Making Sense of New Senior Secondary Liberal Studies in Hong Kong Curriculum Reform: Teacher Perspectives

MAK, Kwan Wing

A Thesis Submitted in Partial Fulfillment
of the Requirements for the Degree of
Doctor of Philosophy

in

Education

The Chinese University of Hong Kong
August 2011

UMI Number: 3500805

All rights reserved

INFORMATION TO ALL USERS

The quality of this reproduction is dependent on the quality of the copy submitted.

In the unlikely event that the author did not send a complete manuscript and there are missing pages, these will be noted. Also, if material had to be removed, a note will indicate the deletion.



UMI 3500805

Copyright 2012 by ProQuest LLC.

All rights reserved. This edition of the work is protected against unauthorized copying under Title 17, United States Code.



ProQuest LLC.

, 789 East Eisenhower Parkway
P.O. Box 1346
Ann Arbor, MI 48106 - 1346

Thesis/ Assessment Committee

Professor Lo Nai Kwai, Leslie (Chair)

Professor Tsang Wing Kwong (Thesis Supervisor)

Professor Chung Yue Ping (Committee Member)

Professor Mok Ka Ho, Joshua (External Examiner)

Abstract

This study investigates the implementation of new senior secondary Liberal Studies (NSS-LS) curriculum in Hong Kong from teacher's perspectives. Since September 2009, a new academic structure for senior secondary education has been implemented and Liberal Studies has become a core subject for all senior secondary students in Hong Kong. To implement this new curriculum, teachers have to learn to make sense of and enact the NSS-LS curriculum in order to deliver the content and issues in NSS-LS to students. In this study, teacher sense-making and enactment processes of NSS-LS curriculum are revealed to see the implementation of curriculum through teacher learning.

In recent education policy implementation researches, the focus of studies has shifted from the traditional top-down, bottom-up or synthesis debate to cognitive perspectives on policy implementation (Coburn, 2001; Datnow & Park, 2009; Spillane, Reiser, & Reimer, 2006). The influences of cognition and sense-making process in policy implementation are put into concern. Also, as the context of policy implementation becomes more complex in recent decades, interest groups, organizations and parties are involved in the policy implementation process. The governance in education sectors is increasingly based on network (Ball, 2008b, 2009a; Goodwin, 2009; Junki, 2006; Rhodes, 1997). The influences of interactions and relationship between different stakeholders are also emphasized in policy implementation research studies. These latest developments in policy implementation researches have laid the theoretical foundation in researching the implementation of NSS-LS curriculum in Hong Kong.

In this study, teacher individual sense-making and collective sense-making processes on NSS-LS curriculum and instruction are revealed by researching NSS-LS teachers in six schools in Hong Kong. Teachers make use of their individual cognition and social cognition to learn to implement this curriculum. Teachers learn individually and collectively in the training programmes provided by non-governmental organizations, universities, Education Bureau and Hong Kong Examination and Assessment Authority. Teachers make sense of NSS-LS curriculum with the ideas and resources shared in the teacher trainings, such as seminars, workshops, and networks, and implement the curriculum with their perceptions and definitions of appropriateness towards the curriculum.

This study discovers teachers are learning and enacting NSS-LS curriculum within the dilemma between ideals and realities in implementation. By strategic interpretations and calculations within the dilemmas, teachers choose to interpret and enact this new curriculum with their traditional teaching and learning paradigm. 'Old wine in a new bottle' is a common strategy played by individual teacher in interpreting the new curriculum. At the collective level, teachers further abandon the ideals and construct their 'brave new world' around examination practices for implementation of NSS-LS. Teachers feel secure with their collective re-interpretation of the curriculum and walk away from the liberating ideals of NSS-LS curriculum.

本研究從教師角度探討香港新高中通識教育科的實施狀況。自 2009 年 9月,通識教育科成為所有香港高中學生必修必考科目。教師需要學習理解 及實施通識教育科課程,將課程內容及相關教學議題教授學生。本研究探討 教師學習理解通識教育科的過程,及對通識教育科實施的影響。

近年教育政策實施研究的焦點,已從傳統的「由上而下」、「由下而上」或將兩者綜合,轉向至從認知角度分析政策實施(Coburn, 2001; Datnow & Park, 2009; Spillane, Reiser, & Reimer, 2006),探討政策實施者如何透過認知理解政策,其後把政策實踐出來。除此以外,近年政策實施的情景變得複雜,不同的利益團體及組織均參與在政策實施過程之中,因此在研究教育治理時亦需留意不同持分者之間的網絡效應(Ball, 2008b, 2009a; Goodwin, 2009; Junki, 2006; Rhodes, 1997),及其互動如何影響政策實施的狀況。這些關於教育政策實施的文獻均為研究香港新高中通識教育科的實施狀況提供理論基礎。

本研究透過質性研究方法,訪問六間學校的通識教育科教師,了解他們如何透過個人認知及集體認知學習實施通識教育科課程,並影響他們對這科目的理解。本研究將分析教師從個人教學經歷、教師網絡、教育局、大學及香港考試及評核局等學習歷程,對他們實施通識教育科課程的影響。

研究發現,教師在學習實施新高中通識教育科方面出現多個理想與現實的兩難局面。教師運用他們的傳統思維機略詮釋新課程時,出現「新瓶舊酒」的狀況,令通識教育科課程目標變質,通識教育的理想難於實現。而且當教師個人詮釋透過各種平台分享擴散時,更出現集體放棄理想,建構一個屬於

教師的「美麗新世界」的狀況。不少教師把通識教育科學習置於考試制度之下,透過訓練學生在通識教育科評核中獲得理想表現,確立通識教育科的教學方法。這種集體再詮譯的過程,令通識教育科距離理想目標越走越遠。

Acknowledgement

I am most grateful to the professors at Faculty of Eu cation, The Chinese University of Hong Kong, who showed some great examples of being an educator and scholar to enlighten students in many ways. I am deeply thankful for the inspirations from my supervisor, Professor Tsang Wing Kwong, who guide me all the way through my studies and allow me to explore beyond my limits. A heartfelt thank you also goes to my dissertation chair Professor Lo Nai Kwai, Leslie and committee member Professor Chung Yue Ping for their thoughtful suggestions and constructive criticisms that push my thinking on the conceptual development of my thesis. My gratitude is also extended to the external examiner Professor Mok Ka Ho, Joshua for the valuable comments to improve the theoretical and methodological issues raised in my thesis.

The dissertation cannot be done without the assistance of all participants, especially teachers who help me to organize the interviews and spent valuable time with me. They share their ideas and experiences about NSS-LS teaching that lead me to deeply understand the implementation of NSS-LS and think along the possible measures to benefit teachers in the future.

I must also thank to my family and friends, who continuously accompanied, encouraged and supported my studies. Thank you for the gift of time and freedom in my entire journey of studies. I am deeply appreciated and treasured the moments we spent together.

Table of Contents

Abstract		i
Äcknow	ledgement	iii
Table of	Contents	vi
List of 7	Tables	ix
List of I	igures	ix
Chapter	1: Introduction	ı
1.1	Background of the Study	2
1.2	Aims of the study	11
1.3	Research Questions	11
1.4	Significance of the Study	13
1.5	Limitation of the Study	14
-	2: The Context of Implementation of New Senior Secondary Lib	
`	Studies Curriculum and School-based Support Network in Hong I	_
2.1	Manufication Committee of the Committee Commit	16
2.1	New Senior Secondary Liberal Studies Curriculum in Hong Kor	-
2.2	The backgrounds of NSS-LS teachers	16 18
2.3	School-based Support Networks	20
2.5	Solidor based Support Networks	20
Chapter	3: Policy Implementation, Policy Network and Education Netwo	ork: A
1	Review of Literature	23
3.1	The changing contexts and development of policy implementati	on
	research	23
3.2	The emergence of policy network in policy implementation rese	arch
		25
3.3	From teacher learning to NSS-LS curriculum implementation	30
3.4	From policy network to implementation of NSS-LS curriculum	43

3.3	Effect of network on education policy implementation	21
Chapte	er 4: Conceptual Framework and Research Methodology	58
4.1	Conceptual framework	58
4.2	Research Questions	61
4.3	* Research Design	63
4.3	Research Sample	67
4.4	Data analysis	71
4.5	Reliability, validity and ethical issues in this research	72
Chapt	er 5: Teacher individual sense-making of NSS-LS curriculum	74
5.1	Learning the ideals: Teacher learning from the curriculum doc	uments
		74
5.2	Learning from realities: Teacher learning from inside—Teacher	er
	reflections on themselves	85
5.3	Learning from realities: Teacher learning from outside Teac	her
	learning from Education Bureau	93
5.4	Learning from realities: Teacher learning from outside— Teac	her
	learning from universities	102
5.5	Learning from realities: Teacher learning from outside— Teacher	her
	learning from Examination Authority	106
5.6	Learning from realities: Bringing outside learning back to teach	hing
	field—Teacher reflections on students learning NSS-LS curric	ulum
		108
5.7	Teacher interpretation on the NSS-LS curriculum	120
5.8	Mission impossible: Struggle to further interpret by using limit	ited
	strategies	127
5.9	Conclusion on individual sense-making of NSS-LS curriculum	n:
	Inevitable lost in the search, Inevitable lost of the battle	136
Chapt	er 6: Teacher Collective Sense-making of NSS-LS curriculum	139
6.1	Collective sense-making of NSS-LS in school context	140
6.2	Collective sense-making of NSS-LS in network context	156
6.3	Conclusion on collective sense-making of NSS-LS curriculum	ı: Fron
	collective puzzlement to collective abandonment of the ideals	
Chant	er 7: Enactment of NSS-LS curriculum and its effects	182

7.1	Enactment overriding the ideal 1: When direct teaching is me	ore
	effective than issue-enquiry	183
7.2	Enactment overriding the ideal 2: Using textbooks as their sa	afety line
		185
7.3	Enactment overriding the ideal 3: Examination-oriented practices	ctices
	dominating the teaching paradigm	189
7.4	Enactment overriding the ideal 4: Making independent enqu	iry
	studies dependent	194
7.5	Conclusion on Enactment of NSS-LS curriculum: Deserting	the ideal.
	constructing the "brave new world"	197
7.6	Effects of implementation of NSS-LS curriculum on curricu	lum
	governance, teacher professional development and curriculu	m and
	instruction reform	200
Chapt	ter 8: Discussions and conclusions	213
8.1	Discussion on the research findings	213
8.2	Implications to education policy implementation studies	216
8.3	Implications to implement NSS-LS curriculum	224
8.4	Limitations	232
8.5	Research prospects	234
8.6	Conclusions on implementation of Liberal Studies in New S	enior
	Secondary Education	235
Refer	ences	238
Appe	ndix 1: Interview questions	251

List of Tables

Table 1: Comparison of the original teaching area of panel heads
and teachers in NSS-LS19
Table 2: Shifts, ruptures and the state24
Table 3: Top-down, bottom-up and network perspectives compared
Table 4: Policy Perspectives
Table 5: Three models of the policy process and policy learning34
Table 6: Key dimensions for the analysis of networks in education
49

List of Figures

Figure 1: Structure, strategy and agency in the strate	gic-relational
approach	47
Figure 2: Policy networks and policy outcomes: a dia	lectical
approach	48
Figure 3: Conceptual framework of this study	61
Figure 4: Data analysis in qualitative research	71

Chapter 1: Introduction

This study investigates the sense-making processes of teachers in the implementation of new senior secondary Liberal Studies (NSS-LS) curriculum in Hong Kong. In September 2009, a new academic structure for senior secondary education has been implemented and Liberal Studies has become a core subject for all senior secondary students. Since the announcement of this arrangement in 2005 (Education Bureau, 2005), many proposed Liberal Studies teachers have participated in different teacher development programmes, which were provided by either government or non-governmental institutions, to prepare for delivering this new curriculum. In addition to all conventional teacher development programmes, such as lectures, seminars and workshops etc., school-based support networks are one of new form of programmes that focused on mutual sharing of ideas among frontline practitioners, which is different from traditional government-dominant or expert-led teacher development programmes. Teachers have to learn to implement NSS-LS curriculum through these teacher development programmes both individually and collectively. This study will focus on the influences of individual sense-making and collective sense-making process of NSS-LS curriculum to its implementation.

As NSS-LS curriculum has been implemented since September, 2009, teachers have implemented and transformed curriculum policy ideas into daily practices with knowledge and experiences from their own backgrounds and school-based support networks that they have participated in. This study applies theoretical perspectives from policy implementation, policy network, governance and cognition to explore and build-up a linkage between microscopic and

macroscopic dimensions of education policy implementation. From microscopic perspectives, this study will start from investigating how individual teachers make sense of the NSS-LS curriculum documents through participating in different supported networks. Based on this foundation, collective or collaborative sense-making processes on NSS-LS curriculum at school level and network level will be investigated and explained by case schools. This study will finally quest on the curriculum governance of NSS-LS to reflect on the implementation of this enquiry-based curriculum in devolutionary context. It investigates the phenomena of sense-making and implementing a weak classification and weak frame curriculum such as NSS-LS through networks.

1.1 Background of the Study

When exploring background of this study, both contextual and theoretical backgrounds are discussed so as to provide a comprehensive understanding of this issue with both practices and theories.

In contextual background, the emergence of NSS-LS curriculum and school-based support networks are discussed. It provides a holistic understanding of the complexity in the development of this curriculum, especially the influence of historical background of the curriculum and involvement of different participants. These backgrounds illustrate the complicated situations and experiences faced by teachers in this reform.

In theoretical background, the latest developments of education policy implementation researches are discussed in order to tease out the relationship

between policy implementation, policy network, governance and cognition to have wider perspectives when investigating this issue. Combining the above two contexts together, this study looks at how teachers learn and implement NSS-LS curriculum by their individual and social cognition with inputs from networks, which also suggest the construction of governance environment of NSS-LS curriculum.

1.1.1 Contextual Background of the Study

Under the impact of globalization and explosive growth of knowledge, senior secondary academic system in Hong Kong has to undergo structural change in order to meet the challenges brought up by the macro-environment (Education Commission, 2000). The two-year senior secondary plus two-year matriculation level of studies was changed into three-year senior secondary education, which left the three-year undergraduate programmes changed into four years. The government claimed that this new system can facilitate the implementation of a more flexible, coherent and diversified senior secondary education in order to responds to the global challenges in the 21st Century (Education Bureau, 2005).

Along with numbers of initiatives in the wave of reforms in secondary education system, such as quality assurance system, school-based management and medium of instruction etc., the compulsory implementation of NSS-LS curriculum was one of the initiatives with greatest impact on teachers and students under the restructuring of senior secondary academic system. The implementation of this new subject has caused some teachers to depart from their

original teaching subjects and deployed to teach in NSS-LS. Teachers needed to learn, familiarize and enact this new curriculum according to the new teaching paradigm of NSS-LS.

Implementation of New Senior Secondary Liberal Studies Curriculum

Liberal Studies curriculum is not an entirely new curriculum idea in Hong Kong. Back to early 1990s, Liberal Studies in Advanced Supplementary Level was implemented as an elective subject in 1992 and students took its public examination in 1994 (Curriculum Development Council, 1991). In addition, an integrated, interdisciplinary curriculum in Personal, Social and Humanities Education (PSHE) key learning area was advocated in junior secondary (Curriculum Development Council, 2002) and an elective Integrated Humanities (IH) curriculum was also introduced to secondary four to five (Curriculum Development Council & Hong Kong Examinations and Assessment Authority, 2003). The above curricula have provided Liberal Studies teachers a general idea on the scope and format of NSS-LS curriculum in secondary education because the curriculum nature and formats are similar but with different levels and emphasizes. Teachers sometimes consider those existing curricula as references, when designing and implementing NSS-LS curriculum.

After the announcement of new senior secondary academic structure in 2005 and two drafts of curriculum consultation, the final version of NSS-LS curriculum was determined at 2007 (Curriculum Development Council & Hong Kong Examinations and Assessment Authority, 2007). The structure of this curriculum is comprised of 3 areas of study, which can be divided into 6 modules

and 12 questions for enquiry, emphasizing on using issue-enquiry approach as its teaching and learning strategies. Construction of knowledge through issue-enquiry from students is also the target of this new curriculum. In such a design, the content knowledge in NSS-LS curriculum was not as fixed as the traditional subjects but rather blurring and fluid. Hence, many debates, whether on curriculum ideas, content knowledge, teaching strategies or evaluation methods, were raised between the government, academics and teachers during the planning for NSS-LS implementation (Lam & Zhang, 2005; Yung, 2005).

In order to deal with ambiguities in teacher understanding of this new subject, Education Bureau has organized numbers of teacher training programmes in six aspects, from 'understanding and interpreting curriculum'. 'learning and teaching strategy' to curriculum management, planning and leadership' etc (Legislative Council, 2009). These programmes have provided a basic and general understanding on the ideas of NSS-LS curriculum, teaching and learning. However, the actual and concrete implementation of NSS-LS directly related to daily classroom practices still remains unclear. Most of the curriculum content and teaching strategies are left to school-based decisions. Teachers need to transform ideas in curriculum documents or pull-out teacher development programmes into daily practices and fit their teaching contexts. Therefore, school-based support networks can be seen as an alternative to traditional teacher development programmes that may overcome the gap between policy and practice by teacher development based on consolidation of frontline practices.

Implementation of School-based Support Network

As an alternative to ease the tensions, pressures and debates of teachers during the implementation of reforms and linking policy ideas into practices, both government and non-governmental organizations have started up many school-based support networks facilitate teacher to adaptation implementation of the education initiatives and reforms. In NSS-LS implementation, four kinds of networks were established, i.e. government initiated networks, university-school partnership networks, school sponsoring bodies initiated networks and teacher initiated networks. These networks had various objectives, structures, contents with different targeted participants to serve varieties of purposes. For example, although teacher development in NSS-LS teaching and curriculum planning is the common aim of networks, some government-initiated network also help schools to develop and evaluate curricula at junior secondary level to ensure students equipping foundation knowledge for NSS-LS (Secretary for Education, 2009) and some teacher-initiated networks are primarily regional-based (NTW LS profession network, 2009).

Under this circumstance, teachers learn within a network environment full of commonalities and diversities. They participate in different networks to obtain the curriculum ideas, teaching materials and adapt the external resources in their own way that fits their own teaching context. The selection and adaptation processes of teachers allow them to make sense of their own school-based curriculum. Also, teachers not only need to make sense of the curriculum individually, but also have to come up with a common school-based curriculum in order to align the ideas from teachers towards NSS-LS curriculum.

Moreover, besides obtaining and adapting resources from networks, teachers may also contribute their ideas to other participants or parties in the network through different channels, for example, sharing sessions in gatherings or open-sources on network websites. Exchange of ideas and resources between schools become more intensified or even as common practices. This may result in some convergent and collective ideas on NSS-LS curriculum within and beyond networks, or in a boarder sense throughout all Liberal Studies teachers in Hong Kong.

Besides the formal school-based support networks, teachers also find other learning and development opportunities from Universities programmes, teaching materials provided by non-governmental organizations or medias and non-formal sharing groups between closed friends or colleagues etc. Hence, teachers can interpret NSS-LS curriculum in an information rich or even abundant environment. The cognitive processes of teachers towards NSS-LS curriculum, such as thinking, reasoning and problem solving, became crucial for teachers to interpret and implement NSS-LS curriculum with their own sense-making eventually.

With the ongoing process of teacher sense-making and networking, NSS-LS curriculum has been implemented in different formats by teachers involved in various networks. In this complex policy environment, Education Bureau can no longer take control the implementation of NSS-LS curriculum in a top-down manner. The management or balance of complexity in the implementation of this curriculum becomes important so as to have a smooth implementation and collective consensus in this subject, especially when public examination will be

held in 2012. The assurance of validity and reliability of this curriculum becomes essential, which holds accountability of initiation of NSS-LS to the public and society.

In our previous discussion, the levels and relationships between teachers, networks and curriculum governance in the empirical field of this study are briefly explained. In summary, three foci on contextual factors are discussed. The first one is the relationship between NSS-LS curriculum and school-based support networks. It emphasizes on revealing the phenomenon of putting an interpretable NSS-LS curriculum into network, i.e. focusing on network content. The second one is related to the dimensions, attributes and dynamics within networks during interpretation, i.e. focusing on network process. The third one focuses on the influence of networks towards teacher cognition, enactment and governance of NSS-LS curriculum, i.e. the network outcomes. These three dimensions are interrelated and not only guide the perspectives towards this study, but also correspond to the theories in policy networks and education networks. Furthermore, these factors also build up the foundation for the research questions and the whole study.

1.1.2 Theoretical Background of the Study

From our brief discussion in the contextual background of implementation of NSS-LS curriculum and school-based support networks, the concepts from policy implementation, policy network, governance and cognition are raised. In this section, I will briefly introduce these main concepts to see their linkage and interrelationship and also how it fits with the context of implementing NSS-LS

Before policy implementation studies emerged, the administrative process of the government between 'policy formation' and 'policy outcome' was considered as a 'black box' that was difficult to be known (Easton, 1965). In order to reveal and identify the complex features of policy process, policy implementation researches emerged in 1970s (Pressman & Wildavsky, 1973). Since this field of studies was gradually developed, there was a great debate between top-down or bottom-up perspectives on implementation process (Hill & Hupe, 2002; Sabatier, 1997; Winter, 2003a, 2006). After years of theory development, not only some synthesis approaches of policy implementation research were introduced (Sabatier & Weible, 2007; Winter, 2003b), but also other perspectives such as institutional analysis, governance and networks began to influence our perspectives on policy implementation (O'Toole, 2000). All these perspectives provide a more comprehensive understanding on policy implementation related to different aspects and contexts in the field.

In order to investigate the increasing complexity of policy implementation process, policy network is one of the emerging perspectives that emphasizes on the recognition of interactions between different policy actors in the policy arena. In the development of policy network approach, network is often treated as interests mediation, governance and management (Bevir & Richards, 2009) that provide comprehensive understanding to the characteristics and coordination in the network system. Furthermore, the interrelationship between policy actors and hetwork was also discussed to see the dialectic connection between policy network and policy outcome (Marsh, 1998b). These perspectives have provided

us a basic understanding on the functions of network in policy implementation in the devolutionary age.

Ever since the concepts of networks were introduced into education settings, three levels of influences from networks on education policy implementation have been discussed in the literature. First, at the individual level, the influence of networks on teacher cognition towards education policy received attention from researchers (Adams, 2000; Datnow & Castellano, 2000; Spillane, Reiser, & Reimer, 2002). Second, at the organizational and network level, the collective sense-making process of teachers and the role of networks were also investigated (Coburn, 2001, 2005; Wechsler & Friedrich, 1997). Third, at the governance level, the influences and emphasis of policy networks on education governance were also discussed (Ball, 2008b, 2009a; Goodwin, 2009). The collection of these three levels has provided us a comprehensive understanding on the recent major developments of applying the concepts in policy network in education settings. It has also supplemented the ideas on processes of policy network mentioned above.

By combining the empirical background in implementation of NSS-LS in Hong Kong and theoretical background in applying policy network in education policy implementation in the literature, this study aims at comprehending the implementation of NSS-LS curriculum in Hong Kong through different networks at three levels, i.e. individual teacher cognition, network collective sense-making and curriculum governance, to see how the network structure, process and outcome would fit in it.

1.2 Aims of the study

This study aims at exploring the phenomena of implementation of NSS-LS curriculum with the influences of different school-based support networks in Hong Kong. In details, it tries to understand the processes of individual sense-making of NSS-LS curriculum from teachers and collective sense-making from networks to see the actual implementation of NSS-LS curriculum and its relevance to curriculum documents. Also, as NSS-LS curriculum enacts within specific organizational environment in schools and policy environment in education reform, the contextual influences of the sense-making process will also be explored. Therefore, both the microscopic perspective on the implementation process and macroscopic perspective on curriculum governance of NSS-LS curriculum are investigated.

To achieve the above goals, this study applies qualitative method to study on the implementation of NSS-LS curriculum from teachers in six case schools. Teachers in these six case schools have participated in multiple support networks and made sense of the school-based NSS-LS curriculum on their own with network resources within their specific curriculum implementation context. By analyzing the collected data, this study reveals the dynamics in implementing NSS-LS curriculum with respect to teachers' own interpretations, network collective sense-making, organization governance in school and policy environment in education reform.

1.3 Research Questions

Following the above discussions, as to comprehend implementation of NSS-LS curriculum through education networks in Hong Kong in policy network perspective, this study investigates this issue from three major levels, i.e. teacher, network and governance level, and also the interrelationship and interactions between the three. Therefore, this research is framed into the following five major research questions:

1. Question in teacher sense-making of NSS-1 curriculum:

How do teacher make sense of NSS-LS curriculum in their cognitive implementation schema?

2. Question in NSS-LS curriculum governance:

How do organizational-level and state-level curriculum governance affect teacher sense-making and enactment of NSS-LS curriculum?

3. Question in school-based support network:

How do different networks function on teacher sense-making and enactment of NSS-LS curriculum?

4. Question in interaction between curriculum governance and school-based support network:

How do the influence of networks interact with governance of Liberal Studies curriculum?

5. Question in teacher enactment of NSS-LS curriculum:

How do teacher enact NSS-LS curriculum after their sense-making process?

These five research questions are in sequential order from sense-making (network process) to enactment (network output) of view that guided the research

design later on. As the research questions are interrelated and provide a solid discussion for this study in a dialectical way, the questions are openly and flexibly used to suit with the context in each case. This approach elicits most valuable ideas from the relevant contexts.

1.4 Significance of the Study

This study investigates curriculum implementation and governance at a time of great structural change in senior secondary education system in Hong Kong within global devolutionary age. It provides valuable research outputs to inform the society on the forms and functions in the implementation of government policy through network settings in the future.

1.4.1 Theoretical Significance of the Study

This study enriches the current research status on policy network in both microscopic policy studies and education studies perspectives. On the one hand, this study provides an ethnographic perspective on the street-level implementation process of policy network for curriculum reform in education settings, which is different from and supplements the traditional structural approach that emphasizes on typologies and characteristics of networks. The roles and functions of situated agents in the networks towards governance of curriculum are explored. On the other hand, the literature in teacher learning in education researches supplements our understanding in the process of enactment of situated agents in learning perspectives. Hence, this study connects the literature in policy studies and education studies in the field of network studies. It

builds up ideas of curriculum implementation through education network with the assistance of the theoretical support in policy network. It also suggests the empirical ground for applying perspectives of policy network in Hong Kong.

Moreover, the cross cultural applicability of concepts and theories in policy networks are also examined to see the potentials of using non-hierarchical, flexible professional teacher development programmes in Eastern societies, especially in a Confucian society like Hong Kong.

1.4.2 Practical Significance of this Study

This study unfolds and reveals the successful factors of implementing curriculum reform through education networks in Hong Kong, such that policy makers, school reformers and frontline practitioners can adjust and improve their current practices in education networks and policy implementation. It also provides another dimension to understand curriculum implementation and education governance in Hong Kong.

1.5 Limitation of the Study

As this study explores a relatively emerging and changing phenomenon, two major limitations are encountered. First, the effect of forms and standards in public examination of NSS-LS cannot be estimated. Although public examination is a main concern for most NSS-LS teachers that may have great influence on teacher interpretation and implementation of NSS-LS curriculum, this study can only slightly touch upon this issue because the examination format

and content are still an unknown to all parties involved in the networks.

Second, due to the development of information technology in teacher learning and teacher network, in addition to the functions of intensifying and increasing the exchange of resources, teachers can easily formed virtual network or virtual learning communities on the internet. It is also an emerging form of social network that is concerned by recent researchers. However, the influence of virtual network or hyper-networking is not discussed in this study because person-to-person networks are still the dominant form in the empirical settings in Hong Kong.

Chapter 2: The Context of Implementation of New Senior Secondary

Liberal Studies Curriculum and School-based Support Network in Hong

Kong

In this chapter, the empirical context of implementation of NSS-LS curriculum and school-based support network will be discussed. The purpose of describing the current situations in implementation of NSS-LS curriculum is to provide an empirical footing for this study. The phenomenon in empirical field guides this study to search for its appropriate and relevant literature to provide a theoretical support in this study. Also, the uniqueness in the empirical field in Hong Kong may provide an opportunity for us to reexamine the established theories in western world and its suitability of adopting it in the Chinese society. The coherence and relevance between empirical phenomenon and theories are important such that it builds up foundation in the selection of relevant theories in the literature review.

2.1 New Senior Secondary Liberal Studies Curriculum in Hong Kong

Apart from the historical background on the development of NSS-LS discussed in chapter 1, this section briefly describes the nature of the content in NSS-LS curriculum documents to see the content knowledge and teaching strategies that teachers have to applied in this curriculum. By discussing on the implementation content of the curriculum, it provides a better understanding on the content that teachers have to make sense.

In NSS-LS curriculum and assessment guide, the curriculum framework has

shown curriculum content in this subject is organized into 6 modules within 3 area of study (see appendix). In each module, 'key questions for enquiry' is set up to 'show possible pathway for exploring into these contemporary and perennial issues' (Curriculum Development Council & Hong Kong Examinations and Assessment Authority, 2007, p. 13). For example, 'What challenges and opportunities does a person have during adolescence?' in module 1, 'How do Hong Kong residents participate in political and social affairs and come to grips with rights and responsibilities with respect to the rule of law?' in module 2 and 'How do energy technology and environmental problems relate to each other?' in module 6. Besides key enquiry questions, the curriculum guide also provide some 'explanatory notes', which are mainly key concepts or terms, to help teachers and students understand possible contents and perspectives when enquiring into the issues. Therefore, during implementation of NSS-LS curriculum, teachers have to interpret and carry out the 'key questions for enquiry' in their own way depending on student backgrounds, abilities and interests. Teachers can interpret different curriculum content knowledge in respect to their school and classroom context such that great flexibility and varieties in NSS-LS curriculum is created across secondary schools in Hong Kong.

Along with flexibility in content knowledge in NSS-LS curriculum, learning and teaching in this subject is designed to use issue-enquiry approach. NSS-LS curriculum guide has even provided several suggested steps in using issue-enquiry approach. However, the main bodies in teaching and learning, such as identification of issues and finding corresponding teaching strategies, are left to decision by teachers on their own. In this case, teachers not only need to

search for suitable content knowledge in their school-based NSS-LS curriculum, but also are required to determine what kind of issues and teaching strategies to apply in their classroom.

From perspectives on the nature in content knowledge and teaching approach of NSS-LS curriculum, teachers have to face a totally different teaching paradigm from traditional subjects. So teacher development is comparatively essential for both frontline practitioners and policy makers in order to implement this new subject. Establishment of school-based support networks is one of the development programmes that emphasize on mutual sharing of teachers from different schools or organizations. The ideas behind is to make use of mixed background of teachers to enrich discussion within networks and also achieve preparation and development of teachers. The following two sections will discuss on the mix of teacher background and the role of school-based support networks in the implementation of NSS-LS.

2.2 The backgrounds of NSS-LS teachers

As NSS-LS is a new subject that constitutes at least 10% of total teaching hours in new senior secondary education, besides the newly admitted Liberal Studies teachers, experienced teachers from other disciplines have to be reallocated to teach Liberal Studies because of the time load for the subject. From a government survey in 2009, the origin of teachers in NSS-LS covers all key learning areas, with a majority in personal, social and humanities education (see table below).

Table 1: Comparison of the original teaching area of panel heads and teachers in NSS-LS

	Panel Head (%)	Teacher (%)
Chinese Language Education	11.3%	8.3%
English Language Education	4.6%	4.2%
Mathematics Education	1.5%	4.2%
Science Education	13.3%	20.8%
Technology Education	7.7%	9.7%
Personal, Social and Humanities Education	83.1%	50.0%
Arts Education	0%	1.4%
Physical Education	1.0%	1.4%

Sources: Education Bureau (2009). The latest development of curriculum planning in NSS-LS.

http://ls.edb.hkedcity.net/LSCms/file/Leadership_files/leadership_series1/day2_a
m/event1/latest_development_info_090106.ppt

This data have provided a brief understanding on the diversity of teacher background in teaching NSS-LS. Teachers with different subject specialties and teaching approaches or habits join together in the department of Liberal Studies. They have to mediate and resolve their differences in perspectives and approaches on the ideas in teaching Liberal Studies. Moreover, teachers have to make sense of the curriculum collectively in order to construct a united school-based curriculum for each teacher and student to follow, in both classroom teaching and assessment.

In a boarder sense, not only a united school-based curriculum has to be formed, a coherence Liberal Studies curriculum across Hong Kong should also be formed in order to allow all teachers to have a better understanding about teaching and learning of this new curriculum and facilitate the implementation of curriculum from governance perspective. In this case, school-wide networks among teachers are formed to serve these dual purposes, i.e. teacher learning and curriculum governance.

2.3 School-based Support Networks

To assist teachers to implement various education reforms, Education and Manpower Bureau (former name of Education Bureau) set up numbers of school-based professional support programmes to build up teacher capacity to take forward education reform measures (Education and Manpower Bureau, 2004). As Liberal Studies is one of the major initiates in new senior secondary academic structures, government has set up several networks focusing on enhancement of experience sharing in this new subject. Besides the government-initiated networks, some non-government networks are also set up for similar objectives, but different in structure and content in details. The phenomenon of networks in Hong Kong will be briefly discussed in the following section to provide a basic knowledge on the empirical field related to networks in Hong Kong.

Government-initiated Education Network in Hong Kong

Government has set up number of teacher networks under three sections in Education Bureau that are school-based professional support section, school-based curriculum development (secondary) section and regional education office. All these networks are set up with a similar objective, which is

to facilitate teachers to acquire sufficient understanding about implementation of NSS-LS, but in different scopes and with different target participants.

First, in the school-based professional support section, school-to-school networks (professional development schools) are set up to share some frontline practices in curriculum planning and teaching strategies within network schools. This section also financially supports some university-school partnership networks in order to acquire the resources from university to help teachers to understand this curriculum. Second, school-based curriculum development (secondary) section has played some roles in network sharing. Government officials in this section act like a resources hub to exchange and improve school-based curriculum and teaching materials among schools. Participated schools receive resources, feedbacks and consultations from the officials on their own school-based curriculum and teaching materials. During the process, teachers also contribute and share their resources with officials and network schools. Third, some regional education offices have set up their NSS-LS teacher network at regional level. NSS-LS teachers in the same region are grouped together to share their experience in teaching NSS-LS, which may be context specific within their region. The initiation of these sharing practices is beginning to construct a network sharing culture in Hong Kong.

Non-government Education Network in Hong Kong

Several types of non-government education networks are also set up by different organizations to provide various opportunities for teachers to share their experiences and resources with colleagues, for example, sponsoring body networks, regional teacher networks and graduate courses alumni network etc.

Besides the formal networks mentioned above, non-formal open-sources networks are also set up by media or non-governmental organizations that build up platforms, mostly online, to exchange resources. These understandings can also widen our perspectives toward the situations and resources faced by teachers in the empirical field.

In conclusion, when NSS-LS teachers have to fearn to make sense of the curriculum with resources in network settings, they are actually exposed to various networks that may have different underlying objectives and purposes in response to various organizations. Teachers learn to implement NSS-LS in such a dynamic or even confusing environment. Information and resources received from different networks may have convergence and contradictions, which creates tensions and possibilities, for teachers to interpret curriculum and teaching materials and make sense of it in their own way. Finally, teachers conduct their interpretation of NSS-LS curriculum and enact it in relation to their classroom teaching. Empirical context in Hong Kong provides a starting point for this study to search for suitable theoretical foundation to support and discuss with. In the next chapter, related theories, such as policy implementation, policy network, governance and cognition, will be explored and connected with the empirical situations happened in Hong Kong in order to provide a solid and coherent discussion throughout this study.

Chapter 3: Policy Implementation, Policy Network and Education Network: A Review of Literature

Based on the discussion of phenomenon in the implementation of NSS-LS curriculum in Hong Kong, the concepts of network and teacher sense-making have emerged. Therefore, it is worthwhile for further exploration in the following literature review to locate the theoretical explanation of this phenomenon. This literature review will build up theoretical foundations to support and justify our research design later on.

In the review of literature, we will discuss the emergence of policy network and its related concepts in macro socio-political environment, i.e. the devolutionary age. Furthermore, this review provides a theoretical landscape on policy network studies in education, which constitutes theoretical justification in adapting policy network perspectives in investigating education networks. Corresponding to the ideas developed from research questions, some concepts from teacher learning and inter-organizational relations are also discussed in order to enrich our theoretical perspectives, especially the relationship between teachers and networks, on this issue.

3.1 The changing contexts and development of policy implementation research

Ball (2008a) has outlined the history of public sector reform and the trend of privatization and marketization in education over the past two decades. He has attributed and made sense of the development of education reform and education

policy to the shifts in the role of state and governance system. When explaining the effect of changing role of the state, Jessop's (1999, 2000, 2002) ideas on the change from Keynesian Welfare National State (KWNS) to Schumpeterian Workfare Post-national Regime (SWPR) is applied to illustrate the fundamental change of state in social-political and economical perspectives. One of the main ideas in this theory is that welfare state is gradually changed into neoliberal and competition state. Table 2 below briefly describes how the contextual shift will produce ruptures and constitute to the change of state.

Table 2: Shifts, ruptures and the state

Shift	Rupture	State
1944-76	Move to universalist	Welfare state
Postwar economic	welfare state	
growth and the expansion	education—national	
of the middle class	system locally	
	administered	
1976-97	Break from emerging	Neoliberal state
Economic crises, mass	comprehensive national	
unemployment and shift	system and the end of	
from Fordist to	professional autonomy	
post-Fordist regime of	for teachers and schools	
accumulation and the		
first stage of		
deindustralisation		
1997-2007	End of a national system	Managerial or
Assertion of the	locally administered	competition state
knowledge economy and		
new forms of work		

Source: Extracted from Ball (2008a), pp. 57

When we look further into the changing role of the state from welfare state to neoliberal and managerial or competition state, the function of the government has also been changed correspondingly. Ball has briefly explained the situation of the change of government as follows:

"In its simplest sense this is the shift from government to governance, that is, a shift from the government of a unitary state to governance in and by networks.It is a new mode of state control—a controlled decontrol, the use of contracts, targets and performance monitoring to 'steer' from a distance, rather than the use of traditional bureaucracies and administrative systems to deliver or micro-manage policy systems, such as education or health or social services." (Ball, 2008a, p. 141)

Under the concepts of changing role of the state by Ball (2008a), 'governance', 'networks' and 'controlled decontrol' are the concepts evolved to describe the new form of state control in education. These concepts help us to understand the changing contextual background and the role of state on education policy implementation mechanism in the new devolutionary era and how it relates to the development of policy implementation research.

3.2 The emergence of policy network in policy implementation research

To understand the implementation of NSS-LS curriculum, it is essential to put our perspectives in the field of policy implementation in order to relate suitable theories to explore on the recent development of NSS-LS curriculum and phenomenon that has happened in Hong Kong. In this section, the third generation of policy implementation perspective, mostly policy network, is suggested to be used in this study due to its applicability and suitability in the

Policy implementation studies can be seen as emerged in the field of policy studies when the book titled "Implementation" (Pressman & Wildavsky, 1973) was published in 1970's. Since then, different theoretical approaches to understand and explain policy implementation have been developed, such as the "top-down" or "bottom-up" debate (Lipsky, 1980; Sabatier, 1997; Sabatier & Mazmanian, 1980), which was associated with different roles, structures and process of policy in governance; "principal-agent theory" (Howlett & Ramesh, 2003), which was associated with the gaps or dilemmas of understandings and executions between policy decision makers and administrative agents; and "downward puzzlement model" (Rein, 1983) and ambiguity/conflict model (Matland, 1995), which was associated with the ambiguity and conflicting purposes of implementation of policy caused by different policy actors. Along with the above models of policy implementation, implementation can also be understood as evolutionary (Barrett & Fudge, 1981) or learning process (Schofield, 2004), which have further examined the complexity of implementation process. For recent development of policy implementation research, O'Toole (2000, 2004) has suggested four approaches to implementation research to provide basic understandings to the recent development of this field, i.e. institutional analysis, study of governance, networks and network management, and formal and deductive approaches. These approaches should not be perceived as distinctive, separated or contradicting methods, but rather reciprocal and complementary methods that help us to know the field of studies in an all-rounded manner.

Hudson and Lowe (2009) has adapted Kickert, Klijin and Koppenjan's (1997) perspective on the characteristic of each stage of policy implementation and provided a comprehensive comparative review on different stages of policy implementation perspectives. The table below can be taken as a concluding remark on the development on policy implementation.

Table 3: Top-down, bottom-up and network perspectives compared

Perspective	Top-down	Bottom-up	Network
Object of	Relation between	Relation between	Network of actors
analyses	central ruler and	central ruler and	
, ·	target groups	local actors	
Perspective	Central ruler	Local actors	Interaction between actors
Characterisation of relations	Authoritative	Centralized versus autonomous	Interdependent
Characterisation	Neutral	Political processes	Interaction process
of policy	implementation and	of interest	in which
processes	ex ante formulated	representation and	information, goals
	policy	informal use of	and resources are
		guidelines and	exchanged
		resources	
Criterion of	Attainment of the	Local discretionary	Realization of
success	goals of formal	power and obtaining	collective action
	policy	resources in favor	
		of local actors	
Causes of failure	Ambiguous goals;	Rigid policies; lack	Lack of incentives
	too many actors;	of resources;	for collective action
	lack of information	non-participation of	or existing
	and control	local actors	blockages
Recommendation	Coordination and	Retreat of central	Management of
for governance	centralization	rule in favor of local	policy networks:
		actions	improving
			conditions under
			which actors
			interact

Source: Hudson and Lowe (2009) adapted from Kickert, Klijin and Koppenjan's (1997)

Similar and coherent to the above three generation of policy implementation research, Datnow and Park (2009) conceptualized and elaborated the details of three generations in the following table. Their main concerns in implementation are the nature of policy process during implementation, especially on decision making process and the starting point and direction of change. In this table, three perspectives on policy implementation are discussed, i.e. technical-rational, mutual adaptation and sense-making, which correspond to top-down, bottom-up and network approach respectively. The sense-making or co-construction processes of policy implementation provide some brief ideas on the perspectives of implementation of NSS-LS curriculum and become the main perspectives in this study.

Table 4: Policy Perspectives

Assumption	Perspectives		
	Technical-rational	Mutual adaptation	Sense-making/
			Co-construction
Direction of change	Uni-directional	Bi-directional between policy and site of	Multi-directional
		implementation	

Policy	Treats policy	Treats policy formation	Treats policy formation
process	process as	and implementation	and implementation as
	discrete linear	separately; focuses on	part of one process;
	stages	mismatch between	focus on the role of
		policy intentions and	actors in shaping
		implementation	policy and
		outcomes. Thus, some	interrelationships
		mutual adaptation	between multiple
		perspectives are viewed	institutional layers and
		as variation of fidelity	actors
		viewpoint	
Sphere of	Top-down and	Bottom-up	Open multi-layered
influence	hierarchical		system
Role of	Generalized view	Importance of local	Relational sense of
context	of context	context and culture	context; includes
,	(macro)	(micro)	socio-political and
			intergovernmental
			relationships (in
			co-construction
			perspective, less so in
			sense-making)
Value	Fidelity; planning	Adjustment and	Adjustment and
,	and control,	negotiation; views	negotiation but also
	views variation as	variation as expected	contingent maneuvers
	a dilemma	outcome of local	resulting from policy
		context	context

Source: Datnow, A., & Park, V. (2009). Conceptualizing policy implementation: Large-scale reform in an era of complexity. In G. Sykes, B. Schneider, D. N. Plank & T. G. Ford (Eds.), *Handbook of education policy reserach* (pp. 348-361). New York: Routledge.

The above two tables have provided comprehensive ideas on different aspects and development on the perspectives of policy implementation. They have also provided a theoretical linkage between policy implementation through

networks and sense-making.

When analyzing the NSS-LS curriculum implementation in Hong Kong, this study will mainly adopt the third generation of policy implementation research, i.e. network and sense-making perspectives, to explore the phenomenon of having school-based support networks in the implementation of NSS-LS curriculum. This study will start from applying these perspectives to see how teachers make sense of and learn to implement NSS-LS curriculum. Also, it may further reflect on the governance of this curriculum through teacher's perspectives.

3.3 From teacher learning to NSS-LS curriculum implementation

As policy actors have an increasing importance role in pólicy implementation, policy learning of actors has become an issue to see how actor learning may influence policy implementation (Cohen & Hill, 2001; Jennings, 1996). To understand the process of teacher learning in NSS-LS curriculum implementation, cognitive perspectives and situated perspectives in learning dichotomy can be used as a reference (Cobb & Bowers, 1999; Hoban, 2002). In this study, cognitive teacher learning perspective is our starting point to see the initial sense-making of curriculum from teachers through teacher interactions with their own prior knowledge, experiences and beliefs. Their individual sense-making will contribute and construct the institutional norm in the network. On the other hand, from the situated teacher learning perspective, emphases are put on the situated or context of learning. As teacher learning took place within the school and network contexts, teachers seek resources and experiences from

networks or other parties to learn to implement the curriculum in their situated environment.

In this research, although both perspectives are relevant and provide insights towards policy learning by teachers, situated perspectives on learning and actions will be our emphases because the phenomenon of policy implementation with network is the main concern in this study. The ideas on interpretation and social construction of curriculum policy in their specific social environment, which are school departments and networks in this study, are essential.

3.3.1 Teacher learning perspectives on network

From the teacher learning perspectives, individual teacher backgrounds, beliefs and experiences etc. are influential factors when investigating on teacher learning, for example, the stages of concerns and level of use to the new curriculum from individual teacher (G. E. Hall & Hord, 2006). Teachers 'make sense of new information they receive, and in the process of assimilation both old and new ideas may change to "fit" together. Learning is a process of harmonizing new and old ideas' (Jennings, 1996, p. 14). Spillane et al. (2002) have provided a definitional meaning on sense-making process as follows:

"We emphasize 'sense-making', rather than referring simply to 'information encoding' or 'interpretation', to focus on the active attempt to bring one's past organization of knowledge and beliefs to bear in the construction of meaning from present stimuli." (Spillane, et al., 2002, p. 394)

Besides the individual sense-making on the curriculum discussed above, Cynthia Coburn has further suggested the term "collective sense-making" on curriculum when teachers interacting with messages from the environment within both formal and informal groups (Coburn, 2001). In Coburn's ideas, collective sense-making is influenced by two factors: 1) the patterns of interaction among teachers, specifically who is talking with whom in what setting, and 2) the character of conversation, specifically the extent to which conversations are structured to provide conditions for engagement and reflection (Coburn, 2001, pp. 151-152). Therefore, the ideas on collective sense-making have made a fundamental shift on the ideas about policy learning from an individual emphasis to collective emphasis.

In the following sections, we will explain the influence of individual cognition and collective sense-making process towards policy implementation in order to show their relationship behinds.

Policy learning and individual cognition

During the implementation of education reform, frontline teachers will interpret, adopt and transform the policy papers, guidelines or documents into daily practice according to their own belief and conceptual system (Spillane & Zeuli, 1999). Teachers will understand education reform and construct their own meaning of the reform with their prior experience or knowledge in their contextual background or situation faced (Spillanc, 1998). Therefore, the implementation of education reform is highly influenced by indfvidual cognition and learning to the new policy initiatives.

Lankshear, Peters and Knobel (2000) have argued there has been a changing of educational knowledge in the digital age. Knowledge itself is no longer perceived as an already pre-existed propositional knowledge with certain boundary and definite objectivity, but performance knowledge which presence in a collective construction process involving many minds (Lankshear & Knobel. 2003). The school curriculum has also been viewed from "curriculum as fact" to "curriculum as practice", which curriculum has previously constructed by stratified objectivity knowledge and changed to emphasizing on socially organized knowledge (Young, 1998, 2008). When taking these perspectives on epistemological change to education policy implementation, the role of teacher cognition and participation towards education reform have become increasingly important (Spillane, 2000; Spillane, Reiser and Gomez, 2006). One example is the development of school-based reform, such as school-based curriculum or instructional reform, required active participation from teachers. Therefore, implementation of NSS-LS curriculum can be noticed as having some components of school-based reforms that required collective efforts of teachers in development of their own knowledge of practices.

When teachers learn and construct their own curriculum content and teaching strategies under NSS-LS framework, traditional top-down curriculum reform approaches are no longer suitable for developing teacher knowledge at local context. Policies need to be well understood and communicated with frontline teachers (Darling-Hammond, 1990). Local capacity, teacher professionalism and teacher expertise are essential for implementing this complex school-based education reforms (Marsh & Odden, 1991). Teachers learn

about reform and have to engage and assimilate into it such that reform can be effectively carried out in daily classroom practices (Cohen & Hill, 2001).

Raffe and Spours (2007) have suggested three models of policy process and policy learning, which are rationalist model, collaborative model and politicized model. The rationalist model describes policy learning in a top-down implementation and traditional governance system, while the collaborative model refers to policy learning in the recent reform age with decentralized governance system. In the following table, relationships between policy process and policy learning are identified. It suggests the relation of policy learning to model of governance, decision making process and types of knowledge that involved. This table also provides some basic understandings for investigation into the emerging education policy implementation strategies, which values the importance of individual or group learning in the policy process.

Table 5: Three models of the policy process and policy learning

	Rationalist	Collaborative	Politicized
Relation of	Separate (concerned	Integrated,	Political calculation
political	respectively with	complementary	dominates the policy
contestation	goal-setting and		process causing
to policy	choice of policy		conflicts and
learning	options)		confusions
Model of	Hierarchical,	Collaborative,	Hierarchical,
governance	centralized	network-based,	centralized and
	-	decentralised	personalized
	Policy-making	Policy-making close	Political ideology
	separated from	to implementation	infuses
	implementation		policy-making and
			implementation

Decision-	Procedurally	Deliberative and	Non-rational with
making	rational	reflective	tendency for
process			political
			interventions in
			policy cycle
Types of	'What works'	Diverse and	Diverse types of
knowledge	Explicit, declarative,	contested types of	knowledge
; !	Mode 1	knowledge	politically selected
	Universalistic;	Tacit, procedural,	Policy learning,
	transferable (under	Mode 2, embedded	legitimating
	discoverable .	in networks	,
	conditions) across		Transferability of
	time, place and	Contextualized;	ideological
	policy fields	transfer problematic	paradigm assumed

Source: Extracted from Raffe and Spours (2007), p.7

Therefore, when consider the influence of individual cognition to education policy implementation, education reform messages from government should be delivered to frontline education practitioners not only as an objective universal knowledge and practices, but as an input to construct and reconstruct teacher knowledge and beliefs of education reform environment. Education reform initiatives can be performed by the street-level bureaucrats with their own interpretations in specific context, i.e. building up their tacit and procedural knowledge.

Also, despite the fact that individuals can interpret or make sense of the education reform messages differently in their own way such that diversities and complexities may be created, individuals also participate in different social groups at the same time, such as schools, professional organizations and learning communities. Hence, social cognition and institutionalization process should also

be considered in education policy implementation research.

At last, from the politicized policy learning dimensions, education policy implementation and policy learning can be perceived as a complex and iterative political phenomenon, and implementation is a "combination of contests, contingencies, and disruptions that cannot be fully anticipated let alone readily controlled" (Malen, 2006, p. 101). Education policy implementation is carried out in an environment with vested interests, inclination, preferences of different policy actors and politics of nullification and amplification (Malen, 2006). By understanding the political factors during the process of policy learning and education policy implementation, the complexity and outcome of education reform can be better revealed.

The ideas of these three types of policy learning have informed the research on education policy implementation not only with an emphasis on cognition and practices of individuals, but at a collective and organizational level. The dynamics, relations and interactions between actors should also be considered during education policy implementation research and this leads to the following discussion about the role and use of network during education policy implementation. Therefore, when investigating individual policy learning through networks, besides network structures and formats, the nature of individual learning should also be taken into considerations in revealing the meaning of network sharing for each individual.

Policy learning and social cognition

In education reforms, teachers not only learn the policy individually, they will also socially co-construct their knowledge in different communities, such as intra-school departments or organizations and inter-school networks. In this section we will discuss on the influence of networks towards policy implementation with social learning perspectives.

In theory of social learning, the processes of knowing and learning in a group have four components:

- "1. Meaning: a way of talking about our ability—individually and collectively—to experience our life and the world as meaningful.
 - Practice: a way of talking about the shared historical and social resources, frameworks, and perspectives that can sustain mutual engagement in action.
 - Community: a way of talking about the social configurations in which
 our enterprises are defined as worth pursuing and our participation is
 recognizable as competence.
 - 4. Identity: a way of talking about how learning changes who we are and creates personal histories of becoming in the context of our communities." (Wenger, 1998, p. 5, original italic)

When applying the above concepts to policy learning in education reform, teachers not only learn the reform by themselves but in a social environment. In social learning, a community of practices will be formed and a group meaning of education reform will be reached (Wenger, 1998). Teachers create and construct a shared social reality through interactions. The social reality would be formed by a set of social interactions and orders. Teachers would be embedded in the social

structure (Granovetter, 1992). When a group of individuals has a set of regularized patterns of human behavior and forming rules and structures that persists over time, an institution is constructed and that will affect public policy and education policy implementation (Anderson, 2003). The convergence in policies and practices among organizations operating in a similar environment or competing for the same goods has been occurred, namely structural isomorphism (Scott & Meyer, 1994). This explains the similarities occurred in diverse settings of different organizations when adopting the same practices or policies in education reform (Burch, 2007). In the implementation of education reform, socially organized knowledge, social structures and social realities are co-constructed by the participants.

When considering the influence from both individual actor and institution, the concept of "actor-centered institutionalism" can provide a deeper understanding and analytical framework to realize the complexity of education policy implementation (Barrett & Fudge, 1981). "Actor-centered institutionalism" framework has synthesized the perspectives from policy researches on the policy outcomes by individuals and institutional setting (Scharpf, 1997). The framework is to "explain past policy choices and to produce systematic knowledge that may be useful for developing politically feasible policy recommendations or for designing institutions that will generally favor the formation and implementation of public-interest-oriented policy" (Scharpf, 1997, p. 43). The policies are expected to be affected by actors, actor constellations and modes of interaction within certain institutional settings.

In this framework, the capabilities, perceptions and preference of policy

actors are the background for individual actor to further act onto the problem with constellations and modes of interactions. The constellations and interaction strategies of government and other actors may be considered within the concepts provided by game theories, such as a non-cooperative game, cooperative game, voting game or hierarchical game that forming different modes of interactions, i.e. unilateral action, negotiated agreement, majority vote and hierarchical direction. These modes of interaction are related and supported by different institutional settings, which are anarchic field, network, association and organization, such that the policy interactions happened in the policy process can be better explained (Scharpf, 1997). In that case, the dynamics of government and policy actors in the education reform implementation process can also be revealed by this framework.

When implementing education reform through network, the most suitable modes of interactions suggested by the "actor-centered institutionalism" framework would be negotiated agreement. In the effective negotiation in the network process, formation and accumulation of social capital is important to build norm, trust and relationships within the network (Coleman, 1988). "Social capital may be defined operationally as the resources embedded in social networks accessed and used by actors for action. Thus, the concept has two important components: 1) it represents resources embedded in social relations rather than individuals, and 2) access and use of such resources reside with actors." (Lin, 2001b, p. 25). The resources and relations in the social network will facilitate the flow of information, exert influence on the agents, create social credentials and reinforce identity and recognition (Lin, 2001a; Nahapiet, 2008). The social capital created by the network may also promote lifelong adult

learning (Field, 2005) in education setting, such as teacher learning and ultimately teacher professional development and teacher professionalism.

Together with the concepts of components of social learning: 1) learning as experience (meaning); 2) learning as doing (practice); 3) learning as belonging (community); and 4) learning as becoming (identity) (Wenger, 1998), network not only provide a platform for teachers to share and learn the ideas of education reform through information exchange, but also creating a new role and identity for teachers in the network to learn through other channels, i.e. community and identity building. Therefore, network can be perceived as an instrument in policy learning for teacher with multiple mechanisms. Teachers have interpreted and made sense of the policy with their beliefs and prior knowledge in the network process together (Spillane, et al., 2002) and co-construct their new knowledge, identity and implementation towards the education reform. Education policy implementation in this case is social learning and social construction process of both government and teachers. And different levels of networks, such as teacher network, school network and university-school partnership network, have join-up the macro-level and micro-level for education policy implementation through social learning.

In conclusion, as policy implementation through networks involve complex structures and decision making processes, researches on network have been generally divided into three types, i.e. actor analysis, game analysis and network analysis (Klijn, 2008; Koppenjan & Klijn, 2004). As discussed above, this research will start with actor analysis to intent to identify actors involved, reconstruct perceptions of actors and analyze actor positions and dependencies.

Then, apply the concepts from network analysis to search for interaction patterns of actors, patterns in actors' perception and institutional provisions that connect actors in networks.

3.3.2 Organizational and networked learning perspective on network

Besides taking individual actor learning into our main focus of this research, organizational and networked learning are also brought into considerations to investigate whether collective learning takes place during policy learning through networks.

When adapting different organizational learning theories to the field of education policy implementation, the general sub-process of policy learning will be interpretation, storage and retrieval of collective wisdom or knowledge in an organization (Honig, 2006a). Through organization learning process, the co-constructed knowledge that formulated by a group of policy actors can be more effectively preserved or sustained within the group and disseminated or shared with other people (Argyris & Schon, 1996). This process will deepen individual and social policy learning process and build up capacity for organization to implement education reform. In extension, others concepts in professional learning communities can also supplement our knowledge on group learning both within and beyond the school (Bryk, Camburn, & Louis, 1999; DuFour, DuFour, & Eaker, 2008; Stoll, Bolam, Mcmahon, Wallace, & Thomas, 2006).

As collective policy learning of NSS-LS curriculum both happened in

intra-school organizations and inter-schools networks, besides organizational learning, the concept of networked learning is also needed to be considered. Networked learning concerns about how practitioner knowledge, public knowledge and new knowledge can be co-constructed purposefully and sustainably in the network. For details, networked learning included four distinct learning processes:

- "Learning from one another: where groups capitalize on their individual differences and diversity through sharing their knowledge, experience, expertise, practices, and know-how.
- Learning with one another: where individuals learn together, notice that they are learning together, co-construct learning and make meaning together. Collaborative practitioner enquiry, and collaborative learning about recent research are good examples of this activity.
- Learning on behalf of: where learning between individuals from different schools is also done on behalf of other individuals within their school and network—or the wider system.
- Meta-learning: where individuals are additionally learning about the processes of their own learning." (Jackson & Temperley, 2007, pp. 48-49, original italic)

Together with individual learning discussed in the above section, there are three levels of learning happened in implementation of NSS-LS through networks that become my concerns in this study, i.e. individual, organizational and networked. The three levels correspond to teacher, school and network context in this study that constitute the foundations of the scope in the research framework and design in chapter 4.

In parallel with applying teacher learning perspectives on implementation of NSS-LS curriculum, the following section will discuss on the influence of school-based network to NSS-LS curriculum implementation by using policy network perspectives. On one hand, policy network perspective in policy implementation research supplements the discussion on networked learning in the previous section. On the other hand, it also constructed comprehensive dialectical perspectives on the interrelations between teacher and network, which is agency and structure in a boarder sense. This perspective also connects teacher learning and policy implementation in network settings.

3.4 From policy network to implementation of NSS-LS curriculum

Based on the development of policy implementation research and empirical understanding of NSS-LS implementation in Hong Kong, policy network is selected to be the backbone of theoretical support in this study together with teacher learning discussed above. Because of the complexities of theoretical understanding in policy network studies, other theories such as institutionalism, governance, inter-organizational studies etc. will also be openly used and adopted during this study in order to have a comprehensive discussion to the empirical field.

3.4.1 • Defining and positioning policy network

Besides the nature and characteristics of policy network that have been discussed and described in the previous section, back to the basic and concrete

definition on the term policy network, several researchers have explicitly provided some definitions to it. Although no general consensus on the definition of policy network exists, if the similar definitions are organized, policy network can be stated as stable social relations, linkages or formal institutional arrangements between interdependent actors around policy programmes.

"Policy network as (more or less) stable patterns of social relations between interdependent actors, which take shape around policy problems and/or policy programmes." (Kickert, et al., 1997, p. 6)

"Policy networks are sets of formal institutional and informal linkages between governmental and other actors structured around shared if endlessly negotiated beliefs and interests in public policy making and implementation. These actors are interdependent and policy emerges from the interactions between them." (Rhodes, 2006, p. 426)

From the general impression on the definitions of policy network, three main traditions of policy network literature are developed corresponding to its policy environment, i.e. American literature, British literature and European literature (Marsh, 1998a). In the American literature, the emphasis is put on the interest intermediation that based on the basis of sub-government and dynamics within the "iron-triangle" (congress, interest group, bureaucracy) in the policy making environment in the United States. In British literature, it emphasizes on the structural aspects of networks and developed typologies and characteristics on networks (Marsh & Rhodes, 1992). And for European literature, though it shares lots of similarities in the perspectives on network as a new form of

governance with British literature, it pays particular attention to interpersonal dimension in policy networks because of the multi-level and multi-national governance environment in European Union.

In this study, the concepts from British and European literature will be mainly adopted because it fits the focuses and empirical field in this study, which are on the new form of curriculum governance and interpersonal dimension of NSS-LS school-based support networks. The concepts are borrowed and adapted into education settings in Hong Kong because of the decentralized education governance environment, with the majority of secondary schools ruled by sponsoring bodies instead of directly run by the government in Hong Kong.

3.4.2 Reviewing approaches on policy network

(34

Besides differentiating the literature on the basis of geographical and contextual environments, Börzel (1998) and Bevir and Richards (2009) have comprehensively reviewed the approaches towards study of policy network. They distinguished the study of policy networks into four main streams, i.e. networks as interest intermediation, network as governance, network as management and decentred theory. The first three approaches are mainly based on the positivist views and the last one is mainly rested on constructivist views in epistemological concepts.

As individual and collective sense-making by teachers are the fundamental concerns of this research, constructivist perspectives will be applied to study teacher belief, concepts, meanings and actions on NSS-LS curriculum. Teachers

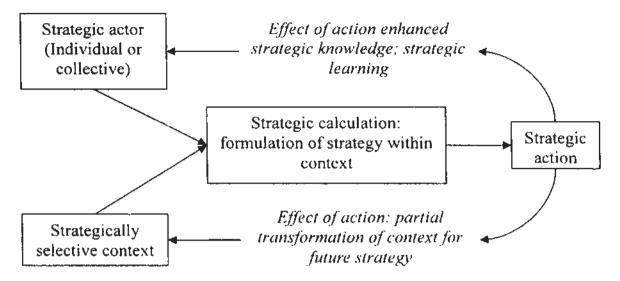
will be considered as situated agents in both school organizations and network settings, through which they continuously use their own backgrounds to make sense of NSS-LS curriculum within their social context.

Although this study begins with the focus on situated agents, a thorough understanding in dynamic interactions between agent and structure is also essential to this study because besides perceiving structure and agent as dichotomy and independent phenomena, the two represent a duality also. The structure is both constraining and enabling agent and exists in and through the social practices of human agents, which construct a dialectical approach towards understanding the relationship between structure and agent (Giddens, 1984).

In addition to Gidden's (1984) structuration theory, which provided a dialectical insights on policy network, Jessop (2001) has suggested a strategic-relational approach to argue that actions are strategically selective within a pre-existing structured context (McAnulla, 2002). In strategic-relational approach, strategic learning takes place because "agents are reflexive, capable of reformulating within limits their own identities and interests, and able to engage in strategic calculation about their current situations" (Hay, 1996, p. 124).

The following figure has elaborated the concepts of actors making sense of the context through strategic calculations and acting purposively in the attempt to realize their intentions and preference (Hay, 2002).

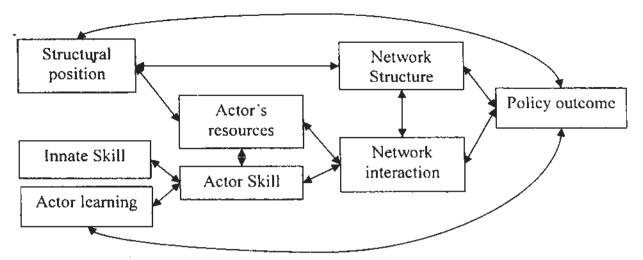
Figure 1: Structure, strategy and agency in the strategic-relational approach



Source: Hay, C. (1995). Structure and agency. In D. Marsh & G. Stoker (Eds.), Theory and methods in political science (pp. 202). London: Macmillan.

When these concepts appeared in theories in policy network, David Marsh and Martin Smith (Marsh, 1998b; Marsh & Smith, 2000) proposed a dialectic framework on network analysis that gave us some insights on how we construct the perspectives of investigating policy networks, which was beyond structure versus agency. This framework has further claborated on the details or considerations behind actors and network contexts, which also bring policy outcome to the concern.

Figure 2: Policy networks and policy outcomes: a dialectical approach



Source: Marsh, D. (1998). The utility and future of policy network analysis. In D. Marsh (Ed.), *Comparing policy networks* (pp. 194). Buckingham: Open University Press.

In the dialectic framework, the relationship between structural context, networks, and actors is emphasized. It acknowledges the importance of both actors' skills and resources and network structure. In this case, policy network is not perceived as a fixed entity but a process of exchange that involved multiple interdependent actors. It is also a process of social production of organizational reality (Evans, 2001).

For the details in key dimensions in networks in education, Lima (2008) has proposed the followings dimensions and sub-dimensions. It provided a more detailed understanding on the dimensions related to networks.

Table 6: Key dimensions for the analysis of networks in education

Dimension	Sub-dimension	Tuna	Donnintian
	Sub-dimension	Туре	Description
Genesis		Emergent	Spontaneous, voluntary,
			generated through
, 1			'grassroots' processes
5		Externally	Conceived and promoted by
		sponsored	outside agents as an
			instrument for their own
			agendas
Composition		Individual-actor	Comprised by individuals
		Collective-actor	Comprised by groups,
			organizations, institutions,
. !			etc
Structure	Density	Dense	Most possible relations are
			activated
		Sparse	Few of the possible relations
			are activated
	Centralization	Decentralized	No particular actor or set of
,			actors is relatively prominent
		Centralized	One actor or a small set of
			actors are the focus of most
			of the network's relational
			activity
	Connectedness	Strongly	Most actors are strongly
	 	connected	connected to one another
		Fragmented	Subgroups of actors within
			the network are weakly
			connected or unconnected to
	†		one another
Substance		Single-purpose	Devotes most of its activity
			to a single purpose
		Multi-purpose	Devotes its activity to several
			purposes
Effectiveness		Effective	Achieves its declared aims
		Ineffective	Fails to achieve its declared
			aims
<u> </u>		<u> </u>	

Dynamics	Goal-directed	All relations between network members are structured in order to achieve network-level goals; an administrative entity plans and coordinates the activities of network as a whole
	Serendipitous	Evolves haphazardly from the interactions of individual actors, without guidance from any central network agent

Source: Lima, J. A. (2010). Thinking more deeply about networks in education.

Journal of educational change, 11(1), 1-21.

However, if going deep into the dialectical approach or dimensions of network, we may notice that the nature of policy or policy content is absent in literature. But in education settings or education policy implementation, the nature of policy content is essential to the whole implementation through network because the nature of policy builds up the core and foundations of actor interpretation. The nature of policy content determines the space for interpretation. Therefore, the literature on teacher learning may fill-up this missing link because teacher learning is a comparatively microscopic and contextualized perspective that put more concerns on policy content.

Moreover, previous researches on network and inter-organizational relationship are dominantly functional, which focus on the collaboration mechanism, competitive advantages, and resources dependencies etc. (Lotia & Hardy, 2008). So besides functional perspectives of teacher learning in networks on implementation of NSS-LS, this study will also try to explore the potentials of

applying communicative and critical perspectives in networks through collaborative learning and politicized learning dimensions. The contributions of both teacher learning and policy network perspectives on education policy implementation may provide a more holistic approach in understanding the implementation of NSS-LS.

3.5 Effect of network on education policy implementation

After discussing the process of network on education policy implementation, the following sections will outline the effect of network to get to know possible network outcomes together with enactment of NSS-LS curriculum.

According to Veugelers and Zijlstra (2005), networks have the following six functions: 1) Interpretation of government policies; 2) Influencing government policies; 3) Learning from the experience of others; 4) Using each other's expertise; 5) Developing new educational approaches and materials; 6) Creating new initiatives (Veugelers & Zijlstra, 2005). Their ideas have provided brief classifications on the effect of educational networks, which may be further categorized into curriculum and instructions, teacher professional development and governance. Building on the previous sections that explored on the ideas of teacher individual and collective learning and the details in process of policy implementation through networks, we will discuss the effects of network towards these three categories, i.e. curriculum and instruction; teacher professional development and governance in this section.

This section provides comprehensive review on the possible processes

outcomes of networks such that we may explore on the influence of network in education policy implementation. When putting all processes and outcomes together, this study actually reviews the multi-task processes in policy implementation through networks to serve multi-purposes.

3.5.1 Effect of network on curriculum and instruction reform

Curriculum and instruction reform is one of the most important aspects of education reform because it is directly related to the effectiveness of student learning and the change of educational knowledge. Through network, participants may raise their stages of concern to education reform and developatheir initiatives or innovations in the space and supportive environment created (Hall & Hord, 2001).

Hord (1997) has identified five dimensions of professional learning communities: 1) shared values and vision; 2) collective learning and application; 3) supportive and shared leadership; 4) supportive conditions; and 5) shared personal practice. When applying the above dimensions on the professional learning communities to curriculum and instruction reform, network can also perform similar functions to develop teacher collective practices to react to education reform.

For example, to facilitate the implementation of national writing project in United States, two university-school professional development networks are established to organize teachers in a non-hierarchical, peer to peer platform to share their teaching and learning approaches and other social practices to adapt

the education reform with the local concerns and contexts. Teachers will have opportunities to develop their professional practices in the network, such as:

"Approaching every colleague as a potentially valuable contributor

- Teachers teaching other teachers
 - Creating public forums for sharing, dialogue, and critique
 - Turning ownership of learning over to learner
- Situating learning in practice and relationships
- Providing multiple entry points into learning communities
 - Reflecting on teaching through reflection on learning
 - Sharing leadership
 - Adopting a stance of inquiry
 - Rethinking professional identity and linking it to professional community" (Lieberman & Wood, 2004, p. 50)

During implementation of network, the essential and core of ideas from national writing project will be remained and anchored, while teachers may develop some varieties of practices based on their school-based or classroom-based contexts and daily experiences. In this case, teacher can build up their capacities and professionalism to deal with changes in their particular context. In the case of implementation of NSS-LS, network may provide similar functions when interpreting the curriculum texts and materials, while conducting curriculum and instructional reform at the same time.

However, several concerns have been raised relating to the output of network because the qualities and standards of output of network cannot be sure or managed. As network structure and process are flexible and fluid, the outcomes cannot be fixed or preset to network by external agents. The aims and goals of network are formed with mutual agreement by participants only when the network is formed and in progress. On the other hand, the output of network is still under constraints and pressures by the national high stake test. The performances of network are still subject to public accountability system in the neo-liberal age (Ranson, 2003) and this will disempower and dysfunction the strength of network.

The role of teacher educator from the universities is another issue that has to be aware of during network implementation. The participants from university, government official or other prestige positions should not perceive and marginalize their work or collaboration process with school to just a research project, teaching course or governments publications or announcements (Lieberman & Wood, 2004). They should be the change agent or boundary spanner to school improvement and education quality advancement instead (Morgan & Eustis, 2004). The ideas or initiatives from the frontline teachers should be highly respected in order to maintain the contextual factors during the reform. For example, in the Accelerated School Project in United States, 'building on strength' is one of the three basic principles in the programme to improve teacher teaching strategies (Hopfenberg, Levin, & Associates, 1993). It may ensure the importance of local knowledge is being treasured and frontline teachers may have the chance to contribute in the reform process.

In Hong Kong, some important partnership networks are developed to foster school-based curriculum development, enhance teaching and learning strategies, and conduct leadership training and promote lifelong learning etc., which are all

the main themes of the education reform both locally, regionally and globally in the age of devolution (Kennedy & Lee, 2008). The networks facilitate both governmental and non-governmental quality education initiatives, such as school inspections, diversified funding and curriculum changes etc, through the accumulation and mutual sharing of experiences and knowledge of teachers in the communities (Wu, Chan, & Forrester, 2005). These networks may further refine the education reform ideas and initiatives, especially curriculum and instruction reform, into applicable daily practices. Therefore, this study will specifically investigate on the effect to the reform in curriculum and instruction in NSS-LS implementation through network.

3.5.2 Effect of network on teacher professional development

Based on the foundations built by curriculum and instructional reforms, another scope of studying the effect of network is to investigate its impact on teacher professional development. Network provides a collaborative structure to motivate teachers to reflect on their own existing practices and to grow professionally. This enabling structure would support the transfer of knowledge, skills and practices in a learning community with communal relations (Evans, Castle, Cooper, Glatter, & Woods, 2005). The sharing of best practice would build human capital among teachers (Smylie, 1996), and at the same time, the social connection with norms and trust have also created social capital in the network (Putnam, 1995).

Liberman and Grolnick (1996) suggested that networks have the following possibilities on teacher professional development: 1) encourage sharing of

knowledge; 2) flexible to organize activities; 3) shift the meaning of adult learning from prescription to involvement and problem solving; 4) leadership roles are possible for many network members regardless of their status; 5) collaboration among members; 6) create ongoing learning communities. And this kind of professional development has been happening with the consideration of contextual background from teachers, which let teachers to develop more effectively in a situated learning environment (Lieberman & McLaughlin, 1992). By active participation and involvement in professional development network, teachers may transfer the ownership of the external reform to internal (Coburn, 2003).

Despite the effect of network on professional development at individual teacher level, network would also response to the enhancement of teacher professionalism as a whole. In the postmodern or postindustrial age, teacher professionalism is more complex and requires teachers to commit into working in collaborative cultures and continuous learning that form interactive professionalism (Fullan & Hargreaves, 1996; Hargreaves & Goodson, 1996). However, the extent of teacher professionalism built by networking is still subject to the effectiveness of network that generate academically respectable knowledge, practically credible skill, socially trustful codes of ethics and practices, and effective authority and autonomy over the above constituents (Freidson, 2001).

3.5.3 Effects of networks on governance

In this new multi-actors and multi-agencies institutional arrangement,

partnership and collaboration between actors become more important, where the concepts of network governance emerged (Junki, 2006; Stewart, 2005). Networks would provide a governance structure for continuous interdependence of co-ordination and allocation of resources that become self-organizing and self-autonomous eventually (Bevir & Rhodes, 2003). This new form of governance has also reduced the ability for government to steer and further weaken the dominate role of government. The governance turn from government to governance, which is a form of "regulated self-regulation" (Ball, 2009b) or "constrained discretion" (Stoker, 2004). This deconcentrated governance involved active agents participating in a regulated or measurable environment in order for the government to steer with distance.

In education settings, network helps to reduce the tensions of top-down versus bottom-up, pre-service versus in-services, theory versus practices and formal versus informal organizational structures (Fullan, 1994; O'Hair & Veugelers, 2005). The consensus on nation-wide curriculum objectives may be achieved by adjustment to local realities (Elmore & Fuhrman, 1994). These concepts may bring new perspectives on education governance in Hong Kong, which emphasize not only the dichotomy in governance process but the possibilities of a third way in education policy implementation.

Chapter 4: Conceptual Framework and Research Methodology

In this chapter, the conceptual framework and research methodology of this study will be discussed and showed how it fits with the research aims, questions and related to the literature review. First, based on the foundation of literature review, the conceptual framework guides this study with a clear structure on the pathway to search for answers to research questions. Second, research methodology follows the conceptual framework to operationalize research ideas and questions into data collection methods and data analyzing strategies. This chapter constructs a solid research plan in response to the research questions and builds up a foundation to substantiate data analysis and discussion.

4.1 Conceptual framework

As discussed in the previous chapters, individual teacher sense-making of NSS-LS curriculum, collective sense-making of NSS-LS curriculum in school context, collective sense-making of NSS-LS curriculum in network contexts, and curriculum governance are the four major contexts in this study. The details of content and relationships in the four contexts and their effects are explained in the literature review. Thus, the following conceptual framework is built out of the literature review in both policy implementation studies and education studies.

In the literature review on policy implementation, the current development of research is neither focus on top-down nor bottom-up implementation (Hudson & Lowe, 2009). On one hand, policies are not only some mandated regulations or guidelines that front-line bureaucrats can strictly follow. On the other hand, the

street-level bureaucrats cannot interpret and implement the policies as free as they like. The policy actors have to make sense of the policies and implement the policies in their strategically selective context. The actors use their individual cognition to make sense of the policy in their specific environment. They further enact the policy according to the environment in certain ways. Therefore, the focus of policy implementation research has shifted to the sensemaking process of policy actors during policy implementation.

In this research, the sensemaking process of teachers involves two parts, i.e. individual sensemaking and social sensemaking (Spillanc, Reiser & Reimer, 2002). Teachers make sense of NSS-LS curriculum with their individual cognition within their own teaching context. Teachers make use of their prior knowledge, understandings and belief about learning and teaching to make sense of this new curriculum. In cognitive perspective of learning, teachers assimilate and accommodate the new experiences and develop their cognitive schemas in individual's mind (Hoban, 2002; Piaget, 1950). Prior knowledge and individual experiences are important to teacher learning in this perspective. This theoretical perspective contributes to the research on teacher's individual context in this study.

Besides individual sensemaking, teachers also make sense of the curriculum collectively within social context. For the perspectives of situated and distributed cognition, sensemaking occurs and distributed within an interactive network of actors (Spillane, Reiser & Reimer, 2002). The actors make sense of the curriculum in multiple contexts, such as organizational, social, historical contexts etc. The interactions, negotiation and communication of actors in these contexts

contribute to the collective sensemaking about NSS-LS curriculum. Teachers make sense of NSS-LS curriculum together with other teachers in the school and network context. From the perspectives of collective sensemaking, this study also covers the school context and network context to illustrate the phenomenon about teachers as social sense-maker.

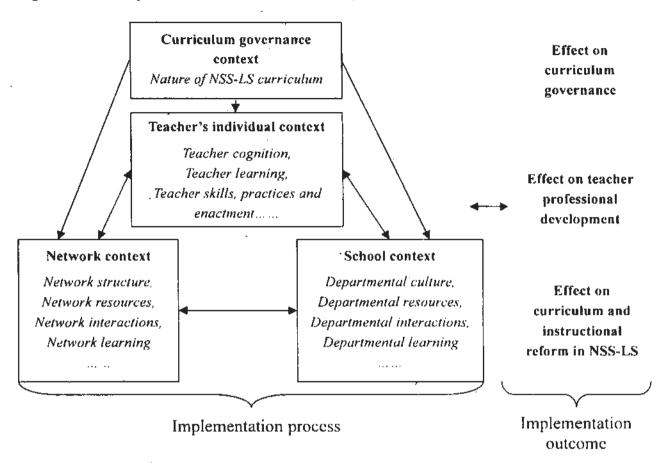
Besides the individual, school and network contexts mentioned above.

NSS-LS curriculum is also implemented within a larger governance context

related to curriculum reform in the devolutionary age. In the age of curriculum reform, the decision making process of curriculum policies is decentralized and put into the hands of teachers. School-based decision making is increasingly influential in the Hong Kong curriculum reform context (Morris & Adamson, 2010). The importance of turning government to governances is raised (Rhodes, 1996). The emergences of governance in policy implementation research also guide this study to include curriculum governance context.

As this study aims at reveal the phenomenon of individual and collective sensemaking of NSS-LS curriculum holistically, the four contexts mentioned above are included in the conceptual framework of this study. Together with the contexts, the three effects on curriculum governance, teacher professional development and curriculum and instructional reforms are also discussed because the importance of these domains are frequently discussed by the literatures as in the literature review.

Figure 3: Conceptual framework of this study



This conceptual framework provides a theoretical lens for this study to be aware of the scope, boundary and sensitizing concepts in this study. It helps us to familiarize with the situations in empirical field, especially to understand the attributes in each context and the relationship between teachers and contexts.

4.2 Research Questions

As stated in chapter 1, this research has the following five major research questions to guide our further development of detailed research questions.

1. Question in teacher sense-making of NSS-LS curriculum:

How do teacher make sense of NSS-LS curriculum in their cognitive

implementation schema?

2. Question in NSS-LS curriculum governance:

How do the context of organizational-level and state-level curriculum governance affect teacher sense-making and enactment of NSS-LS curriculum?

3. Question in school-based support network:

How do different networks function on teacher sense-making and enactment process?

4. Question in interaction between curriculum governance and school-based support network:

How do the influence of school-based support networks interact with governance of Liberal Studies curriculum?

5. Question in teacher enactment of NSS-LS curriculum:

How do teacher enact the NSS-LS curriculum after their sense-making process? Why did they enact in such a way?

Based on the research framework and major research questions above, research questions can be further elaborated as follows. Also, the following detailed research questions will further guide this study and be substantiated into interview questions (see appendix 1) later on. The detailed research questions are:

1. Question in teacher sense-making of NSS-LS curriculum:

- How do teacher background, knowledge and skills affect teacher interpretation of NSS-LS curriculum?
- How do teacher make sense with information and resources of NSS-LS curriculum individually in their own way?

2. Question in NSS-LS curriculum governance:

- How do teacher learn and interpret the curriculum cooperatively in their organizational context?

How do school-based NSS-LS curriculum being socially constructed?

3. Question in school-based support network:

How do the structure and process of school-based support network contribute to individual and collective sense-making process of teachers?

4. Question in interaction between curriculum governance and school-based support network:

How do network affect on school-based curriculum governance?

How do networks contribute to the construction of NSS-ES curriculum in Hong Kong?

5. Question in teacher enactment of NSS-LS curriculum:

- How do teacher enact their sense-making outcome in daily classroom practices?
- How do teacher adjust and further make sense of NSS-LS curriculum after feedbacks of classroom teaching?

4.3 Research Design

This study will apply qualitative research method to investigate the five major research questions stated in chapter 1, i.e. 1) teacher sense-making process of NSS-LS curriculum; 2) NSS-LS curriculum governance; 3) attributes and functions of network; 4) interactions between curriculum governance and network and 5) teacher enactment process of NSS-LS curriculum. As all the

research questions have a clear social constructivist worldview that search for the perceptions and experiences of teachers participated in different networks, qualitative research methods are applied in order to discover the meaning of NSS-LS curriculum and school-based support networks that are perceived and interpreted by teachers. The application of qualitative research methods is based on foundations of constructivist perspectives or decentred theory mentioned in literature review. In this chapter, the rationale behind using qualitative case study research method will be further explained and details of research design will also be discussed and elaborated. By investigating teacher's perspectives from school to school, in-depth contextual factors of each school can be explored and revealed. This also allows us to get to know the phenomenon and teacher experiences in their real-life context, both in school and network settings.

Justification and application of qualitative research approach

As this study aims at revealing and understanding individual and collective sense-making processes of NSS-LS curriculum from teachers' perspectives, qualitative research method is applied in order to let our teachers freely express their perceptions and experiences. Through qualitative research processes, this study uses a constructivist approach to interpret the meaning behind and address the process of sense-making of NSS-LS curriculum and dynamics between teachers and networks.

In teacher's individual sensemaking of NSS-LS curriculum, teachers organize and make sense of the curriculum with their personal schema. Teachers make sense of NSS-LS curriculum through their retrospect to organize their past

experiences in a meaningful way. Teachers attribute their meaning to the implementation of NSS-LS curriculum. Through individual sensemaking process, teachers select and preserve the most significant experiences within their specific context. They enact NSS-LS curriculum according to the organizational and institutional environment. The reveal of individual sensemaking process can unfold the subjective meaning of NSS-LS curriculum implementation attributed by individual teacher within their lived experiences.

Besides the reveal of individual sensemaking about NSS-LS curriculum, teachers also need to collectively make sense of the curriculum in the three social contexts mentioned in conceptual framework, i.e. school context, network context and curriculum governance context. Teachers make sense of the curriculum together through negotiation and exchange of ideas. Teachers express their point of views and form collective understandings and actions toward NSS-LS curriculum. The teacher's collective sensemaking constructs an intersubjective meaning of NSS-LS curriculum in the social world. Through the process, teachers may further institutionalized the process and form "reciprocal typification of habitualized actions" (Berger & Luckmann, 1967, p.72) towards NSS-LS curriculum, i.e. collective NSS-LS curriculum implementation.

Developed from individual and collective sensemaking of NSS-LS curriculum, teachers further enact the curriculum according to their lifeworld. Teachers enact the NSS-LS curriculum within their strategically selective contexts and their enactments are bound up with ecological change (Hay, 2002; Weick, 1979). Therefore, by qualitative research designs, this study can reveal the inner world and understandings of teachers about NSS-LS curriculum.

Through the interviews and qualitative research process, teachers sketch their way of understanding about NSS-LS curriculum and allow this study to investigate on teacher's subjective or inter-subjective world.

In this study, focused interviews and documentary analysis will be applied in order to complement focus on various concerns in the five research questions. Teachers in Liberal Studies subject department in the case schools will be interviewed with semi-structured and open-ended questions (see appendix 1). Their authentic experiences in learning, sense-making and enacting NSS-LS curriculum are foci of this study. It also reflects the phenomenon in both networks and curriculum governance. In details, along with general interview questions that applied to all teachers about the sense-making of NSS-LS curriculum, all panel heads or key persons in the Liberal Studies subject department will be specifically asked on school-based curriculum planning and governance to reflect on the NSS-LS curriculum at school-level.

Another data collecting method applied in this study is documentary analysis. The school documents related to NSS-LS curriculum planning and enactment, such as unit plans, lesson plans and teaching materials etc., will be studied in order to comprehend a rich and thick description (Geertz, 1973). Teachers will provide some teaching materials and lesson plans for this study to further familiarize with teacher sense-making outcomes and teaching practices in NSS-LS. Details of the teaching materials will also be discussed whenever necessary to support and triangulate the data drawn from interviews.

Besides documents collected from case schools, other related documents

from school networks and government, such as shared teaching materials, notices, memorandums and policy documents, will also be reviewed so as to enrich and support the data collected from other sources in order to substantiate findings and arguments in this study. Data collected from school network and government documents can be used to triangulate with interview data and reveal sense-making of curriculum in teacher consciousness level and enactment level.

4.3 Research Sample

Theoretical sampling is applied in order to facilitate the understandings of conceptual framework and developing the related concepts in this study. The choice of sample schools is based on theoretical development in the literature review of this study. In the literature review and development of conceptual framework, four contexts are included in this study, i.e. teacher's individual context, school context, network context and curriculum governance context. Thus, in the selection of research sample for investigation, the interviewees not only can provide their individual point of view, but also share their experiences in school context and network context. Research sample are selected by school-based and network-based. Teachers from 6 schools are selected in this study, which included 3 different kinds of networks in Hong Kong.

In order to study the comprehensive picture of implementation of NSS-LS curriculum in Hong Kong, 25 teachers in 6 schools are purposively selected according to diverse student abilities. School A and B with high ability students, School C and D with medium ability students and School E and F with low ability students are selected. Teachers in different schools interpret and design

their school-based curriculum according to their specific student learning needs and styles. The combination of teachers with diverse background formulates a deep understanding on the implementation of NSS-LS curriculum and further draws the discussion and conclusion on theoretical breakthrough and empirical understanding in this study.

In this study, all case schools teach NSS-LS curriculum by using Chinese as medium of instruction. School A, C and E are the key schools for this study and all teachers in the panel are interviewed. These three schools have participated in three different networks, i.e. School A in non-government initiated teacher network, School C in Education Bureau initiated teacher network and School E in Examination and Assessment Authority initiated teacher network. The processes and outcomes from three different networks will be illustrated through these case schools in order to illustrate the effect of networking in implementation of NSS-LS curriculum. Furthermore, in order to gain more insight from the implementation of NSS-LS, school B, D and F are used to supplement, triangulate and deepen the understanding about the implementation of NSS-LS curriculum. In school B, D and F, only panel heads and core members of the team are interviewed. School B is the only one who has participated in the Examination and Assessment Authority initiated teacher network. School D and F have not participated in the mentioned networks. For school A, D, E and F, a single panel head is assigned by the school to be in charge of Liberal Studies panel. For school B and C, two panel heads are assigned by the schools and they collaboratively take charge of the panel.

In our interviews, panel heads in case schools are experienced teachers in

other subjects and have already taken NSS-LS training at the very beginning. All interviewees have certain teaching experiences in other subjects so that they have accumulated prior knowledge and practices in teaching field. For the duration of interviews, all interviewees will take part in a primary interview individually for approximately 30-60 minutes (i.e. about single or double lesson period), depending on availability of teachers. Total 25 semi-structured interviews are conducted for this research. The interviews will ask a list of questions (see appendix 1) and followed by some follow-up questions to strengthen our understandings toward some specific issues. Post-interview questions will also be asked to teachers if further clarification or information is needed.

Table 7: Backgrounds of Interviewees

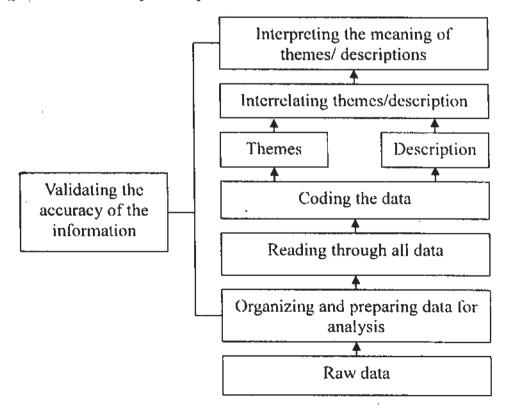
School	Teacher	Teaching	Other Teaching Subject(s)	Panel
		Experience		Head(s)
A	A	15	Geography	1
	В	3	Geography	
	С	10	History	
	D	2	Geography	1
	Е	13	Chinese History, Chinese	
В	A	19	Geography, Mathematics	V
	В	16	Biology	√
	C	8	Religious Studies, Civic Education	
С	A	>25	Economics and Publics Affairs	V
	В	6	Government and Political Affairs	/
	С	14	Biology	
	D	10	Chinese	
	E	8	Mathematics	1
	F	3	Chinese	-
D	Λ	15	English	/
	В	21	English, History	
	С	5	Chinese, Chinese History	
Е	A	11	Geography	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \
	В	7	History	
	С	13	English	
	D	4	History	
	Е	8	Computer	
12	A	16	Chinese Language, Tourism	1
	В	15	Mathematics, Computer, Technology	
	С	15	. Chinese Language	

Besides the above characteristics, as teachers in these sample schools are with wide range of participation intensity and capacity in different networks, this study will not only put my perspectives in the boundary of individuals, but will also be used to reflect on the other two levels, i.e. school level and network level.

4.4 Data analysis

Instead of an independent period of time for data analysis, data collection and data analysis are simultaneously occurred (Miles & Huberman, 1994). In the analysis of data collected, this study will apply the standard coding procedure as Creswell (2009, p. 185) suggested (see figure below). The codes will be developed through iterative coding with all the data collected from interviews, observations and documents etc. The coding is aimed at describing the nature and process of teacher sense-making process interacting with the structural environment. Besides the interactions between teacher cognition and school environment, it will also describe the interactions with different networks. However, it is still subjected to further adjustment in the process of data collection and analysis.

Figure 4: Data analysis in qualitative research



Source: Creswell (2009, p. 185)

4.5 Reliability, validity and ethical issues in this research

Several reliability procedures and validity strategies will be applied during the whole in order to ensure the quality of this research (Creswell, 2009; Gibbs, 2007).

In reliability procedures, the researcher will check transcriptions and make sure the definitions of codes are used properly so that they do not contain any obvious mistakes and misuse of the codes. The transcriptions will be verified by the informants to ensure its truthfulness and correctness of the data collected. Also, findings will be shared with key informants and the research will invite their comments and insights into final analysis (Miles & Huberman, 1994).

To ensure validity, triangulation of different data sources will be applied to ensure internal validity during the data analysis process. This process may build up a coherent justification on the claims and arguments of this study that increase the validity of this study. Also, by providing a rich and thick description on the settings and data collected, the results will become more authentic and realistic, which may also add validity to the findings.

For the ethical issues encountered during this study, the ethical standards from American Educational Research Association will be used as reference and standard (Strike, et al., 2002) in the whole research process. To maintain the truthfulness and integrity of this research, the researcher will uphold confidentiality and anonymity to build up trustful relationship with the informants, especially when collecting and analyzing the information that came

from the same case school.

Chapter 5: Teacher individual sense-making of NSS-LS curriculum

This chapter explores teacher individual sense-making process of NSS-LS curriculum by their own cognitive schema to make the curriculum relevant and sensible to their own teaching context. Louis (1980, p. 241) explained that "sensemaking can be viewed as a recurring cycle comprised of a sequence of events occurring over time. The cycle begins as individuals form unconscious and conscious anticipations and assumptions, which serve as predictions about future events." Therefore, in this chapter, individual teacher learning and teaching experiences are revisited retrospectively to see how teacher experiences affect their understandings and interpretations about NSS-LS curriculum.

The investigation of individual sense-making process by teachers will be mainly focused on the tensions and dynamics of teacher learning from ideas in curriculum documents and realities in their teaching context. By reflecting on teacher mediation about the gap between NSS-LS curriculum ideals and realities, teacher interpretation and sense-making of NSS-LS curriculum can be deeply revealed.

5.1 Learning the ideals: Teacher learning from the curriculum documents

In the NSS-LS curriculum and assessment guide, six curriculum aims are clearly stated in the document, including "(a) to enhance students' understanding of themselves, their society, their nation, the human world and the physical environment; (b) to enable students to develop multiple perspectives on perennial and contemporary issues in different contexts (e.g. cultural, social, economic,

political and technological contexts); (c) to help students become independent thinkers so that they can construct knowledge appropriate to changing personal and social circumstances; (d) to develop in students a range of skills for life-long learning, including critical thinking skills, creativity, problem-solving skills, communication skills and information technology skills; (e) to help students appreciate and respect diversity in cultures and views in a pluralistic society and handle conflicting values; and (f) to help students develop positive values and attitude, so that they can become informed and responsible citizens of society, the country and the world" (Curriculum Development Council & Hong Kong Examinations and Assessment Authority, 2007, p. 5). Students should develop their knowledge, skills and attitude covered in the six modules of studies with a cross-module and interconnected sense through issue-enquiry learning and teaching approach.

Under the above curriculum aims, NSS-LS curriculum and assessment guide issued by the Education Bureau has further outlined eight expectations of student learning outcomes. To synthesize, in knowledge building, students should be able to construct their knowledge through enquiry into contemporary issues which affect themselves, their society, their nation, the human world and the physical environment. In development of skills, students should acquire multiple generic and enquiry skills, such as problem solving skills, communication skills, information processing skill etc., through issue enquiry learning in a self-directed way. In nurturing student values and attitudes, students should critically reflect on different views and opinions in the societies and form their own judgments and decisions toward issues in order to become a responsible and conscientious citizen (Curriculum Development Council & Hong Kong Examinations and

Assessment Authority, 2007, pp. 5-6). In order to achieve effective teaching and learning in NSS-LS curriculum, ten guiding principles are further outlined by the curriculum documents to instruct teachers to conduct the curriculum with appropriate teaching and learning strategies, i.e. 1) building on strength; 2) acknowledging prior knowledge and experience; 3) understanding the learning targets; 4) teaching for understanding: 5) teaching for independent learning; 6) enhancing motivation; 7) effective use of resources; 8) maximizing engagement; 9)aligning assessment with learning and teaching; 10) catering for learner diversity (Curriculum Development Council & Hong Kong Examinations and Assessment Authority, 2007, pp. 87-88).

Numerous propagandas related to NSS-LS are publicized in the mass media or through teacher trainings by Education Bureau, the ideas and ideal learning outcomes of NSS-LS are well-known and bombarded to teachers. Circular, pamphlet, handbook, articles, TV programmes and commercials are all over various channels, such as printed-copies. TV, radio and internet (Education Bureau, 2011). Therefore, teachers notice the ideas and rationale of implementing NSS-LS curriculum postulated by Education Bureau. Some teachers even interpret the NSS-LS curriculum guideline in their own way and formulae their ideal type of NSS-LS curriculum. In the following section, teacher's perceptions on NSS-LS curriculum ideals will be revealed to see how teachers make sense of the ideal type of NSS-LS curriculum.

5.1.1 Construction of knowledge by students

٢,

Under the wave of curriculum reform in the last decade, teachers' role in

teaching process has been changed. Teachers are no longer the distributor of knowledge in the teaching and learning process but act as facilitator instead. Students play an active role in participating in learning activities and need to construct their own knowledge such that they have ownership in their learning outcomes and make learning more effective. These progressive ideas in teaching and learning approaches have already agreed and recognized by teachers for years, especially after the education reform proposal submitted by Education Commission in 2000. Therefore, NSS-LS teachers are also well-acknowledged and accept the ideas on student construction of knowledge in NSS-LS teaching and learning.

In the interviews, all teachers are asked about their understanding about the ideals of NSS-LS curriculum and their perceptions towards teaching and learning of NSS-LS. All teachers express their familiarity on the ideas related to educational reform and NSS-LS curriculum, no matter they are directly drawn from wordings in curriculum documents or from their personal understandings. Most teachers can show their knowledge and state curriculum ideas smoothly. Teachers across all case schools reiterate the ideal typical aims and objectives from the curriculum documents and show their common understandings and agreement with ideas behind:

Ideally, Liberal Studies lessons should have more diversity in teaching and learning. For example, student should construct their own knowledge. Teacher should not be the knowledge provider but as a facilitator. Students should construct their knowledge in their own way. (Teacher D, School

Students should be given the opportunities to master the concepts in their life that should not be taught by others. For example, in interpersonal relationship and interpersonal skills, I think students should already know the ideas behinds when interacting with others in their whole life. (Teacher E, School E)

Students should have their freedom to inquire, discuss, reflect and discover knowledge. They should have their own way of thinking and not targeting at the public examination. (Teacher D, School A)

In teachers' point of view, students' construction of knowledge is an independent and interdependent enquiry process for them to develop their way of thinking. The knowledge construction process has its intrinsic value and is not for the sake of preparing public examination or delivering content knowledge like the traditional subjects.

5.1.2 Developing student enquiry skills and habits

Another emphasized idea in the introduction of NSS-LS curriculum is related to the development of student enquiry skills and habits. NSS-LS curriculum accentuates that students should become independent learners and thinkers in the future. In order to achieve this goal, teachers should introduce different thinking strategies, frameworks or even models to help students to establish their way of thinking and further develop independent enquiry skills. Therefore, introducing different thinking frameworks and models becomes one

of the ideal components to develop student enquiry skills and should be the necessary component in NSS-LS curriculum:

I think the target of NSS-LS curriculum should be helping our students to learn more thinking approaches. That is my first priority. Open students' mind, develop their way of thinking and not like the old days. (Teacher B, School A)

Among all the dimensions of enquiry skills and thinking habits mentioned, critical thinking is the most prominent idea that teacher would like to nurture students with. Teachers believe that critical thinking is essential in NSS-LS curriculum. With critical thinking, students can enquire into issues with different perspectives and review the issues in a more thorough way.

About student enquiry skills, I think it is actually about higher order thinking, critical thinking and creativity. (Teacher A, School D)

Ideal NSS-LS curriculum should nurture students' way of thinking. Student should have their own perspectives and can express their opinions to issues or problems. They should have their standpoint and point of view. Of course, students will not blindly agree with others, they should have their clear perspective. (Teacher B, School F)

The key point is training of thinking. That is, allow our students to think through different issues. Even students may not know the thinking process, teachers have to encourage students to think and critical review on issues.

Therefore, in teachers' perspectives, another idea that is important to be included in the NSS-LS curriculum is the enquiry skills and thinking habits. In the process of equipping students with the enquiry skills, the development of skills will complement with students' construction of knowledge such that students can construct their own knowledge through independent enquiry and critical thinking.

5.1.3 Increase students' awareness to the societies and the world

Increasing students' awareness to the societies and the world is also another NSS-LS curriculum ideal in teachers' perspective. As NSS-LS curriculum covered three extensive areas of study, teachers grasp this curriculum as a substantial opportunity for student to explore around the world. Teachers can introduce some issues that students may not be familiar with or seldom notice by students themselves. Introduction of NSS-LS curriculum may allow students to be informed about what happened around the world and guide them to explore the world in their own path. It also responds to the tunnel vision of students in enquiring issues. NSS-LS curriculum can provide opportunities for students to increase their awareness about the world and facilitate themselves to understand an issue from a wider perspective:

I think student should care about what is happening around us and in the world. Students may apply the theories that they have learnt in the lessons to construct their own perspectives to look at the world. NSS-LS curriculum

Students can make NSS-LS learning as their foundation to know more about the world and have awareness about the societies. Because I know my students are really weak in this area, I make use of different issues to broaden their horizon. (Teacher A, School D)

I think the vision of our students should not only focus on their community. In my concepts, although students live in their community, they still can explore Hong Kong, China and the world through this subject. (Teacher A, School D)

Besides teaching NSS-LS to raise student awareness to the societies, teachers also notice that this awareness can be linked up with developing student enquiry skills. Teachers incorporate the idea of raising student awareness to the societies and the world into the perspectives from different stakeholders. Teachers' ideas are that NSS-LS curriculum would lead the awareness of their students to another level and link up student thoughts with others' knowledge or perspectives that have been well-established in the world. Students may enhance their learning through putting their thinking and judgment into the notable dialogues and perspectives in the societies:

Students should take initiatives and have self-awareness to enquire different things around their lives. Ideally they will know what is happening around and make comprehensive comments on perspectives from different stakeholders. (Teacher E, School A)

When exploring the societies and the world, teachers not only want their students to learn NSS-LS by textbook or within classroom settings, but also want their students to go outside classroom and explore the societies in real context. In this case, NSS-LS curriculum has also echoed other learning experiences (OLE) promoted in the curriculum reform. In the new senior secondary curriculum reform, 15% of teaching hours are reserved for OLE in order to provide quality life-wide learning for students. Some Liberal Studies teachers make use of this opportunity to cooperate Liberal Studies elements into OLE to enrich student learning holistically. Ideally, teachers believe introduction and cooperation between NSS-LS curriculum and OLE can bring synergy to student learning. Student learning in NSS-LS can further benefit from the authentic experiences gained in OLE. Therefore, in teacher's perspectives, authentic learning experience is an important component for students to increase awareness of the societies and the world:

That should be more activity-based. Besides teaching foundational knowledge, teacher should often bring students reach out of classroom. Student can explore and feel the world. For example, in the area of science and technology, we can go outside to see light pollution. When talking about quality of life, we can go and see the way of living of people from different income come groups. It will reflect the issues of income discrepancy in the society. I think Liberal Studies is not teaching by codebook. (Teacher B, School E)

In conclusion, the above elements are all related to increasing students'

awareness to the world. Students should fully utilize Liberal Studies as a platform to stretch their thinking and widen their horizon to explore the world in a holistic and sufficient way. In teachers' ideals, NSS-LS curriculum allows their students to explore their own world and have wider knowledge on the society and the world as a whole:

Actually, Liberal Studies is a subject that provides learning opportunities for students to develop their thinking skills. It would not be bounded and can touch upon many dimensions. (Teacher D, School E)

5.1.4 Development of Liberal Studies contents from student interests

Besides knowledge and skills developed through teaching and learning of NSS-LS curriculum, teachers also notice the importance of student interests in their learning process. In teacher's perspectives, ideal Liberal Studies teaching and learning should all begin with student interests and preferences. The opinions from students in the contents and issues of learning should be well-taken. Students should have their voices in deciding what they would like to learn. The school-based curriculum is tailor-made for student needs and interests. Students may learn in their own pace and interests which fits them most:

First of all, I think Liberal Studies should begin with student interests. The approach should somewhat like general education in the Chinese University of Hong Kong or liberal arts education in Linguan University. That is, students can learn something beyond their specializations and only by interests. The depth and breadth of learning can be decided by students. In

this case, our society will have a group of people that have broad skills and knowledge, not someone who is narrow-minded. (Teacher B, School B)

Some teachers also believe in teaching and learning of NSS-LS curriculum, discussion of key questions for enquiry in each theme can suit the purpose of teaching NSS-LS for student interests. Teachers can base on student background knowledge and interests to design suitable theme and issues for student to enquire. The design of teaching can be set out of the scope in the explanatory notes in NSS-LS curriculum guide. In this case, teaching and learning of NSS-LS is flexible and can be designed according to student interests:

Ideally, it will be the best to have less explanatory notes, which means only give me several key questions for enquiry, and let me think about what issues are interesting to my students. More flexibility should be given to me in teaching my students and let me decide on what to teach. (Teacher B. School C)

In summary, when teachers make sense of the curriculum guide and search for its ideals, teachers are very familiar with the curriculum objectives and expected learning outcomes stated in curriculum guide. In their perspectives, teachers may interpret the ideas of teaching Liberal Studies even more progressive and liberate than the original curriculum documents. Teachers think the potential of NSS-LS curriculum is to develop an all-rounded and critical person, which is essential for building knowledge society in 21st century. The picture of a promising new world is imagined by teachers. The next important step for teacher interpretation of NSS-LS curriculum is to bridge teacher abstract

aspirations in their mind into the real world through learning from different organizations and make sense of NSS-LS curriculum in a down-to-earth manner.

5.2 Learning from realities: Teacher learning from inside—Teacher reflections on themselves

Apart from making sense of the curriculum ideas through reading and interpreting curriculum documents with teachers' abstract imaginations, teachers begin to familiarize with and align NSS-LS curriculum ideas with their own learning and teaching experiences. Through teacher own learning experiences in the field, teacher interpretation of NSSSLS curriculum become more realistic and some other factors and constraints are taken into considerations in the process. Teacher learning experiences include learning from individual backgrounds, learning from Education Bureau and learning from Hong Kong Examination and Assessment Authority (HKEAA). These learning experiences help teachers to put abstract curriculum ideas into realities and practical considerations. Teachers reframe their perceptions and interpretations toward NSS-LS curriculum.

During the learning process, mental challenges and critical reflections are brought up to teachers about how to actualize NSS-LS curriculum in a realistic, effective and efficient way. Many deficiencies and difficulties in actual implementation of NSS-LS have also come across in teacher minds. In this stage, teacher individual cognition is used to construct understandings towards the new policy with their prior knowledge, belief and experiences (Spillane, et al., 2002). Through individual experiences and cognitive generalization, self schema is formed to organize and process the self-related information(Markus, 1977) in

order to make sense of NSS-LS curriculum in an understandable way for individual teachers.

In our study, all interviewees express similar beliefs and experiences in interpreting NSS-LS curriculum in a realistic way. In teacher individual cognition, the challenges in implementing NSS-LS curriculum include teacher are lack of confidences in their foundational knowledge to teach this new subject, their acquaintances on curriculum and assessment framework to guide student learning and putting all their learning from varies sources into practices etc. In this section, some substantial considerations of teaching NSS-LS by teachers are reported to see how teacher learning enriches the interpretation of NSS-LS curriculum.

5.2.1 Teacher foundational knowledge on subject matter

To begin with teacher learning NSS-LS curriculum, teachers usually related their new learning in Liberal Studies to prior knowledge, practices and experiences in their own studies in order to build up confidence in mastering Liberal Studies and make sense of the new stimuli in their own comprehensible cognitive framework (Greeno, Collins, & Resnick, 1996; Mandler, 1984; Spillane, et al., 2002). As content knowledge is one of the significant foundations to construct the whole school-based NSS-LS curriculum, teachers concern about how to design appropriate content knowledge for students. In order to design the school-based curriculum, teachers need to learn a lot about Liberal Studies related content knowledge, especially for teachers who are not professionally trained in social science disciplines because most of the content knowledge in

NSS-LS is borrowed from social sciences. The knowledge gap between teacher prior knowledge and content knowledge in NSS-LS causes anxieties for teachers in interpreting the curriculum. Furthermore, as teachers lack of foundational content knowledge in NSS-LS, they can hardly select appropriate content knowledge for students. Teachers find it difficult to interpret the curriculum in a sensible and confident way. And the confidences in interpreting NSS-LS curriculum are often module-based because teachers have their specialties in different area of studies. Therefore, teacher confidence in interpreting NSS-LS curriculum is not stable for the whole curriculum and has weakened the foundation in formulating a holistic school-based NSS-LS curriculum:

My major of study is history. Therefore, when I teach Hong Kong Today and Modern China this year, I can master it easily. But I am so frightened to teach science and technology next year. I appall this area most. (Teacher B. School D)

That is better to teach something familiar with. I studied sciences, I think it is difficult to teach rule of law and socio-political participation. (Teacher F. School C)

I have some difficulties in teaching Hong Kong Today because many complicated concepts are included in this theme. I have to learn the concepts and make it clear before I can deliver the complicated concepts to my students. (Teacher A, School E)

Although foundation knowledge of NSS-LS curriculum is greatly depended

on the prior learning experiences of teachers, teachers can also acquire the needed knowledge by self-directed learning. Teachers mention the importance of nurturing habits in extensive reading in different subjects in order to equip the necessary content knowledge to teach NSS-LS curriculum. In this sense, teachers can complement their weaknesses in foundation knowledge by self-directed learning and make sense of the curriculum in a more confident way:

I think it is difficult for a Chinese History teacher likes me to become a Liberal Studies teacher that have to familiar with all six modules. Maybe benefit from my extensive undergraduate training or my interests in reading, it will be easier for me to become a Liberal Studies teacher. But if I only look at my training in major of studies, it will be difficult for me to teach in Liberal Studies and further connect all modules. During lesson planning in this year, I really notice my incompetent. (Teacher A, School D)

Therefore, as NSS-LS is a new subject and teachers seldom have systematic and holistic training in content knowledge, the readiness of teachers in making sense of NSS-LS content knowledge varies. Teachers have diverse understandings on essential content knowledge in NSS-LS that based on difference in their knowledge background. Instead of one single interpretation on content knowledge of NSS-LS like other traditional subjects, content knowledge in NSS-LS curriculum is therefore not fixed and stays fluid as different teachers have their own knowledge and judgment in the substances of this curriculum.

5.2.2 Teacher foundational knowledge on teaching strategies — On pedagogical knowledge: Issue-enquiry approach

Besides foundation knowledge on subject matter, teachers also concern their teaching strategies in designing school-based NSS-LS curriculum and instruction. As teachers need to design their school-based teaching materials, choosing appropriate teaching strategies become one of their concerns. When interpreting curriculum and designing teaching materials, teachers need to work out their teaching plans under the concept of "issue-enquiry approach" that stated in the curriculum guideline. However, when teachers further explore and learn this teaching approach, teachers often find that it is unrealistic to teach with students in Secondary 4. As effective adoption of issue-enquiry approach would require lots of foundational knowledge and thinking skills equipped by students, teachers believe that the cognitive level of secondary 4 students is not mature enough for teachers to teach with issue-enquiry approach. Also, teachers think that they are. not familiar with the use of issue-enquiry approach. Teachers are still exploring the nature and process of issue enquiry approach and how it can lead to teaching and learning NSS-LS effectively. When considering both the teacher readiness and student readiness, doubts are raised by teachers when adopting issue-enquiry approach to teach NSS-LS curriculum:

I think it is not practical to use "issue-enquiry approach". If teachers gradually pave the way for students to learn how to enquire, it will be more reasonable for students to achieve issue-enquiry in secondary 6. But it is not reasonable for secondary 4 students to use issue-enquiry approach to learn, it is hard to start with. (Teacher B, School B)

Some teachers even think that several key elements or attitudes related to issue-enquiry approach, such as open-mindedness, tolerance or enquiry from different stakeholders' point of views, cannot be acquired by every student. Some students cannot achieve these learning outcomes of using issue-enquiry by default, no matter what teaching strategies teachers applied. In this case, teachers reconsider what are the other suitable teaching strategies besides issue-enquiry approach, in respond to student learning needs and diversities that can bring the most effective teaching outcomes:

I studied psychology and respect individual difference very much. I often think that some people cannot achieve issue-enquiry approach cognitively, even he or she wants to. Some people may be at the age of thirteen or fourteen, or even older, they are still very stubborn. He or she cannot become open-minded, consider the factors behind an issue holistically or sharing different perspectives with others. (Teacher B, School A)

When reconsidering teaching strategies adopt in Liberal Studies, teachers unavoidably compare issue-enquiry approach to their original teaching strategies, such as direct teaching, scaffolding, cooperative learning and problem-based learning etc. These reference points allow teachers not only follow the flow of issue-enquiry approach written on the curriculum guideline, but to reformulate issue-enquiry approach to suit their needs. The reinterpretation of teaching strategies has widened the original approach and created some new opportunities in developing NSS-LS teaching strategies that can response to student needs. However, as teacher may also notice, the reformulated approaches are deviated

from original ideal of issue-enquiry approach in some way.

5.2.3 Teacher foundational knowledge on teaching strategies — On pedagogical content knowledge

Besides thinking pedagogical approach alone, teachers also consider their teaching strategies along with Liberal Studies content knowledge and their own teaching context. Teachers revisit their teaching approaches by applying their pedagogical content knowledge in their own teaching context (Grossman, 1990; Shulman, 1986). By applying pedagogical content knowledge, teachers may aware of the specific difficulties in teaching different issues, common misconceptions of students and how to make use of relevant examples and explanations to illustrate the issues in an understandable way for students.

Based on teacher own experiences in teaching other subjects, they often apply their teaching strategies in similar way. Some teachers put emphasis on logical thinking and direct teaching. Some teachers reflect on the similarities and differences between definite answers in other subjects and controversial answers in Liberal Studies. Diversities in interpretation about appropriate teaching strategies are gradually occurred:

To be honest, I study and teach sciences subjects. So I and my students' mindset are much more logical. If there is an A, there would be B. I teach students to remember several points to answer the questions, then to explain. If students can remember the points, they should be able to explain. That is my ideas in teaching Liberal Studies. Students can remember the points,

answer the questions and get good grade that is the most practical and effective. (Teacher E. School E)

For example, I am responsible to design a unit related to Chinese custom.

Although I learnt Chinese History, I am not familiar with those twenty-four solar terms and its meaning. In this case, I lose my confidence and have to use traditional approach to prepare for this curriculum like what I used in other subjects. (Teacher A, School D)

Some teachers think that using issue-enquiry approach is not practical and efficient in teaching secondary students. Under tight teaching schedule, teachers do not have enough process time for students to enquire. Teachers would rather use direct teaching approach and tell the content knowledge straightforward to students. They think direct teaching would be much more effective and suit the needs and learning habits of students. Some teachers have quite a strong paradigm in how to conduct an effective lesson with approaches other than issue-enquiry approach:

I think it is meaningless for students to explore the concepts. To give students 15 minutes to think about a concept is meaningless. I can tell them in 1 or 2 minutes and students will remember. It is quick and simple......I think the concept of "issue-enquiry approach" is just creating new rhetoric. I would not bother it. (Teacher A, School B)

Teachers recalled their prior pedagogical knowledge in other subjects and try to fit in to student learning Liberal Studies, especially when encountering

student learning difficulties in this new subject. Teacher would like to settle student learning problems with their old experiences. Moreover, not only the new foundational knowledge and pedagogical approach would affect teacher pedagogical content knowledge, student learning behaviors and difficulties faced in Liberal Studies also contribute some new understandings to teachers in the sense-making process and how to handle this new subject. To cope with all the new ideas and difficulties encountered in planning and teaching NSS-LS curriculum, teachers begin to participate in different professional development programmes in order to get familiar with NSS-LS curriculum and its new teaching and learning approach. In the next section, teacher learning from Education Bureau, Universities and Hong Kong Examination and Assessment Authority will be discussed to explore how teachers make sense of these learning opportunities and its effects on further clarification of NSS-LS curriculum.

5.3 Learning from realities: Teacher learning from outside— Teacher learning from Education Bureau

One of the learning sites that teachers first get in touch with is the training programmes offered by Education Bureau. Before the actual implementation of NSS-LS curriculum, Education Bureau pledged to the public that Liberal Studies teachers will be well-equipped with no less than 100 hours of training (Legislative Council, 2005). Until June, 2009, Education Bureau has provided sufficient training opportunities for teachers and around 8,200 teachers participated in the training programmes (Legislative Council, 2009). The training programmes aim to ease teachers and public concerns on the readiness of implementation of Liberal Studies curriculum. Teachers can be well-equipped

before actual teaching of NSS-LS. Based on various dimensions of teacher needs, Education Bureau has offered six professional development programmes for teachers to study in, i.e. 1) understanding & interpreting the curriculum; 2) assessing student learning; 3) independent enquiry studies; 4) learning and teaching strategies; 5) enriching knowledge and 6) curriculum planning: management & leadership. The courses covered a wide range of teacher needs from instructional level, such as curriculum interpretation, instructional strategies, assessment, to organizational level like curriculum leadership.

As NSS-LS curriculum document is co-authored by curriculum development institute in Education Bureau and HKEAA, teachers expect Education Bureau would have a clear picture and concrete understanding on the curriculum content. Teachers attend the training workshops offered by Education Bureau naturally. In teacher's point of view, Education Bureau should be the authority to provide clear objectives and ideas on NSS-LS curriculum content. Teachers have to make sense of NSS-LS curriculum with the guidance from Education Bureau and HKEAA. The social sense-making process occurs within an institutional environment and social context (Coburn, 2001). This brings in the situated cognition perspectives on teachers' sense-making of NSS-LS curriculum (Spillane, et al., 2002).

In the six programmes offered, except 'assessing students learning' is co-organized with HKEAA, the remaining five are organized and delivered by Education Bureau or its invited speakers. Teachers usually take attending 'understanding & interpreting the curriculum' as their first step in learning in order to know more about the fundamental ideas and content of NSS-LS

curriculum from the perspectives of Education Bureau. However, in teachers' perspectives, this programme or in a boarder sense the five programmes offered by Education Bureau cannot meet teacher needs or provide clear guidelines for them to understand and interpret the curriculum. The shortcomings of these courses offered by Education Bureau are as follows.

5.3.1 Unclear interpretation to the curriculum

As the content knowledge in NSS-LS curriculum guide is based on interpretation of enquiry questions, this approach of understanding is new and a bit vague to teachers. Teachers expect some concrete guidance or examples can be provided in the professional development programmes, especially the one named 'understanding and interpreting the curriculum'. However, teachers were often disappointed and found the interpretation of curriculum from Education Burcau ambiguous or even useless:

During the interpretation, officers from Education Bureau only introduced the NSS-LS curriculum to us by reading out the curriculum guideline. I can actually read it by myself. He only follows the guideline and says what's in it. It's totally useless. (Teacher B, School A)

During the course, teachers did not learn much from Education Bureau because Education Bureau gives the responsibility of interpretation back to teachers and suggests teachers to interpret by themselves in the name of school-based decisions. Teachers do not feel that they can get a clear explanation or interpretation from authorities in the whole learning process. They think that

Education Bureau should be more proactive in leading teachers to interpret the curriculum:

During interpretation, officers only leaded us go through the curriculum guideline. She told us which pages and which sentences are important. And then, the course had some group activities. Each group was assigned a theme and asked you to write a teaching plan. The method of interpretation in the course was actually done by teachers ourselves...... I think the role of Education Bureau should be stronger. (Teacher B, School C)

5.3.2 Impractical for teacher needs

Besides the impression of unclear interpretation from Education Bureau officials during the courses, the courses also cannot provide some practical materials for teacher daily practices. As NSS-LS is a new curriculum, most teachers do not have prior experiences or practices in teaching Liberal Studies. They hope the courses offered by Education Bureau can bring them some practical ideas or materials for them to teach with instantly. This may solve their practical concerns and allow them to teach in their classroom with certain backup. However, when teachers attend different courses, they often find the content in the courses are not practical for them no matter it is about introducing the content knowledge or is about instructional practices. Teachers think that the courses are irrelevant to their real-life teaching practices:

The course that Education Bureau covered is very rigid. We cannot practice in our lessons. (Teacher Λ , School A)

As teachers are lack of foundational subject matter knowledge in teaching NSS-LS curriculum, teachers would very much appreciate learning content knowledge through the courses in order to know 'what to teach' in this subject. Most of the courses more or less cover part of the content knowledge related to Liberal Studies, especially the one named 'enriching knowledge'. However, teachers often find the level of these courses is too high. The introduced content knowledge is too theoretical and without incorporating the content knowledge to the issues and real teaching context. Some courses are conducted by invited speakers from universities, which are often too theoretical and decontextualized from secondary school life:

I think many programmes are far away from the realities. Most of the courses are too academic, and the level of training courses is too high. I think the content of the courses are in tertiary level and is not realistic. We are only teaching secondary students. (Teacher C, School C)

I attend the course about 'enriching knowledge' only for my personal interest. The courses are for me and my colleagues to know more about the topics. The courses content cannot apply in our lessons. (Teacher A, School D)

In addition to the impractical 'what to teach', the introduction of 'how to teach' Liberal Studies in the courses are also sometimes impractical for teachers. In the courses related to 'learning and teaching strategies', not only officials from Education Bureau introduced some teaching strategies in Liberal Studies, some

frontline teachers were also invited to share their experiences. However, teachers may also find these sharing impractical for them. For the sharing offered by officials from Education Bureau, teachers often think those ideas are only armchair strategies drawn from standard reference book and not practical enough. Teachers have already learnt those abstract pedagogical theories in their professional training in other subjects and thus found the learning repetitive. For the sharing by frontline teachers, participants realize those facilitators mainly come from schools admitted high ability students, so the strategies are not applicable for them. Therefore, the abstraction and particularity in the sharing of teaching strategies make the courses about learning to teach Liberal Studies impractical to teachers:

I think the main focus of the courses is to provide some supplementary materials and suggestions on our teaching strategies. However, what I get in the courses are just some general knowledge about mixed ability grouping, cooperative learning or some suggested issues for us to teach with. I don't think the courses are useful. (Teacher E, School E)

The courses about teaching methods provided by Education Bureau are only armchair strategies. The methods are not suitable for all schools. Even if the courses are conducted by experienced frontline teachers or seconded teachers, those teachers usually teach students with very high ability. For us, we are much more practical. It is difficult for us or we have no idea about how to use their materials. (Teacher B, School E)

In conclusion, teachers think the courses offered by Education Bureau are

too idealistic and impractical. The time and materialistic constraints they actually face in secondary school settings do not allow them to practice those ideals:

What they talked about is too ideal. The teaching materials can only be carried out if we have ample time. However, in actual classroom practices, we have to put in a lot of resources to do that. (Teacher A, School F)

5.3.3 Insufficient teaching resources for teacher needs

The courses from Education Bureau are not only unclear and impractical to teachers, but also insufficient for teacher needs in implementing a 3-year curriculum. Most of the teachers basically start from nothing. They are in great need of teaching materials or even packages for them to carry out the lessons. However, as the courses are time limited and only cover some general ideas on teaching Liberal Studies, teachers do not think the content is sufficient enough for their classroom teaching:

Because when teaching any subjects, teachers have to teach with some teaching materials. We cannot expect Education Bureau will give teachers the materials to teach for three years. I think it is just not going to happen. (Teacher B, School E)

Adequate and sufficient teaching materials are most needed from teachers' perspectives. If teachers are provided with enough teaching materials or packages, their existential needs in everyday practices can be responded immediately and that is what teacher desire most. Teachers hope Education

Bureau can produce centralized teaching packages, or even a few sets of teaching packages that can cater for learner diversities in order to address their difficulties. With these measures, teachers' concerns about insufficient teaching materials and unreadiness of teaching NSS-LS curriculum can be accommodated:

Educational Bureau should find someone or find some resources to develop teaching materials to motivate student interests in learning Liberal Studies.

(Teacher B, School B)

Education Bureau should hire a team to produce NSS-LS teaching packages, just like what we did. They should produce three tiers of packages for students with high, medium and low ability. They sure can produce that and let teachers to use it universally. And the materials should also be updated just like what we did. They can hire a team to produce teaching packages for all Liberal Studies teachers in Hong Kong. It can achieve economies of scale. Why don't they do this but just sending people to train us? (Teacher D, School C)

Teachers also mention that they will adopt the centralized teaching materials with adjustments in order to meet specific student needs within their school context. Teachers claim that Education Bureau does not need to worry about the drawbacks from the universality of centralized teaching packages. Teachers will still produce school-based teaching materials but with the universal teaching packages from Education Bureau as their basis for adjustment. The suggested measures will ease a lot of teacher pressure in implementing NSS-LS curriculum. However, this basis is not provided by Education Bureau for the time being:

I think Education Bureau is really irresponsible. Why did the Bureau ask us to produce the notes by ourselves? What is the advantage of doing that? Why does Education Bureau think that it is no good to prepare teaching materials for us? Education Bureau can produce and share the packages with teachers. Then I will adjust it. Don't they think I will adjust it? Of course I will. (Teacher E, School C)

As a conclusion on teacher learning in the courses offered by Education Bureau, teachers often think the courses are unclear, impractical and insufficient for them. The courses cannot suit their needs in preparing Liberal Studies teaching and learning. Moreover, the courses offered by Education Bureau are without a clear structure and organization. The number of courses is actually abundant for teachers and teachers have to take times to absorb diverse information and organize the information in their own way. Hence, teachers often find difficulties in learning effectively through a set of unstructured courses and materials:

Actually, I think the course content from Education Bureau is a bit weak.

The courses are condense and abundant. However, if you are not familiar with the curriculum or do not have foundational knowledge, you have to take some time to absorb it. (Teacher B, School F)

One panel head also reveals the ineffectiveness of the courses by observing the learning outcome of team members. The panel head cannot find improvement in her team members after they have attended the courses offered by Education Bureau. The usefulness of acquiring essential capacities for teaching Liberal Studies through learning from the courses offered by Education Bureau is in doubt:

It's useless...... I don't think my colleagues benefits from the courses. They don't show any difference. (Teacher A, School E)

5.4 Learning from realities: Teacher learning from outside— Teacher learning from universities

Another influential learning site for Liberal Studies teachers is learning in universities. After the announcement of implementation of Liberal Studies in New Senior Secondary Education, many universities offer lectures, seminars, short courses or degree-awarding courses in postgraduate diploma or master level. The courses equip teachers to teach in NSS-LS curriculum and cover various components, just like the courses Education Bureau offered. However, when teachers learn in universities, several problems arise in their learning and similar learning experiences with Education Bureau are drawn.

5.4.1 Inconsistency and unclear programmes offered by universities

If teachers perceive Education Bureau officers' curriculum interpretation is quite unclear, the interpretation from lecturers in universities is even vaguer and far away from teachers' expectation. From the previous section, it is clear that the teachers participating in professional development programs expect to seek for certain and straightforward interpretation of effective curriculum implementation.

However, some lecturers in the universities interpret the curriculum in a very different way when compare with officials from Education Bureau. Teachers are confused with the difference in interpretations and think that will walk away from the 'ultimate' or official interpretation of the curriculum:

One of the problems in learning in universities is that the stances of lecturers in interpreting NSS-LS curriculum may not be the same with officials from Education Bureau. I think that is pretty obvious...... I don't know if it is good or bad. I know a little bit more, but it's a little bit far away from the goal. (Teacher C, School B)

Moreover, different interpretations not only happen between universities and Education Bureau, they also occur among different lecturers. This situation makes interpretation of curriculum more complicated than learning from a single institution as imagined. Teachers often get multiple interpretations on meanings of NSS-LS curriculum from single institution due to discrepancies in interpretation of NSS-LS curriculum between lecturers. It makes teacher sense-making process on NSS-LS curriculum even more complicated:

The curriculum of Liberal Studies programme in universities is even more chaotic than that in Education Bureau.....Because I think the faculty members are really confused about the curriculum, the situation is even worse than that in Education Bureau. This is what I saw. Lecturers disagree or contradict with each other and it happened in the lectures. (Teacher B, School C)

-5.4.2 Impractical to teacher needs

Same as the courses offered by Education Bureau, the courses conducted by lecturers from universities are impractical to the teachers too. Teachers often have the impressions that lecturers from universities are living in an ivory tower. Lecturers are not familiar with the existing teaching environment and the real life teaching experiences of teachers. Lecturers cannot design some relevant course content that are useful for teacher daily practices. Therefore, the courses in universities are not attractive to teachers. Teachers do not see the courses in universities are essential and relevant to their development of Liberal Studies teaching and learning:

Teachers often know what the lecturer was saying but also know what he said is not practical. For me, I think it is not useful. (Teacher B, School A)

The courses organized by universities are mostly in form of lectures. The courses are not popular among colleagues. It is because courses offered by universities are more or less the same as 'enriching knowledge' offered by Education Bureau. To be realistic, I want something practical and can be used in the classroom practices. This is what I want to learn in the next one or two years. (Teacher A, School D)

5.4.3 Insufficient teaching resources for teacher needs

Besides the dimension of impracticality of the course content, the course content is also insufficient for teacher needs. One teacher who graduated from a

master programme offered by a university and participated in many other training programmes offered by Education Bureau and HKEAA has the following comments on university programmes when comparing with those offered by Education Bureau and HKEAA:

If there are courses offered by Examination Authority, of course we will go there. Then, I'll go to courses offered by Education Bureau. The last will be master programmes offered by universities......I taught in government and political affairs. I saw the lecture notes from universities may even easier than what I gave to my form seven. Therefore, I don't think I have to sit in there......I met a classmate who is a seconded teacher in Education Bureau. He terminated his studies and did not want that certification anymore because he thought that is a waste of time and the courses haven't taught him anything. (Teacher B, School C)

In this case, teacher experienced another insufficiency of course content offered by universities other than those mentioned in the case of Education Bureau. For the courses offered by Education Bureau, the insufficiency often arises out of the quantity of the courses content because teacher expected Education Bureau should prepare enough teaching materials before actual implementation of NSS-LS curriculum. The courses should offer lots of teaching packages to be shared. But for the courses offered by universities, teachers perceive universities like a knowledge pool. They have greater expectations on the quality and depth of course content. However, sometimes the courses offered by universities have failed the expectation from teachers. The insufficiency of courses offered by universities programmes come from the depth of content in

· the courses.

As a conclusion, Education Bureau and universities share several similar problems on unclear interpretation of the curriculum, impractical and insufficient course content in teachers' perspectives. Therefore, it turns out that teachers have to seek other learning opportunities offered by HKEAA to see whether clearer interpretations can be obtained from Examination Authority.

5.5 Learning from realities: Teacher learning from outside— Teacher learning from Examination Authority

The courses offered by HKEAA are the third site that teacher learning takes place. HKEAA has solely organized some seminars on student assessment in public examination and independent enquiry studies. HKEAA has also co-organized the courses with Education Bureau in the courses 'assessing student learning'. In teacher experiences, the courses offered by HKEAA are clear and practical to them. The courses can show them how to implement the curriculum effectively by using examination as one of their means. Teachers can handle their teaching of NSS-LS in a more certain way after participating in the courses offered by HKEAA.

5.5.1 Clear and practical information

The courses offered by HKEAA provide a lot of examples for teachers to be familiar with the future public examination practices. HKEAA provides some real cases on student performances in existing Liberal Studies examination papers in the advanced supplementary level and examination paper for consultation in Hong Kong Diploma of Secondary Education (HKDSE) to demonstrate the student performances at different levels. Student sample scripts are provided for teacher trail marking. The criteria on marking and setting marking rubries are clearly defined and introduced to teachers. Thus, teachers may follow through the guidelines and practices on what they have learnt in the courses to make sure students can perform well in public examinations thereafter:

The courses offered by Examination Authority are not bad, very practical and give lots of examples for us. For example, it shows lots of demonstration on how to mark student assignments. He showed us which one gives level one and which one gives level five. Although we cannot take the sample away, but I have a better ideas on marking and use as reference. (Teacher B, School D)

Teachers may also introduce and adapt the course content and materials learnt from HKEAA to their students in classroom practices. With uniform assessment concepts and practices learnt from courses offered by HKEAA, school-based assessment can be aligned with territory-wide assessment that will be conducted in 2012. Teachers have a much more solid knowledge and confidence in mastering student assessment. This will ease teacher doubts and difficulties in their teaching practices:

The courses offered by Examination Authority are clearer. For example, they will tell you what they expect in the data-response questions. What kind

of skills, what kind of knowledge and will get how many scores. It seems to be skill-based but actually I will think: Yes! That's the guidelines for students to learn with. (Teacher D, School C)

5.6 Learning from realities: Bringing outside learning back to teaching field—Teacher reflections on students learning NSS-LS curriculum

Based on the learning from Education Bureau, Universities and HKEAA, teachers begin on adopt their learning by reflecting on its usefulness and appropriateness to their own teaching environment. In addition to teacher learning from outside and reflections on teachers' own strengths and weaknesses in teaching Liberal Studies, teachers also reflect on student learning performance in this subject. Teachers make sense and adjust their understandings and teaching practices in Liberal Studies according to learning feedbacks from students (Coburn, 2004). Followings are the main difficulties that teachers come across when teaching Liberal Studies and affect the understanding of NSS-LS curriculum.

5.6.1 Lack of foundational knowledge

In everyday classroom teaching of Liberal Studies, teachers first notice that one of the major student learning difficulties comes from the fact that students lack of foundational knowledge. As Liberal Studies required students to learn a wide range of issues and themes in different areas of study, students need to acquire a wide range of knowledge, such as psychology, economics, political sciences, and environmental sciences etc., thereby to enquire the issues with

diversifying and appropriate perspectives. However, the learners of NSS-LS curriculum begin to study NSS-LS from secondary four. In this case, students are lack of the foundational knowledge in various social sciences or humanities disciplines. Teachers have to adjust their expectations on students learning outcome from NSS-LS curriculum. Teachers believe the original requirements of subject matter content knowledge stated in curriculum document are too high. Referring to foundational knowledge of students, teachers adjust the depth of content knowledge in teaching:

Student knowledge in subject matter is too weak. They do not know many concepts. Sometimes you think something he should know and the concepts are very simple, but they know nothing about it. (Teacher A, School E)

Maybe the mentality of student is not mature..... Actually, student's cognitive level is weak. Student's foundational knowledge is weak also. I think that is not desirable. (Teacher E, School A)

Lack of foundation knowledge not only affects teaching of content knowledge alone, it also influences teacher teaching through issue-enquiry. During the issue-enquiry processes, teachers often find students not equipped with sufficient foundational knowledge to support their issue-enquiry. Teachers need to input lots of background knowledge to students before the actual issue-enquiry processes. The foundational knowledge constitutes an important component for an effective teaching flow. Teachers reflected that the lack of foundational knowledge from students has hindered their teaching flow and planning in NSS-LS teaching:

Actually, students are lack of foundational knowledge in many aspects. You can teach a lot of thinking strategies but student foundational knowledge cannot support those thinking strategies. (Teacher B, School A)

I think when students are answering the questions, they cannot give examples concretely. In the area of modern China, students do not know the situation in China. The answers from my students are very vague. (Teacher C, School D)

I think students are lack of general knowledge on perennial and current issues. Students do not read newspaper. They have little understanding on the news. So, they do not know the issues and giving irrelevant example to us. (Teacher F, School C)

As foundational knowledge cannot be separated from other teaching objectives, such as thinking skills, enquiry learning and independent learning etc., students learn holistically and apply their knowledge and skills together while learning. Lack of foundational knowledge has interrelated and negative influence to other objectives. This circumstance makes NSS-LS teaching and learning more complicated, and it is difficult for the teachers to implement it. The following points will deepen our discussions on the deficiency of student learning in NSS-LS due to the lack of readiness of students in many interrelated dimensions.

5.6.2 Lack of study skills

Another problem teachers faced is students are often lack of study skills that is required in issue-enquiry approach of learning NSS-LS curriculum. Students are used to their traditional study habits. They cannot answer the open-ended questions raised in the controversial issues in a complete and holistic manner. Truncated answers are often received in point form instead of a complete paragraph or passage because students are used to answer the examination questions point by point in their learning experiences in other subjects. This thinking and organizing habit has greatly obstructed students to enquire an issue in an organic and comprehensive way. Students tend to give superficial answers in point form and cannot contribute to a thorough discussion:

Our students usually deliberate their answer in only one or two sentences.

Sometimes their answers deviate from the expected one. (Teacher E, School C)

Students are not ready to analyze an issue by themselves. They are lack of skills. Some of our students do not have the basic information on an issue, not to mention ability to analyze and explore on it. (Teacher A, School F)

Unsatisfactory answers and limited scope of thinking are often originated from student studying habits. In learning of other subjects, students get used to recite the content written in teaching materials or even textbooks. Students often learn passively and wait for content knowledge provided by teachers. In this case, remembering and recalling learning strategies are often applied by students instead of knowledge construction that stated in curriculum and teachers' ideal:

Our student learning style is typically reciting textbooks. They are traditional students that feel most comfortable to recite textbooks and expect teachers to spoon-feed everything to them. They do not know how to learn flexibly by themselves. This is a big problem. (Teacher Λ , School Λ)

Students recite the summary in the textbooks...... In their learning processes, students skip all the issues and issue-related matters. They only focus on points that they can remember. They will recite the points in the textbooks. (Teacher C, School B)

Some students only learn what teachers teach. Students try hard to remember what they have learnt in the lesson. If I changed the questions, ask them something new or even cross-modules, student's performances are really weak. Some students tell me it is really difficult for them to answer when come across new issues. In student's junior secondary learning experiences, students only have to remember what teachers teach. (Teacher C, School D)

Based on the weak study skills and passive learning habits of students, teachers regard the development of students thinking as limited. Students cannot acquire higher order thinking skills as teachers expected because the foundation of study skills and thinking skills of students is weak. Students' passive learning habits cannot guide them to synthesize and evaluate the issue independently, not to mention the creativity or critical thinking that is expected in teachers' ideal.

The basic competence of our student is weak. The thinking ability of our

students is not as strong as that in our imagination. Therefore, it will be difficult for us to train their higher order thinking, evaluation and creativities. (Teacher C, School D)

Students are not mature, or do not have the cognitive ability, to meet the requirements set by curriculum document. NSS-LS curriculum guideline expects our students to analyze an issu hy themselves and have independent thinking. I think it is very difficult for our students to accomplish that goal. (Teacher B, School A)

5.6.3 Lack of adaptability to issue-enquiry approach

Besides the lack of foundational knowledge and study skills, it is also hard for students to adapt issue-enquiry approach as their learning strategy. As issue-enquiry approach is only emphasized in Liberal Studies learning and teaching but not in other traditional subjects, students are not used to this new approach. The esistances often come from that Liberal Studies is the sole subject that adopts this teaching and learning approach. Students remain to learn traditionally in other subjects. Therefore, in student daily learning experiences, Liberal Studies lessons are the few lessons that deviate from their usual mode of learning. Thus, students often apply their learning strategies in other social sciences or humanities subjects, such as history, Chinese history or geography, to learn Liberal Studies. The learning paradigm of students has not changed yet:

Among all academic subjects in new senior secondary education, Liberal Studies is the only subject that has to change its teaching approach from

conventional to issue-enquiry approach. The teaching method of all other subjects is still direct teaching. Students only have to sit still and listen in other lessons. When Liberal Studies is the only subject that used issue-enquiry approach, students cannot adapt this change in learning. (Teacher E, School A)

Some students like to apply their learning strategies in traditional subjects to learn Liberal Studies. They learn Liberal Studies in the way like learning history, geography and Chinese history, by only reciting teaching materials. (Teacher B, School D)

In extension of this observation, students often expect teachers to teach Liberal Studies in a more didactical way. Legitimized answers or points to note for revision are expected by students. Students are waiting for "correct" answers to be provided by teachers. This observation is coherent to the passive learning and study skills applied by students. The lack of proper study skills and inadaptability to issue-enquiry approach have constituted double hindrance for students to change their learning approach:

Some students cannot adjust. They rely on teachers very much and said, "Teachers please teach me, tell me what to underline in the textbook, tell me what to remember and what should not." Some students are still in this mode of learning. (Teacher D, School C)

5.6.4 Fear of the extensiveness in curriculum content

Along with the previous discussion on multiple deficiencies in the readiness and competence of student learning in Liberal Studies, students are often worried about and fear of the extensiveness of curriculum content. As Liberal Studies curriculum is based on question for enquiry and the content knowledge is not fixed and clearly written, students often do not know what to study and where to begin with their learning process. They easily get lost in the extensiveness of the curriculum:

Teachers teach is what students learnt. The curriculum is very extensive for students. Students have mentioned the curriculum is too broad for them to finish. Students are fear of the extensiveness of NSS-LS curriculum. (Teacher C, School D)

The fear of the extensiveness in curriculum content has nurtured some negative emotions and prospects from students towards learning NSS-LS curriculum. Some students aggregate the resistant emotions toward learning this subject that further hinder the effectiveness of learning this subject. However, as Liberal Studies is a compulsory subject in new senior secondary curriculum, students with resistance emotions have to learn this subject unwillingly under the feeling of insecurity in learning. Students cannot choose not to learn Liberal Studies like other elective subjects, or choose which module to learn like the Liberal Studies curriculum in advance supplementary level. Therefore, in teacher's perspectives, the restriction of choices in learning Liberal Studies has violated the original ideas of learning based on student interests. The structure of NSS-LS curriculum has hindered student learning by restricting the choices of students, which is the possible escape route for student fear of the extensiveness

in curriculum content:

Students sometimes think they are the first cohort of students that have to learn Liberal Studies. They do not have confident in learning this subject.....they are like guinea pig. They seem like being forced to study Liberal Studies. (Teacher C, School A)

5.6.5 Lack of motivation

When students are fear of the curriculum and the curriculum cannot match with student learning interests, students are often lack of motivation to learn NSS-LS curriculum. In the design of NSS-LS curriculum, student motivation is an important component for Liberal Studies implementation to become successful. When students are motivated to learn and enquire into different issues, they are more likely to achieve independent learning and further realize the "learning to learn" motto in curriculum reform (Curriculum Development Council, 2001).

However, in actual implementation of NSS-LS curriculum, the assumption of students is motivated to learn Liberal Studies can be hardly achieved. As students are not familiar with the current issues introduced by teachers, or even perennial issues, students are not interested in and unready to learn Liberal Studies through issue-enquiry approach. When teachers try to teach Liberal Studies with different issues, they think their students are lack of motivation to learn this subject and engage in learning. Students cannot find the value of studying NSS-LS. Teachers perceive that students' lack of motivation has put learning NSS-LS through

issue-enquiry approach in question:

Actually I always think that the most important problem is student motivation. The design of NSS-LS curriculum totally neglects learning motivation of the students. The curriculum design on teaching is assume teachers give a piece of newspaper clipping to students. Then, students can self-directed learning. The assumption is weird and too taken for granted. (Teacher B, School B)

Students are not interested in the topics related to political institutions or politics. Because they are only secondary students, they do not care about politics. (Teacher B, School F)

Lack of motivation and interests for students in learning Liberal Studies has further worsened the situation aroused by the lack of foundational knowledge as discussed earlier. As students are lack of foundational knowledge, teachers need to take a lot of time to build up necessary basis for students to learn. This back and forth processes have obstructed the teaching flow and caused students' unwillingness to carry on learning. Students see a lot of blocks in front of them if have to enquire the issues seriously with adequate concepts. The unattainable standards of learning with issue-enquiry approach have demotivated student learning NSS-LS:

The most difficult part in NSS-LS teaching and learning is that students are lack of interests towards those issues. From the beginning of the academic year until now, we are teaching the module of Hong Kong today. In Hong

Kong today, there is a theme about socio-political participation. We taught around minimum wage, protest, political reform and democracy etc.

However, students are not familiar with those topics and its context.

Students are unwilling to discuss. (Teacher A, School D)

Also, students are not motivated in learning the issues in Liberal Studies because the issues discussed in the classroom are irrelevant to them, especially those topics in modern China and globalization. Although teachers are supposed to choose interesting topics according to student background, teachers sometimes give up this privilege when they interpret the content knowledge in the curriculum. Teachers think that some content knowledge or issues have to be introduced to students anyway, whether students are interested in them or not. Teachers consider many other factors than solely depending on student interests when interpreting the curriculum and choosing teachable issues. If teachers select the relevant topics not based on student needs and relevant contexts, student motivation in learning Liberal Studies are in question:

When you go through lots of current issues with students, students not only don't know how to discuss, they are not interested in discussing it. They don't think it's relevant to them. (Teacher A, School E)

Student interest may not be that big because they think the issues are irrelevant to them. They don't have much opinion to the issue. (Teacher B, School F)

5.6.6 Diversities in student learning abilities

Besides difficulties from individual student learning, handling diversities in student learning abilities in classroom setting is also another big issue for teachers teaching NSS-LS curriculum. Although the ideas of Liberal Studies emphasize liberating individual minds, in a modern classroom environment, teachers have to teach NSS-LS in a rather mass scale, usually a class with thirty to thirty five students. In teachers' perspectives, direct teaching is often an option for them to tackle big class teaching. Tensions between differentiated instructions and uniformed instructions have been raised. Catering for individual strengths, weaknesses and needs becomes an unavoidable challenge to teachers. Teachers have to find an appropriate teaching strategy for students with diversified needs. NSS-LS teaching is a lot more than using issue-enquiry approach and raise a lot of difficulties to teachers in their teaching plan:

If we use direct teaching, good students will feel very bored. Some best students really fall asleep in the lessons.....but if I don't teach with direct instruction, those students who are really left behind will not follow and understand what I'm saying. I think how to tackle student learning diversities is really a problem. (Teacher B, School A)

Not only the tensions created in the idea between liberating individual and learning NSS-LS through classroom setting, the issue of student learning diversity also magnifies in the new academic system in Hong Kong. Under the new academic system, all secondary students have their opportunities to enroll in 3-year senior secondary education if they like. Students will not be excluded by

any examination or selection process like the old system did. Therefore, students' learning abilities are more diverse than ever before. Teachers have to accommodate with the new characteristics and profile of students and adjust their expectations accordingly. However, the diversities of student learning ability make teacher adjustment hard to achieve under the existing constraints. The strong and weak ability students are mixed together and all have to study the NSS-LS curriculum:

The diversity between classes is really big. Some classes are extraordinarily good and some are really bad.....students from good class can write a very long passage, not to evaluate the content, at least the length is acceptable. The passage is detailed with clear context. However, the passage from bad class will reduce to half. They cannot answer the questions. They did not train up their thinking skills and analyzing problem. They only copy the reading materials. (Teacher A, School F)

Although there are a lot of deficiencies and puzzlement in selecting appropriate content knowledge and teaching strategies to fit student learning NSS-LS curriculum, teachers still have to make sense of the curriculum and deliver it to their students. Thus, teachers interpret NSS-LS curriculum with their homegrown strategies in order to cope with the difficulties. The following sections will discuss on how teacher interpret NSS-LS curriculum by using their own strategies.

5.7 Teacher interpretation on the NSS-LS curriculum

Based on teacher background, learning from institutions and student background, teachers interpret NSS-LS curriculum and begin to put the guidelines into practice. During the interpretation processes, teachers gradually walk through from confusion, mechanistic interpretation based on curriculum guidelines to reorganized interpretation based on issues and appropriate content knowledge. The development of teacher interpretation on NSS-LS curriculum has molded teaching designs and practices thereafter. By studying teacher interpretation process on NSS-LS curriculum, a deeper understanding of the curriculum on teacher's perspectives can be revealed as to how they perceive the implementation of NSS-LS curriculum.

5.7.1 Starting the journey of interpretation: Making sense of the breadth and depth of curriculum

When teachers start to interpret the curriculum, they perceive the curriculum content is too broad for them to teach. As is discussed in the section of teacher background, it is difficult for teachers to interpret the breadth and depth of NSS-LS curriculum for they lack foundational knowledge about it. Teachers have to pay arduous effort in familiarizing with the curriculum and mastering it in order to design appropriate content knowledge and issues for students. The broad curriculum also affects teachers' determination in assessing whether students have learnt content knowledge adequately and effectively. In addition, it is hard to define the learning objectives on content knowledge:

The curriculum content is very extensive. Actually the teaching content is very broad and involves many things. The depth of teaching content is hard

The curriculum is a bottomless pit. When preparing the lesson and teaching materials, I don't know how much is enough. (Teacher D, School A)

The curriculum guide stated that we have to teach concepts. But my colleagues have already asked, what do you mean by students learnt the concepts. In the first school term, we are still exploring it. (Teacher A, School D)

In this ambiguous situation, selecting appropriate content knowledge under the framework in curriculum guide is one of the most important and initial step to implement the curriculum. Teachers need to spend time and use different strategies to explore the scope of content knowledge that is covered in NSS-LS curriculum.

5.7.2 Initial interpretation: Instant mechanistic response to curriculum documents

At the initial stage of interpretation, teachers often take instant mechanistic responses as their strategies to interpret the broad and vague curriculum. In the curriculum document, the enquiry questions are supplemented by some "explanatory notes". Ideally, "explanatory notes" are only references that provide some key content or concepts related to questions for enquiry in order to help teachers and students to understand possible content, perspectives and directions for exploring issues. "Explanatory notes" should be flexibly used and updated

from time to time depending on students' ability and interests in this ever changing societies (Curriculum Development Council & Hong Kong Examinations and Assessment Authority, 2007, p. 13).

However, as teachers are not familiar with and confident in implementing NSS-LS curriculum at the beginning, teachers tend to adopt mechanistic responding strategy to interpret NSS-LS curriculum. The strategy is whatever concepts that are listed out in the explanatory notes, teachers will cover those in their teaching plans mechanistically. Teachers will check whether all suggested concepts or content knowledge listed in the explanatory notes have been covered. In such a way, the explanatory notes are no longer as flexible and updated as the curriculum stated but legitimized and fixed in teacher's perspectives. Teachers have to follow through the explanatory notes strictly in order to complete their teaching content in NSS-LS. In this sense, the explanatory notes are just like the content knowledge in the syllabus for traditional subjects:

Our design mainly follows the curriculum guide. The guild has some enquiry questions. Then, we have to answer it. (Teacher C, School C)

Whatever the curriculum has listed out, we have to cover it in our school-based curriculum. Also, we will go to the online platform by Education Bureau to see what we have to cover. (Teacher A, School D)

We are very used to referring to curriculum documents. We will check if our issue can cover the most part of the enquiry questions in curriculum document and furthermore the explanatory notes under the enquiry

This mechanistic interpretation process relieves teachers' pressures in locating relevant subject matter knowledge and issues. This process constitutes a baseline for teachers to build up and further reorganize their teaching flows with concrete teaching content.

5.7.3 Further interpretation 1: Reinterpretation based on issues

In addition to mechanistic interpretation process, teachers often find the concepts in explanatory notes are truncated and not enough for teaching certain perennial or current issues. Teachers need to add some concepts, which are not included in the explanatory notes, to fill up the gaps in teaching. Additional concepts are drawn from some foundational knowledge that is relevant to their designed issues and used to facilitate students in further enquiry of an issue. Teachers begin to handle content knowledge in a more organic way in order to fit the teaching needs of issue-enquiry approach:

I will base on the needs of issues to determine which concepts should be included in our school-based curriculum. There are some concepts not shown in the curriculum guide but we have to teach. (Teacher A, School D)

To be specific, when teaching with issue enquiry approach, the enquiry flow cannot be rigid and fixed. Teachers may include some useful concepts or knowledge in the enquiry process to facilitate their students to investigate the issue in a more holistic way. The reinterpretation of curriculum content has

supplemented the defects of idealistic design of NSS-LS curriculum. Teachers use their professional knowledge and judgment to put the curriculum into practice and perfecting the design, structure and content of the curriculum:

When teaching the topic about how people respond to government policy, political participation should be definitely included......Especially in these years, many people came out to resist, to fight for their human rights. Therefore, we should talk about those issues. Of course, the curriculum guide has not included these issues and concepts, but as a judgment from professional teacher, I will teach what I should teach. (Teacher B, School C)

The reinterpretation not only fills up the gaps but improves the content of explanatory notes in the curriculum guide. During reinterpretation, teachers find out several concepts stated in the explanatory notes can be linked up and categorized into other abstract concepts to help students handling knowledge. This organic reinterpretation makes implementation of NSS-LS curriculum smoother than before:

When teaching the module about modern China, I think among all the concepts listed in the explanatory notes, several of them are relevant to the concepts of 'soft power' and 'hard power'. I think this categorization is easier for students to handle, so I used it. Therefore, we'll teach some concepts that are not included in the curriculum guide. We find some concepts in the textbook or other resources and feel it's suitable for our students. We'll give it to them. (Teacher C, School D)

5.7.4 Further interpretation 2: Reinterpretation based on teacher designs of relevant content knowledge

Along with reinterpretation of the curriculum content based on specific needs of issues, teacher knowledge in curriculum content is another important component that contributes to the reinterpretation of NSS-LS curriculum. Based on teacher foundational knowledge obtained through teaching other subjects or learning experiences, teachers make sense of the curriculum and organize their teaching materials in a more comprehensive way. Teachers plan their teaching with their prior knowledge and experiences to enrich the NSS-LS curriculum:

I studied in Chinese Ilistory. I am not majored in geography. So I don't know environment, technology and globalization but I am confident in handling the part of modern China.....I know what data are useable, and what information is representative to teach my student. (Teacher E, School A)

By applying teacher knowledge to reinterpret NSS-LS curriculum, some teachers are unsatisfied with the structure and content of the curriculum. Based on their prior knowledge on curriculum content, some teachers believe that NSS-LS curriculum is incomplete or biased. Hence, if teachers follow the curriculum guide strictly and deliver according to instruction of Education Bureau only, the learning and teaching of NSS-LS will not be on the right track in some teacher's perspectives. Therefore, some teachers reinterpret the curriculum and implement it with their professional judgment in their right way:

I am still not satisfied with the interpretation of curriculum from Education Bureau, especially on the part about modern China.....for example every social issue in China must related to political aspect, but Education Bureau said we can ignore the politics......if we treat that as an authoritative interpretation, that is a problem. (Teacher B, School C)

In the reinterpretation processes, as Liberal Studies actually does not have a well-defined scope of related issues and content knowledge, teachers begin to loosen their mindset on deciding the content of curriculum. The interpretation process becomes more concerned about the specific content knowledge, issues and students needs. In this case, the implementation of NSS-LS curriculum becomes clearer. Teachers can formulate their school-based curriculum and teaching approaches in a more thorough way.

5.8 Mission impossible: Struggle to further interpret by using limited strategies

In the process of interpretation of NSS-LS curriculum, teachers gradually find their way to make sense of the curriculum with their own knowledge and in their teaching context. However, the process of reinterpretation is not as smooth as ideal because the majority of teachers only have limited knowledge and strategies in reinterpreting NSS-LS curriculum. Teachers defined their situations and confined their interpretation to certain path and constituting an inevitable inclination to examination practices that will be discussed in this section.

5.8.1 The enemy not yet conquered: Back to lack of foundational

knowledge

No matter how teachers interpret and reinterpret the curriculum in their own way and perspectives, lack of foundational knowledge in NSS-LS curriculum among teachers or even officials from Education Bureau has hamstrung the further progress of interpretation. Teachers think that further interpretation of NSS-LS curriculum requires lots of knowledge that they do not have. Interpretation becomes difficult or even impossible when teachers have to speculate the original ideas on NSS-LS curriculum. Sometimes, teachers do not necessarily see the ideas of reading between the lines from the curriculum guideline as flexibility. Nevertheless, teachers perceive this flexibility to implement school-based curriculum as full of doubts and speculations. These perspectives make the effectiveness of interpreting NSS-LS curriculum become restricted:

Officials from Education Bureau always said that curriculum interpretation is essential. Curriculum interpretation is very interesting. It is more or less like bible reading, which page, section and number and we have to respond to that. But I think that's not enough, just like what the officials said, we have to read between the lines and the underlying meanings of the curriculum. However, we have to get some basic understandings on the curriculum before we can do that.....the prerequisite of teachers to be able to read between the lines is actually required higher level of knowledge. But we don't even have the basic understanding, how can you ask me to read between the lines? (Teacher A, School C)

The situation becomes worse when teachers find out that curriculum interpretation is not consistent within Education Bureau. Different officers from Education Bureau may have discrepancies in their curriculum interpretations:

I think curriculum interpretation is not mature enough in this stage. There are too many different versions. Sometime there are contradictions between officers from Education Bureau. That does not make sense. (Teacher B, School C)

The discrepancies in official interpretations by Education Bureau have left the teachers in greater confusion and made them lost their directions in interpreting NSS-LS curriculum. Teachers have to rely on their own schema to strategically respond to their immediate needs when implementing NSS-LS curriculum in classroom. Some quick-fix strategies have to be applied unavoidably, even after putting enormous efforts in interpreting and reinterpreting the curriculum.

5.8.2 Strategies to interpret NSS-LS curriculum 1: Using prior knowledge and schema: Old wine in New Bottle

During interpretation of NSS-LS curriculum, teachers face structural constraints given by existing teaching and examination practices. Teachers make sense of the curriculum and act it out by choosing among various strategies that fit in their context and can overcome the new problems faced (Jessop, 1996). Teachers formulate their strategies by using their partial knowledge to pre-existing structure and achieve their desire outcomes (McAnulla, 2002).

The first quick-fix and coping strategy to make sense of NSS-LS curriculum by teachers is to apply existing schema. In previous learning and teaching experiences, teachers have accumulated lots of curriculum interpretation strategies, especially linking NSS-LS learning and teaching with that in the traditional subjects. For example, some teachers link up the data-responds questions with argumentative essays and comprehension in Chinese Language to let them to make sense of the scope and requirement of student deliberations of issues. Also, teachers related the knowledge in social issues introduced in NSS-LS with content knowledge in social sciences disciplines in universities or key learning areas in personal, social and humanities education. These imaginations and linkages allow teachers to make sense of NSS-LS curriculum with their old schema and make the practice in a smoother way:

Ilow did I think about Liberal Studies? I think it is a combination of argumentative essay and data-response questions, at most with some social sciences or social issues. That means I borrow some social issues to ask students. Then students have to read some information from provided text, some key points from textbooks and the key concepts learnt to reply me. (Teacher E, School A)

I think there are similarities between Chinese Language and Liberal Studies. For example, argumentative essay and reading comprehensive is like the extended question. The expression format is just like writing. Some skills, used in Liberal Studies can be trained in the teaching of Chinese Language. (Teacher F, School C)

The practices of NSS-LS curriculum using existing schema make teachers become more confident and comfortable in delivering their teaching. However, the practices may also hinder reform of curriculum and instruction to ideal Liberal Studies approaches. Teachers tend to stick to old practices and other considerations are added up in the reform process. The phenomenon of old wine in new bottle appeared in the process of teachers' interpretation of NSS-LS curriculum. Although the postulated curriculum nature of NSS-LS is different from other traditional subjects, teachers practice the subject in a conventional way.

5.8.3 Strategies to interpret NSS-LS curriculum 2: Put all the possible content in the curriculum

Another common strategy for teachers to apply in interpretation process of NSS-LS curriculum is putting all suspicious relevant content into the school-based curriculum. As teachers do not know the legitimate version of content knowledge in NSS-LS, some teachers think that even if they do not know what and how to teach, they cannot afford to miss out anything in the syllabus. Therefore, the school-based curriculum includes whatever teachers think that is related. The scope of NSS-LS curriculum becomes very extensive. Teachers want to cover every issue that is in discussion at this moment or may turn out to appear in the examination paper. This strategy sometimes will fuzzy the focus of teaching NSS-LS because it is difficult to conceptualize and consolidate the diverse issues that are introduced in the lessons. When teachers choose net casting as their strategy, a much defined focus of NSS-LS teaching is one of the

tradeoffs that have to sacrifice.

Our teachers' common consensus is that it is difficult to say one or two methods is useful. Therefore, we group all the methods together and have everything. (Teacher C, School A)

We use cast netting strategy like fishermen when collecting concepts. That is every concepts related to this unit will run through once. Every issue that covered in this topic will run through once, all of it. If we teach less, we cannot be sure what HKEAA is going to assess. At least we show our students what issues are belong to which modules. We will give lots of issues for our students to discuss. It would not allow our students to have in-depth discussion. We cannot make it. (Teacher A, School B)

5.8.4 Strategies to interpret NSS-LS curriculum 3: Teachers' concerns shift from student learning to assessment

As teachers use old schema to teach Liberal Studies, assessment becomes one of the greatest thought by teachers. Thinking around assessment can also narrow down the extensiveness of curriculum content and ensure promising results of students in public examination. Therefore, teachers think it is necessary for them to shift their major concerns from learning and teaching to assessment. In this strategy of interpretation, teachers outweigh assessment like putting the cart before the horse and gradually give up their ideal NSS-LS curriculum that they imagined in the beginning.

In teachers' perspectives, emphasizing assessment is also necessary for promoting student motivation to learn Liberal Studies with issue-enquiry approach. As discussed in previous sections, the majority of students are not motivated to learn Liberal Studies through issue-enquiry approach due to various reasons. Therefore, many teachers use public examination and prospect of further studies in tertiary education as an extrinsic motivation to attract or even compel students to learn Liberal Studies with issue-enquiry approach.

How come issue-enquiry approach can motivate students to search for information? Public Examination is the answer. Their logic of thinking is to compel students to take public examination. If students fail it, they cannot get into universities. Therefore, when Education Bureau tells us to use issue-enquiry approach, we have to use issue-enquiry approach. (Teacher B, School B)

Throughout the course of replacing emphasis of issue-enquiry approach to assessment, teacher ideas are further reinforced by the comparison of learning experiences from Education Bureau and HKEAA. Teachers notice that assessment is more consistent and easier to manage when compared with their planning on school-based curriculum and instructions. In this case, teachers tend to follow the rules and instructions that are comparably well-established by HKEAA. Teachers become more and more pragmatic along the way in interpreting NSS-LS curriculum.

The ideas from IIKEAA are comparatively uniform. After we attend the courses organized by Education Bureau, it is obvious that IIKEAA is more

professional because ideas from HKEAA are more consistent and uniform.

(Teacher B, School C)

5.8.5 Backwash effect of assessment to instruction

Under the reinterpretation and shifts of emphasis to assessment, backwash effect (Alderson & Wall, 1993; Cheng, 2008) of assessment to instruction is gradually formed. When the concern of assessment becomes more important than other curriculum and instruction planning in teachers' perspectives, teachers not only shift their focus to assessment, classroom teaching and learning approach will also be affected by assessment. In teaching design, teachers no longer plan their teaching approaches according to issue-based enquiry stated in the curriculum guide but to design according to the needs of assessment. Teachers urge their students to recite or memorize some concepts, knowledge and answering patterns in order to fulfill the requirements of assessment. This approach makes both teachers and students become confident and clear about their practices. However, this strategy to interpret NSS-LS curriculum will have a backwash effect and the curriculum become inclining to the assessment paradigm. Hence, teachers find it difficult to escape from the dominant atmosphere of putting assessment as their emphasis.

Actually teaching will gradually serve examination purpose. Students have to recite and memorize lot of things because they have to master the writing of argumentative essay. The recite and memorization of content knowledge can help students to achieve certain answers. (Teacher E, School E)

Besides designing tasks to facilitate students in memorizing concepts and knowledge for examination purposes, teachers also include some training of writing argumentative essays in order to help students to deal with certain types of questions. The training of answering techniques further reframes the curriculum ideas into more examination driven and backfires on the ideals.

In the next term, we have to deal with examination all the time. We will train our students to equip with answering techniques. Let teachers understand what students have learnt by look deep into assessment. I think we'll put a lot of effort in assessment. (Teacher A, School D)

5.8.6 Backfire on the ideals

Under the backwash effect of assessment on curriculum and instructions, teacher's perceptions on NSS-LS curriculum gradually move from the ideals to examination practices. In the examination paradigm, students' interest in learning NSS-LS is no longer as important as the imagination in teachers' ideal. The concerns of student interests and construction of knowledge from student perspectives are gradually detached in learning NSS-LS. This makes student learning experiences in NSS-LS converge and become similar to other traditional subjects.

Most importantly, interest and examination is two different things. I always tell my students, even you are not interested in NSS-LS, you have to take the examination anyway. Interests in NSS-LS would not make you to have higher grades. (Teacher A, School B)

Teachers conclude that when NSS-LS is not liberal or opened in the assessment system, it is hard to say being liberal in learning and teaching. As public uniform assessment still determines the final destination of student learning, teachers have to work under this great constraint and limit their possibilities in designing the most suitable NSS-LS learning content for students.

When you said Liberal Studies but with the whole assessment system is not liberal and opened, that would be a big problem. (Teacher C, School C)

5.9 Conclusion on individual sense-making of NSS-LS curriculum: Inevitable lost in the search, Inevitable lost of the battle

As a conclusion of individual sense-making, teachers start with the curriculum ideal and their own ideas in designing and implementing the NSS-LS curriculum. Teachers are positive about the suggested ideas in NSS-LS at their initial stages. They would like to plan the curriculum according to the ideas. However, under the constraints of teachers' own capacity, student backgrounds and teacher learning experiences from Education Bureau and HKEAA, teachers gradually lost their sights in searching for ideals. Instead, teachers inevitably shift their concerns from uncertain ideals to clear assessment. Teacher sense-making processes by using individual cognition and situated cognition are confined within institutional environment. Teacher's original ideas on NSS-LS curriculum have gradually sunk into practical concerns in classroom teaching.

Because teachers are not well-prepared and equipped with new paradigms of

NSS-LS curriculum, teachers attend courses offered by various institutions to equip themselves with certain curriculum planning and teaching skills. However, as teachers are learning with insufficient time, teachers selectively learn the most ready-made practical and survival skills. In their learning experiences, the courses offered by HKEAA or any other examination related practices are most practical to teachers. Hence, in the journey of searching actual implementation of NSS-LS, the directions are gradually changed to the training of examination skills and techniques, which is diverge from the original ideals that Liberal Studies is designed.

Moreover, besides selective and strategic learning from courses outside, teachers reinterpret NSS-LS curriculum ideals and change the courses of learning and teaching practices in NSS-LS based on teacher existing schema and practices. As NSS-LS is unfamiliar and uncertain to most of the teachers, teachers usually tried to relate this new subject with their prior teaching experiences in other traditional subjects. This contingent approach create mismatch between ideas in Liberal Studies and practices in traditional subject. When applying practices in traditional subjects to NSS-LS, teachers tend to drill students with certain content knowledge and answering techniques because of the perceptions that knowledge and skills are fixed in the curriculum. These practices will cause actual implementation of NSS-LS distancing from its ideals and losing the original meaning and value of Liberal Studies.

In conclusion, when NSS-LS is introduced as a new subject in senior secondary education, teachers strive to change and approach to the ideals of NSS-LS curriculum or the whole curriculum reform in a broad sense. Teachers

put great effort in learning to actualize the curriculum ideals. However, with the deficiencies in teacher learning and teaching experiences, teachers can hardly master some useful knowledge and skills to help them to realize their dream in Liberal Studies. Teachers get lost in the searching processes and put aside their ideals because of other practical considerations raised by assessment. Also, as teachers equip themselves with mismatch skills and traditional paradigm to fight for actualization of NSS-LS in the age of curriculum reform, this battle for change can hardly be achieved and result in an inevitable lost. Teachers are fighting a losing battle because they are using the old weapon for the new enemy. Teachers do not know what they are fighting against and cannot select appropriate strategies to react on.

During the fighting of this battle of reform, the interpretable NSS-LS curriculum becomes teachers' shadow enemy such that teachers have to create the enemy and fight against it all at the same time. Teacher may interpret NSS-LS curriculum ideally or play it down during their sense-making process. When teachers approach NSS-LS curriculum in an ideal way, they are not well-equipped to fight this battle. However, when teachers interpret NSS-LS curriculum in a shallow way, they may feel comfortable to fight against it or probably 'win' the battle, but this is not the original expectation for Liberal Studies. Thus, no matter teacher interpret NSS-LS curriculum ideally or shallowly, teachers can hardly win this battle of reform because they have been put into a dilemma such that they are creating and fighting the monster at the same time.

Chapter 6: Teacher Collective Sense-making of NSS-LS curriculum

Along with individual sense-making process on NSS-LS curriculum as revealed in the previous section, teacher collective sense-making process of NSS-LS curriculum is also vital to constitute further interpretation of NSS-LS. Teacher collective sense-making processes and outcomes will be unfolded in this section.

Teacher collective sense-making usually take place at school level and network level. At school level, teachers have intensive opportunities to exchange their ideas and experiences in collaborative lesson planning and peer lesson observations. These school-based exchange platforms provide teachers with possibilities to converge their thoughts in implementation of NSS-LS and become united in the process. This will allow effective implementation of school-based curriculum more feasible. At network level, the characteristics of the interpretation process of three different networks are introduced in this study, i.e. teacher initiated network, Education Bureau initiated network and HKEAA initiated network. Four case schools will be discussed to reveal the collective interpretation of NSS-LS curriculum in these three networks. These cases will reveal the collective sense-making process at network level to see what kind of NSS-LS curriculum collectiveness is formed and how will it affect the implementation of NSS-LS.

As individual sense-making of NSS-LS is in the muddle as is explained in chapter 5, school level and network level exchange platforms become important to converge teacher ideas and practices of NSS-LS curriculum. The convergence

of ideas can facilitate the attainment of certain degree of effective curriculum governance in territory-wide level. In this section, the possibilities of convergence and collectiveness in processes and outcomes are revealed to see what kind of collective sense-making can be achieved through these processes.

6.1 Collective sense-making of NSS-LS in school context

In collective sense-making within a school, teachers usually have formal collaboration within collaborative lesson planning period and also peer lesson observation to plan and actualize their ideas. Also, teachers may exchange their ideas and opinions in some informal occasions such as casual chat in staff room and other impromptu occasions. Teachers use these opportunities to address the problems they faced in daily practices and seek solutions from their teammates. The processes and outcomes of these common collaborative practices will be discussed below.

The needs to begin collective sense-making in school context: Finding solutions to tackle teacher immediate problems

As we have discussed in chapter 5, many teachers are lack of foundational knowledge and skills in implementing NSS-LS curriculum, so it will be difficult to form a uniform school-based curriculum in school setting. When teachers are unfamiliar with those essential knowledge and skills in implementing NSS-LS curriculum, it would be difficult for teachers to start with the vague ideas in curriculum guide collectively. In this case, building up consensus in knowledge and skills in NSS-LS curriculum within the team is important and becomes first

priority for teachers to begin with.

Not everyone in this team is very familiar with the curriculum. For example, in NSS-LS curriculum, there are some coverage on political institution and political ideas etc. But not everyone in the team has knowledge in it, some issues they cannot catch up and do not know what's going on. (Teacher A, School C)

Weakness in subject matter knowledge is a main problem for teachers. When we teach the module on 'personal development and interpersonal relationship' and 'Hong Kong Today', I find that teachers do not know the teaching content. They mix up some concepts and do not know what should be delivered to students. (Teacher A, School E)

<u>Process of collective sense-making in school context 1: Sharing teacher</u>
<u>specialties in subject matter knowledge</u>

In order to solve the unfavorable effect and diversities brought up by lack of knowledge and skills, all panel heads and members in the case schools use collaborative lesson planning as a strategy to build up a platform to overcome their difficulties collectively. In the collaborative lesson planning period, all teachers are expected to contribute their own specialties in subject matter knowledge in order to construct some common knowledge on NSS-LS curriculum, especially on content knowledge and issues. The exchange of ideas and knowledge is essential for teachers because NSS-LS is by nature an interdisciplinary subject such that knowledge from different subjects should be

drawn and interconnected in order to investigate the issues holistically. Also, sharing of knowledge can build up a sense of community among teachers through teamwork. Each member may contribute their specialties and fill up the missing pieces of others. The concept of community as a whole helps to build up a foundation for more unified school-based curriculum.

History teachers put more emphasis on factual data. They see the extension of the data, just like teaching students to respond to data-respond questions. Government and political affairs teachers are more macroscopic. They will analysis the issue from political framework. Geography teachers are more stressed on the implementation, how to synthesis the materials and implement......I teach Chinese that concern more about logical thinking.....the focuses of everybody is different. (Teacher D, School C)

The synthesis of teacher strengths in subject matter knowledge and subject enquiry skills provides a diversified foundation to support the development of interdisciplinary knowledge and issue-enquiry approach in NSS-LS. This foundation will further constitute a consensual school-based curriculum through collaborative works.

<u>Process of Collective sense-making in school context 2: Sharing teaching</u>

<u>practices through collaborative lesson planning</u>

In the process of collective sense-making, teachers share their ideas and rationale behind their teaching plans. Through narrating their teaching designs, teachers understand each others' logic and reason behind the teaching plans

thoroughly. As teaching designs are constructed with a deliberated teaching flow, the narrating process can also let teachers run through the lesson once and see if any amendment is needed. This simulation process can make implementation of curriculum more effective in the classroom.

Teacher who prepares those issue-enquiry teaching materials will tell the rationale behind her preparation to the team. It is like reading a story to'us to show what to do in the next lesson. Why did teacher explain the issue in this way? How can teacher deliver the issues to students? To tell each other the storyline behind is most important. How and why do teachers arrange the teaching materials in this way? Then, other teachers will give out their opinion and ideas. Teachers will gradually master the curriculum through this process. (Teacher A, School C)

Besides formal structured sharing platform in collaborative lesson planning period, as NSS-LS teachers teach with lots of current issues and instant information, informal sharing among teachers is also important to effective teaching of NSS-LS curriculum. Teachers can receive the latest teaching experiences in the use of shared teaching materials offered by others. The instant informal sharing facilitates teachers to adjust and improve their teaching plans according to the needs of students. Teachers also perceive that sharing among colleagues as the most effective strategies to solve teaching difficulties because this kind of sharing can address local classroom and school concerns in student learning. The specific needs of students can be met with school-based teaching strategies. The pedagogical feedbacks on the teaching plans can help teachers to formulate better teaching materials during the process.

It is most effective to ask our colleagues. Colleagues can give us feedbacks on the teaching plans directly. That is others have already taught a lesson and told you her experiences, 'Don't teach like that. It will be bored to death.' (Teacher B, School A)

Sometime teachers will immediately tell each other her experiences after a lesson taught. Our colleagues will tell each other which part of the teaching materials will work or will not work. Students will have difficulties in which part and will not understand so that we have to explain more. When I don't know how and when to teach the knowledge, I can master it by sharing with others and see if that knowledge can be handled in different ways. (Teacher A, School D)

Process of collective sense-making in school context 3: Reviewing the shared teaching practices through peer lesson observation

After sharing ideas in design and developing teaching materials, teachers will actualize their collaborative ideas in classroom practice. In this stage, teachers usually carry out and adjust the teaching materials in lessons on their own. Teachers may adapt it in their own way to fit student needs. However, this will create an inevitable tension between unified or diversified practices based on two distinct ideas on classroom-based and school-based curriculum. In order to ease this tension, some schools applied peer lesson observation occasionally to converge teacher ideas by peer learning in a soft mode.

Actually we prepared the materials together and conducted some simulations on the lessons before mutual observations. I have also deliberately arranged some teachers that have not well-mastered the curriculum to observe those who are comparatively well-equipped. The well-equipped teachers can show incompetent teachers how to introduce an issue to students and how to lead group discussion in class. (Teacher A. School D)

Besides peer learning among team members, panel heads in the sampled schools sometimes also act as a knowledge hub to rectify the unclear or mistaken concepts by teachers. Lesson observations can reveal and transparent the unknown teaching situations by different teachers. Panel heads may use this opportunity to improve individual teacher teaching with evidences and clear references. This can also align teaching content and progress in different classrooms to formulate a more coherent school-based curriculum for uniform examination purpose.

In the last term, we have lesson observations on the topic "handling conflicts"......If colleagues do not understand the theory or do not have deep understanding on the concepts, the cases used in her lesson will be wrong. After the lesson, I will discuss the concepts with them and tell teacher that the mentioned concept is not "avoidance". (Teacher A, School E)

In this case, lesson observations not solely serve the purpose for accountability but formation of professional dialogues. Teachers may use this

opportunity for professional development and share their learning and teaching with each other. This professional learning opportunity is valuable for teachers in implementing this new curriculum. Teachers may further improve their NSS-LS teaching through reflective observation and active experimentation. Peer lesson observation can contribute to effective teacher experiential learning in a collaborative format.

Through sharing of handling different teaching and learning experiences. I, as a panel head, will know the situations in every classroom. Except for monitoring and accountability, it is sharing of professional dialogue. (Teacher A, School D)

Outcome of collective sense-making in school context: An undetermined opportunity to diverge or converge

Through collaborative lesson planning and peer lesson observations as collective sense-making platforms for school-based curriculum, the outcomes are still undetermined because the primary purpose of those platforms is only to exchange information and resources. The consensus of curriculum at school-level has not yet been built. These platforms give an opportunity for teachers to split or be united in their perceptions towards NSS-LS curriculum. The dynamics of cooperation in the team has contributed to a coherent sense-making of school-based curriculum possible or not. The schools reveal both cases happened in the schools and create a tension that remains to be resolved. This tension is created within all sampled schools, and stepping forward to diverge or converge in only a back and forth process in each school.

To diverge in content knowledge, teaching practices and assessment

With the above school-based sharing platforms, teachers have opportunities to exchange their ideas on feaching NSS-LS curriculum. However, as the perceptions and practices on NSS-LS curriculum between different teachers are too diverse, consensus cannot be consequentially built. Sharing between teachers is sometimes superficial and on the level of exchange teaching materials, so that it cannot contribute to an effective convergence of practices. Diversities in content knowledge, teaching practices and assessments can still be found in each school as the results of different understanding of NSS-LS by teachers.

Divergence in content knowledge

Because of the unclear substance in NSS-LS implementation, cooperation within a team is a bit different from traditional subjects. As the subject matter is not fixed, team leader is no longer the only authority in interpreting the legitimate subject matter knowledge. Each teacher may contribute their own knowledge in NSS-LS curriculum and issues to the team. However, under the tight working schedule, teacher's have little time to discuss, compromise and build up consensus on NSS-LS. The panels often distribute their workload according to different topics or themes in the curriculum. Each teacher is responsible for one or two themes based on their specialties. Teachers arrange the whole set of teaching designs and other related materials in the theme. In such a way, each teacher can carry their work individually and contribute to the team later on in order to use their time effectively. Nevertheless, this practice also

produces a side-effect such that teachers minimize their communication in the process of producing teaching materials and lost the original ideas on producing a coherent curriculum.

I think a common problem that shared by many schools is that the leaders have changed her practices. Now, the leaders mostly only distribute the tasks to their team. The practice is very different. (Teacher E, School C)

There is no cooperation....In theory, all the team members should discuss the topic together. And that is what Education Bureau really wants us to do. However, you know we do not have that much of time to sit down and meet together. Then, we distribute each one a theme to be responsible with. (Teacher B, School C)

Divergence in teaching practice

When the cooperation in planning the lessons is weak, diverse teaching practices are also succeeded and formulated. As teachers plan their lesson separately, they design the teaching flow and materials according to their own ideas and beliefs. The result of these diversified planning is shown in the varied teaching approaches.

We have no communication....we don't know what is going on in the next classroom. We only have time to talk with each other in the corridor or passing through. We can seldom sit down and discuss. The teaching approach is much diversified. (Teacher B, School E)

As there is no single authority plus separation of work in the preparation of school-based curriculum due to time constraint, teaching strategies in one school can be very diverse. Some teachers believe that they can carry out their own teaching strategy in classroom in what they believe is most suitable and effective to their students. Formulating a coherent curriculum is not their concern. The reason for allowing diversities is based on that teachers are equipped with diversified background and teaching habits. Teachers think they are professional enough to judge which teaching strategy suits their specific student most. The leader or other team members cannot use their produced teaching package to coerce others to execute what they are not good at. Therefore, the planning and teaching materials contributed can only be used as a reference for teachers to adapt in their own classroom. Teachers still remain their autonomy in deciding what to use or not.

When everyone does not know what to teach, why not everybody do it in their own way? Teachers just teach out their best is fine. It will be most comfortable and the best to teach. Anyway, no one knows what to teach. (Teacher A, School B)

Everyone has the same teaching materials, then I will teach what I'd prefer. Some teachers like video watching in class, some teachers like to play games with students. Whatever student can learn from the teaching practices, we will conduct. It's pretty chaotic. (Teacher B, School E)

Therefore, in the classroom practices, there are different approaches in one

single school. The diversities are revealed in lesson observation and teachers have noticed its outcome.

We teach in our own way. When I observed the lessons with same topic which is conduct by three teachers, their teaching approaches are different. (Teacher A, School E)

Divergence at assessment

With diversified content knowledge and teaching practices, it is no surprise that teachers have different perspectives towards assessment, especially the assessment criteria and rubries that are formulated for uniform test or examination. Because teachers practice different foci of subject matter knowledge and inquiry skills during their lessons, they would have different expectations and requirements on student learning outcomes in examination. Conflicts often occur during discussion on assessment criteria. Disagreements on assessment can be seen as an extension of diversified teacher backgrounds, teacher's perceptions on NSS-LS curriculum and practices on content knowledge and enquiry skills.

I think when assessing student critical writings on an issue or expression their reflections to certain comics, the requirements by arts teachers and sciences teachers are different. Sciences teachers do not have persistent on student performance in wordings and paraphrasing, but they require more data, with more precise and specific information to support their arguments. On the other hand, arts teachers expect their students to expand their

arguments, writing the small thing and extend it to big. (Teacher F, School C)

Teachers further express their differences in their expectations of the marking system. Arguments between different teachers happen in both expectations in the content and level of student products. Some teachers concern about the precise wordings, some teachers put more emphasis on the whole arguments. The diversities actually lead to validity and reliability crisis on assessment of NSS-LS. As teachers do not have uniform teaching content and instructional practices, the content validity in a uniform assessment is in question. Teachers debate along the discussion in order to define an approved or even model answer in the assessment because teacher assessment paradigm in finding fixed and concrete answer in traditional subject has not yet been changed into a more flexible one for NSS-LS curriculum. Some teachers still seek for definite answers like marking scheme in the past. The discrepancy on details of marking criteria has partly represented paradigm clash on the objectives of assessment in NSS-LS.

Some students write the whole paragraph to support an argument, but in the conclusion she is against it. In some teachers' mind, that is contradiction in a logical sense. Some teachers said we should give student zero mark. But some teachers think the student explain her arguments in a very clear way but only mistaken a single word. The problem arises. (Teacher A, School B)

In summary, because of the unreadiness and diversities of teacher knowledge in NSS-LS, and with a tight working schedule, teachers often work

separately in the name of 'division of labor'. Teachers divide their works into different modules or themes such that each teacher is responsible for one or two and can work on individual basis. However, teachers divide their tasks without sense of togetherness or coherent whole for the school-based NSS-LS curriculum. It would result in splitting the collectiveness of school-based curriculum. The coherent school-based curriculum has hereby not yet been accomplished.

Besides the weak collaborative process that created a fragmented school based curriculum, the formation of collectiveness is also hindered by the nature of the NSS-LS curriculum. As NSS-LS curriculum is enquiry question based and left too much to be interpreted in a chaotic situation, teachers can hardly find their reference point to begin with. A coherent curriculum cannot be constructed at the beginning and is yet to be completed.

To converge in content knowledge, teaching practices and assessment

In spite of the above threats to the formation of uniform school-based curriculum, the process of collaborative lesson planning and peer lesson observation has also provided valuable opportunities for teachers to become united and construct a coherent content knowledge, teaching practices and assessment to a certain extent. Some convergence in producing coherent content knowledge, teaching practices and assessment can be observed in the case schools.

Converge in content knowledge

Although the school-based NSS-LS curriculum has been divided into various parts and teachers design and are responsible for their own, some teachers still strive for their best to communicate with others in order to formulate a coherent or even standardized curriculum. Teachers discuss their planning and difficulties along the way in order to relieve their misunderstandings or differences in the content and knowledge with others. Teachers prefer to align their expectation to students and make the implementation of curriculum clearer.

Because my understanding to the curriculum with other teachers maybe different, so we will often discuss it......I design this part of teaching, and you design the next part of teaching to show how to illustrate the concepts collaboratively. If other teachers have disagreements, at least we know expectations of others. And we can determine which part we should teach deeper and which part we should teach shallower. Something we want to make it clear and become standardize. (Teacher A, School D)

Converge in teaching practices

In order to synchronize teaching paces between teachers, panel heads often review the progress of team members through various channels. First, panel heads take notice of the use of teaching materials and teaching schedule of each teacher. In this way, consistency of school-based curriculum can be achieved in a top-down manner through the use of centralized teaching materials. Second, panel heads will monitor individual teacher performance by administrative measures and keep track record of each teacher in order to make sure no class is

left behind or diversified from others. This helps panel head to construct coherent teaching practices in the school.

I think every teacher should give the same amount and content of homework to students. They cannot skip it by themselves. If they skip some of them, they should tell me. This is how I keep the consistency among different classroom. It would be easier to control. (Teacher A, School E)

Besides unifying the school-based curriculum in a top-down manner, teachers also use collaborative lesson planning period to standardize their teaching strategies by bottom-up approach. As some ready-made teaching packages are shown to others in collaborative lesson planning period, some teachers will choose to follow the packages in order to save time to produce another by themselves. Hence, adaption of teaching materials will standardize teaching practices to a certain degree. Teachers make use of the same teaching materials to bring up consensus in teaching practices.

The most important thing to do in the collaborative lesson planning period is to standardize major and core part of the curriculum. We will also share some teaching strategies that we have already conducted in the classroom. It is class-based, but if it suits other's focus and teaching flow, others may follow. (Teacher A, School D)

Converge in assessment

In assessment, teachers have to inevitably arrive at consensus in order to

hold account for students and parents. Teachers will write up marking rubrics such that guidelines can be explained to others. As all teachers are new to this subject, some teachers believe consensus in NSS-LS assessment can be achieved easier than traditional subject because everyone does not know what to do and they can make complements to each other.

We do not have those disagreements. On the contrary, it is easy for us to build up consensus. Maybe it is our first year to implement this new curriculum, I used to teach history in Advanced Level, another teacher is very familiar with the NSS-LS curriculum, so we discuss and complement each other.....so that is not disagreement but reaching consensus. (Teacher B, School D)

Also, school-based assessments are somehow imitating the format of public examination in order to prepare students for their examination in the future. Therefore, teachers actually follow invisible guidelines set by the examination paper for consultation or advanced supplementary level in the past. By following these invisible common guidelines, teacher's perspectives on assessment content and format will tend to be similar.

We will discuss what our standard in marking the examination is.Of course we have to mark it in standard reference and follow the marking rubrics to do it. (Teacher C, School A)

In summary of collective sense-making of NSS-LS curriculum at school level, the dynamics and tensions between splitting and unifying the curriculum

can be observed in every part of teaching design, i.e. from curriculum content, teaching approaches to assessments. Although teachers have allocated substantial time and resources in building up platforms to exchange ideas, such as adaption of collaborative lesson planning and peer lesson observations, the collectiveness of NSS-LS curriculum is not yet clearly formed. Teachers are still searching for a greater reference point to implement the curriculum in a more confident way.

In the searching process, the collectiveness of NSS-LS curriculum cannot be built solely by school-based platforms. Teachers explore more information and reference from outside to see if the additional information can help teachers to achieve a more stabilize and convincing curriculum. Some teachers join teacher network and school network for NSS-LS to supplement their school-based collective sense-making on the curriculum. The process and outcome of the collective sense-making at network level will be discussed in the next section to see how it will in turn affect the practices of NSS-LS at school level.

6.2 Collective sense-making of NSS-LS in network context

In Hong Kong, different kinds of teacher networks and school networks are established to gather teachers to share and develop their understanding and practices in NSS-LS. As is revisited and elaborated on the mentioned network contexts in chapter 2, the networks in Hong Kong can generally be categorized into non-government initiated networks and government-initiated networks. The non-governmental networks are initiated by or cooperated with different stakeholders in education settings to organize professional development activities for teachers, for example, sponsoring-bodies (Catholic Education Office), interest

group (Hong Kong Federation of Education Workers and Hong Kong Liberal Studies Association; Hong Kong Professional Teachers' Union and Hong Kong Liberal Studies Teachers' Association) and universities (Lingnan University and NTW LS Professional Network; The Chinese University of Hong Kong and Liberal Studies Professional Development Association) etc.. In addition to the non-governmental networks, there are government initiated networks organized by Education Bureau and HKEAA. Three branches under Education Bureau have organized their own support services and networks in order to facilitate teaching and learning of NSS-LS curriculum, i.e. regional education offices, school-based support services office and Liberal Studies section in curriculum development institute. For HKEAA, it has collaborated with Education Bureau to offer LS school network scheme in order to support schools regards on assessment of NSS-LS.

In this study, four out of the six case schools joined three different mentioned school networks. School A joined a non-government initiated teacher network offered by Hong Kong Liberal Studies Association. School C joined an Education Bureau initiated network offered by school-based support service office with focused on curriculum and instruction of NSS-LS. School B and E joined a network that is initiated by IKEAA. This section will explore the content and influences of these networks to see how teachers are strategically involved in it and get information that responds to their needs.

6.2.1 Exploring in non-government initiated teacher network: Sharing similar experiences, trusting frontline practices

In the non-government initiated teacher network joined by school A, teachers from different schools voluntarily participate in this school-wide teacher network regularly about once a month. Teacher sharing in this network is based on their own experiences in school. The sharing is not tailor made or fit for individual needs from participating schools. Although it is a school-wide teacher network that may not fit specific needs from school A, teachers still find the experiences and practices from other schools valuable to them. Many on hand experiences can be found in this network and teachers can adopt the materials and take those as references easily.

'As facilitators in teacher networks have long time frontline experiences, teachers find their sharing quite comprehensive in many domains, including sharing teaching materials, assessment and lesson observations etc. Teachers can learn from the facilitators through multiple activities and prove the sharing very useful to them.

We will ask him how to teach because he has taught in Liberal Studies for many years. We have observed his lessons and adopt his teaching approaches in our lessons. His teaching approaches are very effective. We also try out his teaching plans in our school. (Teacher D, School A)

One reason behind the effectiveness of this sharing is that facilitators are willing to share their materials selflessly in a very convenient way. In many sections of network sharing, facilitators have made all the soft copy available to teachers and put the materials in a CD for teachers. Teachers can easily adopt materials and amend it to suit their needs.

Some teachers contribute their materials selflessly for us to discuss together.

Some teachers have already taught in public health, and then they made us a copy and shared with us. (Teacher A, School A)

In every meeting, the network has a theme and the facilitators will share with us some useful information and make us a copy of the materials in a CD. (Teacher E, School A)

The sharing experiences have greatly facilitated teachers to adopt other teachers' practices. Teachers are willing to follow others' teaching materials or experiences because those materials are ready-made, well-established and tried out by facilitators. Also, the facilitator will explain their rationale in designing teaching plans in the network sharing, so teachers are well-informed on the uses of teaching plans and its strengths and weaknesses. Teaching plans and materials are well-organized such that packages are easy to use by teachers. Therefore, many teachers follow the approaches used by facilitators and find it comfortable to adopt:

He is indeed willing to share his teaching experiences, even student products for us to discuss. I think his experiences are most valuable and practical. Even how student approach the questions, what is the framework behinds, we all follow his approach. (Teacher E, School A)

When the practices go on for a period of time, teachers gradually get used to sharing materials, exchanging information, communicating and commenting on others' practices in order to improve their materials. This practice helps to build up a sharing culture and developing trust between teachers, where it is essential to further develop internal momentum in the network. Teachers share with others in a self-directed way by themselves without further guidance from facilitators. Teachers find network sharing is much more effective than traditional teacher professional development programme, such as seminars and workshops, because teachers enjoy the process of communicating with others and sharing their frontline practices.

I think everyone is willing to come to the network because we actually have something to get, something to exchange and can learn some strategies. Facilitators always share his materials to us selflessly. Afterwards, some teachers start to contribute their materials also. We are like classmates and colleague. (Teacher A, School A)

It is two-way communication. In other seminars, we only absorb the information provided in one-way. We do not know other teachers and seldom have communications. But I think this network is very effective. (Teacher A, School A)

Efficiency and effectiveness based on practical usage

When teachers explain the effectiveness of teacher-initiated network in details, the focus of effectiveness and efficiency of network sharing has been put on the practical use of shared materials. Teachers are willing to participate in the network because they think this teacher network is more useful, effective and

efficient than other teacher professional development opportunities. In the network sharing, teachers can easily obtain some teaching resources that are suitable for them in daily practices. All the teaching resources have also been practiced in the real classroom settings by the facilitators, so that the facilitators can further share the important ideas behind the packages and points that have to be noted when using these resources. This sharing can make teachers have confidence in using the materials and try out some teaching strategies. However, as sharing in teacher network is emphasized on tried frontline practices, some teaching strategies may not be coherent with what is promoted by Education Bureau. The teaching strategies applied and shared are much more practical with real classroom experiences, such as using "fill in the blanks" and other answering techniques, which is apart from the expected new teaching paradigm in NSS-LS. The teaching strategies shared in the network are often practical because the strategies have been used in other traditional subjects for a long time and both students and teachers are used to it.

As the content and processes of sharing in teacher initiated network are self-recognized by teachers, teachers can share whatever they think is practical and effective within the network. Without a clear monitoring system or accountability system in the network, the substance in teacher-initiated network is efficient to teachers but may not be legitimated or approved by Education Bureau.

I think the teacher-initiated network is more useful because they really are in the frontline. And they can lead us. (Teacher D, School Λ)

They share with us some teaching strategies, for example, how to teach students to write by fill in the blanks. Also, they show us the whole flow and procedures of a lesson. They give us a lot of concrete examples, so I think that is really good. (Teacher A, School A)

Teachers further mention the network resources are useful to them because the shared teaching materials are not some one-size-fit-all practices. As facilitators are experienced teachers who have taught in Liberal Studies in advanced supplementary level for years, they have lots of experiences in catering for learner diversities and designing a wide range of teaching materials that suit different levels of students. In the new senior secondary education, catering for student learning diversities becomes one of the major issues and challenges in secondary education because the selecting system in secondary three and certificate level is cancelled. Every student is entitled to have their secondary education for the whole six years if they want to. Therefore, teachers need to find some strategies in respond to this challenge that is brought up by student diversities. In this case, the whole set of strategies that fit different levels of students is most valuable to teachers.

The facilitator experiences are the most valuable. She saw the worst students and the best students. She can tell us how to stretch the good students and help the poor students to reach certain benchmarks. She shows her experiences by using some practical teaching plans and videos. It is very useful. (Teacher E, School A)

Although the materials are ready-made and available to teachers to use

instantly, teachers will not hesitate to amend the materials according to their specific needs. Teachers realize that the handy materials cannot be universally applied to every school and need to be revised. Teacher consciousness on revision of network materials has guided them to revisit and further understand their teaching objectives and plans in order to adapt the materials for local use. In this case, network materials no longer serve as some models for teachers to copy and follow, but as the reference or information that provides some clues for teachers to think of.

I think we will not really listen to something in the network and then copy it directly. I think it is impossible...... I tried once and find out I cannot totally adopt the materials that shared in network. I think we depend on observing other teachers, discussing with the panel heads to see if some teaching strategies have been tried out or think some methods to adapt the strategies by myself in my classroom teaching. (Teacher B, School A)

She gave us some information and ideas for us to think along. And we will find the information needed and prepare the teaching materials by ourselves with her insights and clues. (Teacher A, School A)

As a conclusion to the process and outcome of teacher initiated network, teachers tend to absorb the existing frontline practices at initial stage. As time goes by, teachers will reflect on the suitability of absorbed materials to see if any revision is needed. The consciousnesses of teacher reflections on network materials begin to grow and teachers are more active in further developing the school-based teaching materials. Along the involvement in teacher-initiated

networks, teacher trust among one another within the network is built on the effectiveness of shared materials. Teachers can use the materials confidently and conveniently. Teachers are confident in using shared materials because facilitators are willing to share teaching materials selflessly with clear explanation in the rationale behind. Also, teachers know that all the shared materials have been tried out in the field. Teachers find it convenient to use network materials because it can save their trouble in designing the whole curriculum and related teaching materials out of nothing. They can use those materials as a sample or reference to amend on and relieve them from much pressure. In this case, teacher practices in network are gradually converged by the adaption of similar materials.

However, as the materials are only recognized by teacher themselves, the suitability of the materials in the perspectives of Education Bureau still remains unknown. As involvement in the network is purely based on voluntariness, teachers are self-selective to participate in it. Only teachers with similar ideas like to join the network continuously and the ideas can be easily converged. Teacher practices in this network inclined to a more practical base, which mix a lot of practices from the traditional subjects and old paradigms, to fit the needs of students and teachers. The effectiveness of teacher initiated network to implement an ideal NSS-LS curriculum stated by the curriculum guide is only partly achieved. Teachers are more confident in implementing NSS-LS curriculum with inclination to old teaching paradigm and find their own way in implementing a reinterpreted NSS-LS curriculum.

6.2.2 Exploring the Education Bureau initiated teacher network: To trust

or not to trust-critical reflections on network knowledge

Besides non-governmental teacher initiated network that we have discussed above, Education Bureau has also implemented a school-based support network in order to facilitate teachers in familiarizing with NSS-LS curriculum and to carry it out smoothly. In this study, school C has joined that school-based support network organized by Education Bureau. By joining this support network, school development officers from Education Bureau provide on-site support to school C and discuss the school-based NSS-LS curriculum with teachers on demand. If school C has any problems related to NSS-LS, it can request school development officers to provide school-based support services to resolve that particular matter. School development officers bring along her knowledge from Education Bureau and experiences in supporting different schools to school C and help them to build up teacher capacity in developing school-based curriculum and continuing teacher professional development. The involvement of school development officers depends on the interaction and needs of school C. The support services can be in the form of stocktaking of student backgrounds, panel meeting, collaborative lesson planning, co-teaching, lesson observation etc. or on request by school C. Therefore, number of meetings between school C and school development officers is not fixed but on request.

Moreover, school development officers sometimes organize network activities to invite her schools to join. In these network activities, teachers share their experiences in teaching NSS-LS together with school development officers as their backup and facilitators. The sharing is mainly focused on teaching particular modules and introducing some effective practices for teachers.

<u>Dual purposes of joining network: Teacher professional development and</u> getting resources

In panel heads' perspectives, the reason for school C to join this government-initiated network is for developing teacher capacity in designing school-based curriculum. As one stated objective of this government initiated network is for teacher professional development, one of the panel heads expects teachers can widen their horizon in designing NSS-LS through interacting and learning with school development officers. The panel head hopes that after joining the network, teachers can be familiar with NSS-LS curriculum and practice it out in a smoother way, and in turn benefits students.

The reason of joining this school based support programme is to support our colleagues. The school would like experiences in designing curriculum and teaching materials are not only concentrated on one or two teachers. We want the team to be healthier. Everyone would know what to do and how to do. Ideally, as every class has their specific needs, if teachers can be equipped with the skills, it will certainly benefit every student. (Teacher B. School C)

Also, another panel head suggests this government-initiated network can also serve the function of information sharing. School C can easily obtain materials from other schools and use them as a reference to design their own school-based curriculum. In this case, school development officers are the resources hub in providing and exchanging information among network schools.

School development officers gather materials in different schools, then reorganize and adjust the materials before distributing it to the schools in need.

This network can bring us experiences from other schools. Also, school development officers have information and materials from others that can share with us. (Teacher A, School C)

The function of sharing materials from the school-based support network is also recognized by other teachers. Similar to the perception on teacher-initiated network from teachers in school A, teachers from school C also expect the government-initiated network will provide them a lot of teaching materials for their reference. Moreover, as school development officers are from Education Bureau, the role of providing consultation and guidance should be stronger than teacher-initiated network in teacher's perspectives. Teachers have more expectations on the active role of school development officers. Teachers expect some clear directions can be got from the network in order to build up confidence in implementing NSS-LS curriculum.

I think there are dual roles of school development officers. Firstly, they can obtain resources from different schools that can supplement our deficiencies.

They can share with us. Secondly, they can give us some directions and opinions such that we can use it as reference. (Teacher C, School C)

Moreover, as this government initiated network provide school-based support services, school development officers will conduct some on-site visits to school C and hold department meetings together with panel heads in order to discuss and formulate the school-based curriculum and teaching materials with teachers. School development officers provide some demonstrations on teaching materials from other schools with similar student backgrounds to teachers for their references and re-design the packages together. School development officers also conduct lesson observations to get familiarized with student learning and the use of co-designed materials. Thereby, school development officers can have a common platform to discuss the lessons and improve teaching designs in the next round of support.

She will give some reference and design some teaching materials that fit our student needs with us together.....we will discuss cooperatively and see where is our student weaknesses and required more training. Also, we will design some units that fit our student interests. (Teacher F, School C)

Discrepancies in making sense of the knowledge from network

As one of the roles of school development officers is to act as consultant to the development of school-based curriculum in teacher's perspectives, teachers expect school development officers can provide some legitimated subject matter knowledge for them in order to ease their uncertainties in designing teaching materials. Teachers often think that school development officer has mastered the knowledge about appropriate subject matter knowledge for students and the approaches to incorporate knowledge in teaching designs. Based on these expectations and perceptions, teachers often think that the suggestions and comments provided by school development officers are very valuable and useful. Teachers think that school development officers have clarified many of their

uncertainties and worries about selecting appropriate content knowledge and provided some focus and structures for them to carry on. The information provided by school development officers has huge impact on their development of school-based curriculum and teachers trust on the content knowledge provided by school development officers.

School development officers are very good. They help me to clarify the focus and structure of the curriculum. This is actually very good. I only have to fill in some meats to the structure. The probable focus of the structure has already formulated within our discussion. (Teacher D, School C)

The help of this school-based support network to me is huge. It is because school development officers come and design the unit with us together..... They provide a lot of guidance and support in designing the required content knowledge and assignments. They give us a lot of opinions. (Teacher F, School C)

However, from the perspective of panel heads, some content knowledge mentioned by school development officers may not fit student learning at their level. As panel heads from school C have experiences in teaching social sciences subject in certificate level and advanced level, they have some critical reviews on the content knowledge provided by school development officers and will not accept the comments or suggestions by default. Panel heads will select the materials provided by school development officers critically and sometimes the two parties may have disagreements in the appropriate selection of content knowledge.

It is weird that in some modules.....if you are in profession, you know something is not in the right track. Maybe she studied history, so she is more familiar with modern China. But in socio-political participation or Hong Kong today, she may not well master these modules. (Teacher A, School C)

In the beginning, she helps us to formulate the issues on Hong Kong today and socio-political participation, coincidently our panel head is very familiar with this theme. Sometimes panel head will correct school development officer and said, "It's not like that. You cannot skip this part and go to the next part. Students cannot link up and learn like that." (Teacher B, School C)

Although panel heads and school development officers have different interpretation in selection of appropriate content knowledge in NSS-LS curriculum, panel heads have taken this disagreement positively and perceive it as an opportunity for cooperative learning between teachers and school development officers. As NSS-LS is a new subject under exploration, nobody is really the authority in interpreting the curriculum and to say what are the most important concepts or issues that should be involved. Therefore, discrepancies in different interpretations of the curriculum are allowed by panel heads and teachers. A lengthy, open-ended discussion for achieving consensus is expected in order to build up school-based curriculum.

I think teachers and school development officers are walking and learning together side by side. This is what I saw during the process and what I

expected before joining the network. I think although school development officers are still learning the curriculum, but they actually learn a lot faster than my colleagues, that is the reason I joined the network. (Teacher B, School C)

Actually, no single person is the authority in Liberal Studies. It's through our communication and discussion to know more about the curriculum. But we have to use a lot of time to do that. (Teacher A, School C)

In the adaptation of teaching materials provided by school development officers, teachers from School C have taken a more active role in co-designing the teaching materials with the network resources when compared with school A. As teacher involvement in designing school-based materials increases during the processes, teachers build up their sense of ownership in the teaching materials and set up the base to critically select and adjust suitable materials for students. Modification of teaching materials is an essential process for teachers in school C in order to build up a school-based curriculum with teacher consensus.

Some materials are too difficult and some are too easy for our students.

Usually, we have to modify the questions to facilitate student thinking. We seldom use exercises provided by school development officers; we usually do it again by ourselves. (Teacher F, School C)

School development officers will give materials from others to us......We all know that we have to reorganize the teaching materials provided by network, but when other network schools do it first and we follow; or other schools

have already made up something, then we can modify it on top of that, it would be easier for us. Also, when the network is larger, we will get to know with more people. Although people from network cannot give you all the information we needed, but as there are many schools in the network, it would be easier for us to take those as references. (Teacher A, School C)

As a conclusion, in the sense-making process of teachers from school C with government initiated school network, teachers initially expected the school development officers from Education Bureau can act as a more legitimated information carrier or distributor of knowledge to school C. However, as everyone is new to NSS-LS curriculum, there is no authoritative interpreter of the curriculum and can tell teachers exactly what to do and how to implement the curriculum. In school C, discrepancies on the appropriateness in selection of content knowledge occur among teachers and school development officers from Education Bureau. In the trusting or distrusting processes in the network, both parties find their way out together and treat these disagreements as the process of cooperative learning. Because of the interpretable spaces provided by NSS-LS curriculum, teachers are more inclusive and can make a lot of compromises in designing the school-based curriculum. Possibilities in designing different content knowledge and issues are easier to be explored when compared with the traditional subjects. Group dynamics within this panel are greater than other subjects.

6.2.3 Exploring HKEAA initiated teacher network: the ultimate authority behind the curtain?

Besides the last two networks that are organized by teachers and Education Bureau, HKEAA has also organized other teacher network that focuses on the issues related to public examination and assessment. The content in this network is much focused and concentrates on sharing information about examinations. School B and School E in this study are involved in the network organized by HKEAA. By studying these two schools, some of the characteristics in the content and progress of this network can be revealed.

As HKEAA is necessarily concerned with the inherent reliability and validity in public assessment, the consistency and clarity in examination paper is emphasized. Therefore, in the network organized by HKEAA, officials use this opportunity to reaffirm the objectives and important points to notices in helping teachers to guide students to cope with public examinations. The instructions related to how to deal with public examinations are comparatively a lot clearer than those outlined by Education Bureau. HKEAA emphasizes the requirements and expectations set by public examination and teachers often find those points more realistic and within the capability of students.

In network sharing, the officials from HKEAA provide some student sample scripts in attempting the sample questions in NSS-LS for teachers to learn the marking criteria and student level in future public examination. Throughout the marking process, teachers will gradually master the breadth and depth of the requirements in public examination. In this case, teachers begin to know and confirm on what and how to teach content knowledge in classroom correspondingly. Learning in HKEAA network brings valuable feedback on classroom teaching practices just as described in the individual sense-making

process. However, in network learning with HKEAA, the backwash effect is intensified because teacher thoughts have been reconfirmed and verified by many network participated schools and HKEAA.

I think the things provided by HKEAA are more useful because IIKEAA would teach us how to set questions. It is good. For example, they will provide some sample questions for us to criticize on what is good and what is bad and how to do it better. (Teacher B, School E)

The first time I go to the workshop that organized by HKEAA is very good.....At that moment, I thought if I can repeat what the facilitators said and tell my students, we can teach a lot less. (Teacher A, School B)

Also, the information given by HKEAA helped teachers to simplify the complexity in handling content knowledge. As HKEAA has a lot of experiences in designing Liberal Studies examination papers for advanced supplementary level examination, teachers think that skill-based focus examination reflected in past papers are also an emphasis in the future examination. Teachers get the information and believe that future examination will pay more attention to the skills than content knowledge. This will greatly affect the tactics of teachers in strategic responses to the needs of public examination.

She explained to us what was actually emphasized in the public examination.

Afterwards, I know how simple it is. I can skip some content knowledge that

I planned to teach. Start from that moment, I begin to feel that content

knowledge is actually not important; what important is the examination

techniques about how to answer questions. The structure of answers is far more important than the content knowledge. (Teacher A, School B)

The perceptions of public examination will focus on skills instead of content knowledge is reconfirmed by teacher learning in simulated marker meetings. In the network, teachers will learn how to mark the public examination paper according to the guidelines from HKEAA. To assure reliability of marking, HKEAA has organized many marking workshops in order to formulate uniform understanding on the marking approach between teachers. Through this process, teachers have constructed some school-wide solid understandings on the requirements from HKEAA. Therefore, the perceptions on marking approaches can be more alike between different schools and build up a territory-wide perception.

They teach us how to mark the papers. They show us some sample papers, and then mark and discuss the assignments together, just like the marker meetings in public examination. (Teacher B, School E)

Moreover, besides the unified perceptions on public examination that have been consciously built up by HKEAA, other unintended information is also shared within the network. As one of the issues that the network organized by HKEAA has to deal with is the progress in independent enquiry studies, teachers from different schools have to share their progress and see if they have come up with any difficulties and would like to consult the officers from HKEAA. In the sharing, teachers not only know the progress of independent enquiry studies in other schools, but actually the whole curriculum progress that can be hardly

separated. Teachers know more information about teaching progresses in other schools and notice that the mainstream progresses are not as fast as they imagine. So, teachers are at ease to their teaching schedule and feel safe to carry on their teaching plans. In this case, teachers feel comfortable about their teaching progress, not by a legitimate monitoring system, but by only mutual recognition. However, the standard of teacher mutual recognition is ambiguous because teachers are not self-sufficient enough to make such judgments in this new interpretable NSS-LS curriculum.

After going out to attend the programmes, we discovered that actually every school has not started yet. Then, we feel more comfortable. That is when everyone has not started yet, we feel safe and good. So I and my colleague are not frightened and not afraid to be slow. (Teacher A, School E)

Although the network organized by HKEAA gave a sense of security to teachers, some teachers from other schools that were not involved in HKEAA network impress us with another perspective. For example, teachers from school A, who choose to involve in teacher-initiated network instead of HKEAA organized network, comment that facilitators in HKEAA network cannot respond to their needs. As network from HKEAA is a pullout programme in nature, facilitators only have limited knowledge on the specific needs of individual schools. Facilitators often can only provide some guidance from the fact book by HKEAA. Teachers do not find it useful in this extent. Therefore, two different understandings to the function of HKEAA network are formed and affect the involvement in the networks.

The district coordinator actually is useless. She would not come to our school and ask about the situation of our school. She does not have any knowledge about what is going on in our school. Moreover, in case we have any problems to ask her, she could only give us some factual answers. (Teacher A, School A)

6.2.4 Network sharing without governance: what are teachers really sharing in the networks?

All three networks have provided valuable platforms for teachers to exchange their information and ideas on NSS-LS curriculum. However, as the expected learning processes and outcomes of NSS-LS curriculum are not well-formulated, it is difficult for teachers to find some authoritative interpretation to help them to carry out the curriculum. In this sense, teacher learning in the networks is mainly carried out with unofficial reference group, namely ordinary teachers from other schools, who are similar to themselves. These kinds of teacher learning and sharing are without moderation or governance. Teachers can easily learn or share the content that is not so desired or legitimated when compare with the ideas postulated in NSS-LS curriculum guide.

One common phenomenon that happened in the process of network sharing is that teachers gradually look down onto the importance of content knowledge when the sharing goes on. In network sharing, teachers gradually build up a perception that content knowledge is not as important as expected or written in curriculum document. This perception may come from two main sources: 1) the

sharing by HKEAA as mentioned; 2) the effect of lack of foundational knowledge by teachers. Firstly, as HKEAA has consistently introduced the marking guidelines of public examination, teachers are unavoidability affected and followed the skills-inclined criteria postulated. Teachers think that they should put more emphasis on skills training rather than knowledge input. Secondly, as sharing of most teachers is limited by their foundational knowledge, teachers usually share something practical instead of conceptual or ideational. Teachers tend to focus on developing some practical skills for students in respond to examination questions. In this case, issue enquiry with appropriate content knowledge is put aside. Teachers would pay little attention to the depth of content knowledge and introduce shallow and minimal knowledge instead.

We come up with a conclusion that we taught the curriculum content in a very deep way. But actually others are not like that, it should be very simple. (Teacher Λ , School Λ)

We went to other schools for lesson observations or hear from the network is that the content in this subject should not be deep, but broad and plenty. (Teacher D, School A)

Another unforeseen outcome of the sharing networks is that teachers use this platform to share as freely as they like, sometimes the sharing content is deviated from the ideas advocated by Education Bureau. One of the most usual but deviated sharing among teachers is the use of textbook in NSS-LS. Although Education Bureau reinstated teachers should not use textbook as their main teaching supplementary materials and sources of knowledge, most teachers

adopted the use of textbooks to facilitate their teaching. The choices of textbook become one of the common concerns among teachers. Therefore, in order to elicit information and comments in using textbooks, teachers often use the networks to exchange the information about using textbooks. The lost of bearings in content and application of networks caused teachers to have a snowball effect on using textbooks as their norm. In teachers' eyes, using textbooks is actually a norm in implementing NSS-LS curriculum, so the willingness of constructing an appropriate content knowledge with school-based emphasis is weakened. Teachers no longer strive to produce content knowledge that they are not familiar with and left this task to textbook publishers. Networks can be seen as the accomplice of adaption of textbook, an illegitimate approach in teaching NSS-LS in the point of view of Education Bureau.

In the last two weeks we grouped together and discussed about choosing textbook. I think the discussion is very concrete. Moreover, the network is actually organized by Education Bureau or HKEAA, otherwise we cannot arrange it by ourselves. We gathered and discussed what and how we choose the textbooks. (Teacher A, School D)

We gathered and discuss our progress and teaching experiences.....we really learn a lot from other experiences. To be honest, we will discuss on how other teachers choose the textbooks. (Teacher B, School E)

Along with the practical needs advocated by teachers, assignments and examination paper sharing are another teacher major concern in practicing NSS-LS. Teachers are working under tight schedule and deadline after deadline,

deadline imposed. So, teachers once again shared what they count as practical and useful in the network, in addition to the planned objectives.

She gave us many strategies in marking student assignments because she has a lot of experiences in teaching Liberal Studies in advance supplementary level. She printed out some samples of student scripts and homework in order to illustrate to us why some homework are better than others.....the topic of our last meeting is about examination, therefore, some schools will give their examination paper selflessly for all of us to discuss. (Teacher A, School A)

6.3 Conclusion on collective sense-making of NSS-LS curriculum: From collective puzzlement to collective abandonment of the ideals

In the two levels of collective sense-making in school setting and network setting, the convergence of perceptions towards NSS-LS curriculum has gradually formulated as teachers interact among colleagues and other teachers within the school networks. At first, teachers do not know how to interpret and formulate school-based curriculum. Diversifying and unifying ideas are both formulated at the same time during the interpretation process. A sense of collective puzzlement (Hall, 1993; Heclo, 1974, p. 305) is formed during the curriculum policy learning of NSS-LS.

4

In further collective sense-making process, teachers exchange their perceptions and ideas on NSS-LS curriculum with others freely without

themselves, for example, shallow content knowledge, training examination skills and use of textbook etc. The content of sharing may not be well-fitted and responded to the ideals of NSS-LS curriculum. However, as teachers are grouped together in school and network levels, teachers gain momentum in circulating the deviated ideas and perceptions about NSS-LS curriculum. When teachers make sense of the NSS-LS curriculum collaboratively, they shared the burden on the blame of deviation in NSS-LS curriculum and may interpret the curriculum in their own way with confidence built through discussing with other teachers around. However, the snowball effect of distorting and reinterpreting NSS-LS curriculum at the end. The networks help teachers to deviate from the curriculum ideals and abandon the original ideals collaboratively to a much practical or even non-liberal, indoctrinate way.

Moreover, when teachers participate in panel sharing and network sharing, the ideas in these two platforms interflow between one another. The deviated ideas on NSS-LS spread among different schools when teachers are adopting and contributing their ideas to the network. The sharing processes have converged teacher's perceptions on Liberal Studies and further affect the enactment of NSS-LS curriculum in schools. The actual practices of NSS-LS curriculum will be discussed in the next chapter.

Chapter 7: Enactment of NSS-LS curriculum and its effects

Based on individual and collective sense-making of NSS-LS curriculum, teachers enact their ideas on curriculum into practices in school settings. Since the gap between curriculum ideal and reality is too wide and the content of NSS-LS curriculum is too extensive for interpretation, teachers bounce back from approaching the ideals to a more realistic, practical and conservative approach as discussed in previous chapters.

In individual sense-making of NSS-LS curriculum, different versions of curriculum ideas are formulated. Teachers perceive their version of NSS-LS curriculum with their own teaching background and learning experiences. Teachers construct some effective strategies to interpret NSS-LS curriculum and think along the way on how to deliver the curriculum to students. Teachers gradually form a vague interpretation of NSS-LS curriculum based on integration of learning from Education Bureau, universities and HKEAA. After confused and diversified learning in these institutions, authoritative and practical interpretation from HKEAA becomes teachers' major ideas in implementing NSS-LS curriculum.

Individual teachers carry their preliminary ideas into the school and network settings to share and verify the possibility and practicability of these ideas. From school and various networks, teachers further confirm their ideas on the emphasis of examination. Mutual recognition by teachers from different schools has formed in the network sharing and learning process. A rough consensus on the implementation of NSS-LS has formed. The consensus in school and network

setting will also strengthen individual percep ons towards NSS-LS curriculum and form interdependence between individual sense-making and collective sense-making. Afterwards, teachers enact their rough consensus and deliver the NSS-LS curriculum in their own way.

During enactment of NSS-LS curriculum, teachers faced several dilemmas between implementing an ideal or realistic NSS-LS curriculum. As teachers need to handle everyday classroom teaching, they build up several common enactments of NSS-LS curriculum that override the ideals. Teacher overriding enactments of NSS-LS curriculum are discussed as follows.

.

7.1 Enactment overriding the ideal 1: When direct teaching is more effective than issue-enquiry

The first dilemma that teachers have to face is the use of learning and teaching approach in NSS-LS. Although NSS-LS curriculum guideline promoted the use of issue-enquiry approach as major teaching approach to facilitate student co-construction of knowledge and enquiry learning, teachers often emphasize the use of direct teaching as their main teaching approach instead.

Teachers strategically select direct teaching as their major teaching approach because direct teaching is more responsive to student learning needs. In adaptation of issue-enquiry approach in teaching NSS-LS, teachers have to use a lot of perennial and current issues to illustrate the contentions and arguments in each issue and to help students to co-construct their knowledge from issues. However, in daily classroom practices, teachers often find students are lack of

foundational knowledge and capability to understand the issues and construct knowledge by themselves. In this case, teachers choose to teach NSS-LS curriculum and its content knowledge by using direct teaching in order to supplement the content knowledge required for enquiry.

Actually, students are not familiar with many concepts. How can issue-enquiry approach be carried out when students are lack of foundational knowledge? We just taught the issues on proposal of political reform and students don't know what I am talking about. What is political reform, legislative council, separations of power? I have struggled through that. Students know nothing. There are too many concepts behind each issue. We cannot teach with issue-enquiry approach. We have to back to basic and use direct teaching. (Teacher A, School E)

In addition to the use of direct teaching, teachers often conduct the peripheral practical ideals on issue-enquiry approach, such as adaptation of role play and group discussion, to become their classroom activities to arouse student interest in NSS-LS learning. The core part about co-construction of knowledge in issue-enquiry approach is put aside. In teacher's perspectives, the position of using issue-enquiry approach and direct teaching is reversed. Teachers prefer to use direct teaching as their major teaching approach and issue-enquiry approach as complementary approach. Teachers think that student learning begins with weak foundation knowledge, so the use of direct teaching can supplement student learning deficiencies in this part. Students may further inquire with other approaches when their foundation is solid enough to explore the details of each issue with equipped foundational knowledge.

Direct teaching is our basic teaching approach. Also, teachers and students conduct some group discussion, or even role play. I think these supplementary strategies are acceptable to students. (Teacher A, School B)

I used direct teaching more often, especially in some conceptual matters, I will explain more. But if I want them to do some issue-enquiry, I will encourage students to form groups, no matter two, four or even six in a group.

I will encourage students to do so. (Teacher D, School C)

Teachers choose the effective teaching approach according their practical teaching context, especially student learning backgrounds and educational needs, instead of the conceptual ideas on the strength and advantages of certain teaching approach in teacher selective processes. Teachers choose to adopt what is effective and relevant, in this case direct teaching approach, as their dominant teaching strategy. Although the ideas and benefits of issue-enquiry approach are still in consideration by teachers, the actual teaching context constraints teachers to choose in direct teaching. The ideas of issue-enquiry approach have been pin down to certain interactive activities that facilitate student learning.

7.2 Enactment overriding the ideal 2: Using textbooks as their safety line

Since teachers have adopted direct teaching approach as their major teaching strategy, they have to choose some supplementary teaching materials to facilitate their teaching approach. For most of the NSS-LS teachers, although using textbooks is not encouraged by Education Bureau (Curriculum Development

Council & Hong Kong Examinations and Assessment Authority. 2007), textbooks are still teacher preferential choice of teaching materials to assist their flow of teaching and anchor student learning. Textbooks provide the necessary concepts for teachers and help teachers to narrow down the scope of teaching. With the assistant of textbooks, teaching approach is also affected.

Several reasons are mentioned by teachers for their use of textbooks. One outstanding reason is that textbooks can provide necessary content knowledge for teachers to teach. Teachers can base on textbooks to introduce and modify the content knowledge as they like. In classroom teaching practices, textbooks can also help students to anchor their learning and refer to teaching content with textbooks by student themselves. Therefore, some traditional teaching practices, such as underlining or reciting textbooks, occurred in the presence of textbooks as a major teaching aid.

Since we have textbooks now, I get used to telling my students to underline, and recite. For example, some concepts or definitions are included in the textbooks, such as self-esteem. I will tell my students to recite those points.

(Teacher E, School E)

Furthermore, like the role of textbooks in traditional subjects, teachers expect textbook publishers to provide enough concepts and exercises to facilitate their teaching. In such a case, the dependences of textbooks in every stage of teaching is increased, no matter in teaching process or evaluation.

Textbooks should provide some concepts for reachers to teach with. Also, I

expect textbooks should provide some exercises that are suitable for students.

(Teacher B, School E)

Although some teachers are not actively involved in designing school-based curriculum and prefer to textbooks, teachers provide substantial reasons for their choice. First of all, textbooks can ease the anxiety of student learning in NSS-LS. One of the difficulties in student learning NSS-LS curriculum is that students are often confused with how to find some concrete content knowledge for them to review and remember. If teachers only give students some school-based teaching materials and worksheets for students to go over, students may find it difficult to follow because the structure and format of school-based materials are not as well-organized and arranged in the formal and finest outlook as textbooks. Also, students often find learning is more comfortable with the help of textbooks because students get used to learning with textbooks in other subjects. Students often see textbooks as their authority in defining knowledge and can refer to it if they come up with any difficulties. Textbooks become an effective teaching aid to facilitate student learning.

First, students will be more comfortable and know actually they have to read something. Second, if the textbooks have quality, we can teach with the textbook effectively. (Teacher C, School B)

Textbooks actually become predominant tools in our teaching. Basically, we trust what is written in the textbooks and we will teach it to the students. Students also feel safe with textbooks. They can read it and also trust the textbooks.....because students are grown up with that learning habit. They

In addition, some teachers perceive textbooks as basic teaching materials that students may read by themselves at home. Although teachers try to cover as many topics and content knowledge as possible when teaching NSS-LS, the content covered in NSS-LS is still too broad for teachers to handle in classroom teaching. Teachers may introduce some important concepts in their lesson but have to equip students with self-directed and self-motivated learning after school. Textbooks can provide some precise and concrete materials for students to self reading and learning. Textbooks not only consolidate student learning in classroom teaching, they also act as extended reading materials for students. Students may use textbooks as one of their handy reference books within the huge content knowledge that students have to explore in their three-year learning.

Textbooks are for student reference. In our school, textbooks are just supplementary and match up with what student learnt. In our classroom teaching, we will cover the textbooks as far as possible. If we cannot do it in our lessons, we will tell students to mark it up and read it by themselves. (Teacher B, School D)

On the other hand, besides the fact that students are more comfortable to learn with textbooks, teachers also find textbooks have greatly helped their teaching, which is especially true to the inexperienced teachers in teaching Liberal Studies. Teachers find it hard to plan their teaching flow and organize teaching materials all by themselves. With the help of textbooks, teachers can have some rough ideas in the content and flow of teaching. Based on preliminary

ideas provided by textbooks, teachers may build school-based materials on top of that.

If there are no textbooks, many colleagues will be afraid to teach in this subject. Teachers treat textbooks as their white cane in the darkness. Teachers are more comfortable with textbooks. In reality, textbooks can also reduce the workload of teachers. Although Education Bureau does not encourage us to use textbooks, however in actual implementation, teachers are hard to make school-based teaching materials. (Teacher A, School F)

In conclusion, with the inclusion of textbooks in NSS-LS curriculum planning, learning and teaching in this subject can be at ease from uncertainties caused by open-ended curriculum. However, the use of textbooks would certainly hinder the initiatives and involvement of teachers to tailor-made school-based teaching materials. Some important ideals of NSS-LS curriculum that can be drawn from school-based curriculum have also been less emphasized, such as students' construction of knowledge, building on student strengths and developing enquiry skills etc. Teachers choose to play safe in implementing NSS-LS curriculum and use textbooks that they are familiar with as their teaching aid.

7.3 Enactment overriding the ideal 3: Examination-oriented practices dominating the teaching paradigm

Another deviated paradigm for teachers in implementing NSS-LS curriculum is the shift of importance of liberating teaching and learning towards examination

practices. As student learning outcomes of NSS-LS will inevitability go through public assessment and will affect students' chance of admitting to universities, teachers put lots of efforts to ensure students doing well in public examinations. Teachers often give out lots of exercises and assignments to drill students in order to get good examination results. Moreover, teachers justify their examination-oriented practices by claiming that they can help their students to strive for better results and admission places in universities. As is required by the universities in Hong Kong, students must attain level 2 (passing grade) or above in NSS-LS in order to meet the minimum requirements for admitting to universities.

Actually, teaching NSS-LS is examination-oriented and turns up into drilling.

Different schools are drilling their students and aiming at good results in HKDSE. Because of that, we also drill our students continuously. The workload of students is very huge and it is hard for them. (Teacher D, School A)

If we are using utilitarian perspectives to look at NSS-LS, I have to help my students to get good grades at the end of the day, especially those who want to get into universities. I have to keep their results up to certain grades. Inevitably, I have to look at NSS-LS in an examination point of view. (Teacher C, School B)

To achieve good results in public examination, teachers develop several strategies to cope with examination requirements. First of all, since teachers perceive examination as the most important event in actualizing student learning

outcomes in NSS-LS, teachers have to be familiar with the requirements of public examination. In the point of view from teachers, content knowledge required by public examination is not as deep as expected. Teachers believe the focus of public examination is not in content knowledge, so they will not spend too much time in teaching students about the background knowledge in issues. Instead, teachers prefer to teach as many issues as they can to cover most of the current issues so that students may recall some issues in public examination. The tradeoff between deepness and coverage of issues is pretty clear when teachers are under limited time constraint.

It's really examination-oriented and let our students to know more. Now, as examination is not emphasized on detailed content knowledge, we will not do that. We give our students more coverage instead of deepness. (Teacher D, School A)

To replace the importance of content knowledge in NSS-LS, teachers perceive answering structures or techniques in examination are more important. Hence, teachers use some teaching time in drilling students to write up argumentative passages with certain structures and answering techniques. Teachers can clearly identify the components required by public examination and train up their students in answering data-response questions or extended-response questions. Teachers train up their students by using similar strategies applied in traditional subjects. Teachers emphasize on training their students to write up argumentative essays with structure and information supported. In this case, structure of writing is more important than content knowledge and ideas toward issues. This cause learning of NSS-LS to become hollow and the liberating ideas

in this subject is oppressed under the framework of examination.

First, we have to train the structure in answering questions. Second we have to teach them to from their arguments with the support of information. To be honest, it is similar to other subjects like history. And it is also more or less like the examination in certificate level and advanced level. We drill our students in such a way. (Teacher D, School A)

The framework of examination paper two is continuously drilled in the first semester. Students can apply and use the framework around 95%. The framework includes standpoint, paragraphs, main clause, responds or rebuttal, conclusions and reflections. A complete model for our students is important. I think students in Hong Kong are very good at copying models. You give her something good and she will follow. She can actually do it. (Teacher E, School A)

Combining the above two points, some teachers think that even they teach shallowly to students, but if student answering structure is well-organized and informative, students can actually earn more marks and have better grades in public examination. In this case, some teachers genuinely think that teaching less may mean more to their students in terms of getting good results. The enactment of NSS-LS in this mindset has further confined the possibilities in exploring more issues and constructing a liberated curriculum.

Content knowledge and the amount of points that students can reproduce in the examination are not important. If students can give their answers in detail and well-written, they also get the marks. A metaphor is that like learning martial arts, if students can play the three moves very well, she can actually win the one who learnt eighteen moves. So why students bother to learn the extra fifteen moves? If students spend time to train those fifteen moves, I'd rather train them the three but in an excellent form. (Teacher A, School B)

Furthermore, teachers further elaborate their practices in drilling students to prepare for examination into modeling their students to answer the questions within the scope of their marking guidelines. In order to let their students be familiar with the requirements of public examination, teachers believe the most effective way is to distribute marking guidelines to students and let students imitate and learn from it. Teachers discuss and analyze the strengths and weaknesses of student sample answers. In the process, teachers expect students can follow the good demonstrations and perform better next time. Also, marking rubries are also given to students such that students can know about exact requirements from teachers and can answer accordingly.

I have guidelines in marking student assignments. I show students some examples from their classmates and explain to them how I marked their assignments. Every time, I will distribute marking rubrics to my students. (Teacher B, School Λ)

With all the efforts that teachers put in, teachers can have expectations on student grades in future public examination. They can roughly guess the results of students and to adjust their teaching strategies. The requirements and outcomes of public examination can be more or less mastered by teachers at this

stage. In such case, teachers are more confident in implementing NSS-LS curriculum and know where they are going.

I always tell my colleagues that our students can get level 2 if we keep on training them. If students can write up something in the examination, I think it would not be that difficult. (Teacher A, School E)

7.4 Enactment overriding the ideal 4: Making independent enquiry studies dependent

Besides classroom teaching, NSS-LS curriculum has also provided opportunities for students to learn in a self-directed way in independent enquiry studies. Students decide their own research topics and have to complete an independent project with three stages, i.e. project proposal, data collection and product. Each student is under supervision by teachers from time to time in order to review the progress of project. Teachers should also help students to formulate and focus their research questions. Students are under individual guidance from teachers to explore their interested topic as they like.

Ideally, students can choose to use written or non-written format to hand-in their main body of report. If students choose to use non-written format, such as taking movies, broadcasting or drama etc., students have to write a short written text to explain their main ideas and reflections on the project. But in teacher's perceptions, the requirements of short written text make the difference between written and non-written format vanished. Teachers have to guide students to write a passage anyway. This requirement makes teachers reluctant to accept

students to choose non-written format because resources input will be a lot greater when compared with written format. Teachers have to arrange audio-visual aids, recording equipments, materials for stage performance or whatever student needed to produce non-written projects.

The original idea is that diversity in the format of independent enquiry projects may cater for learner diversities and elicit different views and enquiry skills from the projects. However, as teachers perceive great difficulties in management and huge workload will come across if student projects are too diversified, teachers tend to constrain the format of student projects to written form so that it can be easily managed.

The ideas of education are very grand but sometimes many things are very down to earth. For example, students have to write a lot in independent enquiry studies in the future. Although students can choose to produce movie or other alternate format, but what is the most simple and direct way to do is still a written report. (Teacher E, School E)

Of course students have to do written report. We have mentioned the alternatives once, but not again. Since when students do the non-written format, they still have to write up over thousand words to explain their ideas behind. So why not do the written report in the first place. (Teacher A, School B)

Furthermore, the ideas on constraining the format of student independent enquiry projects are spread among teachers. In network sharing and other circumstances, teachers exchange their ideas and school-based practices on independent enquiry studies. Teachers find that most of the teachers will not offer non-written format for students in preparing their independent enquiry studies. The common practices further ensure teachers to limit their choices for students.

I think most of us tend to use written format. We are following the practices of all Hong Kong schools. Since the practices of all Hong Kong schools are doing written report, I believe our school would not deviate from the common practices. (Teacher B, School F)

Besides the format of independent enquiry studies, student decisions on the topics of independent enquiry projects are also bounded by teachers. Although NSS-LS curriculum guideline suggested six themes in conducting independent enquiry studies and students may also choose beyond those themes, teachers perceive the varieties of topics will make them very hard to supervise student progress. As teachers need to supervise students on the independent enquiry projects, if students choose the topics that teachers are not familiar with, it will cause difficulties for teachers to comment on or make suggestions to student projects. Also, some teachers worried if students are free to choose any interested topic as they like, the topic itself or related subjects maybe too sensitive for students and teachers to handle, such as topics related to religion and ethics. In such cases, teachers further deprived the liberating and freedom elements in NSS-LS in order to meet the achievable and manageable goals in completing the independent enquiry projects.

Of course we will rule them out. I told them, "Don't do anything related to

China, you won't go back to China and conduct the research.....Don't do the topics on globalization....and don't do the topics related to religion, having contentions related to ethics, abortion, homosexual, religion, all the topics should not be explored by students. (Teacher A, School B)

7.5 Conclusion on Enactment of NSS-LS curriculum: Deserting the ideal, constructing the "brave new world"

In conclusion of the four deviating enactments of the policy, teachers in our case schools have abandoned their imaginary ideals of NSS-LS in order to exchange for smooth implementation of NSS-LS curriculum in the real battle field in classroom practices. Teachers put their ideals aside and aim at teaching with confidence and student getting good results in public examination. Actual implementation of NSS-LS teaching has diverted to the deviated enactments around. In this process, teachers realize student performances can be improved, at least in terms of marks, by the examination-driven practices. Teachers prefer to use direct instructions, unauthorized textbooks and constrain students' choices in determining their topics of independent enquiry studies. Teachers think their strategic approaches can ensure students perform well in public examination and also their products in independent enquiry projects. Teachers further use their teaching time to drill their students with examination practices, such as training the structure and format in answering sample questions, in order to achieve their expected goals in student performances.

Through the process of drilling, teachers see some improvement of students in tackling examination questions and writing essay in systematic way. Teachers

gradually get rewards from their hard work and reinforce them to train their students in this way. Teachers have more confident in handling Liberal Studies teaching and can anticipate student learning outcomes after the whole drilling process. Although teachers realize drilling is not an ideal, or even close to ideal practices in teaching NSS-LS, teachers are satisfied with this practices because their work is already under great difficulties and constraints. Teachers perceive drilling and examination-oriented teaching as a way out in the unclear and chaotic learning and teaching environment.

To better describe and analyze teacher co-construction and enactment of NSS-LS curriculum, the visions from Huxley's brave new world and brave new world revisited (Huxley, 1932, 1958) can provide some insights on analyzing the current phenomenon on NSS-LS teaching and learning. In the brave new world, Huxley indicates there is a world state that administers the entire planet, with a few isolated exceptions. The motto in this world is "community, stability and identity" and the majority of people work peacefully and happily in this global society. However, the peaceful and efficient society is based on practical workers but not thinkers. Most of the people do not reflect on their existence or resist their way of living but enjoying themselves in the state-conditioning system. People are controlled by inflicting pleasure and ruined by what we desire (Postman, 1986).

In the enactment of NSS-LS, although teachers perceive and implement NSS-LS curriculum in an unclear and chaotic environment at the beginning, teachers gradually co-construct their own way of practices and common strategies in responding to NSS-LS curriculum. Although teachers notice the

original ideas in implementing NSS-LS curriculum, they slowly give up their ideals. Teachers tend to rest on their comfort zone and bring out their usual practices in other subjects, mostly examination-oriented teaching and learning practices. Teachers justified their deviated teaching and learning practices in the name of student backgrounds and learning habits, which is constrained by practical concerns in implementing NSS-LS curriculum.

Meanwhile, HKEAA has continuously conducted seminars to introduce assessment system and requirements of NSS-LS curriculum. Teachers begin to master levels of content and standards in the future public examination. Throughout learning process with HKEAA, teacher paradigm in conducting teaching and learning has further incorporated with the practices in assessment. Teachers begin to perceive NSS-LS curriculum and enact examination-oriented way. Introduction of content/knowledge and issue-enquiry in NSS-LS is played down into points to notes and structure of writing argumentative essays. The original liberating ideas in this subject have been confined in the assessment framework proposed by HKEAA. However, although implementation of NSS-LS is devalued in this way, teachers feel fine to proceed because examination-oriented practices are being rewarded by improvement of student performances. As teachers have constructed clear marking guidelines and rubries for students, students can have frameworks to follow and imitate the answering pattern. Students begin to build up confidence in studying NSS-LS and go on with the examination-oriented practices. The mutual benefits gained from examination-oriented practices are well-recognized by both teachers and students.

Under this circumstance, teaching, learning and examination practices are entangled and self-fulfilled with each other under unified practices. Teachers are satisfied with reinterpreted NSS-LS curriculum and re-modified enactments because they can finally practice the curriculum with confident. The re-modified enactments are spread among schools through different networks and sharing sections. The deviated but common practices have been approved by consensus of teachers. The practices are further stabilized and legitimized among teachers through network sharing. However, these stabilized teaching patterns have also trapped teachers in an inescapable assessment framework. Teacher community is walking away from liberating ideals of Liberal Studies in exchange of certainty and stability in implementation of NSS-LS curriculum. The co-construction of hollowed NSS-LS curriculum and deviated examination-oriented practices made teachers live in the *brave new world* of NSS-LS with confident and unwilling to leave their comfort zone and be liberated.

7.6 Effects of implementation of NSS-LS curriculum on curriculum governance, teacher professional development and curriculum and instruction reform

Along implementation of NSS-LS curriculum, several effects and outcomes occur to affect curriculum governance, teacher professional development and curriculum and instruction reform. In this section, three domains of effects will be discussed and also its implications to implementation of NSS-LS and education policy implementation research in the age of reform.

Effects on NSS-LS curriculum governance

In previous chapters, sense-making and enactment processes of NSS-LS curriculum by teachers are discussed. Through the processes, teachers perceive unique governance style in NSS-LS curriculum. As content and issues of NSS-LS curriculum is driven by enquiry questions, teachers have lots of autonomy in deciding what should be included in the curriculum. However, on the other hand, the curriculum governance of NSS-LS can also be perceived as governance without government (Rhodes, 1996). Education Bureau did not have strict curriculum content to impose on senior secondary education in a top-down manner. The actual NSS-LS governance is through self-organizing networks in secondary schools. Teachers share among themselves and formulate some common understandings towards NSS-LS curriculum in an interactive way. In this case, Education Bureau involved as facilitators of information sharing among teachers. Then, teachers perceive the curriculum as a loose framework and would not bother much on constructing a concrete school-based curriculum that have to refer to territory-wide curriculum guidelines for implementation.

With little concern on constructing a holistic 3-year school-based NSS-LS curriculum, teachers put much of their effort in handling actual daily classroom practices. In teacher's perspectives, their instant practical concerns are much precedent to other long-term ideational concerns in teaching NSS-LS. Ideas on NSS-LS, or even school-based holistic curriculum, are too far away from them. The presence of practical and useful teaching materials is the most important to facilitate their implementation of NSS-LS curriculum. Therefore, what actually affects the NSS-LS curriculum implementation is not the curriculum itself but teaching materials or even textbooks. However, as teaching materials are mostly

designed within truncated topics for few lessons, the curriculum is then fragmented without well-planned and holistic ideas.

Constructing whatever curriculum is useless. I think Education Bureau should put more effort in preparing teaching resources, such as newspaper clippings and categorizations.....that will actually help Liberal Studies teachers a lot. It is better than constructing some curriculum guidelines and rhetoric that is useless to our teaching. (Teacher C, School C)

Teaching materials. If there is teaching materials for us, it will be much better.

Teaching materials should be well designed with teaching students answering techniques. It is because the most difficult part for us is still designing teaching materials. (Teacher F, School C)

Teaching materials can resolve their difficulties in classroom teaching. As teachers believe their ultimate teaching outcomes of NSS-LS curriculum is reflected in public examination in HKDSE, sample papers and questions are urged to be provided for teachers in order to prepare students for public examination. Under the pressure of public examination, fragmented NSS-LS curriculum is pulled together by preparation of examination. As discussed in previous chapters, teachers gradually formulated a lot of examination driven practices in order to cope with external requirements and held accountable towards the examination.

In teacher's perceptions and expectations of curriculum governance in NSS-LS, governance is not imposed or raised from curriculum itself but

assessment. A unified or certain sample of assessments exercises can facilitate teacher understandings on the curriculum. When HKEAA provided sample questions for teachers to follow, teachers had put all other influential factors aside and taken sample questions as their most important reference in teaching, learning and assessment. The governance of NSS-LS curriculum has been greatly influenced by HKEAA instead of Education Bureau.

You give one or two hundreds sample questions for us as references to demonstrate which questions are feasible and practical. And then in public examination, you use those sample questions. Then I can tell my students, which part is relevant. If they can give us sample papers and questions as early as possible, it will be fine for us. (Teacher A, School B)

Although public examination is one big issue that teachers have to face and can provide opportunities for unification in curriculum outcomes, teachers still try hard to find their local teaching practices in order to respond to student needs. In the processes of teacher learning and gaining experiences from different institutions, teachers realize no single solution or model can fit into their school environment. Teachers have to put their local concerns over teaching materials or packages that are provided by Education Bureau. Thus, teachers have put their local concerns precedent to government concerns in implementing NSS-LS curriculum. With these thoughts, teachers have not strictly followed the curriculum content or issue-enquiry approach suggested by NSS-LS curriculum. Teachers rather conduct their lesson and implement NSS-LS curriculum with school-based approach that fit students and teachers most. At classroom level, teaching and learning approach can be barely monitored by Education Bureau.

Teachers often implement NSS-LS curriculum in deviated way that may not fit with issue-enquiry approach. Teachers perceive the deviated teaching and learning approach as an inevitable move to facilitate student learning because that is for the best interests of students.

If you would like to satisfy everyone, then actually you can satisfy no one. There is a dilemma..... I think I will give up my learning in different workshops, I cannot use those stuffs in my teaching..... Finally, we have to go back and consider school settings. We need to have our own ideas and construct teaching materials together. If not, it will be very difficult. Actually, it is the same as advance supplementary level Liberal Studies, every school has their own instructional materials. (Teacher A, School E)

I don't think we have to follow what is introduced by Education Bureau. The methods can be varied between different teachers. If methods introduced by Education Bureau are not match with school settings but teachers use it anyway, we will waste our time and cannot get good results. I believe some students may get good results. But for other students, if we find the methods are not effective, we will use other methods. It's no big deal. (Teacher A, School B)

In conclusion, as the ideas and planning from Education Bureau may not be coherent with actual practices in schools, teachers take side in implementing what they think is effective and ignore original curriculum ideas that are stated in curriculum guide. When curriculum governance is actualized in classroom practices, the governance is weak and without tight control by Education Bureau.

However, as these practices go on and public assessment is coming soon, the practices are gradually dominated by HKEAA ideas on examination. The governance and accountability of the curriculum are turned up in the hand of HKEAA. Teacher sense-making and enactment are uniform by public examination. Therefore, governance of curriculum is neither top-down by Education Bureau nor bottom-up by teachers, but in the hands of others, i.e. public examination.

Effects on NSS-LS teacher professional development

As NSS-LS curriculum is enquiry question driven and open to interpretation by teachers, teachers have enough space to make sense of the curriculum and make it relevant to their own teaching background and context. Ideally, through teacher interpretation processes, teachers may empower themselves with their active learning and teaching practices. Teachers may take their initiatives in designing appropriate curriculum and teaching materials in order to liberate their students. However, in the real practices of NSS-LS curriculum, as the curriculum has left too much room for interpretation, it has hindered teacher learning and empowerment contrarily.

When NSS-LS curriculum has left too much space for teachers to learn and interpret, teachers often feel frustrated in their learning processes. As NSS-LS curriculum covers a wide range of knowledge, from sociology, politics, economics, psychology, public health and natural sciences etc with many issues, teachers often find it difficult to learn and construct ideal type of NSS-LS curriculum with teacher own capacity. In this case, teachers often set boundaries

for themselves and restrain their learning within manageable scope. The self-defeating practices on teacher learning have obstructed teachers to deliver NSS-LS curriculum in a more organic and fruitful way. Many teachers have confined their possibilities of teaching and learning in so called "Liberal Studies in secondary student level".

I think because we are no experts. Also, what do you expect the knowledge and performance of secondary students? I think there is no need to teach in the level as deep as tertiary level like professors. I think we don't need to give the knowledge in a very deep way or with research context. I think it is not so difficult to handle NSS-LS curriculum because we are not require to teach at that level. (Teacher C, School C)

Also, as teachers have their current practices in teaching other subjects, some teachers have quite strong mindsets in locating useful teaching strategies for their students. In the point of view of some teachers, they think teaching and learning with issue-enquiry approach or cross-module studies is just another rhetoric such that force teachers to follow in the era of curriculum reform.

ţ

I think the concept of issues enquiry approach is only making new rhetoric.

There is no actual meaning with it. "Cross-module", "issue-enquiry approach" etc are only wordings and I won't care about it. (Teacher A, School B)

With the above restricted understanding on content knowledge and teaching and learning approach, teachers adopt the use of textbook in order to fit in their practices. As curriculum content has left too much room for interpretation by

teacher themselves, teachers use textbooks, although this is not encouraged or authorized by Education Bureau, as their solution in defining the scope and depth of content knowledge. Also, in the presences of textbooks, teachers may easily apply direct teaching or other traditional teaching strategies with textbooks as their references and anchoring materials. Some teachers depend on teaching flows provided by textbooks and conclude their teaching activities with the points highlighted in textbooks. The use of textbooks has dominated teacher practices in NSS-LS teaching and learning and become usual practices in the field of teaching NSS-LS curriculum. With textbooks, teachers have to use it because they have to be accountable to both students and parents. Teachers have to use textbooks in substantiate proportion, if not guiding and dominating, in order to reflect their effective use of student purchasing money.

Actually it is not a matter now, finally we all follow textbooks. Because as every student has textbook at hand, then I have no reason to teach something that is different from textbooks.....the conclusions and outcomes should be the same as textbooks. (Teacher E, School E)

Our school has assigned textbooks for students. So I will look at the content and issues in textbooks. Because students have textbooks at hand.....so we will maximize the use of textbooks and find some issues that can fit in or already in textbooks for their discussions. (Teacher A, School F)

With the above hindering factors on teacher implementation of NSS-LS curriculum, it is difficult for teachers to empower themselves in the space provided by the curriculum documents. Teachers have their invisible boundary in

implementing NSS-LS curriculum due to lack of knowledge and confidence in making sense of the curriculum by teachers alone. Some teachers have given up their autonomy in interpreting NSS-LS curriculum and also their chance of empowerment and liberty in deciding what to teach in NSS-LS. In the perspectives from teacher professional development and empowerment in NSS-LS, teachers struggle through the process of teacher learning. The road to professional is even more difficult than traditional subjects because uncertainties and instabilities are all over NSS-LS curriculum. The directions and focus for teacher professional developments are still remained to be explored as many shortcomings have occurred in preparing NSS-LS teachers, for example in foundational knowledge, paradigms in teaching approaches and assessment. The rebuilding of teacher confident in handling NSS-LS curriculum is an essential cornerstone for holding Liberal Studies teachers up to certain standards.

Effect on curriculum and instructional reform in NSS-LS

In terms of curriculum and instructional reform in NSS-LS, the reform is under struggle with mentioned hindrance factors from both curriculum designs and teachers' unreadiness to change. Teachers also mentioned public examination in NSS-LS curriculum is the inborn defect in curriculum design. The unified examination practices are naturally contradicted with liberating ideas in NSS-LS curriculum. Therefore, teachers faced an embedded dilemma in carrying out curriculum and instruction reform in NSS-LS curriculum. As NSS-LS is a new subject in senior secondary education, teachers need certainty and stability in implementing curriculum. The unrest brought up by curriculum and instructional reforms have left the teachers with little interest in implementing the NSS-LS

curriculum. Situations make reforms even more tedious and difficult to achieve.

Teachers easily come up with the ideas that back to their old practices, which are examination-oriented, in order to find some directions in implementation of NSS-LS.

Liberal Studies have some in-horn defect. First, teachers may not master the curriculum. Second, some teachers are not willing to teach, especially when it is a subject that required public assessment and demanding a pass.....actually it is hard for teachers. Other subjects would not be that complicated. (Teacher A, School C)

At the end, it is examination oriented practices. Eventually we have to look at the examination. (Teacher E, School Λ)

On the other hand, although teachers have limited initiatives in responding to changes, teachers still struggle to find the best practices in their own classroom. Teachers realized that there is no one-size-fit-all model in teaching NSS-LS curriculum. Teachers have built up consensus in diversifying their teaching approaches in order to fit in their own teaching styles. Teachers often believe that diversified teaching strategies are the best option in teaching NSS-LS curriculum. Teachers may teach in the way they feel comfortable and practice their best. The diversified teaching approaches have provided opportunities for teachers to improve their teaching and gain back their autonomy in classroom from examination practices. Student learning outcomes are always teacher ultimate concerns in teaching NSS-LS.

I think if we use the same model, teachers can hardly fit into it with their own style. That is impossible. Some teachers are good at conducting discussion. Then, they should conduct discussion with students. Some teachers are not good at using discussion but direct teaching. You cannot force teachers to use the same model, it will not work. (Teacher A, School B)

I don't worry about classroom teaching. The teaching approach is not important. The most important is student learning outcomes. How can students get what they should learn? (Teacher C, School C)

Again, the use of textbooks is teachers' major concern in implementing NSS-LS curriculum. No matter how diversified or individualized teaching and learning approach teachers have adopted, teachers mentioned they would ultimately refer to textbooks for consolidating student learning. In that case, the diversities of teaching and learning are still bounded by the use of textbooks. Teachers can hardly break through the constraints set up by teaching materials, mainly textbook, in this case.

I think teacher teaching approach and student learning style should match with each other, that is individualized teaching and learning. If students think that using textbooks can facilitate and consolidate their learning, I think we would better use textbooks. (Teacher D, School E)

Lastly, curriculum and instructional reform is also greatly hindered by the great mindset of preparing public examination. Teachers think that as students

have to inevitably attend public examination, teachers have to teach according to examination in order to be accountable for students. The ideas of curriculum and instructional reform are restrained by the assessment framework. Teachers believe that the ideas of Liberal Studies can only be carried out without constraints of public examination. They think that NSS-LS curriculum should not be publicly assessed and should be carried out in a way like other learning experiences or civic education. Teachers would have more space to elicit ideas in teaching whatever issues or content knowledge appropriate, which are suitable for student needs. Flexibility is the foundation to teach liberating ideas and carry out curriculum and instructional reform effectively.

I think this subject should no longer be publicly assessed. I think it should like civic education or other subjects that nurture student interests. Then, it will ease student pressure in learning. Students can learn happily in this subject and think effective learning is achievable. It is no use for teachers to force them. (Teacher B, School B)

Finally, NSS-LS can be the required subject for all secondary students but not for public examination. We can put it as other learning experiences and allocate some teaching hours in it......But now, we force our students to learn everything. The only result is that students will learn nothing. (Teacher A, School E)

Therefore, in the case of NSS-LS curriculum and instructional reform, the reform is restrained and at most carried out in limited space of classroom teaching and learning. As the structure of public assessment cannot be changed

and become the core of teacher concerns, the ideas of curriculum and instructional reform can hardly be justified by teachers. The implementation of NSS-LS curriculum is barely with liberating ideas.

Chapter 8: Discussions and conclusions

In the previous chapters, individual sense-making, collective sense-making, enactments and effects of NSS-LS curriculum are discussed. Teachers make sense of NSS-LS curriculum with reference to their individual backgrounds, teaching environment, and learning from different institutions to formulate their understandings about the curriculum. Teachers bring along their individual perceptions and strategic interpretations of NSS-LS curriculum to share with others in school and network settings. By frequent teacher sharing in different platforms, general consensus is gradually built by teachers across different schools. Teachers incline to make sense and enact NSS-LS curriculum with public examination orientation. The sense-making and enactment processes of NSS-LS curriculum also bring several effects on curriculum governance, teacher professional development and curriculum and instructional reform as discussed in chapter 7.

In this chapter, the research findings and the implications of this study to current state of researches in theories and practices are discussed, i.e. critical reflections on education policy implementation studies and NSS-LS curriculum implementation. Final concluding remarks will be made to discuss the possible orientations of future studies in education policy implementation and NSS-LS implementation.

8.1 Discussion on the research findings

In this study, the individual sense-making, collective sense-making and

enactments of NSS-LS curriculum are discussed from teacher's perspectives. In individual sense-making of NSS-LS curriculum, teachers are lack of readiness and capacity to make sense of the NSS-LS curriculum in a new paradigm with liberating ideas. The majority of teachers still make sense of NSS-LS curriculum with their old paradigm in classroom teaching and assessment. Teachers believe that preparing students for public examination is their best way to deliver NSS-LS curriculum. With assessment as teacher's ultimate concern in NSS-LS curriculum, teachers cannot make sense of the curriculum in a liberal way. The battle to fight for liberating ideas in NSS-LS curriculum is inevitably failed to accomplish. Moreover, as the design of content knowledge and issues of NSS-LS curriculum are based on teacher's school-based interpretation, teachers do not have courage to create an ideal curriculum that they cannot handle. Teachers tend to interpret the curriculum in a shallow way and implement the curriculum as smooth as they can handle.

In collective sense-making of NSS-LS curriculum, teachers make sense of the curriculum in school and network platforms. Teachers share their individual interpretation on NSS-LS curriculum and seek feedbacks from the platforms. However, as the ideas and information are too diverse in the school and network platforms, a sense of collective puzzlement is formed in the policy learning in the beginning stages. Teachers are soaked in abundant information and interpretation of NSS-LS curriculum, so teachers usually absorb the most relevant ideas on the curriculum to their daily teaching environment. When the school-based and network sharing go on, the practical ideas and practices are mostly shared among teachers. Teachers put their emphasis of NSS-LS curriculum on assessment and public examination. Thus, teachers abandon the ideals of NSS-LS curriculum

curriculum by self-justifying their practices in the school and networks. Therefore, although school and network platforms have smoothed the implementation of NSS-LS curriculum by sharing practical resources among teachers, the self-justifying process in determining relevant resources does harm the process of constructing the ideal NSS-LS curriculum.

In the enactment of NSS-LS curriculum, teachers face four dilemmas in choosing to implement a practical NSS-LS curriculum or ideal NSS-LS curriculum. First, teachers have to choose to teach the curriculum by direct teaching or issue-enquiry approach. Second, they have to choose to use or not to use textbooks. Third, they have to choose their teaching focus on examination or liberation. Fourth, they have to choose to guide student's independent enquiry studies in a dependent or independent way. In teacher's selection, the practical ideas override the ideals and become their actual practices. The examination-oriented practices in NSS-LS curriculum are stabilized among teachers by teacher's co-construction process. Teachers regain stability and meaning in implementation of NSS-LS curriculum. However, the enacted NSS-LS curriculum in this sense is only a brave new world of liberal studies. Teachers are satisfied with current practices that bring promising student's results in public examination.

In this study, teachers make sense of the interpretable NSS-LS curriculum in their own way based on their previous teaching and learning experiences.

Teachers gradually walk away from the ideal to realities and co-construct the re-interpreted NSS-LS curriculum collectively through school and network

platforms. The findings and discussions in this study bring several implications to the theory and practices in implementation of NSS-LS curriculum. The implications to education policy implementation studies and implementation of NSS-LS curriculum are discussed in the following sections.

8.2 Implications to education policy implementation studies

In education policy implementation studies, the role of teacher cognition and teacher professional communities in policy implementation is raised in the last decade (Coburn & Stein, 2006; Spillane, 2004). In this study, teacher individual and collective sense-making on NSS-LS curriculum policy and its impacts on implementation are explored. Teacher's perceptions are influenced by the implementation context and affect the consecutive implementation. Bilateral impacts between teachers (policy actors) and teaching environments (context) in the implementation of NSS-LS curriculum are revealed in this study. The interactions between policy actors and context are discussed within the institutional environment of education reform. This study also reveals the importance of contextual factors in shaping implementation of NSS-LS curriculum and contributes to the success of curriculum reform. Based on these findings, the linkage between different concepts and theories related to policy studies and education policy implementation studies can be re-examined.

8.2.1 Application of strategic-relational approach in education setting

As NSS-LS curriculum is new to majority of teachers, teachers have to make sense of this new curriculum within their own schema and context in order to

relate this new subject to their teaching life. Although teachers may perceive the ideal NSS-LS curriculum should be progressive, teachers still enact the curriculum in their traditional teaching paradigm. Under strategic calculations, teachers make use of the teaching approaches that they are good at in respond to student learning habits and high-stake public examination.

Teachers enact the NSS-LS curriculum with their habitual strategies based on individual and collective sense-making towards existing teaching environment. Under rational calculations and careful considerations, teachers choose to follow examination practices in the past because they cannot afford students to lose or fail in the high-stake test. Teachers desire students to have good examination results in NSS-LS to reflect their success and accountability towards student learning outcomes. When students can attain level 2 in public examination, teachers fulfill their teaching goal in helping students to climb the ladder of success to universities. The measureable and quantifiable public examination results are more valuable than abstract ideational liberating ideas behind NSS-LS curriculum. Teachers are not interested in putting liberate student minds as their priority in teaching. The NSS-LS curriculum and instructional planning are greatly leaned on targeting public examination results thereafter. Teachers formulate some examination-oriented practices around their classroom teaching and abandon their ideal NSS-LS.

Teacher's dilemma in implementing NSS-LS curriculum can reflect the phenomenon and outcome of putting liberating ideas into a conservative teaching environment under the pressure from education reform. When fundamental teaching ideas between liberal and conservative clashed in the context of

education reform, situated actors within structured context assimilate and devalue the liberating ideas in NSS-LS to observable results in conservative teaching environment eventually. Liberating ideas is powerless in front of the cage of examination. Contextual constraints imposed by current practices greatly affect the possibilities in accomplishing the objectives of NSS-LS curriculum, especially those related to self-directed learning and critical thinking. The evolvement of education environment is hard if distinctive new curriculum policy is its only input. Under the contextual constraints, proactive intervention from policy actors is important for successful implementation of curriculum reform because policy actors are the remaining natural catalysts to support and sustain the change of policy environment.

Besides the effects of strategic actions on strategically selective context, teacher enactments of NSS-LS curriculum also have direct effects on strategic learning of the actors (Hay, 2002). During implementation of NSS-LS curriculum, teachers build up collective sense-making and practices on the curriculum collaboratively through different platforms, for example, seminars, lectures, workshops and networks. In these platforms, teachers share their practices and form consensuses on NSS-LS thorough collective sense-making, no matter the ideas are coherent with Education Bureau or not. When teachers' perceptions on NSS-LS start disseminating, snowball effect occurs and passes the point of no return that teachers have to accept the deviated but popularized ideas as their norm in classroom practices. By following popularized ideas, teachers can be guaranteed that they have not deviated from the majority too much and can ensure student performance is similar to others. A sense of security can be achieved for both teachers and students in implementing the curriculum. Hence,

the purpose of interactive platforms has diverged, or even in a speed-up manner, that walking away from the liberating ideas of NSS-LS collectively.

In implementation of NSS-LS, the strategically selective context inevitability follows the past structure when not much intervention is given by the facilitators with ideas coherent to ideal NSS-LS curriculum. In this case, networks act as a catalyzing platform to reproduce and disseminate teacher's perceptions on practicability of NSS-LS curriculum and reinforcing examination-oriented practices.

When collective learning takes place in network settings, sharing of ideas has enhanced teacher confidence in implementation of NSS-LS. The similarities of teacher sharing in networks provide some evidences for teachers in believing their successful street-level implementation of NSS-LS curriculum. In network sharing, teacher learning is not supported or reviewed by officials or professionals but only self-accredited by self-complacency. This situation is insecure for successful implementation of new curriculum because no well-established and appropriate interpretation exists to back up the original liberating ideals. Teachers can easily fall back to conventional practices based on their own experiences and learning. In order to secure effective implementation of policy ideas through networks, the neutrality, roles and functions of networks in education policy implementation have to be re-examined. The effect of networks to the governance of curriculum policy remains to be explored. Otherwise, the feedback loop between context, actors and enactments is hard to break for implementing new ideas that is out of current practices. The new curriculum paradigm in NSS-LS will be inevitably hard to accomplish if the habitual practices is not broken and revitalized by external agents.

8.2.2 Bridging between Sense-making and Institutionalization

As sense-making is the feedstock for institutionalization, the outcome of sense-making of Liberal Studies teachers on NSS-LS curriculum will become the practices, retention and institution of implementation of this curriculum (Jennings & Greenwood, 2003; Weick, 1995; Weick, Sutcliffe, & Obstfeld, 2005). In teacher's perspectives, their deviated practices of NSS-LS curriculum are cognitively validated by the practicability of classroom practices. Teachers think that their practices can be carried on continuously and sustain a certain period of time. Teachers believe the effectiveness of their way of practices can be proved by public examination after the first round of implementation. Teachers feel confident in helping their students to get good results in the examination.

In implementation of NSS-LS curriculum, normative pressure are also formed and aggravated through networks and become common practices. Teachers depend on other teacher's perceptions on NSS-LS curriculum and network resources to ensure they are on the right track. Similar perceptions are built within networks and distributed among the whole senior secondary education practices in a broader sense. Stable patterns of sense-making and practices are gradually formed and sustained in the education reform setting. The socially constructed practices in NSS-LS curriculum is verified and legitimized by practical functions of existing practices.

The collective rationality contributes to institutional isomorphism (DiMaggio

& Powell, 1983) in implementation of NSS-LS curriculum. Teachers enact NSS-LS curriculum collectively and further constitute and establish a new institution in implementation of NSS-LS. In this study, the initial stage of institutionalization of NSS-LS curriculum can be observed that teacher practices start to converge under the influences of cross-school interactions and networking. However, as actual implementation of NSS-LS curriculum have only been taken place for two years and the formats and contents of public examination are still not certain for many teachers, further institutionalization of NSS-LS curriculum is remained to be explored. The bridging between sense-making theory and institutionalization can also be further investigated (Coburn, 2001).

8.2.3 Linking sense-making with education policy implementation research

In the exploration of sense-making process and enactment in NSS-LS curriculum, this research may provide the following enrichments for the discussion on current state of policy implementation research (Datnow & Park, 2009). In current research on education policy implementation, the interactions between policy actors, policies and places are specifically aims to be uncovered (Honig, 2006b). This study is focused in discovering teacher sense-making process on NSS-LS curriculum within their situated teaching environment (Coburn, 2001, 2006; Spillane, et al., 2002). Thus, the discovery of interactions between actors, policies and places are incorporated within the sense-making process. By using the concepts of sense-making, the complexity of interactions in education policy implementation can be integrated and organized into coherent

ideas on the dynamics between context and actors. When teachers make decisions on what and how things to be implemented, teachers retrospectively select and preserve the worthiest things they want to retain. The feedbacks of teachers sense-making have constitute a greater institution of NSS-LS curriculum implementation.

Together with sense-making of NSS-LS curriculum, teachers also implement the policy through individual and collective learning. As NSS-LS is a compulsory subject for all senior secondary students and teachers have to implement it as required, new learning of NSS-LS curriculum can contribute to successful paradigm change of implementation by teachers. However, when investigating learning process of teachers in this study, teacher's deep core belief (Sabatier, 1993) on assessment and learning has not changed. In the learning process, the urge for change of fundamental normative and ontological axioms is seldom emphasized. Both teaching and learning in teacher professional development programmes are focused at instrumental level and practical aspects of implementation. Deep change is far from being achieved. Instead, the curriculum is implemented in conventional way, which distorted the original liberating ideas of NSS-LS curriculum.

In this study, teachers designated meaning of NSS-LS curriculum is different from the ideas stated in curriculum guideline. Teacher designated meaning reflects the world view from teachers and how they perceive an effective and realistic NSS-LS curriculum. Teacher interests and practices in implementation of NSS-LS curriculum are also unlike those suggested by Education Bureau. Teachers do not have enough incentives to implement NSS-LS curriculum with

liberating ideas and school-based approach. Hence, the actual implementation of NSS-LS curriculum is not aligned with Education Bureau delegated. Principal-agent problem (Banks, 1995) occurs in the implementation of NSS-LS curriculum. As the expected outcomes or requirements from Education Bureau are vague from teacher's perspectives, it is hard to establish shared information or rules in order to reduce agency problems. In practice, teachers are the decision makers and implementers of NSS-LS school-based curriculum. The criteria of successful implementation are decided by teachers on their own. Education Bureau is lack of strategies and instruments to monitor the implementation of curriculum. The governance of curriculum is transferred to teacher hands that lean on practicing for examination purposes. This phenomenon has reflected the slippage in the policy implementation process that implementation outcomes are not consistent with the policy goal (Mazmanian & Sabatier, 1980). In this perspective, when sense-making is linked up with policy implementation, the effectiveness of new policy implementation depends on the degree of paradigm shift in teachers' world view. If street-level policy actors do not make sense of the policy the same as policy designers, i.e. the local goals are very much different from statutory goals, the policy is difficult to implement successfully (Matland, 1995). Ambiguity of goals has deepened the ambiguity of means of implementation NSS-LS. Teachers practice their experimental implementation on NSS-LS curriculum and put local interest as their major concern and top priority. In this case, the choices of strategic actors in implementation of NSS-LS depend mainly on contextual factors and are shaped by individual and group interests at local level (Simon, 2010).

To conclude the implications to education policy studies by this study, both

theoretical and methodological implications are discussed. In theoretical implications, this study applies the framework inspired by strategic-relational approach to investigate the enactment of strategic actors in their strategically selective context. Throughout teacher's individual and collective sensemaking process, teachers make sense of NSS-LS curriculum neither solely by their agency nor determined by structure. The sensemaking process is conducted within an institutionalized environment. The ideas and beliefs of teachers do not wholly define the implementation of NSS-LS curriculum. Teachers change their courses of action according to the institutional environment. During implementation of NSS-LS curriculum, teachers adjust and adapt their sensemaking and enact the curriculum that can fit into their contexts. Thus, this study provides an empirical footing to enrich the discussion about the duality of structure (Giddens, 1984) in policy implementation.

In methodological implications, this study applies qualitative research method to reveal the sensemaking process of teachers about implementation of NSS-LS curriculum. It links up the sensemaking and enactment processes of teachers by allowing teachers to unfold their storyline behinds their implementation of NSS-LS curriculum. Teacher's subjective worldview of NSS-LS curriculum and intersubjective enactment of NSS-LS curriculum are discussed. The study attempts to apply the qualitative research method to reveal both the subjective meaning of NSS-LS curriculum and construct the intersubjective world in the implementation of NSS-LS curriculum.

8.3 Implications to implement NSS-LS curriculum

In this study, teachers raise lots of their immediate concerns and possible solutions for implementation of NSS-LS curriculum. Some ideas to improve implementation of NSS-LS on individual level and collective level will be discussed below. The implications on implementation of NSS-LS curriculum also elaborated the discussions on policy implementation through individual and collective learning. The improvement of implementation of NSS-LS curriculum can also be perceived as advancement of teacher learning in curriculum policy.

8.3.1 Opportunities and Challenges of implementation of NSS-LS curriculum at Individual Level

Implementation of NSS-LS curriculum has urged researches on teacher professional development to re-emphasize the importance of actual practices of teacher learning in an interpretable curriculum. As teacher learning occurs within situated contexts and practices, student learning and teacher learning of subject matter knowledge of NSS-LS curriculum should also be taken into considerations when revealing individual and collective enactments of the curriculum (Grossman, et al., 2009; Lampert, 2010). The challenges of teacher learning in the interpretable NSS-LS curriculum are even greater because the breadth and depth of learning is uncertain for teachers. Teachers have to decide their appropriate learning content and design their own learning path of professional development.

In teacher learning to implement NSS-LS curriculum, many obstacles are faced by teachers because the readiness of teachers to implement this new curriculum is not satisfactory. Teachers are lack of capacity to implement

NSS-LS curriculum with school-based and decentralized student-oriented approach. Teachers do not have concrete ideas on how to react and make sense of the curriculum with their prior knowledge. Moreover, the invisible confinement imposed by examination system has further demotivated teachers to explore new practices in implementing NSS-LS. Teacher learning is hindered by well-established and effective examination practices in other subjects. As students have to undergo high-stake public examination for NSS-LS, it is hard for teachers to be liberated from existing paradigm and pursuing a different approach in teaching and learning. Hence, suggested measures to improve the implementation of NSS-LS will mainly aim at alleviating the above difficulties and tackling the mentioned challenges.

As ideal liberal studies teachers postulated by Education Bureau are ready to teach the contextualized, multi-disciplinary, and personally and socially constructed knowledge with an open-minded mentality, the requirements of teachers in learning new content knowledge and liberating from their old teaching paradigm is high. Teachers need to learn some NSS-LS related knowledge from social sciences disciplines and accept a new set of ideas in teaching and learning in short period of time. However, in teacher learning experiences, the above objectives can be hardly achieved because of the ineffective learning process discussed in the previous chapters. First, teachers do not have enough time and other resources to facilitate their learning. From finalized NSS-LS curriculum to actual implementation, teachers only have two-year period for their holistic training in every aspect of teaching NSS-LS. More time is needed for teachers to deepen understanding on the ideas of NSS-LS curriculum. Teachers are aware that they are lack of preparation time

and skills to perform the high level of expectation stated in the curriculum document. An impossible mission has already been imposed to teachers at the very beginning stage of NSS-LS implementation. The realization of failing promise is only a matter of time. To alleviate the problem caused by time constraints, effective professional development opportunities should be provided to teachers with ample time. Teachers should have sufficient time to digest and make sense of the curriculum with thorough understandings.

For effective implementation of new curriculum ideas, teachers have to be familiarized with every detail in delivering the curriculum. However, in the case of implementation of NSS-LS, this significant task is mandated to teachers and schools to work out the details of implementation by schools. The mode of decentralized curriculum policy needs greater teacher professionalism to accomplish this idea. At present, contested actions occur during the exploration and engagement in different versions of knowledge, ways of teaching and forms of authority (Hilferty, 2008). Teachers struggle through the way and identify themselves as Liberal Studies teachers that have certain informed practices in teaching this new curriculum. To facilitate teacher subject culture and identity formation, some unified, concrete and substantial subject based knowledge should be formed in order to build up the foundation of Liberal Studies teacher professionalism. Samples of organic integration in subject matter knowledge should be demonstrated to teachers. Teachers may take those samples as reference to design their own knowledge integration that suit student learning most.

As teachers are confused by various information when interpreting NSS-LS

curriculum, an organized learning with proper revisits should be provided to teachers. In the school-based curriculum decision making process, teachers are information and innovation overloaded such that it is difficult for them to handle the knowledge effectively and tailor-made to their school-context. Professional supports or other facilitating school-based decision making programmes should be provided to teachers in order to ease the uncertainties of teachers. The professional support programmes can also facilitate individual learning of teachers by revisiting the progress of teacher learning from time to time. Teachers and facilitators can have mutual benefits from collaborative learning. Teachers may learn to implement NSS-LS within their own context and design the teaching content that suits the needs of students most. Facilitators may refresh their ideas on implementation of NSS-LS through the real-life experiences from teachers. The sharing and bridging between theories and practices may help to put the ideals into practices in a realistic way.

The contextualized school-based learning also helps teachers to reflect on their practices from their own teaching experiences. By reflecting on everyday actions, teachers re-examine their practices and engage in continuous learning and build up their professionalism in teaching (Osterman & Kottkamp, 1993). Reflective practice is essential in implementation of NSS-LS because the content of Liberal Studies is changing from time to time, especially inquiring the current issues with students. Teachers need to be aware of the nature of curriculum knowledge is changed. The content knowledge is not as static as in the past. Teachers have to learn the new content knowledge reflectively and become the change agent of the curriculum.

Although the changing paradigm in the nature and process of teacher learning is essential, reform of the institutional environment related to public examination is also important for successful NSS-LS curriculum implementation. From this study, when teachers make sense of and enact NSS-LS curriculum, public examination remains as their major concern from time to time. As NSS-LS public examination is high-stake that would affect student's opportunities in admitting to universities, teachers are very much confined to the practices of this system. Many desirable liberating ideas cannot be actualized under the examination system In order to liberate individual teachers and students from this macro constraint environment, public examination system in NSS-LS needs to be revisited. The current compulsory and high stake examination system need to be reformed in order to liberate teachers and students from this confinement and realize the liberating ideas behind NSS-LS curriculum.

8.3.2 Opportunities and Challenges of implementation of NSS-LS curriculum at Collective Level

At collective level of implementation of NSS-LS, teachers are grouped together at school level and network level in order to handle their immediate concerns in teaching of NSS-LS. Teachers share their materials at-hand with others in an implementation-oriented and sometimes compulsory mode for survival purpose. Under this situation, the nature and collegiality of teacher collaboration in NSS-LS is contrived (Hargreaves, 1991) in order to cope with the new curriculum. In order to improve teacher professional development at collective level, teachers need to break through the current contrived

environment and regain their autonomy and professionalism in implementation of NSS-LS, such that make the liberating and critical ideas in NSS-LS possible.

In this study, the interplay between school-based and networked professional development in implementation of NSS-LS curriculum is revealed (Varga-Atkins, O'Brien, Burton, Campbell, & Qualter, 2009). Negative effect in collective abandonment of the ideals in NSS-LS curriculum occurs during the reform. As teacher's resources are weak at the beginning, networks depend very much on existing resources provided by experienced teachers. Networks often accept and share all the materials whatever teachers are willing to contribute. Hence, networks accumulated many resources that are lack of quality assurance or monitoring system behind. The accumulated effects are substantial for further implementation of NSS-LS. Therefore, appropriate interventions should be introduced to the networks in order to facilitate teacher professional development. The role of facilitators as a coach or mentor should be strengthened in order to raise the standards of school-based and network sharing (C. Rhodes, Stokes, & Hampton, 2004).

The role of facilitators is important and needs to be reinforced because the current state of sharing has demonstrated the actualization of unwanted practices drives out the ideal one in implementation of NSS-LS thorough networks. As public examination is compelled by NSS-LS curriculum, teachers have their needs to learn and take examination practices as their priority, no matter it is an ideal practices or not. In such a case, any teaching ideas or strategies that cannot have direct feedbacks on examination results may be considered as additional to their teaching. Once the practical ideas distribute among teachers, teachers

perceive that as effective practices and easy way out for teaching NSS-LS. In the absence of moderator, the unwanted practices can be spread among teachers easily. Therefore, in the beginning stage of implementation of NSS-LS, the role of facilitator should be emphasized and guide teacher's practices in the desirable way. Engagement of the facilitators in the networks should be increased (Chapman, 2008; Chapman & Hadfield, 2010).

When teacher sharing at school and network level has accumulated substantial experiences in interpreting NSS-LS curriculum and preparing teaching materials, the role of facilitators can be weakened and let teachers to regain their autonomy in the decision making process. As the facilitators may already create some positive experiences and common practices for teachers at the beginning stage, teachers may follow good practices and revise it with respect to their specific needs whenever needed. After teachers gain confidence in handling NSS-LS curriculum by themselves, teachers may take an active role to design their own school-based curriculum and teaching materials. Autonomy in decision making process is important for teachers to become critical and reflective teachers. Therefore, the degree of involvement by facilitators in different stages of implementation of NSS-LS curriculum is an important issue which remains to be explored. Whether facilitator is a hindrance or assistance to the implementation of NSS-LS curriculum is related to the compatibility between the degree of involvement by facilitators and the implementation stage of NSS-LS curriculum.

Furthermore, online social networking and teacher professional development platforms can be other important aspects to facilitate teacher

learning (Lieberman & Mace, 2010). In the implementation of NSS-LS, online resources are important to teachers in developing their school-based curriculum and teaching materials. Numerous resources are put in the internet wildly without systematic organization by some authoritative or well-recognized participants. Although Education Bureau has collaborated with hkedcity.net to provide a 'Web-based resources platform for Liberal Studies' for teachers to share resources, the qualities of resources are often in doubt by teachers. Interactive component is also absent in this platform, so teachers do not actively and sustainably involve in the platform. To better utilize this online platform for implementation of NSS-LS, the teaching materials should be reviewed and polished by the officers in Education Bureau to recover teacher confidence in using those resources. Instant feedbacks to the uploaded teaching materials should also be provided to teachers in order to facilitate teacher learning in designing school-based materials. If the online platform is well-developed, the review and polish process can be handed over to teachers to facilitate the formation of online social networking in the future.

8.4 Limitations

Limitations of this study are mainly related to research context and research methods. For the research context, as NSS-LS curriculum has only been implemented for one year during data collection, teachers have not run all six modules in the curriculum once. Teachers only make sense of two to three modules by the time of interviews conducted. Teachers' perception to different modules may be slightly different due to the varieties of content knowledge and issues in each module. In this study, only general perceptions toward the whole

NSS-LS curriculum are investigated, the detailed sense-making process and outcome of each module have not been studied.

For the research methods, in selection of informants, only six case schools are selected in this study which covered three different kinds of networks. In teacher initiated network and Education Bureau initiated network, only one case school has participated in each network. More network participants should be interviewed in order to triangulate the process and outcome of networks by teachers in different schools. The deepness of collective sense-making in network level remains to be explored.

Under time constraints in data collection, the majority of teachers are not available for follow-up interviews to further investigate their development and change in sense-making process of NSS-LS curriculum. As policy learning is an ongoing process, this study can only provide a snap-shot of what teachers make sense and learn during the process. It is hard to claim in finding the stabilized or fixed policy learning outcomes. The stabilized pattern in sense-making of NSS-LS curriculum is remained to be explored.

To investigate the school and network platforms, this study used retrospective interviews for informants to recall their participatory experiences in the platforms. Due to the constraints of accessibility in the school and network meetings, this research cannot participate in school or network gatherings for observations. The authentic context and process of ideas exchanges cannot be observed. This limited the fruitfulness in describing the collective sense-making process in this study.

8.5 Research prospects

From the findings, discussions, implications and limitations of this study, several research prospects can be found to conduct further research on implementation of NSS-LS curriculum. As discussed in the implications to theories and practices in this research, the relationship and interaction between sense-making and institutionalization processes during NSS-LS implementation remain to be explored. In the near future, some fixed perceptions and practices about implementation of NSS-LS curriculum will be formulated. The transformation and stabilization of NSS-LS curriculum can be further discussed under the perspectives from institutionalization. The linkage between sense-making and institutionalization can be revealed in the future studies. The contribution. of individual cognition and collective cognition institutionalization process can be unfolded.

In the research prospects for policy implementation studies, this study applies the concepts from policy network to investigate the implementation of NSS-LS curriculum. Some issues related to network governance in education policy implementation are considered. However, further investigation on the development of network governance in education policy studies is essential in the future because governing by network is an emerging theme in policy implementation at the devolutionary age. Education policies are usually influenced and implemented by multiple actors and organizations. The rise of network in education policy implementation happens in both national and transnational education context. The influence of network to policy

implementation in the global education reform context is an ongoing concern in future studies.

As NSS-LS is one of the most interpretable curriculums in the curriculum reform in Hong Kong, the development and improvement of teacher learning in these interpretable policy or curriculum can be further investigated. The agency of teachers in interpreting and influencing policy implementation can be explored. The connection between teacher's initiatives in implementing the policy, teacher empowerment and teacher professionalism remains to be explored. Teachers may gain their professionalism and professional identity through implementing some interpretable policies. Also, the structural design and process of teacher learning have substantial effect on policy implementation. The improvement of current practices of individual and collective teaching learning platform about new policy or curriculum is important. Further research can be done on the practical issues related to effectiveness of teacher learning through different channels, especially the new collaborative platform such as professional development network or learning communities. It will facilitate both policy implementation and teacher understandings about the new initiatives.

8.6 Conclusions on implementation of Liberal Studies in New Senior Secondary Education

In conclusion, this study explores on the individual sense-making, collective sense-making, enactments and its effect on NSS-LS curriculum. At the level of individual sense-making, teachers make sense of the NSS-LS curriculum with their old paradigm. They try to use the old practices to implement NSS-LS

curriculum effectively just like teaching other traditional subjects in the good old days. However, by using their old paradigm in teaching, teachers cannot deliver the liberating ideas in the new curriculum with their old teaching approaches. Many teachers make sense of the curriculum and devalue the liberating ideas to examination-oriented practices.

On collective sense-making process, teachers accumulate their practical ideas in implementation of NSS-LS curriculum in school and network settings. Teachers exchange their ideas on implementation of NSS-LS and develop some common practices among each other. This may form sense of security for Liberal Studies teachers to implement the curriculum on their own. However, the unexamined practical ideas shared in schools and networks may facilitate teachers to abandon the curriculum ideals collectively. As the majority of teachers believe delivering some practical ideas is much more effective and important than teaching out the ideal curriculum under the restraint of examination, teachers form some practical enactments that override the ideals.

In order to improve current situation, the form and content of teacher learning in NSS-LS curriculum should be revisited. During the initial stage of policy implementation, teachers are given lots of autonomy in designing the school-based curriculum. However, as teacher capacity and readiness in conducting this curriculum is not well-established, teachers face much difficulty in finding their way out by themselves. Thus, teacher professional support networks can be a platform to prepare teachers in implementing this curriculum. In the collaborative platforms in schools and networks, teachers should develop and regain their professional dialogue and discourse in implementation of

NSS-LS curriculum. Teacher learning should become transformative through deliberation process between teachers. The deliberative process can reframe the technocratic policy implementation process into a socio-cultural one. Social consensus can be built up in the deliberative process. When teachers regain their initiatives and subjectivity in implementation of NSS-LS, the ideals of NSS-LS curriculum with critical and reflective mind would become possible. The process may facilitate the building of ideal NSS-LS curriculum and professional Liberal Studies teachers. When Liberal Studies teachers can voice out and be included in the policy implementation process, teachers can be emotionally involved with social commitments and become passionate practitioners (Fischer, 2009). Therefore, teacher empowerment in policy implementation process may facilitate participatory governance and reorient professional practices in NSS-LS.

References

- Adams, J. E. J. (2000). Taking charge of curriculum: Teacher networks and curriculum implementation. New York: Teachers College.
- Alderson, J. C., & Wall, D. (1993). Does washback exist? Applied Linguistics, 14(2), 115-129.
- Anderson, J. E. (2003). Public policy making: An introduction (5 ed.). Boston: Houghton Mifflin.
- Argyris, C., & Schon, D. A. (1996). Organizational learning II: Theory, method, and practice. Reading, MA: Addison-Wesley.
- Börzel, T. A. (1998). Organizing Babylon-On the different conceptions of policy networks. *Public Administration*, 76(2), 253-273.
- Ball, S. J. (2008a). The education debate. Bristol: Policy.
- Ball, S. J. (2008b). New philanthropy, new networks and new governance in education. *Political Studies*, 56(4), 747-765.
- Ball, S. J. (2009a). Beyond networks? A brief response to 'which networks matter in education governance?'. *Political Studies*, 57(3), 688-691.
- Ball, S. J. (2009b). The governance turn! *Journal of Education Policy*, 24(5), 537-538.
- Banks, J. S. (1995). The design of institutions: An agency theory perspective. In
 D. L. Weimer (Ed.), *Institutional design* (pp. 17-36). Boston Kluwer
 Academic Publishers.
- Barrett, S., & Fudge, C. (Eds.). (1981). Policy and action: Essays on the implementation of public policy. London: Methuen.
- Berger, P. & Luckmann, T. (1967). The social construction of reality: A treatise in the sociology of knowledge. London: Penguin Books.
- Bevir, M., & Rhodes, R. A. W. (2003). *Interpreting British governance*. London: Routledge.
- Bevir, M., & Richards, D. (2009). Decentring policy networks: A theoretical agenda. *Public Administration*, 87(1), 3-14.
- Bryk, A., Camburn, E., & Louis, K. S. (1999). Professional community in Chicago elementary schools: Facilitating factors and organizational consequences. *Educational Administration Quarterly*, 35(S), 751-781.
- Burch, P. (2007). Educational policy and practice from the perspective of institutional theory: Crafting a wider lens. *Educational Researcher*, 36(2), 84-95.
- Chapman, C. (2008). Towards a framework for school-to-school networking in challenging circumstances. *Educational Research*, 50(4), 403-420.
- Chapman, C., & Hadfield, M. (2010). Supporting the middle tier to engage with

- school-based networks: Change strategies for influencing and cohering. Journal of Educational Change, 11(3), 221-240.
- Cheng, L. (2008). Washback, impact and consequences. In S. E. & H. N.H. (Eds.), *Encyclopedia of language and education* (pp. 349-364). Boston: Springer Science.
- Cobb, P., & Bowers, J. (1999). Cognitive and situated learning perspectives in theory and practice. *Educational Researcher*, 28(2), 4-15.
- Coburn, C. E. (2001). Collective sensemaking about reading: How teachers mediate reading policy in their professional communities. *Education Evaluation and Policy Analysis*, 23(2), 145-170.
- Coburn, C. E. (2003). Rethinking scale: moving beyond numbers to deep and lasting change. *Educational Researcher*, 32(6), 3-12.
- Coburn, C. E. (2004). Beyond decoupling: Rethinking the relationship between the institutional environment and the classroom. *Sociology of Education*, 77(3), 211-244.

į.

- Coburn, C. E. (2005). The role of nonsystem actors in the relationship between policy and practice: The case of reading instruction in California. *Educational Evaluation and Policy Analysis*, 27(1), 23-52.
- Coburn, C. E. (2006). Framing the problem of reading instruction: Using frame analysis to uncover the microprocesses of policy implementation.

 *American Educational Research Journal, 43(3), 343-379.
- Coburn, C. E., & Stein, M. K. (2006). Communities of practice theory and the role of teacher professional community in policy implementation In M. I. Honig (Ed.), New directions in education policy implementation: Confronting complexity (pp. 25-46). Albany: State University of New York.
- Cohen, D. K., & Hill, H. C. (2001). Learning policy: When state education reform works. New Haven: Yale University Press.
- Coleman, J. S. (1988). Social capital in the creation of human capital. *American Journal of Sociology*, 94(S), 95-120.
- Creswell, J. W. (2009). Research design: Qualitative, quantitative, and mixed methods approaches (3 ed.). Thousand Oaks, California: SAGE Publications, Inc.
- Curriculum Development Council (1991). Liberal Studies (Advanced supplementary level). Hong Kong Government Printer.
- Curriculum Development Council (2001). Learning to learn: The way forward in curriculum. Hong Kong: Printing Department.
- Curriculum Development Council (2002). Personal, social and humanities

- education: Key learning area curriculum guide (primary 1-secondary 3). Hong Kong: Printing Department.
- Curriculum Development Council, & Hong Kong Examinations and Assessment Authority (2003). Integrated humanities curriculum and assessment guide (secondary 4-5). Hong Kong: Printing Department.
- Curriculum Development Council, & Hong Kong Examinations and Assessment Authority (2007). Liberal studies curriculum and assessment guide (secondary 4-6). Hong Kong: Education Bureau.
- Darling-Hammond, L. (1990). Instructional policy into practice: "The power of the bottom over the top". Educational Evaluation and Policy Analysis, 12(3), 339-347.
- Datnow, A., & Castellano, M. (2000). Teachers' responses to success for all: How beliefs, experiences, and adaptations shape implementation. *American Educational Research Journal*, 37(3), 775-799.
- Datnow, A., & Park, V. (2009). Conceptualizing policy implementation:
 Large-scale reform in an era of complexity. In G. Sykes, B. Schneider, D.
 N. Plank & T. G. Ford (Eds.), Handbook of education policy reserach (pp. 348-361). New York: Routledge.
- DiMaggio, P. J., & Powell, W. W. (1983). The iron cage revisited: Institutional isomorphism and collective rationality in organizational fields. *American Sociological Review*, 48(2), 147-160.
- DuFour, R., DuFour, R. B., & Eaker, R. E. (2008). Revisiting professional learning communities at work: New insights for improving schools. Bloomington: Solution Tree.
- Easton, D. (1965). A framework for political analysis. Englewood Cliffs, N.J.: Prentice Hall.
- Education and Manpower Bureau (2004). Implementation of the school-based professional support (SBPS) programmes.
- Education Bureau (2005). The new academic structure for senior secondary education and higher education: Action plan for investing in the future of Hong Kong. Hong Kong: Education Bureau.
- Education Bureau (2011). New academic structure web bulletin Retrieved 15th April 2011, from http://334.edb.hkedcity.net/EN/publication.php
- Education Commission (2000). Learning for life, learning through life: Reform proposals for the education system in Hong Kong. Hong Kong: Education Commission.
- Elmore, R. F., & Fuhrman, S. H. (1994). Education professionals and curriculum governance. In R. F. Elmore & S. H. Fuhrman (Eds.), *The governance of*

- curriculum: 1994 yearbook of the association for supervision and curriculum development. Alexandria, Virginia: Association for supervision and curriculum development.
- Evans, J., Castle, F., Cooper, D., Glatter, R., & Woods, P. A. (2005). Collaboration: the big new idea for school improvement? *Journal of Education Policy*, 20(2), 223-235.
- Evans, M. (2001). Understanding dialectics in policy network analysis. *Political Studies*, 49(3), 542-550.
- Field, J. (2005). Social capital and lifelong learning. Bristol, UK: Policy Press.
- Fischer, F. (2009). Democracy and expertise: Reorienting policy inquiry. Oxford: Oxford University Press.
- Freidson, E. (2001). *Professionalism, the third logic*. Chicago: University of Chicago Press.
- Fullan, M., & Hargreaves, A. (1996). What's worth fighting for in your school? New York: Teachers College Press.
- Fullan, M. G. (1994). Coordinating top-down and bottom-up strategies for educational reform. In R. F. Elmore & S. H. Fuhrman (Eds.), The governance of curriculum: 1994 yearbook of the association for supervision and curriculum development. Alexandria, Virginia: Association for supervision and curriculum development.
- Geertz, C. (1973). The interpretation of cultures: Selected essays. New York: Basic Books.
- Gibbs, G. R. (2007). Analyzing qualitative data. London: Sage.
- Giddens, A. (1984). The constitution of society. Cambridge: Polity Press.
- Goodwin, M. (2009). Which networks matter in education governance? A reply to Ball's 'new philanthropy, new networks and new governance in education'. *Political Studies*, 57(3), 680-687.
- Granovetter, M. (1992). Economic action and social structure: The problem of embeddedness. In M. Granovetter & R. Swedberg (Eds.), *The sociology of economic life* (pp. 53-81). Boulder:: Westview Press.
- Greeno, J. G., Collins, A. M., & Resnick, L. B. (1996). Cognition and learning.
 In D. C. Berliner, R. C. Calfee & American Psychological Association.
 Division of Educational Psychology. (Eds.), Handbook of educational psychology (pp. 15-46). New York: Macmillan Pub.
- Grossman, P., Compton, C., Igra, D., Ronfeldt, M., Shahan, E., & Williamson, P.
 W. (2009). Teaching practice: A cross-professional perspective. *Teachers College Record*, 111(9), 2055-2100.
- Grossman, P. L. (1990). The making of a teacher: Teacher knowledge and

- teacher education. New York: Teachers College Press.
- Hall, G. E., & Hord, S. M. (2001). Implementing change: Patterns, principles, and potholes. Boston: Allyn and Bacon.
- Hall, G. E., & Hord, S. M. (2006). Implementing change: Patterns, principles, and potholes (2nd ed.). Boston: Pearson Education, Inc.
- Hall, P. A. (1993). Policy paradigms, social learning and the state: the case of economic policymaking in Britain. *Comparative Politics*, 25(3), 275-296.
- Hargreaves, A. (1991). Contrived collegiality: the micropolitics of teacher collaboration. In J. Blase (Ed.), *The politics of life in schools: Power, conflict, and cooperation* (pp. 46-72). Newbury Park, California: Sage Publications.
- Hargreaves, A., & Goodson, I. F. (1996). Teachers' professional lives: aspirations and actualities. In I. F. Goodson & A. Hargreaves (Eds.), Teachers' professional lives (pp. 1-27). London: Falmer Press.
- Hay, C. (1996). Re-stating social and political change. Buckingham: Open University Press.
- Hay, C. (2002). *Political analysis: A critical introduction* Basingstoke, Hampshire: Palgrave.
- Heclo, H. (1974). Modern social politics in Britain and Sweden; From relief to income maintenance. New Haven: Yale University Press.
- Hilferty, F. (2008). Theorising teacher professionalism as an enacted discourse of power. *British Journal of Sociology of Education*, 29(2), 161-173.
- Hill, M., & Hupe, P. (2002). Implementing public policy: Governance in theory and in practice. London: SAGE Publications.
- Hoban, G. F. (2002). Teacher learning for educational change: A systems thinking approach. Buckingham: Open University Press.
- Honig, M. I. (2006a). Building policy from practice: Implementation as organizational learning. In M. I. Honig (Ed.), New directions in education policy implementation: Confronting complexity (pp. 125-147). Albany, NY: State University of New York Press.
- Honig, M. I. (2006b). Complexity and policy implementation: challenges and opportunities for the field. In M. I. Honig (Ed.), New directions in education policy implementation: Confronting complexity (pp. 1-23). Albany, NY: State University of New York Press.
- Hopfenberg, W., Levin, H., & Associates (1993). The accelerated schools: Resource guide. San Francisco: Jossey-Bass Publishers.
- Hord, S. M. (1997). Professional learning communities: Communities of continuous inquiry and improvement. Austin, TX: Southwest Educational

- Development Laboratory.
- Howlett, M., & Ramesh, M. (2003). Studying public policy: Policy cycles and policy subsystems (2nd ed.). Don Mills, Ont.: Oxford University Press.
- Hudson, J., & Lowe, S. (2009). Understanding the policy process: Analysing the welfare policy and practice (2nd ed.). Bristol, UK; Portland, OR: Policy/Social Policy Association.
- Huxley, A. (1932). Brave new world: A novel. New York: Doubleday.
- Huxley, A. (1958). Brave new world revisited. London: Chatto and Windus.
- Jackson, D., & Temperley, J. (2007). From professional learning community to networked learning community. In L. Stoll & K. S. Louis (Eds.), Professional learning communities: Divergence, depth and dilemmas (pp. 45-62). Maidenhead, England; New York: McGraw Hill/Open University Press.
- Jennings, N. E. (1996). Interpreting policy in real classrooms: Case studies of state reform and teacher practice. New York: Teachers College Press.
- Jennings, P. D., & Greenwood, R. (2003). Constructing the iron cage: Institutional theory and enactment. In R. I. Westwood & S. Clegg (Eds.), Debating organization: Point-counterpoint in organization studies (pp. 195-207). Malden, MA: Blackwell Pub.
- Jessop, B. (1996). Interpretive sociology and the dialectic of structure and agency. Theory, Culture & Society, 13(1), 119-128.
- Jessop, B. (1999). The changing governance of welfare: recent trends in its primary functions, scale, and modes of coordination. Social Policy & Administration, 33(4), 348-359.
- Jessop, B. (2000). From the KWNS to the SWPR. In G. Lewis, S. Gewirtz & C. J. (Eds.), *Rethinking social policy* (pp. 171-184). London: Sage Publications.
- Jessop, B. (2001). Institutional re(turns) and the strategic-relational approach. Environment and Planning A, 33(7), 1213-1235.
- Jessop, B. (2002). The future of capitalist state. Cambridge: Polity.
- Junki, K. (2006). Networks, network governance, and networked networks. International Review of Public Administration, 11(1), 19-34.
- Kennedy, K. J., & Lee, J. C.-K. (2008). The changing role of schools in Asian societies: Schools for the knowledge society. London; New York: Routledge.
- Kickert, W. J. M., Klijn, E.-H., & Koppenjan, J. F. M. (Eds.). (1997). Managing complex networks: Strategies for the public sector. London: Sage.
- Klijn, E.-H. (2008). Policy and implementation networks: Managing complex

- interactions. In S. Cropper, M. Ebers, C. Huxham & P. S. Ring (Eds.), *The Oxford handbook of inter-organizational relations* (pp. 118-146). New York: Oxford University Press.
- Koppenjan, J., & Klijn, E.-H. (2004). Managing uncertainties in networks: A network approach to problem solving and decision making. London: Routledge.
- Lam, C. C., & Zhang, S. (2005). Liberal Studies: An illusive vision? *Hong Kong Teachers' Centre Journal*, 4, 35-42. (In Chinese)
- Lampert, M. (2010). Learning teaching in, from, and for practice: What do we mean? *Journal of Teacher Education*, 61(1-2), 21-34.
- Lankshear, C., & Knobel, M. (2003). New literacies: Changing knowledge and classroom learning. Buckingham: Open University Press.
- Lankshear, C., Peters, M., & M., K. (2000). Information, knowledge and learning: Some issues facing epistemology and education in a digital age. *Journal of Philosophy of Education*, 34(1), 17-39.
- Legislative Council (2005). Panel on education: Minutes of special meeting held on Friday, 3 June 2005.
- Legislative Council (2009). Background brief prepared by the Legislative Council Secretariat for the special meeting on 11 July 2009: Liberal Studies under the new senior secondary curriculum.
- Lieberman, A., & Grolnick, M. (1996). Networks and reform in American education. *Teachers College Record*, 96(1), 7-45.
- Lieberman, A., & Mace, D. H. P. (2010). Making practice public: Teacher learning in the 21st century. *Journal of Teacher Education*, 61(1-2), 77-88.
- Lieberman, A., & McLaughlin, M. W. (1992). Networks for educational change: Powerful and problematic. *Phi Delta Kappan*, 73(9), 673-677.
- Lieberman, A., & Wood, D. (2004). The work of the national writing project:

 Social practices in a network context. In F. Hernández & I. Goodson

 (Eds.), Social Geographies of Educational Change (pp. 47-64).

 Dordrecht; Boston: Kluwer Academic Publishers.
- Lima, J. A. (2008). Thinking more deeply about networks in education. *Journal of Educational Change*, 11(1), 1-21.
- Lin, N. (2001a). Building a network theory of social capital. In N. Lin, K. S. Cook & R. S. Burt (Eds.), Social capital: Theory and research (pp. 3-29). New York: Aldine de Gruyter.
- Lin, N. (2001b). Social capital: A theory of social structure and action. London; New York: Cambridge University Press.

- Lipsky, M. (1980). Street-level bureaucracy: Dilemmas of the individual in public services. New York: Russell Sage Foundation.
- Lotia, N., & Hardy, C. (2008). Critical perspectives on collaboration. In S. Cropper, M. Ebers, C. Huxham & P. S. Ring (Eds.), *The Oxford handbook of inter-organizational relations* (pp. 366-389). New York: Oxford University Press.
- Louis, M. (1980). Surprise and sensemaking: What newcomers experience in entering unfamiliar organizational settings. Administrative Science Quarterly, 25(2), 226-251.
- Malen, B. (2006). Revisiting policy implementation as a political phenomenon: The case of reconstitution policies. In M. I. Honig (Ed.), New directions in education policy implementation: Confronting complexity (pp. 83-104). Albany: State University of New York Press.
- Mandler, J. M. (1984). Stories, scripts, and scenes: Aspects of schema theory. Hillsdale, N.J.: L. Erlbaum Associates.
- Markus, H. (1977). Self-schemata and processing information about the self. Journal of Personality and Social Psychology, 35(2), 63-78.
- Marsh, D. (1998a). The development of the policy network approach. In D. Marsh (Ed.), Comparing policy networks (pp. 3-17). Buckingham: Open University Press.
- Marsh, D. (1998b). The utility and future of policy network analysis. In D. Marsh (Ed.), Comparing policy networks (pp. 185-197). Buckingham: Open University Press.
- Marsh, D., & Odden, A. (1991). Implementation of the California mathematics and science curriculum frameworks. In A. R. Odden (Ed.), *Education* policy implementation (pp. 219-240). Albany: State University of New York Press.
- Marsh, D., & Rhodes, R. A. W. (1992). Policy networks in British government.

 Oxford: Clarendon Press.
- Marsh, D., & Smith, M. (2000). Understanding policy networks: Towards a dialectical approach. *Political Studies*, 48(1), 4-21.
- Matland, R. E. (1995). Synthesizing the implementation literature: The ambiguity-conflict model of policy implementation. *Journal of Public Administration Research and Theory*, 5(2), 145-174.
- Mazmanian, D. A., & Sabatier, P. A. (1980). Effective policy implementation. Lexington, Mass.: Lexington Books.
- McAnulla, S. (2002). Structure and agency. In D. Marsh & G. Stoker (Eds.), Theory and methods in political science (2 ed.). Basingstoke, Hampshire:

- Palgrave Macmillan.
- Miles, M. B., & Huberman, A. M. (1994). Qualitative data analysis: An expanded sourcebook (2 ed.). Thousand Oaks: Sage Publications.
- Morgan, P. W., & Eustis, A. M. (2004). Connecting teacher preparation and continuing professional development: The boundary spanner's role. In J. E. Neapolitan, T. D. Proffitt, C. L. Wittmann & T. R. Berkeley (Eds.), Traditions, standards and transformations: A model for professional development school networks (pp. 91-105). New York: Peter Lang Publishing Inc.
- Morris, P., & Adamson, B. (2010). Curriculum, schooling and society in Hong Kong. Hong Kong University Press.
- Nahapiet, J. (2008). The role of social capital in interorganizational relationship. In S. Cropper, M. Ebers, C. Huxham & P. S. Ring (Eds.), The Oxford handbook of inter-organizational relations (pp. 580-606). New York: Oxford University Press.
- NTW LS profession network (2009). NTW LS profession network: Introduction to network. Retrieved 22 Sept, 2009, from http://www.lspn.org.hk
- O'Hair, M. J., & Veugelers, W. (2005). The case of network learning. In W. Veugelers & M. J. O'Hair (Eds.), *Network learning for educational change* (pp. 1-16). Maidenhead: Open University Press.
- O'Toole, L. J. J. (2000). Research on policy implementation: Assessment and prospects. *Journal of Public Administration Research and Theory*, 10(2), 263-288.
- O'Toole, L. J. J. (2004). The theory-practice issue in policy implementation research. *Public Administration*, 82(2), 309-329.
- Osterman, K. F., & Kottkamp, R. B. (1993). Reflective practice for educators: Improving schooling through professional development. Corwin Press: Newbury Park, Calif.
- Piaget, J. (1950). The psychology of intelligence. London: Routledge & Kegan Paul.
- Postman, N. (1986). Amusing ourselves to death: Public discourse in the age of show business. New York, N.Y.: Penguin Books.
- Pressman, J. L., & Wildavsky, A. B. (1973). Implementation: How great expectations in Washington are dashed in Oakland; or, Why it's amazing that Federal programs work at all, this being a saga of the economic development administration as told by two sympathetic observers who seek to build. Berkeley: University of California Press.
- Putnam, R. (1995). Tuning in, tuning out: The strange disappearance of social

- capital in America. PS: Political Science and Politics, 28(4), 664-683.
- Raffe, D., & Spours, K. (2007). Three models of policy learning and policy-making in 14-19 education. In D. Raffe & K. Spours (Eds.), Policy-making and policy learning in 14-19 education (pp. 1-32). London: Institute of Education, University of London.
- Ranson, S. (2003). Public accountability in the age of neo-liberal governance. Journal of Education Policy, 18(5), 459-480.
- Rein, M. (1983). From policy to practice. Macmillan: London.
- Rhodes, C., Stokes, M., & Hampton, G. (2004). A practical guide to mentoring, coaching and peer-networking: Teacher professional development in schools and colleges. London; New York: RoutledgeFalmer.
- Rhodes, R. A. W. (1996). The new governance: Governing without government. *Political Studies*, 44, 652-667.
- Rhodes, R. A. W. (1997). Understanding governance: Policy networks, governance, reflexivity and accountability. Buckingham: Open University Press.
- Rhodes, R. A. W. (2006). Policy network analysis. In M. Moran, M. Rein & R. E. Goodin (Eds.), *The Oxford handbook of public policy* (pp. 423-445). Oxford: Oxford University Press.
- Sabatier, P. A. (1993). Policy change over a decade or more. In P. A. Sabatier & H. C. Jenkins-Smith (Eds.), *Policy change and learning: An advocacy coalition approach* (pp. 13-39). Boulder, Colo.: Westview Press.
- Sabatier, P. A. (1997). Top-down and bottom-up approaches to implementation research. In M. J. Hill (Ed.), *The policy process: A reader* (2nd ed., pp. xii, 441 p.). New York: Prentice Hall/Harvester Wheatsheaf.
- Sabatier, P. A., & Mazmanian, D. A. (1980). The implementation of public policy: A framework of analysis. *Policy Studies Journal*, 8(4), 538-560.
- Sabatier, P. A., & Weible, C. M. (2007). The advocacy coalition framework: Innovations and clarifications. In P. A. Sabatier (Ed.), *Theories of the policy process* (pp. 189-220). Boulder, Colo.: Westview Press.
- Scharpf, F. W. (1997). Games real actors play: Actor-centered institutionalism in policy research. Boulder, Colo.: Westview Press.
- Schofield, J. (2004). A model of learned implementation. *Public Administration*, 82(2), 283-308.
- Scott, W. R., & Meyer, J. W. (Eds.). (1994). Institutional environments and organizations: Structural complexity and individualism. Thousand Oaks, C.A.: Sage.
- Secretary for Education (2009). School-based support service (2009/10)-

- Primary, secondary and special education.
- Shulman, L. S. (1986). Those who understand: Knowledge growth in teaching. Educational Researcher, 15(2), 4-14.
- Simon, C. A. (2010). *Public policy: Preferences and outcomes* (2nd ed.). New York: Longman.
- Smylie, M. A. (1996). From bureaucratic control to building human capital: The importance of teacher learning in education reform. *Educational Researcher*, 25(9), 9-11.
- Spillane, J. P. (1998). A cognitive perspective on the role of the local educational agency in implementing instructional policy: Accounting for local variability. *Educational Administration Quarterly*, 34(1), 31-57.
- Spillanc, J. P. (2004). Standards deviation: How schools misunderstand education policy. Cambridge, Mass.: Harvard University Press.
- Spillane, J. P., Reiser, B. J., & Reimer, T. (2002). Policy implementation and cognition: Reframing and refocusing implementation research. *Review of Educational Research*, 72(3), 387-431.
- Spillane, J. P., Reiser, B. J., & Reimer, T. (2006). Policy implementation and cognition: The role of human, social, and distributed cognition in framing policy implementation. In M. I. Honig (Ed.), New directions in education policy implementation: Confronting complexity (pp. 47-64). Albany: State University of New York.
- Spillane, J. P., & Zeuli, J. S. (1999). Reform and teaching: Exploring patterns of practice in the context of national and state mathematics reforms. Educational Evaluation and Policy Analysis, 21(1), 1-27.
- Stewart, M. (2005). Collaboration in multi-actor governance. In M. Haus, H. Heinelt & M. Stewart (Eds.), *Urban governance and democracy:* Leadership and community involvement (pp. 149-167). Oxon: Routledge.
- Stoker, G. (2004). Transforming local governance: From Thatcherism to New Labour. Hampshire: Palgrave macmillan.
- Stoll, L., Bolam, R., Mcmahon, A., Wallace, M., & Thomas, S. (2006). Professional learning communities: Λ review of literature. *Journal of Educational Change*, 7(4), 221-258.
- Strike, K. A., Anderson, M. S., Curren, R., Geel, T. v., Pritchard, I., & Robertson, E. (2002). Ethical standards of the American Educational Research Association: Cases and commentary. Washington, D.C.: American Educational Research Association
- Varga-Atkins, T., O'Brien, M., Burton, D., Campbell, A., & Qualter, A. (2009). The importance of interplay between school-based and networked

- professional development: School professionals' experiences of inter-school collaborations in learning networks. *Journal of Educational Change*.
- Veugelers, W., & Zijlstra, H. (2005). Keeping school networks fluid: Networks in dialogue with educational change. In W. Veugelers & M. J. O'Hair (Eds.), Network learning for educational change (pp. 33-51). Maidenhead: Open University Press.
- Wechsler, M. E., & Friedrich, L. D. (1997). The role of mediating organizations for school reform: Independent agents or district dependents? *Journal of Education Policy*, 12(5), 385-401.
- Weick, K. E. (1979). The social psychology of organizing (2nd Ed.). Reading, Mass.: Addison-Wesley Pub. Co..
- Weick, K. E. (†995). Sensemaking in organizations. Thousand Oaks: Sage Publications.
- Weick, K. E., Sutcliffe, K. M., & Obstfeld, D. (2005). Organizing and the process of sensemaking. *Organization Science*, 16(4), 409-421.
- Wenger, E. (1998). Communities of practice: Learning, meaning, and identity. Cambridge, U.K.; New York, N.Y.: Cambridge University Press.
- Winter, S. C. (2003a). Implementation perspectives: Status and reconsideration In B. G. Peters & J. Pierre (Eds.), *Handbook of public administration* (pp. 212-222). London: Sage.
- Winter, S. C. (2003b). Implementation: Introduction. In B. G. Peters & J. Pierre (Eds.), *Handbook of public administration* (pp. 205-211). London: Sage.
- Winter, S. C. (2006). Implementation. In B. G. Peters & J. Pierre (Eds.), *Handbook for public policy* (pp. 151-166). London: Sage Publications.
- Wu, W. Y., Chan, D. W. K., & Forrester, V. (2005). Quality education initiatives in Hong Kong: School networks in transition. In W. Veugelers & M. J. O'Hair (Eds.), Network learning for educational change (pp. 159-171). Maidenhead: Open University Press.
- Young, M. F. D. (1998). The curriculum of the future: From the 'new sociology of education' to a critical theory of learning. London; Philadelphia, PA: Falmer Press.
- Young, M. F. D. (2008). Bringing knowledge back in: From social constructivism to social realism in the sociology of education. London; New York: Routledge.
- Yung, M. S. (2005). The implementation and challenges of Liberal Studies in education reform in Hong Kong. *Hong Kong Teachers' Centre Journal*, 4, 43-53. (In Chinese)

Appendix 1: Interview questions

個人對新高中通識教育科課程的理解:

- 你認為新高中通識教育科主要的課程目標是甚麼?為甚麼你會這樣認為?
- 2)你是透過甚麼途徑學習通識教育科課程?你覺得哪一種學習途徑對你來 說最有用?為甚麼?它們能切合你的需要嗎?(校內同事、教育局、大學、 其他網絡、課程)
- 3) 你認為理解這課程最大的困難和挑戰在哪裡? 與你過往學習其他課程的 經驗有甚麼不同?
- 4) 以你現正教授的單元為例,你認為這單元的教學重點在哪裡?為其麼?
- 5)你期望學生在三年學習後會有甚麼成果?你會如何在課程/教學設計中 逐步引領學生達致?

組織層面的課程治理:

- 你會與其他人分享學習所得嗎?為甚麽?你會透過甚麼形式與其他人分享?
- 2) 在此科進行集體備課會有甚麼好處和困難?
- 3) 甚麼是集體實踐校本課程的成功因素?
- 4) 你理解課程的側重點在哪裡? 與其他老師有差異嗎?
- 5) 你擔心最後校內或校外統一評核嗎? 會如何裝備學生面對考試?
- 6) 你如何看待考試在通識教育科的地位?
- 7)你認為學校的通識教育科有甚麼特色?與其他學校的課程有甚麼差異嗎?
- 8) 學校有為這科目提供甚麼資源或支援嗎? ...

網絡層面的課程治理:

- 1) 你參與網絡所舉辦的甚麼活動? 當中的角色是甚麼?
- 2) 你認為網絡主辦者在當中的角色是甚麼?他們與你的關係是怎樣的?
- 3) 在網絡的交流中,有設計出一些共同的課程或教學資源嗎? 你是如何看待那些資源的?

關於網絡與治理的互動:

- 你認為外間資訊如何影響你們的校本課程設計?校本元素還是校外元素較多?你覺得有多少意見是你心目中所想的?
- 2) 你有反映你的意見予資源提供者嗎? 是甚麼意見?

個人對新高中通識教育科課程的實施:

- 1) 你認為你能在教學上把校本課程設計的構想實踐出來嗎? 構想和實踐中有甚麼差異?
- 2)就你任教的班別,你會運用甚麼教學策略?與原先設計有差異嗎,需要調整嗎?為甚麼?
- 3) 你在教學時遇到甚麼困難? 如何面對和解決?
- 4) 你認為哪個培訓組織材料或教學資源對你教學的影響最大? 為甚麼?