Education Journal《教育學報》, *Vol. 35, No. 2, Winter 2007*

Teachers' Conception of Curriculum Integration: A Problem Hindering Its Implementation in Hong Kong

Shirley Sze-Yin YEUNG,
Chi-Chung LAM
Department of Curriculum and Instruction,
The Hong Kong Institute of Education

Implementing curriculum integration initiatives is far from easy. In Hong Kong, the change has been imposed to schools for more than twenty years. However, experiences show that they were not successfully implemented. To successfully implement such an initiative, teachers have a pivotal part to play. Past research studies have shown that teachers are influenced by their conception. This article reports an in-depth qualitative study on the conception of curriculum integration of seven primary school teachers. The findings indicate that teachers' conception of curriculum integration comprises five dimensions and the conception of Hong Kong primary school teachers is generally confused and conservative. Most participants are still more adhered to or showing more acceptance of a teacher-centered, discipline-based type of teaching and curriculum.

Introduction

Currently, there is a wave of curriculum reform in East Asia, subsequent to technological advancement, and social and political changes. The concept of what is worth learning is shifting. Competence in reading, writing, and arithmetic (three Rs) is no longer seen by many educators as adequate. To prepare for the new technological world, students need to develop process skills (such as information technology skills), higher-order thinking abilities, communication skills, and so on. These

"new basics" go far beyond the traditional notions of the three Rs. To promote these "new basics" among school students, governments in various places are making an attempt at curriculum integration. One of the most recent examples is England (Qualifications and Curriculum Authority [QCA], 2007b). The QCA, responsible for developing the national curriculum in England, has proposed the introduction of more integrated curriculum for students of the age group 11–16 and 14–19. The QCA terms such curriculum as "cross-curriculum dimensions":

> Cross-curriculum dimensions provide important unifying areas of learning that help young people make sense of the world and give education relevance and authenticity. They reflect the major ideas and challenges that face individuals and society.
>
> Dimensions can add a richness and relevance to the curriculum experience of young people. They can provide a focus for work within and between subjects and across the curriculum as a whole, including the routines, events and ethos of the school. (QCA, 2007a)

Moreover, a renewed understanding of the nature of learning has also led to a renewed search for effective teaching and assessment strategies. It is believed that integrated curriculum is an approach that can address many current issues (see Drake, 2000, p. 2). It can, for example:

- reduce duplications of skills and concepts in different subject areas;
- increase relevance for the learner, given a real-life context;
- allow for the learner to see the big picture, rather than just the fragmented parts;
- allow for teaching interdisciplinary life skills for the 21st century;
- focus on skills that can be transferred to other disciplines and to life.

Since the 1990s, like the case in many East Asian countries, the education authority of Hong Kong has promulgated curriculum integration in the current wave of curriculum reform (see Cheng, 1999; Education Commission, 2000; Lam, 2002; Ou, 2000; Zhongguo jiaoyu xuehui, 1994).

Past experiences of developing and implementing integrated curriculum in Hong Kong have been far from successful. The fate of this new wave of curriculum reform depends heavily on how teachers respond to the call. Research studies on curriculum implementation both in Hong Kong and many other places in the world have shown that

teachers' conception has strong implication on how a curriculum reform initiative will be carried out (see, for example, Richardson, 1996; Tam, 2006). It is with these in mind that the present research was conducted.

Previous Attempts of Curriculum Integration in Hong Kong

Curriculum integration is not something new to Hong Kong. As shown in Table 1, a number of efforts have been made by the government to introduce integrated programs in the past three decades. However, they were not successful. Research studies have shown that its implementation has been hindered by problems such as: teachers' lack of skills, knowledge, and positive attitudes (Lam, 1996; C. K. Lee, 2002; Wong et al., 1996); the difficulties of coordinating and timetabling among teachers (C. K. Lee, 2002); the low status accorded to integrated subject or cross-curricular studies by teachers and parents; low adoption rate by schools (Morris, 1996; Morris & Chan, 1998; Tang, 1995; Wan, 1992); and the fluctuating stance and problematic strategies held by local policy-makers in implementing this curriculum initiative (Morris, Chan, & Lo, 1998).

Table 1: Past Attempts of Curriculum Integration in Hong Kong, 1975–2000

Year	Curriculum integration initiative
1975	Integrated Science (Forms 1–3)
	Design and Technology (Forms 1–3)
1979	Social Studies (Forms 1–3)
1981	Moral education
1985	Activity approach in primary schools
1986	Civic education
1989	Sex education
	Environmental education
1992	Liberal Studies at Advanced Supplementary Level (AS level)
1994	General Studies (Primary 1–6)
2000	"Learning to learn" curriculum reform

Among these problems, teachers' beliefs, attitudes, and knowledge seem to be the crux. The "subject-bound" belief held by teachers was often found as a factor hindering integrated classroom teaching in Hong Kong. Social Studies,[1] for example, has been rejected, or many of the original intentions have been watered down by teachers (Morris & Chan, 1998). The various cross-curricular proposals on both civic and sex education have faced similar fate. Morris and Chan (1998) explained that this was closely related to the tradition, belief, or mind-set of local teachers:

> This is a direct consequence of the hierarchy of esteem in which subjects are held. Given a wide range of aptitudes and abilities among their students, teachers would rather extend the time devoted to high-status knowledge than reduce the academic content. (p. 158)

Some other local researchers share the view that teachers' attitudes and beliefs are influential factors for successful implementation of curriculum integration (Chan, 2002; Leung, 2002). It is found that change will be facilitated if teachers' thinking goes with the conception of curriculum integration.

The Characteristics of the Integrated Curriculum Change in Hong Kong in the 21st Century

A comprehensive curriculum reform in Hong Kong was officially launched in 2000 by the Curriculum Development Council (CDC) — the government authority responsible for developing curriculum in Hong Kong. In the consultation document *Learning to Learn: The Way Forward in Curriculum Development*, the CDC (2000a) proposed to develop general education in basic schooling, then toward specialized education in higher level:

> Both the basic education and senior secondary curricula should be broad and balanced … to lay a good foundation for their [students'] future life, employment, further studies and life-long learning. In addition, the senior secondary curriculum should be diversified providing students with a variety of options for some specialization to cater for their different aptitudes and learning needs. (p. 15, para. 1.13)

It is stated in the CDC curriculum reform document that integration is to be actualized throughout the eight Key Learning Areas (KLAs)[2] (CDC, 2000a, p. 1). Integration is recommended as a "whole curriculum framework" across the levels of primary and secondary education (CDC, 2000a, p. 33, para. 3.4). Schools and teachers are encouraged to abandon the inflexibility and "barriers" set by the "dominance of academic subjects" and "overcrowded" school curricula (CDC, 2000a, p. 9, para. 1.10). This whole and open curriculum framework aligns integration with the proposal of school-based curriculum development in a "holistic" curriculum framework. The CDC (2000a) explains this as follows:

> It ensures that curriculum planning is coherent (not overcrowded or overlapping), continuous across the levels of primary and secondary education so that learning experiences are connected. (p. 33, para. 3.4, pt. 2)

> It allows flexible changes and adaptation to suit different student needs, and respond to changing needs of society, e.g. core, extension, curriculum space, optional time. (p. 33, para. 3.4, pt. 4)

Schools and teachers are advised to develop step by step a school-based integrated curriculum through which KLAs, generic skills, values, and attitudes are infused together (CDC, 2000a).

However, an analysis of the official curriculum policy documents shows that the central curriculum development agency in Hong Kong has avoided giving an obvious stance or clear direction on the forms of curriculum integration that should be adopted and how it should be developed in schools (Lam, 2002).

In the recent round of educational reform in Hong Kong, the Education and Manpower Bureau (EMB) announced that the three-year senior secondary education system would be implemented at Secondary 4 in September 2009 (EMB, 2004). Building on the experience got from developing Liberal Studies (Advanced Supplementary Level) (CDC, 2000b), Integrated Humanities (S4–5) and Science and Technology in 2003 (Curriculum Development Council and the Hong Kong Examinations and Assessment Authority [CDC & HKEAA], 2003a), the government stipulates that Liberal Studies will be a core subject in the three-year senior secondary curriculum (CDC & HKEAA, 2003b). The government explains the rationale behind this proposal:

> Senior Secondary Liberal Studies is a response to the community's expressed needs for a cross-curricular learning opportunity for all senior secondary students. It complements other senior secondary subjects in providing for academic excellence, broadening perspectives, and connecting learning more closely to real-life experience. (CDC & HKEAA, 2007, p. 2)

The government further elaborates that the cross-disciplinary nature of the new subject helps achieve the following aims:

> to broaden students' knowledge base and enhance their social awareness through the study of a wide range of issues. (CDC & HKEAA, 2007, p. 1)

> to enable students to develop multiple perspectives on perennial and contemporary issue in different contexts (e.g. cultural, social, economic, political and technological contexts). (CDC & HKEAA, 2007, p. 5)

The government believes that the new Senior Secondary Liberal Studies enables students to "prepare them(selves) for effective learning and wise decision making in the ever-changing work environment" (CDC & HKEAA, 2007, p. 7).

However, local scholars or researchers criticize that to successfully implement this new subject, there are much difficulties that need to be resolved. Among these, teachers' habits of mind, their beliefs and conception of teaching and learning are determining factors (Lam & Zhang, 2005; Tsang, 2006; Zhang & Lam, 2007). Lam and Zhang's (2005) observation is remarkable:

> the new subject requires a paradigm shift in curriculum and teaching … from emphasizing on "product" to focusing on "process"; however, local educationists and practitioners have yet taken cautious consideration nor consensus about this. (p. 40)

Tsang's (2006) comment is similarly significant:

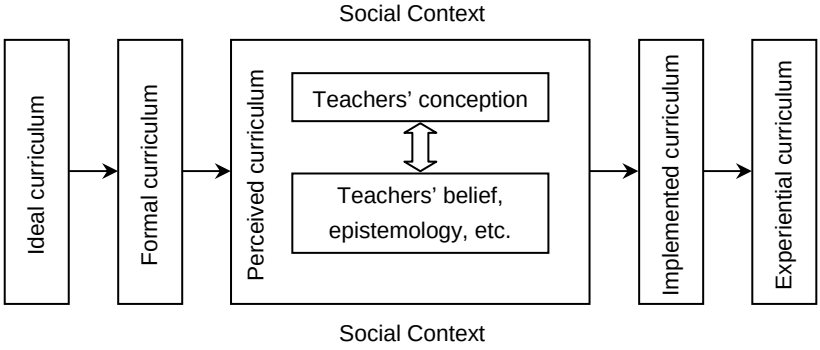
> (Senior Secondary Liberal Studies) requires teachers to change and reconstruct their deep-rooted modes of thinking. (p. 18)

The Importance of Teachers' Conception on the Success of Curriculum Implementation

Indeed, the importance of teacher in the successful implementation of curriculum reform has been revealed in studies both in the West (see, for example, Fullan, 2001; Nias, Southworth, & Campbell, 1992) and the East (Ou, 2000), including Hong Kong (Adamson, Kwan, & Chan, 2000; Lam, 1996; C. K. Lee, 2002). Under the school-based curriculum development policy postulated in Hong Kong, the importance of teachers to the development of integrated programs in schools is even more obvious.

The importance of studying teachers' conception can be seen from Goodlad's (1979) five levels of curriculum, namely ideal, formal, perceived, implemented, and experiential curricula (see Figure 1). The theories and principles about curriculum integration derived from literature and research studies could be seen as representing the "ideal curriculum." The "formal curriculum" of the initiative is developed or decided by local curriculum developers or policy-makers. Teachers' interpretation of the formal curriculum becomes their "perceived curriculum." The "implemented curriculum" represents the classroom implementation of curriculum integration. In reality, teachers' perceived and implemented curricula are usually affected by the "social context." Social context implies the social environment of teachers, including the tradition and culture of society, the expectation of parents and other stakeholders, the school context, and so on. Finally, students will go through the "experiential curriculum" as teachers deliver it.

Figure 1: Goodlad's Five Levels of Curriculum



Source: Adapted from Goodlad (1979).

As Goodlad (1979) postulates, the implemented curriculum often differs to various extents from the ideal or formal curriculum. The perceived and implemented curricula vary from the conception of persons (policy-makers or curriculum developers) who plan or devise a curriculum innovation. Teachers usually do not strictly adhere to a proposed change but implement their own version of a curriculum with their own interpretation or conception.

The Meaning of Teachers' Conception

What does "teachers' conception" mean? Some researchers have attempted to describe what it is. Green (1971) defines "conception" as composing of various cognitive or psychological dimensions like "beliefs," "image," "rules," "preferences," "meanings," as well as "knowledge" and "concept."

Thompson (1992) defines a teacher's conception (of mathematics) as:

> Teacher's conscious or subconscious beliefs, concepts, meanings, rules, mental images, and preferences concerning the discipline of mathematics. Those beliefs, concepts, views, and preferences constitutes the rudiments of a philosophy of mathematics, although for some teachers they may not be developed and articulated into a coherent philosophy. (p. 132)

Following Thompson's (1992) definition, it would be helpful to differentiate the meaning of various cognitive dimensions.

From dictionaries of psychology (for example, Cardwell, 1999), it is found that an "image" is a mental picture or a metaphor or a simile; "rules" represent usual or customary course of thinking, action or behavior; a "concept" is a general idea inferred from specific instances or occurrences. From literature, it is found that more studies have been conducted on teachers' "knowledge," "belief," and "conception" (for example, Elbaz, 1981, 1983; Pajares, 1992; Thompson, 1992).

Elbaz (1981, 1983) is among the first who proposes the idea of teacher using "practical knowledge." He generates five categories of teachers' practical knowledge that include knowledge of "subject matter," "curriculum," "instruction," "self," and "milieu of schooling."

Pajares (1992) has identified that "beliefs" are highly individual,

deeply personal, and represent an individual's understanding of reality that directs thinking and behavior and influences learning.

In short, both belief and conception are subjective, private, and personal understanding of an individual or a group. Whereas beliefs are strong evaluative and affective personal truths held by individuals (Nespor, 1987), conceptions are cognitive constructs. Teachers' conception represents part of teachers' mental contents or schemas that influence approaches and practice of teaching (Ernest, 1989).

Research studies (see, for example, Huang, Lin, Huang, Ma, & Han, 2002; Thompson, 1992) conclude that teachers' conception of a subject or a curriculum would shape their perceived curriculum and therefore their implemented curriculum. As teachers in Hong Kong are delegated the responsibility to develop school-based integrated curriculum for their students, teachers' conception is of high importance in the implementation process. It is therefore useful to inquire into the characteristics of teachers' conception of curriculum integration if we want to have a deep understanding of the implementation process. Nevertheless, there has never been any research on teachers' conception of curriculum integration in Hong Kong. The present study aims to explore and identify how primary school teachers in Hong Kong conceive integrated curriculum. This will shed light on the future of the implementation of curriculum integration in Hong Kong.

Research Methodology

This study used in-depth interviews as its research method because it is widely considered to be particularly suitable to uncover and inquire into what is inside the mind of informants (Weiss, 1994). Purposeful sampling was adopted to select cases who were "information rich" and illuminative (Patton, 2002). Primary teachers were chosen as the target informants because observation tells that primary schools in Hong Kong, when compared with secondary schools, tend to take first steps in attempting curriculum integration. Hence, to begin with, the researchers conducted some informal surveys to identify seven primary schools which have adopted or developed integrated curriculum in recent years. Then, the researchers invited seven primary teachers from these seven different schools to be the participants. The schools where the seven teachers worked varied in background and missions; and the years of teaching experience of the seven teachers varied from 6 to 15 years. The

teachers were chosen on the basis of their principal's recommendation, or on their reputation for quality work among their colleagues and supervisors. This is kind of "reputational-case selection" method (LeCompte & Preissle, 1993). Table 2 summarizes the characteristics of the seven participants.

Table 2: Information About the Seven Participants

Teacher	Gender	Rank*	Years of teaching	School type	Experience of implementation: Curriculum integration
T1	Male	AM	5–10	Subsidized school	3 years' experience as a curriculum leader
T2	Female	CM	5–10	Subsidized school	4 years' experience as a junior teacher, who assisted to implement curriculum integration
T3	Female	CM	5–10	Subsidized school	3 years' experience as a junior teacher, who assisted to implement curriculum integration
T4	Female	AM	10	Private school	2 years' experience as a senior teacher, who assisted the headteacher to plan curriculum integration
T5	Male	AM	>10	Subsidized school	4 years' experience as a school curriculum developer
T6	Female	AM	5–10	Subsidized school	3 years' experience as a curriculum leader
T7	Female	CM	5–10	Subsidized school	4 years' experience as a junior teacher, who assisted to implement curriculum integration

* "AM" and "CM" are ranks for qualified primary school teachers in Hong Kong. "AM" is the "Assistant Master/Mistress" while "CM" is the "Certified Master/Mistress". AM is senior than CM.

The researchers used a "general interview guide approach" (Patton, 2002) to collect data. Before the interviews began, an interview guide outlining a set of issues to be explored with each participant was developed (see Appendix 1 for the outline of interview questions). As the background of participants varied, the researchers adapted the interview guide to ensure that the most information could be tapped from an interview. During the interview, the researchers remained free to build a conversation, to explore and probe into information that would elucidate and illuminate the research theme. In order to allow enough time for the participants to fully reveal their ideas, the interviews were fairly long. Most of the interviews lasted for 1 to 1.5 hours.

To ensure the trustworthiness in this study, three main tactics were adopted:

1. To ensure accuracy in data collection, interviews were tape-recorded with the permission of the participants. By doing so, the interviewer could be more attentive to the participants (Patton, 2002).
2. To reduce the likelihood of misinterpretation, the researcher employed the procedures for "triangulation" (Denzin & Lincoln, 1998). To check and verify data got from interviews, the participants were asked to provide school curriculum documents which acted as different validated measures.
3. The participants were asked to validate the interview transcripts. In order to facilitate conversation, interviews in the study were conducted in Cantonese but the conversation was taped, translated, and transcribed into English. The transcripts were sent back to the participants for verification and validation. This, apart from providing an opportunity for the participants to further elaborate their views, ascertained that the transcripts truly reflected their views.

Formal data analysis began after all the raw data from interviews were collected and transcribed. The initial process involved scanning; that is, the researchers read and reread all transcriptions and jotted down notes in the process. As the researchers read through data, regularities and patterns were identified. The words and phrases about these regularities and patterns became the first-level coding categories. This constituted the first stage of integrating, synthesizing, and generalizing (Patton, 2002).

During the coding procedures, "inductive analysis" was employed (Patton, 2002). The researchers identified and discovered patterns, themes, tendencies, and trends that emerged from the data. "Pattern codes" (Miles & Huberman, 1994) such as "goal," "definitions," "forms," "epistemology/view of knowledge" that were emerged and illustrated were used to infer the theme or pattern for studying a participant's conception of curriculum integration. Then, by comparing and contrasting the data and also by inference, the linkage and relationship among data were found. Subsequently, a "cognitive map" for each participant was identified (Miles & Huberman, 1994). These cognitive maps represented the participants' conceptualization of curriculum integration, showing the relationship among different conceptions. This was an important tool for analyzing, comparing, and contrasting the participants' conceptions of the curriculum notion (see an example in Appendix 2).[3]

After constructing the cognitive maps for all participants, six common core categories emerged and they constituted the framework for further analysis of the conception of curriculum integration. Cross-case displays were used for comparing and explaining the within-group patterns and themes, and hence cross-case comparison tables (see, for example, Table 3) were built. The tables represented some tentative frames to examine similarities and differences among the cases.

Table 3: Hypothetical Qualitative Data Set for Cross-case Analysis

Teacher	Goal	Definition/ understanding	Form	Epistemology	Practical concerns
T1					
T2					
T3					
•					
•					
•					

Source: Adapted from Miles and Huberman (1994).

Findings

As analyzed from the data collected, the participants' conception of curriculum integration embraces the following dimensions:

- their thinking about the goals of curriculum integration;
- their personal definition and understanding of curriculum integration;
- forms of implementing the notion;
- underlying epistemology; and
- practical concerns about implementing curriculum integration.

These five dimensions interrelate with each other. Findings show that there were discrepancies in the intensity of how these five dimensions shaped the conception of the participants. Participants whose conception was influenced more by the dimension of "practical concerns" demonstrated a more conservative conception of curriculum integration. In contrast, participants with a more progressive epistemology were found more open-minded with the way to implement curriculum integration.

A sixth dimension, *milieu*, which acts as an overarching dimension for studying conception of curriculum integration, is also identified. This sixth dimension is important because it highlights the sociological aspect of the other dimensions (see Figure 2).

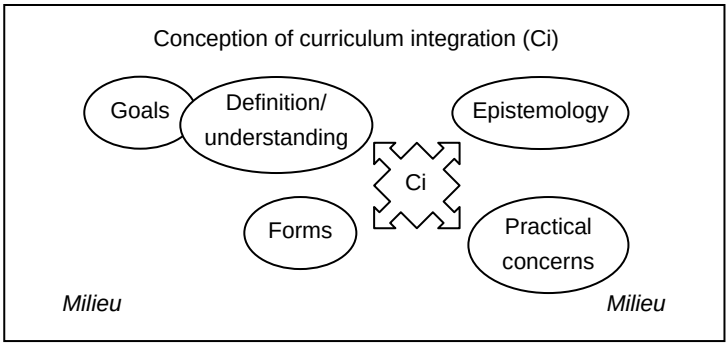
Moreover, two salient features of the teachers' conceptions can be identified from the data. First, teachers held various conceptions toward curriculum integration. Second, the seven teachers focused on describing the "forms" or ways that the curriculum can be integrated (the "how" question) but did not share a common view.

Table 4 summarizes teachers' conception of curriculum integration in this study.

Goals and Definition

As shown in Table 4, most teachers defined curriculum integration from the perspective of ways of curriculum organization. For example, T4, T6, and T7 saw curriculum integration as a means of avoiding overlapping or fragmentation of subject content. The purpose of adopting curriculum integration was to avoid wasting teaching time. The following extract of T7's interview shows this clearly:

Figure 2: Dimensions for Studying the Conception of Curriculum Integration



Note: Conception of curriculum integration = (a) Goals + (b) Definition + (c) Forms of curriculum integration + (d) Epistemology + (e) Practical concerns about implementation (modified by the dimension of (f) milieu)

Source: Adapted from Green (1971).

> [Teachers] should gather together and spend time to discuss and scrutinize the subject content. They should select the content that needs to be taught with greater depth and take out what is not needed because of possible overlapping. With this, teaching and learning would not be so fragmented or overlapping (for example, there are many similarities in content between primary one and primary two). I agree that unnecessary compartmentalization can be improved by grouping them [related teaching topics] together. (T7, 36:1–4)[4]

Among the teachers interviewed, only T2 and T5 described some of the philosophical underpinnings of curriculum integration, such as "learning process" and whole-school "paradigm shift." T2 took curriculum integration as a kind of "learning process" that could invite children's active learning, enhance students' motivation to learn, and deal with individual differences among children:

> Integration in fact stresses on learning "process." Personally, I feel that integration is a kind of "learning process." (T2, 15:1)

On the whole, it was found that the teachers interviewed appeared to be less eager to discuss their conceptual descriptions of curriculum integration. A possible reason for this is that they did not have a rich knowledge of curriculum integration.

Forms

Among the seven teachers interviewed, T6 and T7 showed that they had unclear or confused conceptions of curriculum integration. T6, for example, mixed up curriculum integration with "curriculum tailoring":

> Does that [curriculum integration] mean "curriculum tailoring"? To my understanding, that means some kinds of curriculum tailoring with textbooks — for example, you might feel that some textbooks are not suitable for your school; then you could adapt them according to the needs of your school. For instance, you could group together different subjects in accordance with a theme. (T6, 3:1–3)

Two of them preferred integration "within subjects" (T3 and T4). Both of them favored a "step-by-step" approach to curriculum integration. They affirmed that curriculum integration should be implemented firstly by integrating learning resources within one subject. T3 said that this was a kind of "vertical integration" within one subject:

> Maybe we could try [integration] firstly within a single subject. When you have got successful experience from working within subjects, you could then try some more ideal ones. (T3, 22:34–35)

One teacher (T1) supported the theme-based, multi-disciplinary mode of curriculum integration for, as he thought, it is the desirable form of integration. He thought that the subject curriculum could be effectively organized around various themes. He said that subject content is the most important consideration for organizing an integrated curriculum.

Only one teacher mentioned inter-disciplinary topics with an integrated day model (T2). She described the integrative work of her school "an inter-disciplinary theme study in an integrated week":

Table 4: Teachers' Conception of Curriculum Integration

Teacher	Goal	Definition/ understanding	Form	Epistemology
T1	To incorporate the essence of "experiential learning"; aiming at allowing students to learn by doing	Bring together different subjects deliberately according to a "theme"	Theme-based, multi-disciplinary	Pragmatism
T2	To promote children's active learning; to enhance students' learning motivation; to cater for individual differences	A kind of "learning process"	Interdisciplinary integrated days	Pragmatism
T3	Dual-purpose: 1. to accommodate learning needs of individual students 2. to enhance teachers' professional growth and reflection	An aim of education	Should adopt a step-by-step approach — Integration within one subject, then fusion …; intermingling of more subjects	Pragmatism

T4	To equip students with integrated skills — those are needed in the workplace	Effort that gathers together diffused, fragmented, or repeated subject content	Integration within single subjects	Academic rationalism
T5	Subsumed under the holistic aims of curriculum	A paradigm shift for teachers, curriculum leaders, and students	Unsure, mixed up; integration of all aspects	Pragmatism
T6	Reorganize the curriculum for the benefit of students' learning needs	Not quite sure; mixed up with "curriculum tailoring"	Correlated content/ theme	Academic rationalism
T7	Not quite sure; to respond to societal trends	Not quite sure; a way to reorganize curriculum to avoid overlapping or wastage of time	Fusion — integrated subjects	Academic rationalism

> I think that the practice taken in my school is an ideal type of curriculum integration. "Subject boundaries" no longer exist. All teachers were divided into groups; each group was responsible for the integrated curriculum of two primary grades. I was assigned to be responsible for organizing integration for primary one and two classes. The week would start with "Protecting our Environment" as the theme, with different objectives from primary one to primary six. Students did not need to bring with them books or other sources of information within that whole week. The regular timetable would be changed to become several one-hour sessions, each of which would have different activities. Both my students and I enjoyed very much the learning process. (T2, 35:11–17)

T5's conception of integration was fairly unique. To him, curriculum integration was a broad concept that encompassed all aspects of the education process and included the people involved. He explained:

> We [the teachers] consider a whole-school approach. We are not saying that our school would assign a special group of teachers to try "project learning," but we mean to involve the whole school — both teachers and students — to step forward for educational reform. Therefore we, as a school, would face the reform together, learn together, and try together. (T5, 18:29–33)

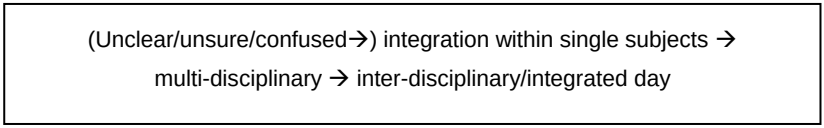
T5 thought that to attain integration, both teachers and students needed to be lifelong learners. This type of conception stood out as one that touched on Beane's (1997) "comprehensive theory of curriculum integration." However, a deeper analysis of his conception shows that his view of curriculum integration was confused. For example, he mixed up project learning with curriculum integration and he also sounded unclear about the difference between concepts of "vertical" and "horizontal" integration:

> Our meaning of "horizontal" is to teach the same theme from "primary one to primary six." (T5, 18:6–7)

> … the meaning of "vertical," in fact, is to group together various subjects within "primary three" syllabus, such as Chinese, English, Mathematics, General Studies, Art and Design, Music, and P.E. (T5, 19: 5–6) [5]

To sum up, their conceptions of curriculum integration could be aligned along a line of continuum according to Jacobs's (1989) typology (see Figure 3). Many of the participants were unclear, unsure, or confused of the form of curriculum integration. Moreover, it could be easily found that teachers' conceptions were mostly on the conservative side. Their preference fell between integration within subject and integration across two or several disciplines. Their conceptions did not touch that of "trans-disciplinary," "complete programs," "integrated/immersed/networked," or "inter-disciplinary units" planned by students and teachers. They seldom proposed forms of integration that help to extend the school curriculum beyond "subjects." It was obvious that the teachers focused toward what Beane (1997) categorizes as "integration of knowledge."[6] None of them thought in terms of "core curriculum" or "social integration" that stresses integrating the curriculum with social issues.

Figure 3: Continuum of Conceptions of Teachers



Source: Adapted from Jacobs (1989, p. 14).

Epistemology

The data collected indicate that the teachers embraced two schools of epistemology, namely pragmatism and academic rationalism (Eisner, 1992; Kelly, 1986). T1, T2, T3, and T5 preferred "student-centered" ideology. Their choice of curriculum approach focused highly on students' learning experience — aiming at providing students with learning activities for enhancing their personal and intellectual development. To them, knowledge was something that students could learn by themselves. T1 explained further as follows:

> This is because ultimately the child has to learn by himself. He would refer to books when he needs to use such knowledge. The most important thing for teachers to do is to arouse the child's interest to learn independently. (T1, 85:1–5)

T3's perspective was simply pragmatic. She held that "generic skills" should be the focus for any integrated curriculum:

> I think that some "skills" have to be acquired by children through schooling. I have finished reading CDI's [Curriculum Development Institute, Hong Kong Special Administrative Region Government] publication of *Learning to Learn*. Personally I agree with the emphasis on "generic skills." I think it's splendid if we can teach children generic skills! … In this way, every subject would have to integrate through its particular kind of skill. I believe that this is quite important. (T3, 37:1–10)

There was, to a certain extent, the perspective of academic rationalism behind T4, T6, and T7's conceptions of curriculum integration. Comparatively, T4's "academic rationalist" orientation was more obvious. She said:

> I have a personal query [about curriculum integration]. When we adopt a grand type [of curriculum integration], would we overlook the [students' understanding and] development of subject discipline? If one uses themes to teach, maybe one would find that students have great interest and concentration in learning. However, how about the training of Chinese proficiency, or basic competency in English and Mathematics? And for this reason, would we lose balance and would we ignore others [other meaningful teaching objectives]? With these questions in mind, I think we need to make more careful studies before rushing to integration. (T4, 8:26–30)

Likewise, T6 held quite a traditional rationalist view. She thought that in order to transmit valid and sufficient "basic knowledge" to children, traditional expository teaching methods was still a valid and reliable way to "teach knowledge":

> Expository teaching is important. In fact, I use this method quite often for my daily teaching. This is because I think that in due course we need to teach students lots of basic knowledge. Students cannot learn knowledge simply by self-discovery — and even if they could, that means a lot of time is wasted. Actually, a lot of curriculum content needs to be "taught." We therefore allow teachers to teach in a directive, yet more student-centered, way. (T6, 49:1–4)

These two sub-groups of teachers demonstrate how people's conceptions of curriculum are influenced by their views of what knowledge is. These conceptions, in turn, are related to their views of curriculum organization for integration. The "pragmatic" T1, T2, and T5 conceptualized curriculum integration as multi-disciplinary or inter-disciplinary theme study. T4, T6, and T7, who were the "rationalists," considered integration in terms of "within-subject" or "between-subject" reorganization.

More pertinent forms of curriculum integration should emphasize "the practical ordering of knowledge around the interests of children or youth, or around needs and problems, whether individual or social, … or around crucial problems facing society, such as poverty, overpopulation, and civil rights" (Bellack & Kliebard, 1971, p. 587). However, the teachers of this study rarely held such a view of knowledge and curriculum.

Even for the group of teachers who are more in line with "pragmatic" epistemology, the forms that they proposed for integrating curriculum are still quite conventional. Most of them suggested a form that was somewhat described by Beane (1997) as "multisubject," which emphasized retaining the identities of individual subjects when selecting the content for an integrated theme. The only difference between this group and the "academic rationalist" group was that they would focus more on discussing the kinds of "learning activities" that could be linked with the "multisubject" theme. "[S]tudents still rotate from one subject to another as content and skills from each are correlated to the theme" (Beane, 1997, p. 10). None of the teachers has ever mentioned the importance of integrating in their multi-disciplinary or inter-disciplinary theme study the "social knowledge," which is promulgated by Beane (1997):

> Curriculum integration is a curriculum design that is concerned with enhancing the possibilities for personal and social integration through the organization of curriculum around significant problems and issues, collaboratively identified by educators and young people, without regard for subject-area boundaries. (p. xi)

In sum, it can be concluded that the conceptions of curriculum integration of most teachers interviewed were confusing and restricted. These participants' epistemology was mainly rooted in subject-matter

mastery rather than sheer personal integration, not to mention the essence of social integration. They inclined to keep the faith that teaching should aim at transmitting knowledge, which can be derived from the established academic disciplines. Hence, their conceptions of curriculum integration would keep to a subject-specific approach.

Discussion

The findings of the present research show that the conceptions of curriculum integration held by teachers were not well developed. Many of them held confused, restricted, or narrow conceptions. The ideology reflected in the conceptions of these teachers remained mostly at the "technical" side. Most of them inclined to confine their conceptions of curriculum integration toward "forms" or ways of organizing the curriculum (i.e., the "how" question). Teachers tend to conceptualize curriculum integration as some practical ways of organizing the curriculum. They were concerned with such questions as: "How can we trim down teaching time?" "How can we reduce overlapping across subjects?" or "How can we cut down the number of subjects?" This finding confirms Chiu's (2007) criticism that local school practitioners are often engaged with technical consideration such as textbook, worksheet, examination papers, etc. when they are asked to implement a formal curriculum.

Most teachers interviewed held conceptions similar to the "discipline-based" one or "discipline field" (as described by Fogarty, 1991; Jacobs, 1989; Marsh, 1997), "correlated" (as described by Fogarty, 1991; Glatthorn & Foshay, 1991; Hopkins, 1941; Jacobs, 1989; MacDonald, 1971), or "broad field" or "fusion" (as described by Fogarty, 1991; Glatthorn & Foshay, 1991; Hopkins, 1941; Jacobs, 1989; MacDonald, 1971; Marsh, 1997). None of the participants in this study mentioned the forms of "transdisciplinary," "core curriculum," "complete program," and so on. Their content design of integration was more of what people describes as "propositional knowledge" (content). Some of them did mention the importance of "procedural knowledge" or what Beane (1997) categorizes as "technical knowledge"; however, "social knowledge" and democratic values — what Beane regards as the most essential kind of knowledge of good curriculum integration — seems to have been overlooked. This limitation shows that local educational practitioners might be all too concerned with the knowledge dimension

of a curriculum design. Indeed, sometimes they might be so rigid that they have rarely considered possibilities or opportunities to transcend, not to say ignore, the disciplines by some kinds of transdisciplinary attempt. This, in Reland and Kimpston's (1993) description, restricts itself to the conception of curriculum integration as "intermingling of disciplines" only, while another level of curriculum integration — "inclusive" integration — has not been considered. This echoes Zhang and Lam's (2007) analysis of the implementation problem of curriculum integration in the Chinese mainland.

Furthermore, these teachers' conceptions of the approaches to integration were found to be restricted mainly to Dressel's (1958) "integrated" type, but rarely would extend to his "integrating experiences." In other words, the teachers interviewed mostly defined integration as ways to provide students with "meaningful integrations achieved by others' planned integrated curriculum." They were not aware of another purpose for curriculum integration — "integrating" in Dressel's terms, which means to develop in the individual the ability to seek for one's own way of integrated learning. In Marsh's (1997) interpretation, "integrating" means "integrative approach to learning" such as student-initiated projects. Does this imply that the "teacher-centered" tradition is still firmly implanted in the minds of Hong Kong teachers? This may, like the discrepancy found above when matching with Reland and Kimpston's (1993) theory, be due to the educational ethos of Chinese society — emphasizing on "transmission" rather than on "transformation" (Miller & Seller, 1985; Watkins & Biggs, 2001).

Another finding worth discussing is related to Beane's (1997) comprehensive theory of curriculum integration. As found in the present study, the conceptions held by most teachers were limited to the dimension of "integration of knowledge" and/or "integration as a curriculum design." Teachers thought that the purpose of integrating curricula (whether within-subject or webbed around themes) should be to make knowledge better organized and accessible. The kind of knowledge that teachers focused on was chiefly "disciplines of knowledge," neglecting Beane's (1997) three other elements — "personal knowledge," "social knowledge," and "technical knowledge."

In conclusion, one could comment that the conceptions of teachers were comparatively narrow. Most of them regarded the notion of curriculum integration as ways of organizing knowledge, and only saw the technical aspect ("forms" of curriculum integration) rather than the

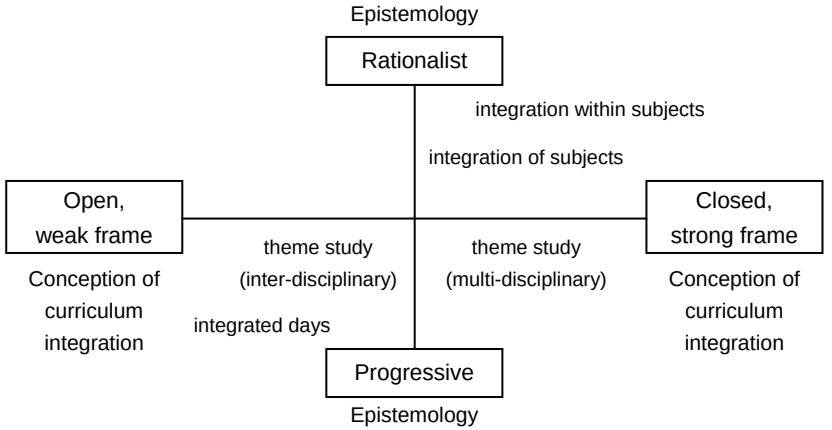
underlying "values" of the notion. The intrinsic value of curriculum integration in democratic education was never mentioned by any of the participants.

In the light of such findings, it is not unreasonable to speculate that the implementation of curriculum integration in Hong Kong will remain at the lower end of the change even if schools in Hong Kong did try to develop school-based integrated curriculum as stipulated in the official policy document (CDC, 2001). With teachers holding a more conservative conception of the change initiative, it is most unlikely that highly integrated programs would be developed.

As Giroux (1981) and Apple (2004) argue, school curriculum is formed and shaped ideologically. The dominant forms of school curriculum reflect the dominant ideology in society. This study also reveals this situation. The study shows that the conceptions of teachers toward curriculum integration were mostly conservative and cautious. Most of their conceptions stem from the ideology of academic rationalism. In fact, academic rationalism has long been a dominant school epistemology in Hong Kong's school curriculum. One can see that a high proportion of the participants of this study still adhere more or show higher acceptance to a teacher-centered or "traditional,"[7] discipline-based type of teaching and curriculum. This might be related to the kind of social order or fixed mindsets or something cultivated during the hundred and more years of colonial governance in Hong Kong (see Bray & Lee, 2001). Today, the legacy from such kind of social order and thinking still influences the perspective of knowledge and hence curriculum conception of local educational practitioners.[8] The failure of previous curriculum experimentation in Hong Kong (such as the Target-Oriented Curriculum, the implementation of Social Studies, etc.) also demonstrated, to a certain degree, this ideological limitation (Stimpson & Morris, 1998).

Furthermore, this study reveals that there is a close relationship between people's epistemology and their conceptions of curriculum integration. Teachers who held a progressive epistemology were more likely to express a more open type of integration conception. In contrast, those who held a rationalist epistemology tended to be more conservative in their conception. Teachers with an epistemology of academic rationalism preferred a more closed frame of integration such as "integration within subjects" and "integration of subjects." Figure 4 shows the relationship.

Figure 4: Inter-relationship Between Teachers' Epistemology and Conception About Curriculum Integration



However, the theory of knowledge is not confined only to the "progressive-rationalist dichotomy." Habermas's (1971) "comprehensive theory of knowledge," which deals with the theory of knowledge and its cultural implications, is useful to understand this relationship. According to Habermas's (1978) theory of knowledge, three paradigms of inquiry were compared:

- The technical interest of the empirical-analytic sciences
- The practical interest of the historical-hermeneutic sciences
- The emancipatory interest of critical theory

This research demonstrates that most teachers who stayed with the technical paradigm were oriented toward control. Following Habermas's (1978) description, the educator with technical interest will produce an educand (a pupil) who will behave according to the image (eidos). The learner and/or the learning environment may be manipulated to ensure that the desired learning occurs. This is the technical interest *par excellence* in action. Packages of teacher-proof integrated curriculum would be used for teaching. This is what Apple (2004) describes as the characteristics of the technical curriculum, in which teachers lose control of the curricular and pedagogic skills to large publishing houses.

Only one teacher in this research, T2, could be said to have possessed orientation that adheres to the practical paradigm. She showed that she valued a "process model" of teaching and learning. When asked

to define curriculum integration, she claimed that "learning experience" was her key concern. She was the only participant who supported that curriculum content could be "content-less"; and that students should be actively engaged in the learning process.

Obviously, none of the participants showed that his/her conception of curriculum integration reflected an emancipatory interest.

These findings might in part explain some underlying reasons and probable difficulties faced by local teachers when implementing the new integrated subject — Liberal Studies in senior forms (Fok, 2007; Lam & Zhang, 2005).

Conclusion

The success of curriculum change depends on what teachers think and act (Fullan, 2001). This study has revealed that frontline teachers held fairly confused and narrow conceptions of curriculum integration. If teachers were truly expected to develop high-quality integrated programs in the schools they served, the curriculum development agencies should spell out clearly what they want to achieve in the curriculum reform. Moreover, all the stakeholders, including the officials and the teachers, must have a common platform for communication and deliberation of conceptions toward a curriculum change.

As has been revealed in the study, the conception of curriculum integration is more than the technical techniques of linking various subjects. It involves deep-lying aspect such as epistemology than the technical knowledge of ways of constructing integrated curriculum. To improve the chance of success in achieving the goal of providing quality integrated programs to the students, teachers need much more professional inputs about curriculum integration.

It is noteworthy that some theorists make a remark that curriculum integration could be part of the movement for democratic education (Apple & Beane, 1995; Beane, 1995, 1997; Hopkins, 1941; MacDonald, 1971), although some people are skeptical with this assertion. In any case, integration implies a weakening of the framing and control of "educational experience" and also radical changes to the structure of teaching groups, which allows flexibility and autonomy (Bernstein, 1971). This happens as a threat to the continuing dominating academic

curriculum, to the principle of social order, and to the authority systems of society.

The society of Hong Kong is changing. The political order and citizenship discourse have been affected by the political environment of Hong Kong since China resumed its sovereignty over Hong Kong in 1997. Nowadays, the social reality reflects an increased individuality and plurality. Influx of immigrants from the Chinese mainland as well as a change in structure of local population may intensify the situation. A closed school system, coexisting with a centralized and homogeneous "collection code" of curriculum (Bernstein, 1971), would inevitably face challenges. An education with its curriculum focusing on integration is thought to be more relevant because of its tolerance to different value systems, and its collaboration and sharing of knowledge. No matter how empathetic the Hong Kong Special Administrative Region government is in promoting nationalistic and patriotic education while avoiding or even deliberately downplaying the call for democracy and human rights, the voice for democracy education is there. The controversies and debates over civic education and citizenship education that took place just before the return of Hong Kong to China was a good case for social reflection (W. O. Lee & Sweeting, 2001). The "Article 23" political issue[9] in Hong Kong has made the public realize what could not be gained at the ballot box could be achieved in the streets. Controversy over "patriotism"[10] and Hong Kong's "constitutional development" remains a struggle and unrest inside the minds of Hong Kong citizens. Nevertheless, would the story in the future be written in an even more beautiful and peaceful way[11] if the policy-makers and the politicians try to make some improvement through education and school curriculum? How could democratic education be a promise for developing social consciousness among our new generations?

As a matter of fact, which kind of curriculum could reflect the characteristics of the society — a society of "one country, two systems"? Giroux (1979, p. 253) suggests: "We must develop a mode of curriculum that cultivates critical theoretical discourse about the quality and purpose of schooling and human life." Would curriculum integration be such a mode of curriculum that would be able to emancipate schools, teachers, and students in local society toward a new sociology of knowledge?

Notes

1. Social Studies was introduced to secondary school curriculum by the Curriculum Development Committee in 1979. It is an integrated subject with content from various subjects such as History, Economic and Public Affairs, Geography, and so on. Social studies was taught in no more than 20% of secondary schools in Hong Kong (Stimpson & Morris, 1998).
2. The eight-KLA curriculum framework proposed by the CDC (2001) is said to be an open framework necessary for schools. The general features of each KLA include descriptions of *overall aims*, *learning targets*, *strands*, *learning objectives*, *quality criteria*, and so on. The eight KLAs include: (a) Chinese Language Education; (b) English Language Education; (c) Mathematics Education; (d) Personal, Social and Humanities Education; (e) Science Education; (f) Technology Education; (g) Arts Education; and (h) Physical Education.
3. A few tactics were used to enhance the "trustworthiness" of this study (Lincoln & Guba, 1985). One of these tactics is to ask the participants to validate the interview transcripts and comment on the "cognitive maps" (like the one shown in Appendix 2). This, apart from providing an opportunity for participants to further elaborate their views, ascertained that the transcripts and the cognitive maps truly reflected their views and thought processes.
4. This is a code used by the researchers to denote the dialogue of the participants. For example, this code (T7, 36:1–4) means that this piece of conversation is extracted from lines 1 to 4 of paragraph 36 of the interview transcription of T7.
5. The researchers also had access to some school-based documentary evidences provided by T5 in the interview.
6. Beane (1997) points out that curriculum integration involves four major aspects: "integration of experiences," "social integration," "integration of knowledge," and "integration as a curriculum design." Each of these aspects can be subsumed in a comprehensive theory of curriculum integration.
7. "Separate subject matter" and "concerned with academic standards," which are two of the characteristics listed by Bennett (1976) as "traditional" teaching (in comparison with the "progressive" one), are key categories of conception toward curriculum integration held by local teachers and policy-makers.
8. See also previous sections that comment on the influence of local milieu and culture on curriculum deliberation in Hong Kong.
9. The Hong Kong Special Administrative Region intended to enact Article 23 to "prohibit any act of treason, secession, sedition, subversion against the Central People's Government" (December 2002). The issues surrounding the implementation of Article 23 were widely viewed as the most important

issue since the return of Hong Kong to China for defining the future direction of fundamental freedoms and the concept of "One Country, Two Systems." This was described as the main cause leading to the march on 1 July 2003 in Hong Kong. See http://www.article23.org.hk/english/main.htm

10. In February 2004, the mainland authorities ignited the controversy on patriotism. Some of the spokespersons equated patriotism with loving the Communist Party. A survey report by the University of Hong Kong indicated that Hong Kong people showed a drop of confidence from 50% to 43% in the central government as a consequence (S. Lee, 2004).
11. Critiques described the march on 1 July 2003 and the public gathering on 9 July 2003, the two mass protest against Article 23 in Hong Kong, as beautiful and peaceful (Yeung, 2003).

References

Adamson, B., Kwan, T., & Chan, K. K. (2000). *Changing the curriculum: The impact of reform on primary schooling in Hong Kong*. Hong Kong: Hong Kong University Press.

Apple, M. W. (2004). *Ideology and curriculum* (3rd ed.). New York: RoutledgeFalmer.

Apple, M. W., & Beane, J. A. (Eds.). (1995). *Democratic schools*. Alexandria, VA: Association for Supervision and Curriculum Development.

Beane, J. A. (Ed.). (1995). *Toward a coherent curriculum*. Alexandria, VA: Association for Supervision and Curriculum Development.

Beane, J. A. (1997). *Curriculum integration: Designing the core of democratic education*. New York: Teachers College Press.

Bellack, A. A., & Kliebard, H. M. (1971). Curriculum for integration of disciplines. In L. C. Deighton (Ed.), *The encyclopedia of education* (Vol. 2, pp. 585–590). New York: Macmillan.

Bennett, N. (1976). *Teaching styles and pupil progress*. Cambridge, MA: Harvard University Press.

Bernstein, B. (1971). On the classification and framing of educational knowledge. In M. F. D. Young (Ed.), *Knowledge and control: New directions for the sociology of education* (pp. 47–69). London: Collier-Macmillan.

Bray, M., & Lee, W. O. (Eds.). (2001). *Education and political transition: Themes and experiences in East Asia* (2nd ed.). Hong Kong: Comparative Education Research Centre, The University of Hong Kong.

Cardwell, M. (Ed.). (1999). *The dictionary of psychology*. London; Chicago: Fitzroy Dearborn.

Chan, K. S. (2002). Curriculum integration: Are teachers well prepared for the change? [in Chinese] In C. C. Lam, S. P. Cheung, J. J. Wang, & Y. F.

Kwok (Eds.), *Proceedings of the 4th cross strait conference on curriculum studies: Curriculum integration* (pp. 91–99). Hong Kong: Faculty of Education, The Chinese University of Hong Kong.

Cheng, F. L. (1999). *Curriculum reform: Theory and practice* [in Chinese]. Soo Chow, Jiangsu: Soochow University.

Chiu, C. S. (2007). *The anxieties and challenges brought by the new senior secondary curriculum in Hong Kong* (School Education Reform Series No. 42) [in Chinese]. Hong Kong: Faculty of Education and Hong Kong Institute of Educational Research, The Chinese University of Hong Kong.

Curriculum Development Council. (2000a). *Learning to learn: The way forward in curriculum development (Consultation document)*. Hong Kong: Printing Department.

Curriculum Development Council. (2000b). *Syllabuses for secondary schools: Liberal Studies (Advanced supplementary level)*. Hong Kong: Printing Department.

Curriculum Development Council. (2001). *Learning to learn: The way forward in curriculum development*. Hong Kong: Printing Department.

Curriculum Development Council and the Hong Kong Examinations and Assessment Authority. (2003a). *Personal, social and humanities education key learning area: Integrated humanities curriculum and assessment guide (Secondary 4–5)*. Hong Kong: Printing Department.

Curriculum Development Council and the Hong Kong Examinations and Assessment Authority. (2003b). *Science education key learning area & technology education key learning area: Science and technology curriculum and assessment guide (Secondary 4–5)*. Hong Kong: Printing Department.

Curriculum Development Council and the Hong Kong Examinations and Assessment Authority. (2007). *Liberal Studies curriculum and assessment guide (Secondary 4–6)*. Hong Kong: Government Logistics Department.

Denzin, N. K., & Lincoln, Y. S. (Eds.). (1998). *Strategies of qualitative inquiry*. Thousand Oaks, CA: Sage.

Drake, S. (2000). *Integrated curriculum*. Alexandria, VA: Association for Supervision and Curriculum Development.

Dressel, P. L. (1958). The meaning and significance of integration. In N. B. Henry (Ed.), *The integration of educational experiences* (pp. 3–25). Chicago: National Society for the Study of Education.

Education and Manpower Bureau. (2004). *Reforming the academic structure for senior secondary education and higher education: Actions for investing in the future*. Hong Kong: Author.

Education Commission. (2000). *Learning for life, learning through life: Reform proposals for the education system in Hong Kong*. Hong Kong: Author.

Eisner, E. W. (1992). Curriculum ideologies. In P. W. Jackson (Ed.), *Handbook of research on curriculum* (pp. 302–326). New York: Macmillan.

Elbaz, F. L. (1981). The teacher's "practical knowledge": Report of a case study. *Curriculum Inquiry*, *11*(1), 43–71.

Elbaz, F. L. (1983). *Teacher thinking: A study of practical knowledge*. London: Croom Helm.

Ernest, P. (1989). The impact of beliefs on the teaching of mathematics. In P. Ernest (Ed.), *Mathematics teaching: The state of the art* (pp. 249–253). New York: Falmer Press.

Fogarty, R. (1991). *How to integrate the curricula: The mindful school*. Palatine, IL: Skylight.

Fok, P. K. (2007). The implementation of Liberal Studies in Hong Kong: Theory and practice [in Chinese]. In Association of Research and Development of Teaching Materials (Ed.), *Proceedings of the 9th cross strait conference on curriculum studies: Curriculum theorizing and curriculum change* (pp. 145–167). Taipei, Taiwan: National Taipei University of Education.

Fullan, M. (2001). *The new meaning of educational change* (3rd ed.). New York: Teachers College Press.

Giroux, H. A. (1979). Toward a new sociology of curriculum. *Educational Leadership*, *37*(3), 248–253.

Giroux, H. A. (1981). *Ideology, culture and the process of schooling*. London: Falmer Press.

Glatthorn, A. A., & Foshay, A. W. (1991). Integrated curriculum. In A. Lewy (Ed.), *The international encyclopedia of curriculum* (pp. 160–162). Oxford; New York: Pergamon Press.

Goodlad, J. I. (1979). *Curriculum inquiry: The study of curriculum practice*. New York: McGraw-Hill.

Green, T. F. (1971). *The activities of teaching*. Tokyo: McGraw-Hill Kogakusha.

Habermas, J. (1971). *Knowledge and human interests* (J. J. Shapiro, Trans.). Boston: Beacon Press.

Habermas, J. (1978). *Knowledge and human interests* (2nd ed.) (J. J. Shapiro, Trans.). London: Heinemann Educational.

Hopkins, L. T. (1941). *Interaction: The democratic process*. New York: D. C. Heath.

Huang, Y. Y., Lin, Z. Z., Huang, J. M., Ma, Y. P., & Han, J. W. (2002). The conceptions of mathematics of secondary teachers in China Mainland [in Chinese]. *Curriculum, Teaching Material and Method*, *1*, 68–72.

Jacobs, H. H. (Ed.). (1989). *Interdisciplinary curriculum: Design and implementation*. Alexandria, VA: Association for Supervision and Curriculum Development.

Kelly, A. V. (1986). *Knowledge and curriculum planning*. London: Harper & Row.

Lam, C. C. (1996). *Target Oriented Curriculum: An inaccessible ideal* [in Chinese]. Hong Kong: Hong Kong Institute of Educational Research, The Chinese University of Hong Kong.

Lam, C. C. (2002). What kind of curriculum integration work does the central curriculum development agency expect us to do? [in Chinese] *Journal of Basic Education*, *11*(2), 75–85.

Lam, C. C., & Zhang, S. (2005). Liberal Studies: An illusive vision? [in Chinese] *Hong Kong Teachers' Centre Journal*, *4*, 35–42.

LeCompte, M. D., & Preissle, J. (1993). *Ethnography and qualitative design in educational research* (2nd ed.). San Diego, CA: Academic Press.

Lee, C. K. (Ed.). (2002). *Curriculum, teaching and school reforms: Educational development in a new century* [in Chinese]. Hong Kong: The Chinese University Press.

Lee, S. (2004, March 3). HK public losing faith in central government: Poll. *South China Morning Post*, p. A1.

Lee, W. O., & Sweeting, A. (2001). Controversies in Hong Kong's political transition: Nationalism versus liberalism. In M. Bray & W. O. Lee (Eds.), *Education and political transition: Themes and experiences in East Asia* (2nd ed., pp. 101–121). Hong Kong: Comparative Education Research Centre, The University of Hong Kong.

Leung, W. L. (2002). Integrating primary school curriculum in Hong Kong: The way forward [in Chinese]. *New Horizons in Education*, *46*, 45–50.

Lincoln, Y. S., & Guba, E. G. (1985). *Naturalistic inquiry*. Beverly Hills, CA: Sage.

MacDonald, J. B. (1971). Curriculum integration. In L. C. Deighton (Ed.), *The encyclopedia of education* (Vol. 2, pp. 590–593). New York: Macmillan.

Marsh, C. J. (1997). *Key concepts for understanding curriculum* (Fully rev. and extended ed.). London: Falmer Press.

Miles, M. B., & Huberman, A. M. (1994). *Qualitative data analysis: An expanded sourcebook* (2nd ed.). Thousand Oaks, CA: Sage.

Miller, J. P., & Seller, W. (1985). *Curriculum: Perspectives and practices*. New York: Longman.

Morris, P. (1996). *The Hong Kong school curriculum: Development, issues and policies* (2nd ed.). Hong Kong: Hong Kong University Press.

Morris, P., & Chan, K. K. (1998). Cross-curricular themes and curriculum reform in Hong Kong: Policy as discourse. In P. Stimpson & P. Morris (Eds.), *Curriculum and assessment for Hong Kong: Two components, one system* (pp. 245–262). Hong Kong: Open University of Hong Kong Press.

Morris, P., Chan, K. K., & Lo, M. L. (1998). Changing primary schools in Hong Kong: Perspectives on policy and its impact. In P. Stimpson & P. Morris (Eds.), *Curriculum and assessment for Hong Kong: Two components, one system* (pp. 201–222). Hong Kong: Open University of Hong Kong Press.

Nespor, J. (1987). The role of beliefs in the practice of teaching. *Journal of Curriculum Studies*, *19*(4), 317–328.

Nias, J., Southworth, G., & Campbell, P. (1992). *Whole school curriculum development in the primary school*. London; Washington, DC: Falmer Press.

Ou, Y. S. (2000). *Curriculum reform* [in Chinese]. Taipei, Taiwan: Taiwan Normal University Press.

Pajares, F. M. (1992). Teachers' beliefs and educational research: Cleaning up a messy construct. *Review of Educational Research, 62*(3), 307–332.

Patton, M. Q. (2002). *Qualitative research and evaluation methods* (3rd ed.). Thousand Oaks, CA: Sage.

Qualifications and Curriculum Authority. (2007a). *Cross-curriculum dimensions*. Retrieved October 12, 2007, from http://curriculum.qca.org.uk/cross-curriculum-dimensions/index.aspx

Qualifications and Curriculum Authority. (2007b). *The secondary curriculum*. Retrieved October 12, 2007, from http://curriculum.qca.org.uk/curriculum-in-action/secondary_curriculum.aspx

Reland, A., & Kimpston, R. (1993). Curriculum integration: A critical analysis of practical and conceptual issues. In R. Fogarty (Ed.), *Integrating the curricula: A collection* (pp. 31–48). Palatine, IL: IRI/Skylight.

Richardson, V. (1996). The role of attitudes and beliefs in learning to teach. In J. Sikula (Ed.), *Handbook of research on teacher education* (2nd ed., pp. 102–119). New York: Macmillan.

Stimpson, P., & Morris, P. (1998). *Curriculum and assessment for Hong Kong: Two components, one system.* Hong Kong: Open University of Hong Kong Press.

Tam, C. F. (2006). *Teaching beliefs of Chinese language teachers and their influence on curriculum implementation*. Unpublished doctoral dissertation, The Chinese University of Hong Kong, Hong Kong.

Tang, Y. N. (1995). *Implementation of the new sixth form curriculum integration: A case study of Liberal Studies* [in Chinese]. Unpublished master's thesis, The Chinese University of Hong Kong, Hong Kong.

Thompson, A. G. (1992). Teachers' beliefs and conceptions: A synthesis of the research. In D. A. Grouws (Ed.), *Handbook of research on mathematics teaching and learning* (pp. 127–146). New York: Macmillan.

Tsang, W. K. (2006). *In search of the meanings for Liberal Studies in Hong Kong senior secondary education* (Education Policy Studies Series No. 59) [in Chinese]. Hong Kong: Faculty of Education and Hong Kong Institute of Educational Research, The Chinese University of Hong Kong.

Wan, C. K. K. (1992). School responses to the Liberal Studies curriculum: Implications for the adoption of curriculum innovation. *Curriculum Forum, 2*(3), 1–18.

Watkins, D. A., & Biggs, J. B. (Eds.). (2001). *Teaching the Chinese learner: Psychological and pedagogical perspectives*. Hong Kong: Comparative Education Research Centre, The University of Hong Kong.

Weiss, R. S. (1994). *Learning from strangers: The art and method of qualitative interview studies*. Toronto: Maxwell Macmillan.

Wong, H. W., Fung, Y. Y., Leung, S. Y., Wu, S. W., Chan, S. Y., & Chow, P. M. (1996). A study of activity approach in Hong Kong elementary education [in Chinese]. In H. W. Wong (Ed.), *Compulsory schooling: System and curriculum* (pp. 197–266). Hong Kong: The Chinese University Press.

Yeung, C. (2003, July 8). Observer. *South China Morning Post*, p. A3.

Zhang, S., & Lam, C. C. (2007). A reflection of the theoretical advancement and the development of curriculum integration in mainland China [in Chinese]. In Association of Research and Development of Teaching Materials (Ed.), *Proceedings of the 9th cross strait conference on curriculum studies: Curriculum theorizing and curriculum change* (pp. 199–209). Taipei, Taiwan: National Taipei University of Education.

Zhongguo jiaoyu xuehui. (1994). *Educational reform* [in Chinese]. Taipei, Taiwan: Shi Dai.

Appendix 1: An Outline of Interview Questions

In-depth interviews were conducted with teachers, one at a time. The interviews were semi-structured, based upon major issues listed as follows:

- How does the teacher define and describe about curriculum integration? To what extent does he/she agree with the conception of curriculum integration?
- How does the teacher compare and contrast curriculum integration with the conventional type of curriculum and teaching?
- Let the teacher share about his/her belief and knowledge about teaching and learning for primary education (e.g., which are the strategies and methods he/she thinks as most appropriate and effective in teaching primary students?)
- Let the teacher share about the practice of curriculum integration in the school he/she is serving. Ask his/her personal comments about the school practice.
- Invite the teacher to describe and explain his/her image of curriculum integration.
- Invite the teacher to share his/her view to one question — What should an ideal integrated curriculum appear to be? Or what are the criteria for a successful endeavor of curriculum integration?

Appendix 2: An Example of Cognitive Map