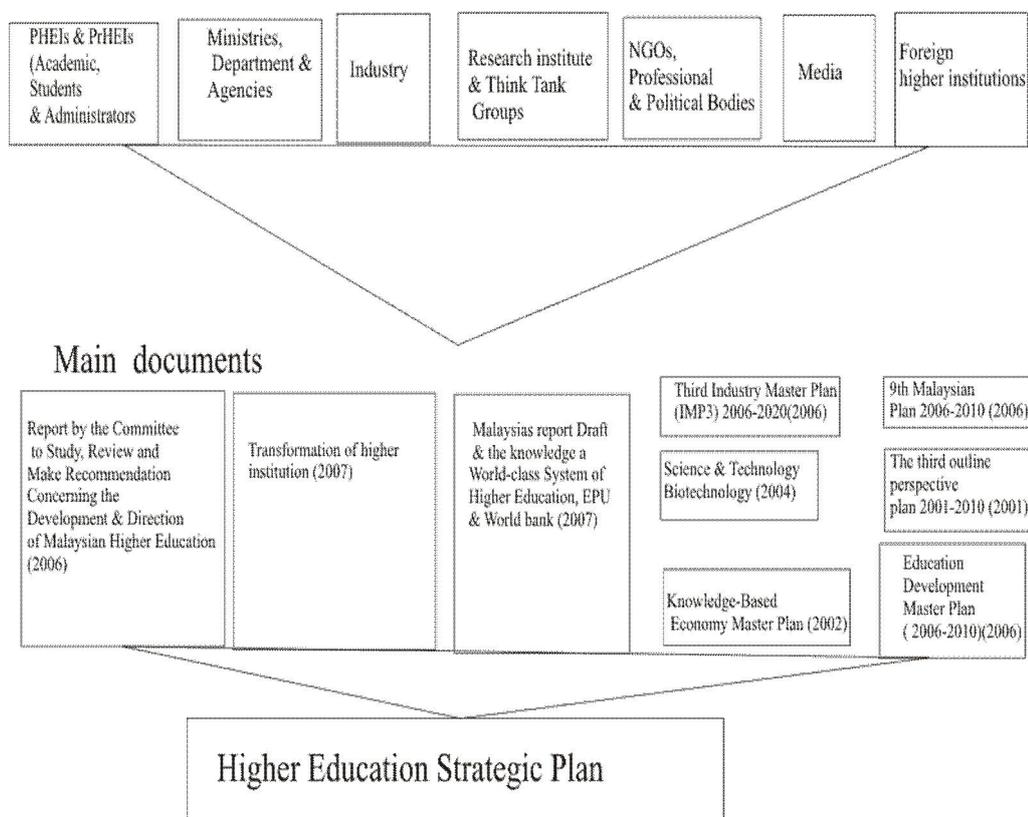
<sup>80</sup>Speech at the launch of the Royal Professor Ungku Aziz Chair and Center for Poverty and Development Studies, November 9, 2006.

<sup>81</sup>Merdeka means independence.

stakeholders. The participants were combination of HEIs, Federal Ministries including MOHE, Industry, Research Institute and Thinker Groups, NGO, Professional Bodies, Media and visiting foreign countries and higher education institutions (Figure 4-5). This approach to acquire tacit knowledge was similar to the 2005 Report approach. The research findings then presented to the Technical Committee and the Steering Committee for approval.

Once approved, the Steering Committee of PRD was responsible to form another Working committee for this purpose. The Working committee incorporate/combine the inputs/ knowledge acquired from these dialogues and consultations with the main documents as shown in Figure 4-5.

### Dialogue & Consultation



**Figure 4-5: Input of higher education strategic plan formulation**

Source: Adapted from National Higher Education Strategic Plan: Laying The Foundation Beyond 2020 (2008) p.23.

The documents are the updated 2005 Report, 2007 Documents and National Higher Education Action Plan 2007-2010, Draft Malaysia Report and the Knowledge a World-Class Systems of higher Education, Economic Planning Unit (EPU), Third Industry Master Plan, Science & Technology, Biotechnology (2004), Knowledge Based Economy Master Plan (2006), Third Industry Plan 2006-2020 (2006), Ninth Malaysia Plan 2006-2010 (2006), The Third Outline Perspective Plan 2001-2010(2001) and Education Development Education Plan 2006-2010 (2006) (Figure 4-5).<sup>82</sup> This combination/synthesize of tacit knowledge and explicit knowledge lead to the formulation of “National Higher Education Strategic Plan: Laying The Foundation Beyond 2020”.

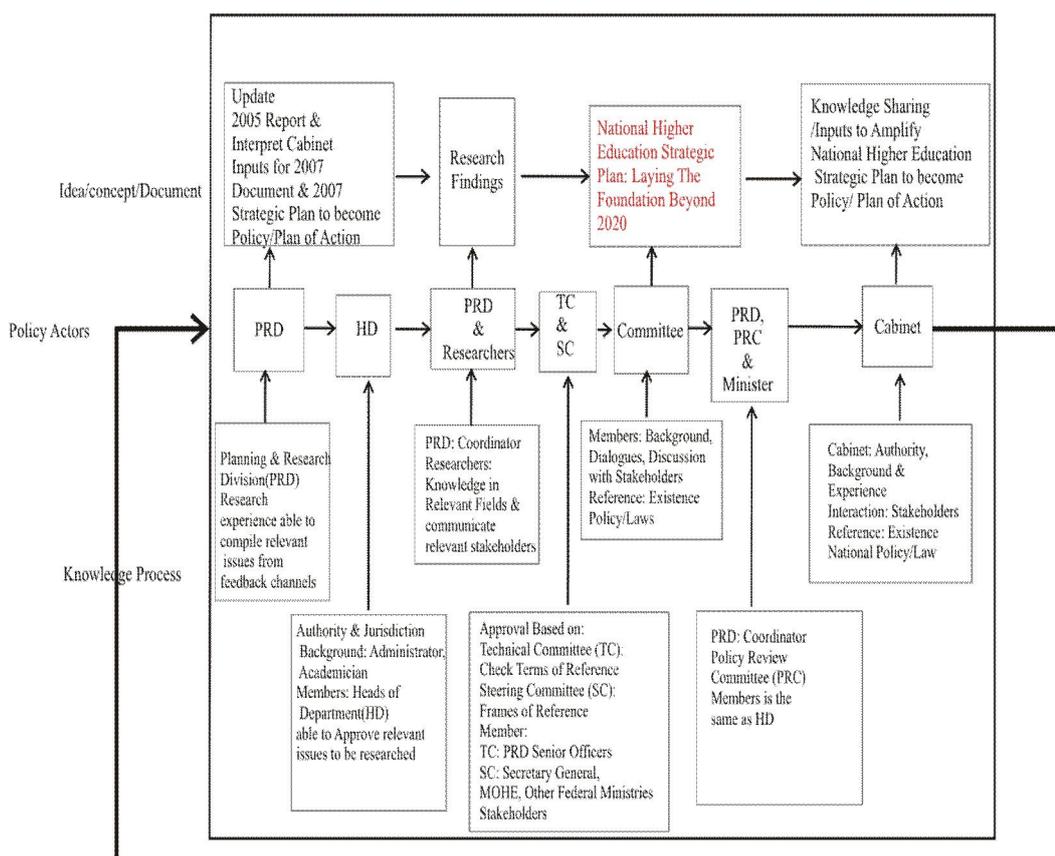
This Action Plan (Figure 4-6) was submitted to the Policy Review Committee for approval before presented to the MOHE Minister. For the procedural purpose, since the policy-making process is at the ministerial level, Policy Coordination and International Division (PCID) of Department of Development are responsible to ensure the formulated policies are complying with the required procedure, i.e., in accordance to the standard format presentation to the Cabinet or/and the Parliament.

The Minister then presented to the Cabinet and made available to the Parliament. If it involves other ministries or other organization outside the government such as industry, the announcement is made by the Prime Minister or Deputy Prime Minister. MOHE is the responsible ministry to implement the policy. However other related ministries or external stakeholders, it is up to their discretion. “Policy implementation other than the responsible ministry or ministries, it is in the form of partnership.”<sup>83</sup> This shows that the policy-making process in MOHE is in a cyclical form.

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<sup>82</sup>National Higher Education Strategic Plan: Laying The Foundation Beyond 2020 (Pelan Strategik Pengajian Tinggi Negara Melangkaui Tahun 2020.) (2008)(2<sup>nd</sup> Ed).

<sup>83</sup>Interview: the Under Secretary Division of PRD at PRD office on August, 19, 2010.



**Figure 4-6: Policy-Making Process of National Higher Education Strategic Plan: Laying the Foundation Beyond 2020**

This is usually a long and tedious process that involves relevant divisions, departments, other ministries, agencies and stakeholders such as relevant industries for feedback.<sup>84</sup> “....we keep changing we can never finalize...because the dynamic of the higher education sector....new things keep coming up....hopefully the higher education policy will be approved soon... it has been deliberated in the parliament.”<sup>85</sup>

As with the study on the language-in-education policy in PHEIs, it is usually combined with other issues related to and with higher education.<sup>86</sup> These issues

<sup>84</sup>Email interview: the Principal Assistant of Secretary of PRD Research Section on February, 16, 2010.

<sup>85</sup>Interview: the Senior Assistant Secretary, Chief Macro Section of PRD (Human Resource Development) at the PRD office on August, 17, 2010.

<sup>86</sup>Interview: the Chief Assistant Secretary of Macro Section of PRD (Human Resource Development) at the PRD office on August, 17, 2010; the Assistant Director of Department of (cont.)

usually lead to the internationalization of higher education in Malaysia. “In 2010, MOHE assigned a study on the usage of language in PHEIs. The findings of the research were presented on August, 11, 2010 to the Steering Committee. This is still at the early stage and the findings are not for public view.”<sup>87</sup> “And which departments or sectors will take the next stage to formulate the research report into policy /plan of action.”<sup>88</sup>

#### **4.5.2.1 Research being done by Higher Education Department (HED)**

The micro issues are to strengthen and improve the implementation of higher education policy/plan of actions. Higher Education Department (HED) is responsible for micro issues.

PRD is not the only division that conducts research on issues chosen at the Heads of Department meetings. There were and are studies conducted by other department especially related to strengthen and improve the higher education policy/plan of action (micro level). For instance the study of *Future Direction of Language Education in Malaysia* was conducted by Study Committee formed by PHEIs Management Sector of HED.<sup>89</sup>

The experts engaged in this research were:

##### **Study Committee**

- Professor Dr. Hajibah Osaman (Chair person), Dean, Academy of Language Studies: Universiti Teknologi MARA, Malaysia (UiTM)
- Professor Dr. Ambigapathy Pandian, Dean, School of Languages, Literacies and Translation: Science University of Malaysia (USM)

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Higher Education (DHE/JPT), Public Higher Education Institution Sector at JPT office on August, 17, 2010; the Deputy Secretary and Assistant Secretary of PCID at the PCID office on August, 12, 2010.

<sup>87</sup> Interview: the Principal Assistant Secretary of PRD Research Section at PRD office on August, 11, 2010; the Deputy Secretary and Assistant Secretary of PCID at the PCID office on August, 12, 2010.

<sup>88</sup> Interview: the Principal Assistant Secretary of PRD Research Section at PRD office on August, 11, 2010

<sup>89</sup> Interview: the Assistant Director of Department of Higher Education (DHE/JPT), Public Higher Education Institution Sector at JPT office on August, 17, 2010. The study was to review the status of language programs in various institutions of higher education in Malaysia.

- Professor Dr. Nuraihan Mat Daud, Dean, CELPAD: International Islamic University Malaysia (IIUM)
- Professor Dr. Zuraidah Mohd Don, Dean, Faculty of Languages and Linguistics: University of Malaya (UM)
- Associate Professor Dr. Che Ibrahim Haji Salleh, Dean, Faculty of Modern Languages and Communication: University of Putera Malaysia (UPM)
- Dr. Minah Harun, Director, Language Center: North University of Malaysia (UUM)
- Dr. Noraini Mohd Yusof, Senior Lecturer /Chair of School of Language Studies and Linguistics, Faculty of Social Sciences and Humanities: National University of Malaysia (UKM)
- Dr.Soubakeavathi Rethinasamy, Dean, Center of language Studies: University of Malaysia, Sarawak (UNIMAS)
- Halimah Ma'alip, Lecturer, Department of Modern Languages: Technology University of Malaysia (UTM)

#### **Sub-committee for Program Content**

- Associate Professor Dr. Shameem Rafik-Galea (UPM)
- Associate Professor Dr. Che Fatimah Dinna Mohd Din (UiTM)
- Associate Professor Dr. Carol Elizabeth Leon (UM)
- Associate Professor Dr. Hisham Osman (UM)
- Associate Professor Dr. Arba'ie Sujud (UPM)
- Associate Professor Dr. Sarjit Kaur A/P Gurdial Singh (USM)
- Associate Professor Dr. Rahim Aman (UKM)
- Dr. Tam Shu Sim (UM)
- Dr. Zurahani Abd. Rahim (IIUM)
- Dr. Noor Ida Ramli (UiTM)

Their recommendations for the future direction of Language education in Malaysia are included in the formulation of language-in-education policy for higher education policy.<sup>90</sup>

HED of MOHE has two sectors. They are Public Higher Education Institution Management Sector and Private Higher Education Institution Management Sector. The Public Higher Education Institution Management Sector.<sup>91</sup> This management sector has three divisions:

- Academic Development Management Division
- Governance Division
- Student Admission Management Division

The Academic Development Management Division and Governance Division involve in the policy-making process of higher education policy related to PHEIs. Academic Development Management Division jurisdiction is to:<sup>92</sup>

- Formulate and review courses offered in PHEIs
  - Evaluate/examine and process of approval from Higher Education Council<sup>93</sup>
    - § Existence and new courses
      - Ensure all courses have the element of:
        - Learning outcome
        - Learning taxonomy
        - Intellectual and spiritual skills
      - MQA approval
- Direction of PHEIs
  - For all fields/discipline
- Academic staffs
- Students acquisition of knowledge

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<sup>90</sup>Interview: the Assistant Director of HED, Public Higher Education Institution Sector at JPT office on August, 17, 2010.

<sup>91</sup>The focus of our research is on the Public Higher Education Institution

<sup>92</sup>Interview: the Assistant Director of HED, Public Higher Education Institution Sector at JPT office on August, 17, 2010.

<sup>93</sup>The members are Department of Civil Service (JPA), EPU, Ministry of Science, Technology and innovation (MOSTI), PTPTN and MQA

Governance Division is responsible on matters:<sup>94</sup>

- PHEIs formation on company
- Parliamentary feedback
  - Issues related to higher education
- Legislation
  - University Act of 2009
  - University Constitution
  - PHEI structure
  - Student Body
- Working paper for Cabinet
  - Autonomy
  - Professorship award

#### **4.5.2.2 Issues forwarded by stakeholders**

The historical overview analysis after the independence 1957, evidently displayed that societal issues often difficult to reach in the agenda-setting and the policy formulation for matter such as language-in-education policy. The constraint still continues until today. This was confirmed by the industry representatives that “There are lot of discussion between government and stakeholders. However, the issues discussed are not taken seriously. The societal issues/intention only reached, accepted and chosen as issues to be put forward as the agenda-setting and as input in the policy formulation if there is fluctuation and chaos, i.e., economic crisis and globalization effect on the domestic affairs, and aftermath events and results of the election, i.e., 1969, 2004 and 2008 election.”<sup>95</sup> For industry issues to able to

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<sup>94</sup>Interview: the Assistant Director of Governance Division of Department of Higher Education (DHE/JPT), Public Higher Education Institution Sector at JPT office on August, 18, 2010.

<sup>95</sup>After 1969 election, most of the urban constituencies won by Democratic Action Party (DAP) abbreviation. Racial riot occurred because of the election result. Due to these events, parliament was dissolved and National Action Committee (Majlis Gerakan Negara [MAGERAN]) governed the country until 1970 general election. The election, National Front won. After the election, Affirmative policy for example NEP was formulated. This policy favors the Malay and Sabah and Sarawak indigenous special rights. Malay as the medium of instruction was implemented for all the national schools gradually until it was completed in early 1980s.

(cont.)

reach, accept and select as the agenda setting and the policy formulation, Federation of Malaysian Manufacturer (FMM) for example, conveying their tacit knowledge and intention by doing intensive meetings with the Federal government ministries, submitting memorandums one of them was “Comments on Education Related Issues, February, 25, 2011”, and having representatives on the government Councils, Boards and the Standing Committees.<sup>96</sup> In addition, “there is usually no formal channel for the industry to discuss with the government. However, there is one ministry i.e. Ministry of International Trade and Industry (MITI) takes the initiative to continue to discuss with the industry and all the outcomes of the discussion are documented. The industry is given copy of the reports.”<sup>97</sup>

The external stakeholders not included other ministries in the Federal government, claimed that they are only involved in dialogue session organized by the government.<sup>98</sup> They never see the written report because as stated earlier government’s report in Malaysia is confidential.<sup>99</sup> The government is obliged to consult stakeholders outside the government.<sup>100</sup> Unfortunately, the nature how it is done is the stakeholder only being informed on short notice.<sup>101</sup> As a result, they do not have time to equip themselves with relevant knowledge to be able to contribute productively in the policy formulation. At one time they are only consulted once the policy is finalized by then they are obliged to approve the

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In 2008, for the first time National Front did not obtained 2/3 majority. Consequent to that teaching science and mathematics in English at the primary and secondary levels is phased out.

<sup>96</sup>Interview: the Chief Executive Officer of FMM at Wisma FMM, on the March 18, 2010. Federation of Malaysian Manufacturer (FMM) is one the main representative for industries.. FMM Annual Report 2009/2010: Building Connections Enabling Growth

<sup>97</sup>Interview: the Chief Executive Officer (CEO) of FMM at Wisma FMM main office on the March, 18, 2011; the MEF Executive Director at the MEF main office on the March,9, 2011.

<sup>98</sup>Interview: the MEF Executive Director at the MEF main office on the March, 9, 2011; the Chief Executive Officer (CEO) of FMM at Wisma FMM main office on the March, 18, 2011; the Deputy Vice Chancellor and Department of Science Physic, Centre of *Asasi* Defense of UPNM at the Deputy Vice Chancellor office on the March, 14, 2011.

<sup>99</sup>Ibid.

<sup>100</sup>In an interview with the MEF Executive Director at the MEF main office on the March, 9, 2011.

<sup>101</sup>Ibid.

policy before the finalized policy is forwarded for debate at the Cabinet or parliamentary level.<sup>102</sup>

## 4.6 Knowledge Analysis

In 1993, the Prime Minister Mahathir Muhamad announced the teaching science and technology in English at PHEIs. Unfortunately, this policy statement was in stalemate because the Minister of MoE was constraint with the education policy main objective that is to uphold the national language. However, the fluctuation and chaos of Malaysia economic environment, multivocality of stakeholders especially from the industry and HEIs support this policy, and the government preserverance enabled for this policy to amplify implicitly. In addition this policy manage it way implicitly through a series of events and policy formulation for instance the currency crisis in 1990s that increase the involvement of private sector to set up HEIs, the corporatization of PHEIs ,i.e., for PHEIs to be competitive and financially independent.Despite this development, policy of the usage of English remain implicit until 2004.

This policy became explicit after 2004, though as one of the strategies for higher education policy that is to be the center of excellence and to internationalize HEIs. The process began when the then Prime Minister Abdullah Ahmad Badawi conveyed idea/concept of “education revolution” in his speech at the NEAC Forum January 2004. Following the speech the set up of MOHE in March 2004. The first MOHE Minister Haji Shafie Haji Mohd Salleh synthesized and crystalized this idea with the agenda to find direction of higher education. He set up in January the 2005 Ad Hoc Committee to interpret “education revolution”.

This Committee consisted of Main Committee, Working Committee, Secretariat and Editors. The Main Committee task was to synthesize the government knowledge with the stakeholders through *ba*, i.e., face to face and virtual communication, and visiting foreign countries and institutions for best

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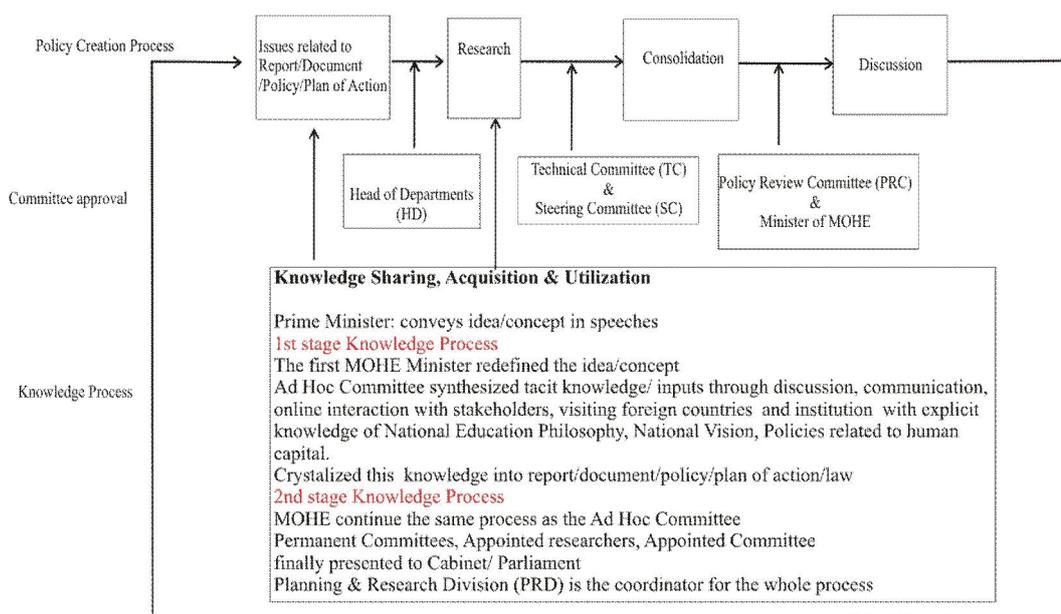
<sup>102</sup>Ibid.

practice. The Main Committee redefined the idea/concept “education revolution” into the concept of “toward excellence” , i.e., the direction of the higher education is toward excellence. The Working Committee crystalized this knowledge into the 2005 Report. The Secretariat acted as coordinator to ensure the process was smooth and the editors task was for the 2005 Report to be documented properly. The 2005 Report was presented in the Cabinet. The Cabinet shared their knowledge/ inputs to develop this 2005 Report for it to become policy/plan of action.

Once this policy-making process of higher education was in place, it was shifted at the ministerial level, i.e., MOHE. There are Committees set up by MOHE. The members are permanent. Their task is to ensure the higher education policy is toward excellence and the internationalization of higher education. There is Planning Research Division (PRD) whose function as the secretariat performing the task of coordinator all throughout the policy-making process. Coordination is important for all the policy actors to be able to work together and to ensure the policy-making process is efficient. The Heads of Departments meeting task is to approve *issues that relevant to update 2005 Report, documents, strategic plan, and policy to be researched*. Then PRD appoints the research groups. The Technical Committee and the Steering Committee task to review/check the research groups are fulfilling the terms of reference and following the frame of reference respectively. There is appointed Working Committee. The members are from MOHE, other Federal ministries, HEIs, industry, and NGO. Their task is to *consolidate* all the research findings, communicate with the stakeholders, and National Philosophy of Education, National Vision, National Policy and policies related to human capital. The Policy Review Committee task is to review and approve the policy/plan of action formulated by the appointed working committee. Finally, the MOHE minister for the final approval before presented to the Cabinet. The Cabinet is then giving shared of knowledge/inputs (*discuss*) to MOHE for the 2005 Report transformed into 2007 Document, then followed with policy/srategic plan 2007 and National Higher Education Strategic Plan: Laying

The Foundation Beyond 2020. This policy-making process of higher education is in a cyclical form.

Based on this, the policy-making process of higher education goes through policy creation process, i.e, issues related to report/document/policy/ plan of action of higher education, research, consolidation, and discussion. This is summarized in Figure 4-7.



**Figure 4-7: Policy-making process of Higher Education in Malaysia**

## 4.7 Conclusion

Malaysian is a Federal government. There are three levels of government. The Federal government policy process is the focus of our research because the formulation of national policy such language, education and economic policy are under jurisdiction of Federal Constitution. Language policy i.e. language-in-education policy is a case in point.

In 1993, the announcement of English as a medium of instruction in higher education policy was due to economic problems that continue in the 1980s, the 1990s and the 2000s, and the era of globalization which English language is the global language. This does not amend Malay language as the national and official language for the public sector that includes education sector. The reason is Malay

language is the national and official language to instill nationalism and patriotism among multi ethnic groups in Malaysia after independence from the British colony.

The government responds to this constraint is to use liberal and procedural approaches. The liberalization of higher education institution indirectly legitimizes and enforces this policy. However since the set up of MOHE in 2004, the policy-making process of higher education policy particularly at the agenda setting and the policy formulation going through four processes, i.e., issues selected related to report/ document/policy/ plan of action of higher education, research, consolidation, and discussion. The first knowledge process of higher education policy-making was the idea/concept came from the Prime Minister. Then the first minister of MOHE, took the task to translate the idea into policy. He set up the Ad Hoc Committee of 2005. This Committee was responsible to interpret the idea into more explicit concept that is the 2005 Report.

The second knowledge process of higher education policy-making is at the ministerial level. There are committees from MOHE, appointed researchers and appointed committee. PRD is the coordinator for the policy-making process. The MOHE committees responsible to approve the issues related to report/ document/policy/ plan of action of higher education, research, and consolidation of research, stakeholders inputs/knowledge and government related policies before policy/plan of action/ document/ report to be formulated.the appointed committee is to consolidate all the inputs into report/ document/policy/ plan of action of higher education

The case analysis of current policy-making process in MOHE uncovered the *black box*. The policy creation process is in a cyclical form. There are policy's actors who are partially involve in all of the policy-making process and there are who involve in all policy-making process. A case in point, PRD senior officers act as coordinator all throughout the policy-making process. PRD function as coordinator is important for the policy formulation. All policy actors are complementing each other.

## Chapter 5: Conclusions

### 5.1 Introduction

In this chapter, we will present the overall conclusions of this study. First, the major findings are summarized as answers to the research questions. Second, we discuss theoretical implications of such findings and present a theoretical model of the policy-making process from the knowledge perspective. Third, some practical implications are argued as some suggestions for policy makers. Finally, we conclude our study with suggestions for future research.

### 5.2 Answers to the Research Questions

The major findings from the previous chapters are summarized as answers to the subsidiary research questions and then are synthesized into the answer to the major research question.

#### **SRQ1: How has the higher education policy been made in Malaysia?**

The higher education policy-making in Malaysia goes through 2 knowledge processes. The first knowledge process began as the Prime Minister speeches or announcements and usually in economic dialogue/ forums. He speeches contents idea/concept/direction on particular national policies that consider pertinent at the period of time. On 13<sup>th</sup> January 2004 the Prime Minister Abdullah Ahmad Badawi announced in his speech the idea/concept of “education revolution”.<sup>1</sup> Subsequently, on 27<sup>th</sup> of March 2004 the Ministry of Higher Education (MOHE) was formed. The first minister of MOHE task was to translate this idea/concept of “education revolution”.<sup>2</sup> He set up an Ad Hoc Committee in January 2005. The Ad Hoc Committee consisted of main committee, working committee, editors,

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<sup>1</sup> Prime Minister Abdullah Ahmad Badawi (In office 2003-2008) speech at the National Economic Action Council (NEAC) Dialogue Forum on 13<sup>th</sup> January, 2004, IOI Marriot Hotel Putrajaya.

<sup>2</sup> Previously, Ministry of Education (MoE) was responsible for the policy formulation. However, since 2004 it is within the jurisdiction of Ministry of Higher Education (MOHE).

and secretariat/coordinator.<sup>3</sup> The main committee discussed how to interpret and approach this idea/concept based on frames of reference and terms of reference set up by the MOHE minister. Then the main committee gather all the inputs/knowledge especially the tacit knowledge from stakeholders through dialogues, round table discussions, visiting other countries and foreign higher education institutions, and online interaction. All these inputs/ tacit and explicit knowledge were discussed in the main committee meetings for the committee to incorporate with their knowledge to come out their findings and recommendations.<sup>4</sup>

The working committee was responsible to synthesize and crystallize /document all of these and which then further synthesize/relate to government documents and laws. The editor was responsible for the externalization/publication of the 2005 Report. The secretariat acted as coordinator for all stages/processes from gathering inputs to finalizing the 2005 Report. The 2005 Report then submitted to the minister for approval before presented to the Cabinet and made available for all the members of the Parliament. The process continued when the Cabinet shared their knowledge/inputs for the 2005 Report to be transformed into higher education policy/plan of action.

The second knowledge process is still continued with the 2005 Ad Hoc Committee approach. However, it is concentrated at the ministerial level. Planning and Research Division (PRD) from MOHE Department of Development is the permanent secretariat that responsible as the coordinator for the policy-making process of higher education. Based on the shared knowledge/inputs from the Cabinet, PRD conducts in-depth studies to relate to the 2005 Report to the current issues. Issues are obtained from the Parliament, other ministries, stakeholders and website commentaries and feedback. These compiled issues related to the 2005 Report are approved by MOHE Heads of Department meetings for further

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<sup>3</sup> Secretariat/coordinator consists of officers from MOHE and one from UiTM (responsible or publication)

<sup>4</sup> Combination from the stakeholders and the committee formal and informal knowledge.

research.<sup>5</sup> PRD is responsible to engage experts for all researches.<sup>6</sup> PRD's Committees, i.e., the Technical Committee and the Steering Committee are responsible for reviewing the research reports.<sup>7</sup>

The former is to ensure the research groups are meeting the terms of reference. The latter, is to ensure research reports relevant to frames of reference of higher education policy, national policies especially the 9<sup>th</sup> Malaysian Plan, government documents and laws and the interest of external stakeholders.<sup>8</sup> The next stage/process is for PRD to set up through the Steering Committee a working committee. This committee tasks is to incorporate the updated 2005 Report and the Ninth Malaysian Plan.<sup>9</sup> This document is called the January 2007 Transformation of Higher Education submitted to Policy Review Committee for review.

In 2007, this Document was submitted to the minister for approval before presented to the Cabinet and made available for all the members of Parliament.<sup>10</sup> The Cabinet then again shared knowledge/inputs for further improvement and related to the Ninth Malaysian Policy that led to 2007 Report and the National Higher Education Strategic Plan August 2007 and later related to the Tenth Malaysian Plan that led to the National Higher Education Strategic Plan: Laying the Foundation Beyond 2020 formulated in 2008. All these reports and strategic plans also went through this second knowledge process of higher education.

The policy-making process since 2005 amplify and synthesize/integrate the 2005 Report with all the relevant national policies/plans/law until it becomes policy/strategic plan for higher education. Once approved, the MOHE minister announces policy/plan of action under MOHE jurisdiction. Policies are of national

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<sup>5</sup> All the head of departments, division and agency.

<sup>6</sup> The selection of researchers is from its own database and database of researches supply by the Data and information centre, Department of Higher Education. PRD database of researches is from continuous interaction with external stakeholders.

<sup>7</sup> Technical Committee members are officers of PRD. The Steering Committee is MOHE Secretary General, other ministries and stakeholders.

<sup>8</sup> The new up to date 2005 Report means that the in-depth research of the current situation related to the 2005 Report.

<sup>9</sup> 2005 Report is updated with further research related to current relevant issues.

<sup>10</sup> Policy Coordination and International Division (PCID) is responsible for procedural purpose before presented to the Cabinet.

concern, the Prime Minister or the Deputy Prime Minister announces to the public.

### **SRQ2: How do actors with different backgrounds make policy together?**

A variety of policy actors with different backgrounds, authorities, jurisdictions, and tasks are involved in the policy-making process of higher education. This is because higher education policy is a combination of social, political, economic and cultural issues.<sup>11</sup> The “Teaching Science and Technology in English at higher education institutions” is one example. All of these policy actors are only partially involved in the policy-making process. However, they are complementing each other.

Generally in Malaysia for any policy to be formulated, it is based from the Prime Minister speeches in forums/dialogues. On 13<sup>th</sup> January 2004 the Prime Minister conveyed his idea/concept “education revolution”.<sup>12</sup> Then the first Minister of MOHE was responsible to interpret the Prime Minister idea/concept into higher education policy.<sup>13</sup> The initial process of the policy-making for higher education was done by the 2005 Ad Hoc Committee. This Committee was formed by the first MOHE minister.

The 2005 Ad Hoc Committee had 2 committees, editors and secretariat whose members were officers from MOHE and UiTM.<sup>14</sup> The main committee members were the committee chairman the incumbent Secretary General of MoE, Professor and Deans/President from HEIs, bank representative, President of FMM, Commissioner of Malaysian Human Rights, President of IIM, and Director General of IHE Management.<sup>15</sup> They communicated with the stakeholders in

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<sup>11</sup> Kementerian Pengajian Tinggi (2008), *Pelan Strategik Pengajian Tinggi Negara Melangkaui Tahun 2020* ( National Higher Education Strategic Plan: Lying The Foundation Beyond 2020).

<sup>12</sup> As stated in the 1<sup>st</sup> footnote

<sup>13</sup> Previously it was Minister of MoE jurisdiction, but since 2004, it is under the jurisdiction of MOHE.

<sup>14</sup> The members are listed in Appendix J. Universiti Teknologi MARA (UiTM).

<sup>15</sup> Ministry of education (MoE), Higher education institutions (HEIs), Federation of Malaysian Manufacturers (FMM), and Institute of Integrity Malaysia (IIM)

dialogues sessions and round table discussions, and visit to foreign countries and higher education institutions to acquire knowledge, and to synthesize with their knowledge in meetings into findings and recommendations.<sup>16</sup> The participants for dialogues sessions were from HEIs, MOHE, Federal Ministries, and Statutory Bodies. The round table discussions were eminent persons, academic and student affairs offices of HEIs, NGO, Professional and media representatives, and representatives of financial officers. The visits to foreign countries were the ministries/bodies responsible with higher education and the HEIs.

The working committee and editors synthesized the findings and recommendation with relevant government's documents, policies and laws and externalized (documented) in the 2005 report. The secretariat used middle-up-down management. The secretariat task was to coordinate the committee meetings and meetings with the stakeholders, and to assist the working committee and editors. MOHE Minister approved this report and presented to the Cabinet for approval and distributed to the members of Parliament. The Cabinet then shared their knowledge/inputs for this report to amplify/develop into policy/plan of action/law.

This process was repeated again for the next report/document/policy/ plan of action but at the ministerial level. Planning and Research Division (PRD) from MOHE Department of Development acts until now as coordinator for the policy-making process of higher education. PRD comprises of Under Secretary, Deputy Under Secretary, Principal Assistants Secretary of PRD, other supportive officers. PRD with assistance of appointed researchers mostly from PHEIs conducted an in-depth studies to relate the 2005 Report to the current issues. The research group members are deans of faculties, directors of centers, senior lecturers, and lecturers. The appointment of researchers from higher education institutions was enabled for the higher education institutions to share explicitly the real situation of the higher education and to be able to contribute to the higher education policy-making process.

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<sup>16</sup> The detail of the stakeholders are listed in Appendix K

Researches were only conducted after MOHE Heads of Department meetings approved for whether there were issues needed for further researches. The Heads of Department meetings were chaired by the Secretary General of MOHE. The members were heads of departments, divisions, Malaysian Qualification Agency, National Higher Education Fund Corporation, and Tunku Abdul Rahman Foundation. Next, PRD's Committees, i.e., the Technical Committee and the Steering Committee were responsible for reviewing the research reports for terms of reference and frames of references respectively.<sup>17</sup> The Technical Committee members were Under Secretary, Deputy Under Secretary, and Principal Assistants Secretary of PRD, while the Steering Committee members are MOHE Secretary General, heads of relevant departments, divisions and agencies of MOHE, high-ranking officials of other Federal Ministries, and Vice Chancellors/ Presidents of higher education institutions, the presidents/chairmen of banks or companies of industries, and the chairmen of NGOs.

The next stage/ process was for PRD to set up committee to incorporate the 2005 Report and the Ninth Malaysian Plan.<sup>18</sup> PRD was the coordinator to form committees for this purpose. The committees' members were Vice Chancellors/ President, dean of faculties, and professors from higher education institutions, President of Federation of Malaysian Manufacturers (FMM) and chairman of banks or companies from industries, and Commissioner of Human Rights of Commission of Malaysia and chairman from NGOs. This document was called the January 2007 Transformation of Higher Education submitted to Policy Review Committee for discussion.<sup>19</sup> PRD is responsible for the content wise of the drafted policy/plan of action/law was explicitly reflected the higher education policy and national policy. PCID was ensured procedure wise for the drafted policy to be presented to the Cabinet for discussion of the next policy/plan of

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<sup>17</sup> Frames of reference are of higher education policy, national policies especially the 9<sup>th</sup> Malaysian Plan, government documents and laws and the interest of external stakeholders.

<sup>18</sup> 2005 Report is updated with further research related to current relevant issues.

<sup>19</sup> The members of Policy Review Committee are the same as members in the Head of Department meetings.

action to be made and the Parliament if it involves passing of laws.<sup>20</sup> After this 2007 Document, the National Higher Education Strategic Plan August 2007 and then National Higher Education Strategic Plan: Laying the Foundation Beyond 2020 were formulated.

### **SRQ3: What are the problems of the policy itself and in the policy-making process?**

The problems of the policy itself are as follows:

- multi-facetedness: higher education policy is combination of social, political, economic, and cultural issues. Teaching science and technology in English at PHEIs is an example.
- Inconsistency: The Higher Education Act of 1996 does not stated explicitly teaching science and technology in English at public higher education institutions (PHEIs). On the other hand, however, the Private Education Act of 1996 does explicitly allow private higher education institutions (PrHEIs) to use English as their medium of instruction.

The problems in the policy-making process:

- complexity of the policy-making process: there are many policy actors involving in the policy-making process. Each of them has a different role. They are the decision makers, policy administrators, and researchers. There are many committees in the policy-making process.
- compartmentalization of the bureaucracy: the bureaucrats within the responsible ministry have there own jurisdictions, authorities and tasks. The discussion, revision, and approval of higher education policies are influenced by their backgrounds.
- underutilization of knowledge by the decision makers: there are many researches about issues raised for agenda setting and policy formulation. However, decision makers cannot fully utilize the research reports because

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<sup>20</sup> As stated in the 10<sup>th</sup> footnote.

they have to refer to other sources for inputs for example the existence national policies, strategic plan, and laws.

### **MRQ: How has the policy of teaching science and technology in English been made in Malaysia?**

In 1993, based on media reports and complaint from the industry of graduates' difficulty to find employment in private sector due to low proficiency level in English language, the Cabinet requested Ministry of Education (MoE) to conduct a research.<sup>21</sup> The research report was reviewed in MoE Committee and Minister of MoE presented to the Cabinet. In December 28, 1993 the Cabinet through Prime Minister Mahathir Mohamad (in office 1981-2003) announced English as a medium of instruction for science and technology in higher education policy.<sup>22</sup>

This was contradicted with MoE vision to uphold Malay language as the national and official language stated in the Federal Constitution. Henceforth, MoE created policy that indirectly transcended and crystallized the policy. There were 1995 Education Act and the formation of Higher Education Council. The Act increased the authority of the Minister of MoE. The Council was responsible for the development of higher education. Since then, in 1996, the Higher Education Act and the Private Higher Education Act were formulated. The 1995 and 1996 Acts allowed the implementation of policy directly and indirectly. In addition, 1997 currency crisis, government responded with the liberalization of higher education. This Act increased the involvement of Private Sector and led to the Corporatization of PHEIs of 1998.

This policy continued to develop especially in the 2000s but always implicitly as part of the higher education policy. On 13<sup>th</sup> January 2004 the Prime Minister Abdullah Ahmad Badawi announced in his speech the idea/concept of "education

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<sup>21</sup> Interview: the Principal Assistant Secretary of PRD Research Section at PRD office on August, 11, 2010; the Chief Executive Officer (CEO) of FMM at Wisma FMM main office on the March, 18, 2011.

<sup>22</sup> In office 1980-2003.

revolution”.<sup>23</sup> The MOHE minister took up the responsible to translate/crystallize this idea/concept. This new ministry initially set up an Ad Hoc Committee in January 2005. The Ad Hoc committee presented/externalized the Prime Minister idea in the research report by *the Committee to study, Review and Make Recommendations Concerning the Development and Direction of higher Education in Malaysia*.<sup>24</sup>

The report related about English language was stated explicitly in Recommendation 72, And in Recommendation 74, the Committee recommended that each student should master at least two international languages in addition to Malay language. This was based on the findings that stated explicitly in chapter 14 the curriculum section, i.e., positive responds from all stakeholders participated in the dialogues and round table discussions about English for science and technology in HEIs, the concern of the position of the Malay language, and the insistence of its role as the main language that shapes a united and cultured Malaysian society to be protected. The Committee finding that a number of countries in Europe, the Middle East and South Asia permit the use of English as the medium of instruction especially for the study of science and technology and also for professional writing.

The next stage/ process was all the policy-making process is at the ministerial level but involvement from the MOHE, other ministries, academics, industry and NGO. PRD of MOHE is the coordinator to identify issues, to set up research committee/consultant/group for issues related to the 2005 Report. Then MOHE committees approved the research report before a working committee was appointed to integrate/synthesize and to document/crystallize the 2005 Report and the Ninth Malaysian Plan into a document called the January 2007 Transformation of Higher Education.<sup>25</sup> This document was submitted to the Policy Review Committee and the MOHE minister for approval. Then presented to the Cabinet

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<sup>23</sup> Prime Minister Abdullah Ahmad Badawi (In office 2003-2008) speech at the National Economic Action Council (NEAC) Dialogue Forum on 13<sup>th</sup> January, 2004, IOI Marriot Hotel Putrajaya.

<sup>24</sup> Government documents, Appendix D

<sup>25</sup> 2005 Report is updated with further research related to current relevant issues.

and made available to the Parliament. The Cabinet sharing of knowledge/inputs was able to amplify the 2007 document and 2005 Report into the National Higher Education Strategic Plan August 2008 and then National Higher Education Strategic Plan: Laying the Foundation Beyond 2020. The wide use of English is stated in page 31. This Strategic Plan was announced by Prime Minister Abdullah Ahmad Badawi in 2008.<sup>26</sup>

### **5.3 Theoretical Implications**

Our study is about knowledge process in the policy-making process and knowledge sharing, utilization, and acquisition that lead to knowledge creation in the policy-making process. Based on the findings of the literature review, historical overview, the policy-making process case analysis, and our research objectives, we developed a theoretical model of knowledge in the policy-making process. The theoretical model begins with the first process of the knowledge creation that is socialization, i.e., *selection* of issues in the policy system by a division/unit of the responsible government body. The high ranking officers of this division/unit have wide knowledge in research, legislation and judiciary, administration, and implementation of policy. This division/unit acts as the coordinator for the policy-making process. Selection is based on sharing, acquisition, and utilization of knowledge from formal meetings, dialogues, and discussions of the relevant stakeholders, informal meetings with the industry and NGO, and online interaction. Once selected, these issues need to be legally approved by high ranking officers who are the decision makers for further research.

The second process of the knowledge creation is externalization, i.e., *exploration* process for issues to be researched. The same division/unit is responsible to coordinate the appointment of research committee and monitor the progress of the research. The appointed committee members are directly and indirectly involved of the researched issue. The appointed committee is supplied

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<sup>26</sup> In office 2003-2008

with sufficient information including documents, articles, reviews and previous research findings to guide and assist in formulating the committee recommendations. In addition, the appointed committee also obtains information through dialogues and interviews/round table discussions from relevant stakeholders and benchmarking visits to selected foreign higher education institutions. The research report needs to be legally approved by high ranking officers who are members of committee/s that has authority in decision-making. The high ranking officers' task is to ensure the research group provides policy-makers with relevant knowledge, such as the nature of the policy problems and possible solutions for decision-making.

The third process of the knowledge creation is combination, i.e., *integration*. The high ranking officers who are from committees that have authority in decision-making appoint a committee to integrate the research report with the national policy and other relevant government policy. This integration is in the form of written policy/plan of action/report. Another committee and the responsible minister is to approve this document before it is presented in the Cabinet. If the document is related to law, it is to be presented in the highest decision-making body in the government such as the Parliament.

The fourth process of the knowledge is internalization, i.e., *deliberation*. The Cabinet meetings are to give inputs, i.e., knowledge for the policy/plan of action/report for further improvement. These inputs are references for all policy actors in the policy-making process to continue to incorporate relevant elements into public policy at the national level. This knowledge creation process continues again once inputs received from the Cabinet. Hence, the process is in the cyclical form. Through which policy as knowledge is revised and enriched. Figure 5-1 is the summary of knowledge creation in the policy-making process.

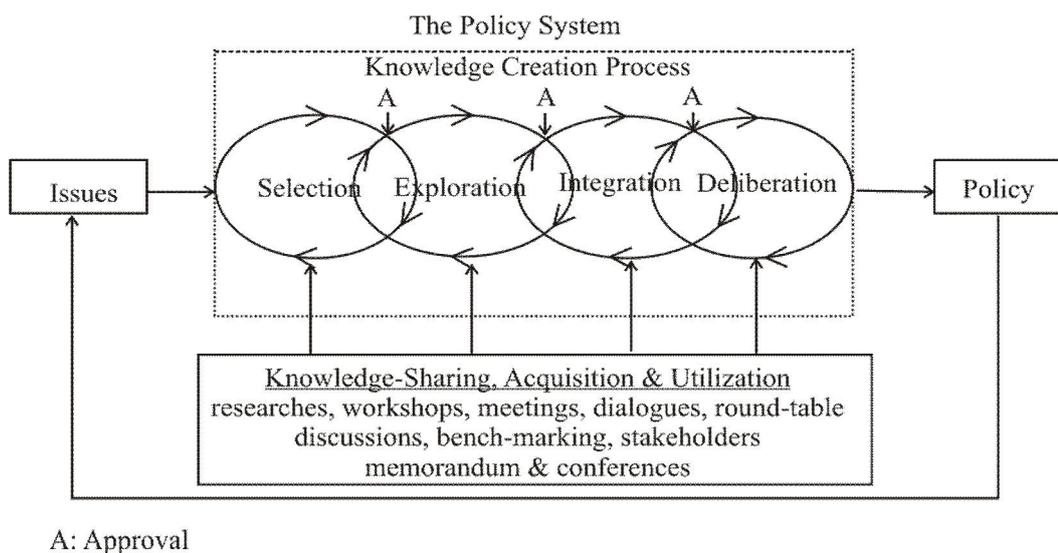


Figure 5-1 Policy Making Process Model

## 5.4 Policy Implications

The problems of higher education policy are combinations of many issues and laws are not standardized. There is a need to combine issues effectively in the policy formulation, to standardize higher education laws, and to allow explicit usage of English in science and technology courses at all higher education institutions in Malaysia. The policy problems also make the policy-making process become more complicated and compartmentalized.

The possible solution is to enhance the coordination function of a policy of division/unit that is responsible to mobilize research reports and inputs from other sources to be utilized in the policy-making process.

## 5.5 Suggestion for Future Research

The study is focus on the high-ranking administrators and main external stakeholders that represent opinion outside the responsible ministry. However, we were unable to interview all stakeholders. These are due to legality and time constraint.

Our future research is to conduct more interviews for high-ranking officers of the relevant ministries, academics of higher education institutions, members of

## Chapter 5 - Conclusions

Parliament, the industries and NGO. These interviews will be able to understand their perspectives on and contributions to this issue.

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## **Appendices**

### **Appendix A:**

#### **The Cover letter for interviews**

#### **Cover letter to Department of Higher Education, Ministry of Higher Education Malaysia**

Zuraidah Zaaba

Japan Advanced Institute of Science and Technology (JAIST)

Graduate School of Knowledge Science

1-1 Asahidai Nomi City

Isihikawa 923-1292

Japan

Date: 28<sup>th</sup> June, 2010

Prof. Dr. Rujhan bin Mustafa

Timbalan Ketua Pengarah

Institut Pengajian Tinggi Awam

Kementerian Pengajian Tinggi Malaysia

Aras 3, Blok E9, Parcel E

Pusat pentadbiran Kerajaan Persekutuan

Prof.

#### **Data Collection June- August 2010**

My name is Zuraidah binti Zaaba. I am currently pursuing PhD courses at Japan Advanced Institute of Science and Technology (JAIST). I am sponsor by the

Appendices

Ministry of Higher education Malaysia through UiTM. Currently, I am doing my primary and secondary data collection in Malaysia.

The area of my research is on the policy-making process in Malaysia. My case study is Language-in-education policy in Malaysia. The focus area is the use of English as a medium of instruction for science and technology courses at the public higher education institutions in Malaysia.

This requires for me to conduct interviews with officials who are especially involved in the formulation of the education policy, and to collect secondary data at the relevant organizations.

Prof. Dr. Raduan bin Che Rose, Deputy Vice Chancellor of University Pertahanan Nasional Malaysia advised me to see Prof. because of your knowledge in the in the public higher education institution policy.

I hope Prof. would assist me on this matter.

Herewith I attach certificate as proof that I am currently doing my PhD course.

Thank you very much.

Sincerely,

(ZURAIDAH BINTI ZAABA)

## **Cover letter to the Ministry of Higher Education of Malaysia**

Zuraidah Zaaba

Japan Advanced Institute of Science and Technology (JAIST)

Graduate School of Knowledge Science

1-2 Asahidai Nomi City

Isihikawa 923-1292

Japan

Date: 28<sup>th</sup> July, 2010

Bahagian Dasar dan Antarabangsa

Jabatan Pengajian Tinggi

Kementerian Pengajian Tinggi Malaysia

Aras 3, Blok E3, Parcel E

Pusat pentadbiran Kerajaan Persekutuan

Tuan

### **Data Collection June- August 2010**

My name is Zuraidah binti Zaaba. I am currently pursuing PhD courses at Japan Advanced Institute of Science and Technology (JAIST). I am sponsor by the Ministry of Higher education Malaysia through UiTM. Currently, I am doing my primary and secondary data collection in Malaysia.

The area of my research is on the policy making process in Malaysia. My case study is Language-in-education policy in Malaysia. The focus area is the use of English as a medium of instruction for science and technology courses at the public higher education institutions in Malaysia.

Appendices

This requires for me to conduct interviews with officials who are especially involved in the formulation of the education policy, and to collect secondary data at the relevant organizations.

Prof. Madya Dr. Zarida binti Hambali, Bahagian Pengurusan Pembangunan Akademik advised me to visit Bahagian Dasar dan Antarabangsa because of its involvement with higher education institution policy.

I hope tuan would assist me on this matter.

Herewith I attach certificate as proof that I am currently doing my PhD course.

Thank you very much.

Sincerely,

(ZURAIDAH BINTI ZAABA)

## **Cover letter to Federation of Malaysian Manufacturers (FMM)**

Zuraidah Zaaba  
Japan Advanced Institute of Science & Technology (JAIST)  
6-115 JAIST Student Housing,  
1-8 Asahidai, Nomi city  
Ishikawa 923-1211  
Japan

Date: 9<sup>th</sup> March 2011

Lee Cheng Suan  
Chief Executive Office  
Federation of Malaysian Manufacturer  
Wisma FMM, No. 3, Persiaran Dagang, PJU9  
Bandar Sri Damansara, 52200 Kuala Lumpur  
(Atten.: Miss Sofinar Abdul Halim)

Dear Sir

### **Data Collection for Research ‘Teaching Science and Technology in English for Knowledge Economy: A Case Study of Higher Education Policy-Making Process in Malaysia**

I am Zuraidah Zaaba a third year PhD student from Japan Advanced Institute of Science & Technology (JAIST) Japan. I am attached to UiTM Sabah from faculty of Administrative Science and Policy Studies.

This March 2011 from 8<sup>th</sup> to 22<sup>nd</sup>, I am conducting my second data collection by re-interviewing MOHE officers for further in-depth information and other stakeholders (non-government organisation) who are involved with policy-making process in MOHE related to the above research topic.

**I hope I can do data collection with FMM within the period of 8<sup>th</sup> to 22<sup>nd</sup> of March. If not, I hope I can communicate with different means for example phone/internet interview.**

Appendices

Based on my first data collection, FMM is one of the stakeholders who involve either directly and indirectly of the formulation and adjustment of language-in-education policy especially English as the medium of instruction for science and technology courses in the public higher education institutions (PHEIs). This research is viewed from the knowledge perspective.

I attach questionnaire that hopefully FMM especially from the 'Business Environment Division' could assist me in my research.

FMM input will be a great value for identifying knowledge domain (especially knowledge creation) in policy-making process in Malaysia focusing the above research topic.

Thank you very much.

Sincerely,

(ZURAIDAH ZAABA)

## Appendix B: List of interviewees

### Ministry of Higher Education Malaysia (MOHE)

<b>No</b>	<b>Interviewee /Designation</b>	<b>Ministry/Department/Unit</b>	<b>Date</b>	<b>Task</b>	<b>Note</b>
1	Director	Department of Higher Education	2 July 2010	HD PRC	8:30-9:00
2	Under Secretary	Planning & Research Division	19 Aug 2010	HD PRC TC	11:43-12:29
3	Deputy Under Secretary	Macro Section of Planning & Research Division	17 Aug 2010	PRD TC	2:30-3:30
4	Principal Assistant Secretary	Research Section of Planning & Research Division	11 Aug 2010	PRD TC	2:30-5:00
5	Deputy Under Secretary	Policy & International Division, policy division	12 Aug 2010	HD PRC PCID	10:00-11:00
6	Assistant Under Secretary	Policy & International Division, policy division	12 Aug 2010	PCID	10:00-11:00
7	Assistant Director	Governance Division of Department of Higher Education	18 Aug 2010	TC	2:15-3:51
8	Assistant Director	Department of Higher Education, Public Higher Education Sector	17 Aug 2010	RG	4:00-5:00

### Public Universities and Non-governmental organization

No	Interviewee /designation	Organization	Date	Task	Note
1	Executive Director	Malaysian Employers Federation(MEF)	9 <sup>th</sup> March 2011	SC WC RG	10:30-11:45am
2	Coordinator Industrial Training & soft Skills,	University of Malaysia Sabah	10 <sup>th</sup> March 2011	WC	5:30-7:00 pm
3	Deputy Vice Chancellor	National Defense University of Malaysia (Academic & International)	14 <sup>th</sup> March 2011	ST WC	11:00-11:55am
4	Professor	Department of Physic, National Defense University of Malaysia	14 <sup>th</sup> March 2011	RG	Interview the same time as Prof. Dr. Raduan Dr.11:00-11:55am
5	Chief Executive officer	Federation of Malaysian Manufacturers (FMM)	18 <sup>th</sup> March 2011	RG WC	3:25-4:54 pm
6	Deputy Dean Faculty of Administrative Science & policy Studies( Academic & International)	UiTM Malaysia	15 <sup>th</sup> March 2011	RG	3:00-4:00 pm

HD: Heads of Departments

PRC: Policy Review Committee

TC: Technical Committee

ST: Steering Committee

PRD: Planning and Research Division

PCID: Policy Coordination and International Division

RG: Research Groups

WC: Working Committee

## **Appendix C: The interview Questions**

### **Questions to Ministry of Higher Education (MOHE)**

Conducted by:

Ph.D. Student

Graduate School of Knowledge Science

Japan Advanced Institute of Science and Technology

1-1 Asahidai, Nomi-city, Ishikawa 923-1211, Japan

#### **Interview detail**

I am Zuraidah Zaaba a PhD candidate from Japan Advanced Institute of Science & Technology (JAIST) Japan. I am currently attached to UiTM Sabah from faculty of Administrative Science and Policy Studies. I am conducting an interview on my research

#### **Title:**

Teaching Science and Technology in English for the Global Knowledge Economy: A Case Study of Higher Education Policy-Making Process in Malaysia

#### **Introduction**

The purpose of the interview is to gather data about the policy making process in Malaysia. It is a part of my research about the role of knowledge in the development of language-in-education policy. The focus of the study is on the process of building and developing strategy and policy of English as a medium of instruction for science and technology in public higher education institutions (PHEIs) in Malaysia since 1993. Therefore the objectives of the research are:

#### **Main Question**

How has English as a medium of instruction for science and technology in public higher education institution being redeveloped through language-in-education policy?

### **Subsidiary questions**

- To understand the process of building and developing strategy and policy of English as a medium of instruction for science and technology courses at PHEIs in Malaysia
- Who are the major stakeholders involved in the development of English as medium of instruction for science and technology course at Malaysian PHEIs
- To identify the problems in using English as a medium of instruction for science and technology course at PHEIs in Malaysia

Therefore the interview will cover:

### **Section A**

#### **General**

- The background of the interviewee
- How policy of PHEIs being/ who involve in the policy being:
  - Formulated & become agenda
  - Implemented
  - Evaluated/continuous improvement

### **Section B**

#### **Function**

- The function of the Kementerian Pengajian Tinggi (KPT) (Ministry of Higher education [MOHE]) especially the respective unit in the policy making of PHEIs

### **Section C**

#### **The redevelopment of language-in-education policy in particular English as a medium of instruction for science and technology courses in PHEIs since 1993**

- How policy of PHEIs being/ who involve in the policy being:
  - Formulated & become agenda
  - Implemented
  - Evaluated/continuous improvement
- The function of the Kementerian Pengajian Tinggi (KPT/MOHE)

especially the respective unit in the policy making of English as a medium of instruction for science and technology courses in PHEIs

-----End of interview-----

Thank you very much for your participation

## **Interview Questions to Academics of Public Universities in Malaysia**

### **Interview detail**

I am Zuraidah Zaaba a third year PhD student from Japan Advanced Institute of Science & Technology (JAIST) Japan. I am currently attached to UiTM Sabah from faculty of Administrative Science and Policy Studies. I conducted the first data collection using qualitative approach. Secondary data and the first interviews were conducted in August 2010 at the Ministry of Higher Education (MOHE) with officers who are involved in the policy-making in MOHE. This March 2011, I will be conducting my second data collection by interviewing officers that previously interviewed for further in depth information on the policy-making process of MOHE. And stakeholders who are involved in policy-making process in MOHE

### **Title:**

Teaching Science and Technology in English for the Global Knowledge Economy: A Case Study of Higher Education Policy-Making Process in Malaysia

### **Introduction**

The purpose of the interview is to gather data about the policy making process in Malaysia. It is a part of my research about the role of knowledge in the development of language-in-education policy. The focus of the study is on the process of building and developing strategy and policy of English for science and technology courses in public higher education institutions (PHEIs) in Malaysia since 1993. Therefore the objectives of the research are:

### **Main Question**

How has English for Science and Technology courses in PHEIs being redeveloped?

### **Subsidiary questions**

- To understand the process of building and developing strategy and policy of English as a medium of instruction for science and technology courses at PHEIs in Malaysia
- Who are the major stakeholders involved in the development of English as medium of instruction for science and technology course at Malaysian PHEIs
- To identify the problems in using English as a medium of instruction for science and technology course at PHEIs in Malaysia

Therefore the interview will cover:

### **General**

- The background of the interviewee
- Involvement/task with MOHE/KPT

### **Agenda Setting**

#### **Feedback Channels**

- What are the feedback channels available?
- What are the feedback channels MOHE referred to?
- What channels are mostly referred to by MOHE?
- Is it current issues/ issues frequently raised lead to agenda setting/ policy adjustment?
- Is it only relevant to Higher Education (HE) or relate to environment (political, socio-cultural & economic) issues/governmental preference?
- How do they select the issues that are important?
- Once selected how the responsible committees do discuss the concern issue?
- Is Language issue pertinent in HE?
- How does language issue lead to many policy formulation and adjustment in HE?

### **Selected issues**

#### **Committees**

##### **Policy review committee**

##### **Head of the department committee**

- How does the committee conduct the policy review meeting?
- Are all issues considered pertinent need to be researched?
- Once the issues are selected, are all of the issues will be researched?

- How is the process of finalizing the research into final report?

### **Policy Formulation/adjustment**

- The final report will be distributed to the relevant bodies and stakeholders, how can this report is useful for them, how can they influence the formulation of policy/adjustment of policy?
- How is the formulation of policy/adjustment being conducted?
- Other issues than the research report will be considered for formulation of policy/adjustment, how can this other issues considered?
- Who are involved in the policy formulation/adjustment?
- Which bodies in MOHE & stakeholders involve in the policy formulation/adjustment?

### **Plan of action**

- Who are involved in the plan of action?
- Which division, key players & stakeholders involve in the plan of action?
- How this plan of action would be implemented?

-----End of interview-----

Thank you very much for your participation

## **Interview Questions to External Stakeholders: Federation of Malaysian Manufacturer (FMM) & Malaysian Employment Federation (MEF)**

### **Interview detail**

I am Zuraidah Zaaba a third year PhD student from Japan Advanced Institute of Science & Technology (JAIST) Japan. I am currently attached to UiTM Sabah from faculty of Administrative Science and Policy Studies. I conducted the first data collection using qualitative approach. Secondary data and the first interviews were conducted in August 2010 at the Ministry of Higher Education (MOHE) with officers who are involved in the policy-making in MOHE. This March 2011, I will be conducting my second data collection by interviewing officers that previously interviewed for further in depth information on the policy-making process of MOHE. And stakeholders who are involved in policy-making process in MOHE

### **Title:**

Teaching Science and Technology in English for the Global Knowledge Economy: A Case Study of Higher Education Policy-Making Process in Malaysia

### **Introduction**

The purpose of the interview is to gather data about the policy making process in Malaysia. It is a part of my research about the role of knowledge (sharing/acquisition, utilization & creation) in the development of language-in-education policy. The focus of the study is on the process of building and developing strategy and policy of English for science and technology courses in public higher education institutions (PHEIs) in Malaysia since 1993. Therefore the objectives of the research are:

### **Main Question**

How has English for Science and Technology courses in PHEIs being redeveloped?

### **Subsidiary questions**

- How is the policy-making process of English for science and technology courses in PHEIs?
- Who are the major stakeholders in policy-making process?
- What are the problems in policy-making process?

Therefore the interview will cover:

### **General**

- The background of the interviewee
- FMM Involvement/task with Ministry of Higher Education (MOHE) in policy formulation/adjustment (especially English usage for science and technology courses in PHEIs)

### **Policy Formulation/Adjustment**

#### **Channels**

#### **Non-governmental stakeholders**

- How do stakeholders from non-governmental organization able to take part/channel their views/ideas/issues in the agenda setting and policy formulation/adjustment?

#### **FMM**

- How does FMM able to take part/channel their views/ideas/issues in the agenda setting and policy formulation/adjustment?

#### **Possible Constraint**

#### **Non-governmental stakeholders**

- Why there is constraint for stakeholders from non-governmental organization to channel their views/ideas/issues in the agenda setting and policy formulation/adjustment?

- If there is constraint how do stakeholders able to channel their view/idea/issue?

### **FMM**

- How does FMM able to persuade it views/ideas/issues to the government for policy formulation/adjustment, even there is constraint?

### **Issue Language policy in Higher education**

- How does FMM able to persuade it views related to issues on higher education (especially language issues in PHEIs) to be included in policy formulation/adjustment?

### **Involvement**

- Does FMM involves in the process of policy formulation/adjustment
  - If yes, how?
  - If no, will FMM find a way to get involve? If yes, how?
- Does FMM involve in the research conduct by MOHE?
  - If yes, how?
  - If no, why?
- Does FMM receive any research report done by MOHE?
  - If yes, how does this report useful for FMM?
  - If no, why?

### **Plan of action**

- Does FMM involve in the implementation stage of policy related to higher education (especially the usage of English language)?
  - If yes, how?
  - If no, does FMM still continue to be involved?

## Appendices

- Does FMM think that government policy related to higher education policy reflected what the society wants and needs?
  - If yes, how?
  - If no, why?

-----End of interview-----

Thank you very much for your participation

## Appendix D:

### MOHE & FMM Documents

No	Documents	Source
1	Report by the Committee to Study, Review and Make Recommendation Concerning the Development and Direction of higher Education in Malaysia 2006	PRD
2	National Higher Education Strategic Plan: Laying beyond 2020 (Pelan Strategik Pengajian Tinggi Negara Melangkaui Tahun 2020)	PRD
3	Future Direction of Language Education in Malaysia (2010)	ADD
4	Malaysia Soft Skills Scale	ADD
5	'Modul Pembangunan Kemahiran Insaniah (Soft Skills) untuk institutisi Pengajian Tinggi Malaysia' (2006)	ADD
6	'Perangkaan (Statistics) Pengajian Tinggi Malaysia 2008 and 2009.	PRD
7	FMM are Annual Report 2009/2010	FMM
8	Comments on Education related Issues 2010	FMM

\*PRD: Planning and Research Division

ADD: Academic Development Division for PHEIs

FMM: Federation of Malaysian Manufacturer

## **Appendix E:**

### **Ministry of Higher Education (MOHE) Vision and Mission**

#### **Vision**

To Turn Malaysia into a Center of Excellence for Higher Education.

---

#### **Mission**

To develop and put in place a higher education environment that encourages the growth of premier knowledge centers and individuals who are competent, innovative with high morale values to meet national and international needs.

---

#### **Objective**

- To ensure at least three Malaysian universities are listed among the best 100 universities in the world and that one of the said universities is listed among the world's top 50 universities.
  - To develop at least 20 Centers of Excellence that are internationally recognized in terms of research output, copyrights, publications, research collaborations and to commercialize 10% of research outputs.
  - To ensure at least 75% of lecturers in Public Institutions of Higher Education possess PhD or its equivalent and 30% of lecturers in polytechnics and community colleges possess a Master Degree, PhD or its equivalent
  - To produce competent graduates to fulfill national and international manpower needs with 75% of the graduates employed in their relevant fields within six months upon graduation.
  - To encourage the internationalization of the country's higher education by attracting foreign students, making up to 10% of the total student population at diploma, bachelor and postgraduate levels.
  - To increase the cohort of individuals (17 – 23 years of age) who have access to higher education to 50% and widen opportunities for lifelong learning of all forms of conventional and non-conventional higher education.
  - To ensure that there is continual increment in funding of public universities with a ratio of 30% borne by comprehensive/focused universities, 40% for research universities and the balance by the Government.
  - To offer adequate and quality higher education infrastructure, at par with the best practices adopted internationally.
  - To offer financing facilities to student with potential and qualified to gain access to higher education.
  - To enhance strategic alliances with local and foreign higher education institution, and renowned local and foreign research institution in the field of research, development and commercialization.
- 

#### **Seven Core Thrusts**

- Widening access and increasing equity
- Improving the quality of teaching and learning
- Enhancing research and innovation

- Strengthening of higher education institutions
- Intensifying internationalization
- Enculturation of lifelong learning
- Reinforcing the delivery systems of the Ministry of Higher Education

---

### **Corporate Values**

- Integrity -To execute duties and responsibilities sincerely and fairly.
- Professionalism -Knowledgeable and highly skilled in executing responsibilities.
- Teamwork -Performing duties through teamwork.
- Customer Oriented -Offering best services to customers in term of timeliness and service quality.
- Ministry of Higher Education Community Oriented -Sensitive to the welfare of staff whilst safeguarding organisational interests.

---

### **Motto**

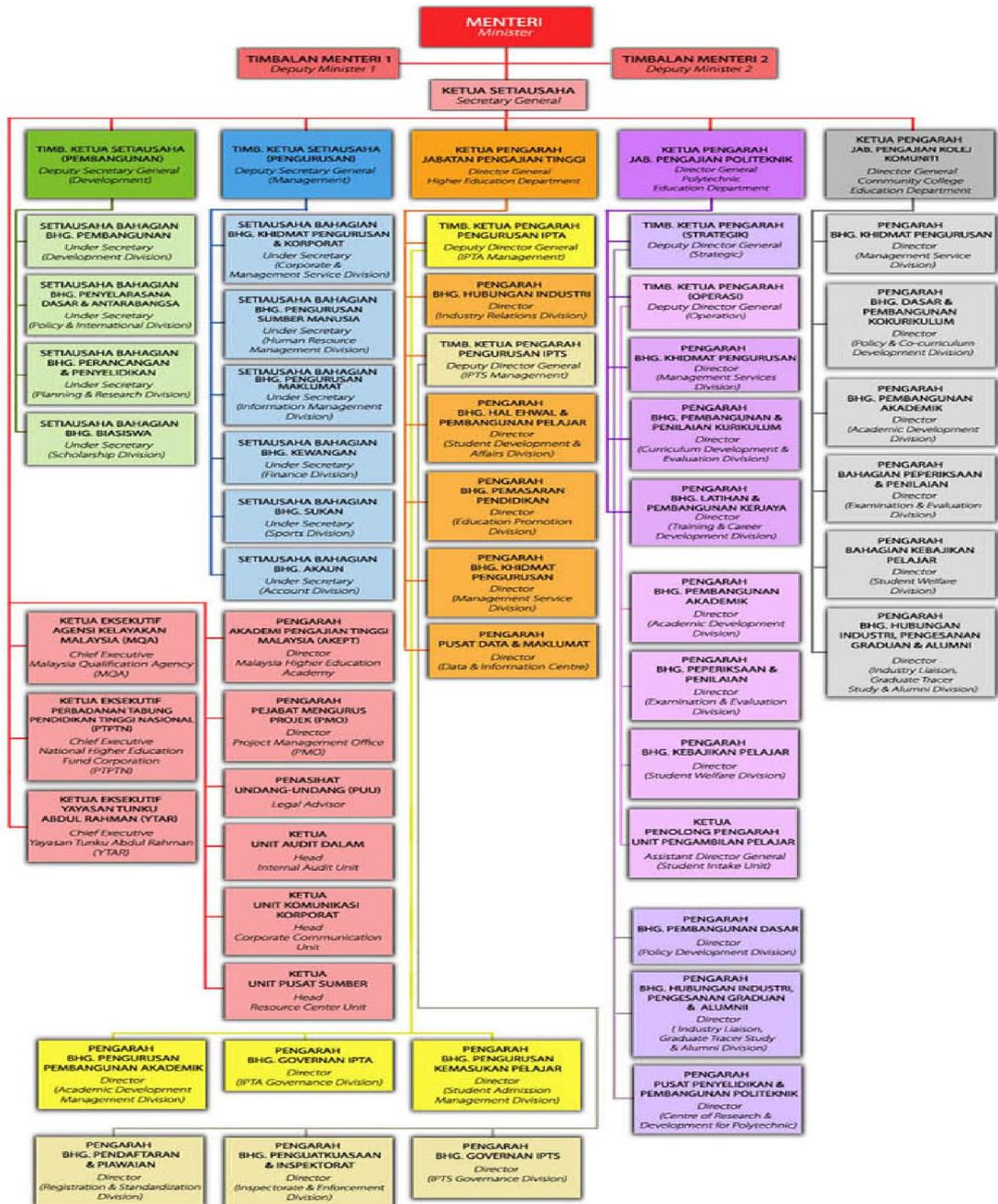
"LEADING KNOWLEDGE EXCELLENCE"

Retrieved March 30, 2011 from

<http://www.mohe.gov.my/portal/info-kementerian-pengajian-tinggi/misi-dan-visi.html>

# Appendix F:

## MOHE Organizational Chart



Retrieved May 8, 2011 from

<http://www.portal.mohe.gov.my/portal/page/portal/ExtPortal/>

## **Appendix G:**

### **Wawasan 2020**

Nine challenges:

Challenge 1: Establishing a united Malaysian nation made up of one Malaysian Race.

Challenge 2: Creating a psychologically liberated, secure and developed Malaysian society.

Challenge 3: Fostering and developing a mature democratic society.

Challenge 4: Establishing a fully moral and ethical society.

Challenge 5: Establishing a matured liberal and tolerant society.

Challenge 6: Establishing a scientific and progressive society.

Challenge 7: Establishing a fully caring society.

Challenge 8: Ensuring an economically just society, in which there is a fair and equitable distribution of the wealth of the nation.

Challenge 9: Establishing a prosperous society with an economy that is fully competitive, dynamic, robust and resilient.

Retrieved September 16, 2009 from <http://www.wawasan2020.com/vision2.html>.

## Appendix H:

### List of Public Higher Education Institutions

#### List of Public Universities

No	Name	Abbreviation
1	Universiti Malaya	UM
2	Universiti Sains Malaysia	USM
3	Universiti Kebangsaan Malaysia	UKM
4	Universiti Putra Malaysia	UPM
5	Universiti Teknologi Malaysia	UTM
6	Universiti Islam Antarabangsa	UIA
7	Universiti Utara Malaysia	UUM
8	Universiti Malaysia Sarawak	UNIMAS
9	Universiti Malaysia Sabah	UMS
10	Universiti Pendidikan Sultan Idris	UPSI
11	Universiti Sains Islam Malaysia	USIM
12	Universiti Teknologi MARA	UiTM
13	Universiti Malaysia Terengganu	UMT
14	Universiti Tun Hussein Onn Malaysia	UTHM
15	Universiti Teknikal Malaysia Melaka	UTeM

16	Universiti Malaysia Pahang	UMP
17	Universiti Malaysia Perlis	UniMAP
18	Universiti Sultan Zainal Abidin	UniSZA
19	Universiti Malaysia Kelantan	UMK
20	Universiti Pertahanan Nasional Malaysia	UPNM

### List of Polytechnics

No	Name	Abbreviation
1	Politeknik Merlimau Melaka (PMM)	PMM
2	Politeknik Balik Pulau	PBU
3	Politeknik Ungku Omar	PUO
4	Politeknik Johor Bahru	PJB
5	Politeknik Kota Bharu	PKB
6	Politeknik Kota Kinabalu	PKK
7	Politeknik Kuching, Sarawak	PKS
8	Politeknik Sultan Haji Ahmad Shah	POLISAS
9	Politeknik Banting Selangor	PBS
10	Politeknik Jeli Kelantan	PJK
11	Politeknik Kota Melaka	PKM
12	Politeknik Kota, Kuala Terengganu	PKKT
13	Politeknik Tuanku Sultanah Bahiyah	PTSB
14	Politeknik Muadzam Shah	PMS
15	Politeknik Mukah Sarawak	PMU
16	Politeknik Nilai Negeri Sembilan	PNS
17	Politeknik Port Dickson	PPD
18	Politeknik Seberang Perai	PSP
19	Politeknik Sultan Abdul Halim Mu'adzam Shah	POLIMAS

20	Politeknik Sultan Azlan Shah	PSAS
21	Politeknik Sultan Idris Shah	PSIS
22	Politeknik Sultan Mizan Zainal Abidin	PSMZA
23	Politeknik Sultan Salahuddin Abdul Aziz Shah	PSA
24	Politeknik Tunku Syed Sirajuddin	PTSS
25	Politeknik Sandakan Sabah	PSS
26	Politeknik Mersing Johor	PMJ
27	Politeknik Hulu Terengganu	PHT
28	Politeknik Metro Johor Bahru	

### List of Community Colleges

No	Name
1	Kolej Komuniti Masjid Tanah
2	Kolej Komuniti Arau
3	Kolej Komuniti Bayan baru
4	Kolej Komuniti Bentong
5	Kolej Komuniti Cawangan Raub
6	Kolej Komuniti Bukit Beruang
7	Kolej Komuniti Cawangan Kota Melaka
8	Kolej Komuniti Jelebu
9	Kolej Komuniti Cenderoh
10	Kolej Komuniti Darul Aman
11	Kolej Komuniti Cawangan Bandar Baharu
12	Kolej Komuniti Cawangan Jelai
13	Kolej Komuniti Sungai Petani
14	Kolej Komuniti Cawangan Jeli
15	Kolej Komuniti Langkawi
16	Kolej Komuniti Kulim
17	Kolej Komuniti Kepala Batas
18	Kolej Komuniti Cawangan Nibong
19	Kolej Komuniti Cawangan Bukit mertajam

Appendices

20	Kolej Komuniti Teluk Intan
21	Kolej Komuniti Grik
22	Kolej Komuniti Sungai Siput
23	Kolej Komuniti Pasir Salak
24	Kolej Komuniti cawangan Tapak
25	Kolej Komuniti Sabak Bernam
26	Kolej Komuniti Cawangan Tanjung Karang
27	Kolej Komuniti Hulu Langat
28	Kolej Komuniti Hulu Selangor
29	Kolej Komuniti Selangor
30	Kolej Komuniti Kuala Langat
31	Kolej Komuniti Cawangan Klang
32	Kolej Komuniti Cawangan Shah Alam
33	Kolej Komuniti Jempol
34	Kolej Komuniti Seladanr
35	Kolej Komuniti Jasin
36	Kolej Komuniti Ledang
37	Kolej Komuniti Cawangan Muar
38	Kolej Komuniti Cawangan Pagoh
39	Kolej Komuniti Segamat
40	Kolej Komuniti Segamat 2
41	Kolej Komuniti Bandar Penawar
42	Kolej Komuniti Pasir Gudang
43	Kolej Komuniti Paya Besar
44	Kolej Komuniti Cawangan Tanjung Piai
45	Kolej Komuniti Rompin
46	Kolej Komuniti Temerloh
47	Kolej Komuniti Kuantan
48	Kolej Komuniti Kuala Trengganu
49	Kolej Komuniti Cawangan Pasir Mas

Appendices

50	Kolej Komuniti Cawangan Kemaman
51	Kolej Komuniti Tawau
52	Kolej Komuniti Cawangan Semporna
53	Kolej Komuniti Kucing
54	Kolej Komuniti Mas Gading
55	Kolej Komuniti Cawangan Santubong
56	Kolej Komuniti Cawangan Betong
57	Kolej Komuniti Baling
58	Kolej KomunitiKok Lanas
59	Kolej Komuniti Rembau

## **Appendix J:**

### **Committee Members of the Committee to Study, Review and Make Recommendations Concerning the Development and Direction of Higher Education in Malaysia**

(Report: Committee Members of the Committee to Study, Review and Make Recommendations Concerning the Development and Direction of Higher Education in Malaysia(2006) p.203-205)

## Appendices