

Curriculum Change and Innovation

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1

Critical Problems of Contemporary Society and Their Influence on the Curriculum

Shirley S. Y. Yeung

Objectives

The aim of this chapter is to enable readers to:

1. have a basic understanding of the meaning and definitions of “curriculum”;
2. conceive how current international trends, such as globalization, the development of information technology (IT), postmodernism, the formation of knowledge society, and so on, will affect the lifestyle of the next generation;
3. analyze how education and the school curriculum should respond to these global changes; and
4. assess whether the Hong Kong curriculum responds to these contemporary trends.

Introduction

This chapter analyzes several crucial worldwide trends that influence education and the school curriculum in the twenty-first century, both locally and globally: *globalization, the shift to a knowledge society, the development of IT, and postmodernism*. These forces articulate with one another and lead to a shift in the orientation and the design of the school curriculum. As an international city, Hong Kong is inevitably under the influence of such changes. To understand the impact of globalization on the curriculum, it is helpful to have an initial understanding of the concept of curriculum. In this chapter, readers are introduced to different definitions of the term “curriculum.”

Definitions or Images of Curriculum

The word “curriculum” originates from a Latin word for “racecourse” (Zais 1976, p. 6). Many people take the literal meaning of the word and regard curriculum as the “relatively standard ground covered by students in their race toward the finish

line (a diploma).” Schubert (1986) portrays conceptualizations of curriculum by the term “image.” He explains, “I use the term *image* and *characterization* rather than *definition* because they denote a broader conceptualization than the label for a thing” (p. 26).

Regardless of which way of describing curriculum (“definition” or “image”) one prefers, there is no simple answer to the question, “What does ‘curriculum’ mean?” Posner (1992, p. 4) claims that defining curriculum is problematic because “definitions are not philosophically or politically neutral.” People or nations often take a particular political or ethical stance when they define curriculum. Marsh (1997, p. 3) holds a similar view: “because key players in education represent a diversity of values and experience, it is extremely difficult to get wide public or professional consensus.”

The definitions given by scholars differ. Ralph Tyler (1949), the first scholar to mention the term “curriculum,” defines it as all the learning of students planned and directed by the school to attain its educational goals. *The International Encyclopedia of Curriculum* (Lewy 1991, p. 15) provides a list of quoted definitions to illustrate the diversity of its meaning, which can be rather difficult to understand:

- A sequence of potential experiences is set up in the school for the purpose of disciplining children and youth in group ways of thinking and acting. This set of experiences is referred to as the curriculum (Smith et al. 1957).
- All the experiences a learner has under the guidance of the school (Foshay 1969).
- A general overall plan of the content or specific materials of instruction that the school should offer the student by way of qualifying him for graduation or certification or for entrance into a professional or vocational field (Good 1959).
- (It is) the life and program of the school...an enterprise in guided living; the curriculum becomes the very stream of dynamic activities that constitute the life of your people and their elders (Rugg 1947).
- A plan for learning (Taba 1962).
- The planned and guided learning experiences and intended learning outcomes, formulated through the systematic reconstruction of knowledge and experience, under the auspices of the school, for the learner’s continuous and willful growth in personal-social competence (Tanner and Tanner 1975).
- Curriculum must consist essentially of disciplined study in five great areas: (i) command of the mother tongue and the systematic study of grammar, literature, and writing; (ii) mathematics; (iii) sciences; (iv) history; (v) foreign language (Bestor 1955).

Marsh (1997, p. 3) has constructed a simpler list:

- Curriculum is that which is taught in school.
- Curriculum is a set of subjects.
- Curriculum is content.
- Curriculum is a set of materials.

- Curriculum is a set of performance objectives.
- Curriculum is that which is taught both inside and outside of school and directed by the school.
- Curriculum is that which an individual learner experiences as a result of schooling.
- Curriculum is everything that is planned by school personnel.

Zais (1976, pp. 6–11) summarizes the five types of definition for curriculum: *the program of studies, course content, planned learning experiences, a structured series of intended learning outcomes, and a (written) plan for action*. Posner (1992) introduces six concepts to enable a more concrete understanding of curriculum: *scope and sequence, syllabus, content outline, textbooks, course of study, and planned experiences*.

From the above, we see that people have different definitions for curriculum. Some claim that it is the content or objectives of school courses that must be made clear to the public. Others claim that it is the set of instructional planning that serves as a guide for the teachings of the teachers. Still others argue that all actual learning experiences of students can be claimed as curriculum.

To facilitate understanding, we focus on four characterizations that depict the richness and comprehensiveness of the concept: curriculum as content or subject matter, curriculum as a program of planned activities, curriculum as objectives or intended learning outcomes, and curriculum as experience.

Curriculum as content or subject matter

“Curriculum as content or subject matter” is the most traditional image of curriculum. Curriculum is equated with the subjects to be taught, such as music, geography, and so on. Subject content is taken as a product of accumulated wisdom, particularly acquired through traditional academic disciplines. Today, the school curricula in Hong Kong have been developed in terms of subjects (such as *Putonghua*) or from a subject base (broad field designs, such as the eight key learning areas). This characterization has become deeply ingrained in people’s understanding of curriculum. Nevertheless, when asked to describe their school’s curriculum, many teachers simply provide a list of subjects or subject matters to be taught to students.

Curriculum as a program of planned activities

Curriculum represents all activities planned for delivery to students. This definition incorporates scope, sequence, and balance of subject matters and includes teaching

strategies, assessment methods, and everything that can be planned in advance. Examples are usually written documents, such as unit plans, daily lesson plans, curriculum guides, and so on. This definition suggests a systematic and procedural way to plan the curriculum and lessons. Many educators in Hong Kong adopt this definition when they train pre-service teachers in preparing their lesson plans.

Curriculum as objectives or intended learning outcomes

This characterization of curriculum argues that having a comprehensive plan of predetermined learning activities for students is the best way to address learner needs. This view has two variations. In the first, curriculum is a plan of predetermined statements of aims, goals, and objectives, that is, what students should learn. The curriculum design should contain details of all the materials, plans, and arrangements that would facilitate students' learning. It also emphasizes that objectives should be clearly written, especially if the learning behavior of students can be explicitly specified. Many curriculum developers opine that Bloom et al.'s (1956) "Taxonomy of Educational Objectives" serves this purpose well. In the second variation, curricula are statements of intended learning outcomes. They include teaching, environmental design, and other activities that help learners attain specified ends. This shifts the emphasis from the means to the end. The innovation of outcome-based learning (OBL) is one example currently proposed to reform the curriculum design of local universities in Hong Kong.

Curriculum as experience

Curriculum is "the process of experiencing the sense of meaning and direction that ensues from teacher and student dialogue" (Schubert 1986, p. 29). The Other Learning Experiences (OLE) program, implemented in the New Secondary Curriculum in Hong Kong from 2009 onward (Curriculum Development Council [CDC] 2009), is one such example. Through OLE, students gain specific cognitive knowledge, attitudes, and/or skills. Some secondary schools arrange exchange programs for students. For example, one secondary school arranges students to visit a typical rural school in mainland China and let them act as peer tutors for the children there. By "experiencing" the way of life and learning in schools in poor rural villages, these students gain priceless insights beyond what they learnt from the formal school curriculum.

The previous sections discuss only a few of the concepts that have been proposed over the years by scholars. In fact, some educators claim that having many definitions of curriculum is natural and searching for *the* correct definition of the term is unnecessary (e.g., Schwab 1969; Zais 1976).

For the purpose of this book, curriculum is defined as all the planned learning opportunities offered to learners by schools or an educational institution *and* the intended or hidden experiences that learners encounter when the curriculum is implemented.

Globalization as a Leading Force of Change

In recent decades, globalization has become a worldwide phenomenon but no consensus has yet been reached regarding its definition. Some describe globalization as a multifaceted ideological construct (Zajda 2005a, p. xxvii). Indeed, it is a complicated, multidimensional concept subjected to diverse interpretations. Generally speaking, globalization is defined as an ongoing process by which regional economies, societies, and cultures become integrated through globe-crossing networks of exchange. It is also often described as a consequence of an increasingly integrated global economy and the explosion of worldwide telecommunications (Gray 1999; Henry et al. 2001). Through free trade, capital mobility, and easy and uncontrolled migration, the world has become integrated into one borderless global economy (Sinagatullin 2006). As a result, globalization has caused people, finance, and trade to cross borders, resulted in the synthesis of technology and ideology, thus brought about the international growth of social networks and the advancement of modes of communication and IT, all of which have changed people's idea of time and space. Therefore, globalization has powerfully shaped the world's economic, political, aesthetic, and ethnocultural development. Through globalization, the statehood, ways of trade, and modes of interpersonal communication were redefined. Opinions on the impact of globalization on the world has been diverse, some are positive, some negative (see Carnoy and Rhoten 2002) yet it has undoubtedly influenced the curriculum and education in schools. This is also the focus of this chapter.

Impact of globalization on education

Globalization has brought forth some unintended and unexpected consequences for education and curriculum. For instance, Henry et al. (2001) have discussed the perception of the Organization for Economic Co-operation and Development (OECD) of globalization and its impacts on education. To define OECD's understanding of globalization, they cite the description of globalization by Appadurai (1996), who depicts features of globalization by various concepts, including *ethnoscapes*, *mediascapes*, *technoscapes*, *financescapes*, and *ideoscapes*. In Appadurai's construct, ethnoscapes represent the rapid flow of people across the globe. Financescapes refer to the mobility of finance across borders. Mediascapes and technoscapes

are the rapid development of media and technology (through the use of the Internet, telecommunications, media programs, and so on) that facilitate the rapid communication of ideas (ideoscapes) across the globe. Appadurai asserts that these important flows associated with globalization imply that the current ways of individual attachments, interests, and aspirations have increasingly transcended those of the nation-state. This analysis inspires present-day curriculum planners and teachers to consider if and how conventional school curriculum should be improved, making it more relevant to today's learners.

Table 1.1 lists the “global hazards” that challenge today's education according to Sinagatullin (2006).

Table 1.1 Global hazards challenging education

Causes of hazards	Global hazards
Hazards ignited by social and school-related factors	<ol style="list-style-type: none"> 1. Corruption 2. Sexual and moral degradation 3. HIV/AIDS pandemic 4. The shrinking of spiritual values and virtues 5. War, crime, and terrorism 6. The increasing socioeconomic polarization 7. Excessive experimenting with children 8. Negligence of strong education
Hazards triggered by child neglect and substance use	<ol style="list-style-type: none"> 1. Child abuse and neglect 2. Deterioration of children's and adolescents' health 3. Drug addiction 4. Alcohol consumption 5. Cigarette smoking

Adapted from Sinagatullin (2006, pp. 87–100).

Facing these “hazards”, however, Sinagatullin (2006) claims that many governments and nation-states are incapable of developing a proper and relevant school curriculum for students. Rather, schools tend to adhere to the traditional curriculum for teaching. One comment from Sinagatullin (2006, pp. 30–1) is noteworthy:

A great number of school students do not possess sufficient motivation to cognitive activity and simply spend time in the classroom waiting for the bell to ring.

In the global age, young people are commonly found to be uninterested in traditional schooling. They react negatively by escaping from school or giving up easily in important public examinations. This is equally not an unfamiliar occurrence for many schools in Hong Kong. Substantial changes to the curriculum and teaching in schools are therefore necessary. The following assertion by Tyler (1949, p. 54) can offer some crucial insights:

It is very necessary to focus educational efforts upon the critical aspects of this complex life and upon those aspects that are of importance today so that we do not waste the time of students in learning things that were important fifty years ago but no longer have significance at the same time that we are neglecting areas of life that are now important and for which the schools provide no preparation.

The following remark of Gardner (1999, p. 42) is also noteworthy:

Changes in our world are so rapid and so decisive that it will not be possible for schools to remain as they were or simply to introduce a few superficial adjustments. Indeed, if schools do not change quite rapidly and quite radically, they are likely to be replaced by other, more responsive institutions.

Hence, we must consider ways to redefine and change our school curriculum.

Curriculum redefined to cope with globalization

To improve the situation, many educators urge the reconceptualization of learning and teaching in schools. Educators hold a common belief that school curriculum and pedagogy have to be refined and updated to suit the needs of young people in this global and digital era. The OECD (1994) proposes several ways to redefine the curriculum for schools in the twenty-first century (see Table 1.2).

Table 1.2 Curriculum redefined for schooling in the 21st century

Moving from a curriculum that is	Toward one that is
Western-centered	world-centered
region-centered	global-system-centered
group-centered	species-centered
nation-state-centered	planet-centered
anthropo-centered	ecosystem-centered
past-centered	past-, present-, and future-centered
information-centered	problems-centered
spectator-centered	participants-centered

Source: Organization for Economic Co-operation and Development (1994, p. 121).

According to Table 1.2, the recommendation of the OECD (1994) could broadly be explained in terms of two simple typologies: trans-system-centered curriculum and student/problem-centered curriculum. The former implies that school curriculum should be designed and planned beyond the traditional subject-based, narrowly-, and locally-bounded curriculum to become *world-centered*, *global-centered*, and *planet-centered*. The latter includes *student-centered* and *problem-centered* notions, which are taken as suitable approaches to organizing trans-system knowledge for young people. Proposals of this kind are generally agreed upon by writers (e.g., Gardner 1999; Hargreaves 2003; Wiles and Bondi 2011). The curriculum reform proposal in Hong Kong demonstrates certain responses to the calls for such change (Education Commission 2000; CDC 2001). Although it has not put much emphasis on global education, it advocates a move toward a more progressive, student-centered approach that stresses the development of generic skills of students.

Infusing global education in school curriculum

Carl (1983, p. 1) also advocates the integration of global education in the school curriculum:

Global education, the effect to foster a world view and a realization of the interconnectedness of people, is a necessity, given the context of changes in social, economic, and political structure of the world.

Global education is an approach to learning that transcends national boundaries and involves the interconnection of cultural, ecological, economic, political, and technological systems. This perspective promotes multicultural sensitivity and global consciousness that enables young people to recognize more clearly their own responsibilities and opportunities in today's world (Thorne et al. 1992; Mansilla and Gardner 2006). This perspective emphasizes interdependence, diversity, empathy, multiple loyalties, cooperation, human rights, participation, change, and conflict management (Carl 1983). The purpose of global education is to develop in youth the knowledge, skills, and attitudes needed to live effectively in a globalized and interdependent society; some call this "global competency."

Gardner (1999) claims that the school curriculum should include ecological and economic awareness. He also asserts that future education has to be reformed; the next generation must be educated to become highly literate, flexible, and be equipped with trouble-shooting and problem-solving abilities to help them survive in the global age. Moreover, Suárez-Orozco (2007) suggests nurturing the global consciousness (global sensitivity, global understanding, and global self) of students through the school curriculum.

The implementation of global education goals has to occur in both formal and informal curricula. Suárez-Orozco (2007) suggests that teachers should recognize

the opportunity to enhance the contemporary relevance of their curriculum. Globalization should be treated explicitly as one core theme for exploration. The perspectives of students should be expanded to understand the various symptoms of the changing planet. Carl (1983) mentions the infusion model, which is characterized by the key threads or attributes of global education woven throughout the entire school curriculum (formal and informal). This model assumes that global education can and should be found in every aspect of the school curricula. Sinagatullin (2006) also suggests placing global education as an integral element of general education. Additionally, in this holistic model, teachers are able to consider the integration of different domains of global education with formal and informal curricula. Global values, virtues, knowledge, information, and references to global characters may accompany relevant lessons or extracurricular activities. Moreover, thematic approaches could be used to integrate useful global values and knowledge with relevant subject matters. In the thematic approach, students would be led to study a specific theme (e.g., global warming) that embraces a cluster of knowledge drawn from various subjects, for example, physics, geography, and ecology (see Chapter 6 for the concept and practice of curriculum integration).

Lifelong learning to learn and interdisciplinary learning

Previous studies state that education in the twenty-first century should envisage an increasing focus on lifelong “learning to learn” for all (Gardner 1999; Henry et al. 2001; Zajda 2005b). This notion is based on the belief that the major goal of education in the global age is to enhance the capabilities of an individual for lifelong learning. The OECD interprets the notion as being “about the contribution of education to personal, social and economic development, about a ‘learning society,’ and about flexible pathways encouraging equitable access and participation in education, now held to extend beyond formal institutions” (Henry et al. 2001, p. 119). Moreover, Lesch (2008, p. 4) stresses that “the process of becoming a more creative learner (in the information age) by learning how to learn” is most important in the current age; however, he criticizes the existing school curriculum for not being able to significantly address this necessary adjustment.

The components of the “21st Century Skills” list by McCoog (2008) are helpful in understanding the construct of “learning to learn”:

- Twenty-first-century content (global awareness, scientific literacy);
- Learning and thinking skills (higher-order thinking, planning and managing, collaboration);
- Technology literacy (using technology in the context of learning, E-communication);
- Leadership skills (creativity, ethics, creating products); and
- Ethical issues, such as cultural awareness and social responsibility.

The concept of learning to learn is further discussed in Chapter 3.

Educators commonly support the idea that learners must be equipped with the capacity from an interdisciplinary perspective (e.g., Gardner 1999; Henry et al. 2001; Lesch 2008). They hold that most contemporary issues worthwhile for learning “do not readily fit into a neat disciplinary niche” (Gardner 1999, p. 53) and that the most effective and creative learners are able to integrate insights obtained from different disciplines. The initiative of curriculum integration faithfully fits this purpose. In Hong Kong, interdisciplinary or integrated curricula have long been supported by the Bureau of Education. Chapter 6 further discusses this concept.

Other changes brought about by globalization

Under the influence of globalization, other significant trends that have come about in educational policy and curriculum include the *decentralization of education and curriculum policy making*, and the *dissemination of multicultural education*.

Decentralization, marketization, and accountability

Globalization has brought forth significant changes in the policymaking mechanisms in a society. As information and knowledge begin to transcend borders and are available to everyone, the global society naturally begins to move toward the democratization of its political, as well as educational, development. The control and ownership of policymaking in education now belongs to everyone in the community. Hence, the central government must no longer keep absolute power and control over schools but must share the power of decision making for education and the curriculum with school personnel. This results in the decentralization of educational and curriculum policymaking from the central agency to the schools (Henry et al. 2001; Wiles and Bondi 2011). This is the policy of school-based curriculum planning. Globally, school-based curriculum does have quality control. Previously, schools were solely responsible to the central government. With the implementation of school-based curriculum, the responsibility for quality control and management are now shared between the government and the public. Schools become subject to the accountability regime and they must uphold good quality in school and curriculum building because they are now accountable to the public and the government. This is the ideal of school-based curriculum development. In many countries, as in Hong Kong, the government devises certain systems of evaluation for schools to evaluate their school-based curriculum. In Hong Kong, such mechanisms are known as school self-evaluation (SSE) and external school

review (ESR). These mechanisms work as partners to mandate curriculum change in local schools (Yeung 2008). Chapter 3 discusses these policy and practices in full.

The decentralization of educational responsibilities occurs in line with marketization and the quest for quality and effectiveness in education in Hong Kong (Henry et al. 2001; Mok and Chan 2002). Schools, especially those in areas where the population is shrinking, are now engaged in “market-like” principles of choice and competition (Lee and Gopinathan 2005; Mok and Chan 2002). To enhance their competitiveness, schools must assure the public of their high quality and efficiency. One way for schools to assure accountability and quality performance is the adoption of OBL approach in their curriculum, notwithstanding that the curriculum under OBL was initially driven by a different ideal. When OBL becomes a contemporary trend in planning school-based curriculum, the notion and practice have to be deliberated. The concepts of “decentralization,” “accountability and ESR,” the politics of “performance indicators,” and OBL are discussed in greater detail in the following chapters.

Diversity, equality, and multiculturalism

Globalization is characterized by the increasing diversity of race, ethnicity, and culture. In a nation with a population that is becoming increasingly diversified, multiculturalism is both a necessary and desirable condition (Henry et al. 2001; Henson 2010). Alongside globalization, some constantly neglected issues have come into light, such as inequality in educational opportunities due to differences in intelligence, gender, race, ethnicity, religion, and class. Furthermore, the concerns for children with special educational needs and students at risk pose a sharp challenge to education and the school curriculum. In fact, the need to devise the curriculum to cater for all kinds of diversity has become a timely issue that draws much concern in the teaching profession. The concept of curriculum differentiation offers more flexible and potentially more effective learning opportunities for all students (OECD 1994; Henry et al. 2001). This topic is discussed further in Chapter 4.

Multiculturalism is an important dimension of global education (see Chapter 3 for multicultural education). To live successfully in this global environment, students must demonstrate effective skills to deal with the challenges in a pluralistic setting, such as that of Hong Kong. Another pertinent dimension is the learning of one or more international languages. In Hong Kong and elsewhere, language skills are becoming essential for young people to improve global communication and understanding in the future. Thus the enhancement of English language proficiency of students becomes an indispensable policy direction for all governments alike.

The IT Boom

One salient sign of contemporary globalization is the technological and informational boom. Many call this age the “digital era.” Some people claim that globalization is essentially a result of, or is exemplified by, the rapid development of IT. Through computer-assisted instruction and the Internet, the quality of education can also be expanded and improved at a lower cost. IT provides knowledge almost instantly and makes it accessible to everyone. Hence, people without access to a computer and without IT skills will become increasingly and more easily marginalized from the knowledge-based society (Henry et al. 2001). Other discussions rationalize the need to learn as vital in the information age, such as that of Lesch (2008, p. 3):

For in an age in which everyone is increasingly gaining access to the same information, the person who can employ that information to re-imagine specific problems or entire areas of concern in the most creative manner possible is inevitably going to be the most successful ... the successful person is going to be the one who can take the same information that is available to everyone else in a specific field and apply it the most creatively.

In the information age, a learner has to possess the capacity to distinguish information (obtained from various sources via the Internet), examine, analyze, and use that information intelligently. Employers in the workplace require individuals to have good computer literacy and IT skills. This explains why most schools have computers with networking capabilities, and why computer training is provided for students. Similarly, education, curriculum, and learning have become organized largely around the computer. Educational institutions and schools all over the world continue to study ways to improve the curriculum and pedagogy by effectively using IT.

Moreover, globalized information networks mean the transformation of world culture (Carnoy and Rhoten 2002), such as the culture and values of environmental protection, the quest for egalitarianism and democracy, and so on. Gardner (2006, p. 16) elaborates this point further when he describes two “unprecedented trends” in the information age: (1) the movement of all manner of information “through cyberspace, with megabytes of information” for anyone with computer access; and (2) the movement of popular culture, such as stylish clothing, popular music, foods, and so on, “seamlessly across borders” so that teenagers all over the world more or less have the same appearance, tastes, and even beliefs and values. An observation of contemporary life and the people around us and over the world shows that Gardner’s analysis is largely accurate. Using the Internet, people now share their way of thinking, their lifestyle, culture, and values across borders at a rapid rate. One example is the way young people in Hong Kong have recently been following Japanese popular culture to engage eagerly in “cosplay” (*kosupure* in Japanese).

Moreover, despite the efforts of the governing bodies to deter the free flow of online information, young people in mainland China and other communist countries press for access to values and thoughts from nations that have different political values (e.g., democracy and respect for individual rights).

Nevertheless, easy and instant access to the Internet has created various social problems. Some people exploit online communication to commit crimes, such as financial cheating, illegal uploading/downloading of music, and paid dating (sometimes called “online prostitution”). Online seduction, misinformation, and other problems detrimentally affect teenagers’ values and their attitudes toward life (Gardner 1999). Hargreaves (2003) also takes note of the probable crises and issues brought on by the expanding knowledge and information bubble:

- IT gives people poor information, incorrect information, or far too much information, without intellectual or moral guidance on how to select or evaluate this information.
- Computers lessen one’s ability to enter into spontaneous interaction with real people (e.g., face-to-face conversation).
- Technology, such as mobile phones, lead people to give up time for introspection (people are busy chatting or sending messages on their mobile phones).
- IT demands quick responses (from mobile phones or email) that lead us to react rather than relate [“an illusion of intimacy and a pretence of community” (p. 25)].
- Young people are immersed in a culture of “real virtuality,” in which CDs, mobile phones, computers, video games, and so on dominate their life and turn their world into one of “digitized entertainment technology.” Thus, “the knowledge society is, in many ways, more of an entertainment society with instant pleasure and minimal thought have us ‘amusing ourselves to death’” (p. 25).

In Hong Kong, many young people are scammed by “friends” they make through Facebook or other online communities. For example, through online communication, some teenage girls are deceived or are attracted to participate in paid dating activities. Some of these girls claim that they want to earn money to buy the latest brand of mobile phone. In another local example, a Facebook group was set up to call for collective suicide on a particular day. These incidents are possible because the Internet has no means of quality control; the online free world is able to communicate information, disinformation, and misinformation (Gardner 1999). For the same reason, traditional values and ethical concepts have been altered. For example, compared with people in the past, today’s youth may hold different values and judgment regarding love, sex, and marriage, as well as in their choice between extravagancy and frugality, and the like. This social phenomenon has become another challenge to contemporary education, curriculum, and teaching. Curriculum planners and teachers have to consider the issues carefully and make relevant changes or adaptation to the school curriculum to deal with the said challenges.

Changing the curriculum to cope with problems caused by the IT boom

To cope with problems caused by the IT boom, Hargreaves (2003) suggests that teaching beyond the knowledge society should involve developing young people's characters, values, and emotions; building commitments to group life; showing tolerance of race and gender differences; and cultivating genuine curiosity and willingness to learn from other cultures, while avoiding discrimination against groups beyond one's own community.

To achieve these goals, Debe (2000) makes several recommendations for schools to use computers and telecommunications more wisely:

- centering the curriculum on “authentic” problems;
- engaging students in online virtual communities for creating, sharing, mastering, and deliberating information, toward constructing a solution; and
- enhancing students' collaborative construction of meaning via different perspectives on shared experiences.

To center the curriculum on an authentic problem, the pedagogy of curriculum integration and project learning is vital for teachers and curriculum planners. Using interdisciplinary studies, children can be guided to inquire into particular social issues beyond disciplines and with a broader and livelier knowledge base. Additionally, values education can be infused into the school curriculum through various ways, such as through cooperative learning, collaborative construction, and open discussion. Curriculum planners and school teachers could attempt to infuse problem-based learning and critical thinking in the school curriculum (Marsh 2008). Hence, students can be engaged in constructivist learning by more prudent use of IT. Through computer-based design, problem-centered learning, student-centered constructivist learning, and cooperative activities are all made possible. Chapter 4 focuses on sharing the pedagogy of a problem-based curriculum.

In addition to personalized learning, computer-supported learning environments could facilitate learners to learn as a community. One related well-known concept is “knowledge building” (Scardamalia and Bereiter 1993), in which students participate in online discourse and exchange information and ideas about selected topics. The learning outcome is constructed collaboratively. However, to accomplish knowledge building in schools, applicable technology must be developed first.

Therefore, technology clearly has the potential to support constructivist learning. Learning is realized through a process of construction, collaboration, and reflection, and is negotiated within a rich (IT) context in which learning is situated. Debe (2000) adds that, to realize all the above, we require a sustainable reform in the school's curriculum, pedagogy, and assessment as well as corresponding teacher development. Adjustments in the school's administrative and organizational structure are also essential.

The knowledge society

Globalization, together with the dominance of IT, has drastically changed nearly every society into a “knowledge society.” A knowledge society is a learning society. Gardner (1999, p. 49) asserts that only those who can demonstrate continued “utility” in a “knowledge-suffused society” can reap the rewards of this society. Drucker (2001) signifies the global community as the “next society.” He asserts that knowledge is the key resource of the global community and the most productive and influential workers are knowledge workers. He has further listed three characteristics of the next society: *borderlessness*, *upward mobility*, and *the potential for failure as well as success*. Knowledge can travel across borders without much effort. People who own and intelligently use knowledge, which is now accessible to everyone, can easily move up the social ladder. *Anyone* can succeed; however, not *everyone* can. Drucker foresees that these three characteristics will make the knowledge society highly competitive, both for organizations and individuals. In the knowledge economy, wealth and prosperity depend on the capability of a person to win over the competition. The success of a knowledge economy depends both on collective and individual wisdom (Hargreaves 2003). Hence, the government of a knowledge society is responsible for providing extensive opportunities for education and upskilling to develop the capabilities required of an individual. According to Hargreaves (p. xviii), teaching for the knowledge society involves cultivating the following capabilities in young people:

... deep cognitive learning, creativity and ingenuity among pupils; drawing on research, working in networks and teams, and pursuing continuous professional learning as teachers; and promoting problem-solving, risk-taking, trust in the collaborative process, ability to cope with change and commitment to continuous improvement as organizations.

Thus, according to Hargreaves (2003), school education in a knowledge society has to develop people’s capacity for learning and the ability to cope with change promptly and flexibly. Further, curriculum and teaching should be designed to help foster higher-order thinking skills, such as the critical thinking, analytical and problem-solving skills of students. These are, in Hargreaves’ words, “the power to think, learn and innovate” (p. 10), which is pertinent to surviving or prospering in a knowledge society. For this reason, Hargreaves stresses that the best of brain research, cognitive science, and so on must be at the heart of teaching and schooling. His view is referenced by other researchers such as Bazeli and Heintz (1997, p. 4):

To function effectively in our global society, students must learn to be good communicators and problem-solvers. They need to progress beyond the lower-level thinking skills such as knowledge and comprehension, to

higher-level thinking skills such as critical thinking, analysis, synthesis, and problem-solving.

Hargreaves's analysis (2003) partially echoes the views of Gardner (1999, 2006), who proposes that humans should develop five minds for the future: *the disciplined mind, the synthesizing mind, the creating mind, the respectful mind, and the ethical mind* (see Table 1.3 for a brief description of the five minds). This proposal is based on the criticism of Gardner (2006, p .17) that "current formal education still prepares students primarily for the world of the past, rather than for possible worlds of the future."

Table 1.3 Five minds proposed by Gardner

Five Minds	Meaning of each kind of "mind"
Disciplined Mind	Mastery of major schools of thought (e.g., science, math, geography) and of at least one professional craft
Synthesizing Mind	Ability to integrate ideas from different disciplines or spheres into a coherent whole and to communicate that integration to others
Creating Mind	Capacity to uncover and clarify new problems, questions, and phenomena
Respectful Mind	Awareness of and appreciation for differences among human beings
Ethical Mind	Fulfillment of one's responsibilities as a worker and a citizen

Adapted from Gardner (2006).

Both Hargreaves and Gardner imply that the school curriculum and pedagogy have to be modified to include higher-order thinking skills, values education, interdisciplinary learning, and so on, in order to equip the next generation with the capacities considered salient in the knowledge society. Their suggestions are highly recommended for consideration by teachers and curriculum planners.

Postmodernism and Postmodern Curriculum

Since the late 1980s, a "strong intellectual and cultural milieu" known as "postmodernism" has been prevailing in many countries (Mok and Chan 2002, p. 26). Many curriculum theorists have begun to reexamine the curriculum from postmodern perspectives. Some claim that globalization is one characteristic of postmodernism.

The term "postmodern" is defined by *The Merriam-Webster Dictionary* (2009) in several ways: (1) "of, relating to, or being an era after a modern one"; (2) "of, relating to, or being any of various movements in reaction to modernism that are typically characterized by a return to traditional materials and forms (as

in architecture) or by ironic self-reference and absurdity (as in literature)”; or (3) “of, relating to, or being a theory that involves a radical reappraisal of modern assumptions about culture, identity, history, or language.”

Doll (1993, p. 3) describes postmodernism as “a more complex, pluralistic, and unpredictable system or network.” The concept is usually compared with modernism. Whereas modernist curriculum is built upon a “linear, sequential, easily quantifiable ordering system” (p. 3), postmodern curriculum represents a break from this approach in curriculum development. In fact, postmodernism represents a critical reappraisal of modernist modes of thought. Griffin (1988, p. x) defines postmodernism as the thought that “deconstructs or eliminates ... God, self, purpose, meaning, a real world, and truth as correspondence.” Doll (1989, p. 244) focuses on three facets to compare the characteristics of modernism with those of postmodernism, in relation to curriculum: (a) by nature (open, as opposed to closed, systems), (b) with the structure of complexity (as opposed to simplicity), and (c) transformatory (as opposed to accumulative). Table 1.4 briefly summarizes Doll’s comparisons (1989). Modernism should now have given way to postmodernism.

Table 1.4 Doll’s comparison of modernism and postmodernism (a) by nature of the system; (b) with the structure of complexity vs. simplicity; and (c) transformatory vs. accumulative

	Modernism	Postmodernism
(a)	A closed system <ul style="list-style-type: none"> stresses control ends are preset; objectives are developed in line with those ends 	An open, living system <ul style="list-style-type: none"> accepts fluxes, errors, and anomalies welcomes external changes that lead to internal transformation ends are integrated with means
(b)	<ul style="list-style-type: none"> Based on Einstein’s theory of relativity and the resulting new science of complexity Without humanity, curriculum assumes the teacher to be a spectator in the course of learning 	<ul style="list-style-type: none"> Based on Newton’s theory of the universe; a simple cosmological view Takes education with an interactive and holistic perspective The knower and the known are intertwined; teachers have a new relationship with students
(c)	<ul style="list-style-type: none"> Stability, not change, is the desired goal Change is externally controlled or directed Programmed learning to avoid errors 	<ul style="list-style-type: none"> Change is seen as transformatory Errors, confusion, and uncertainty are seen as necessary actions in the process of development Permanently alters one’s relationship with nature, life, and the environment

Adapted from Doll (1989, pp. 243–253).

Pinar et al. (1996) has summarized the characteristics of postmodernism as follows:

- Television, the electronic media, and the image industry (e.g., advertising and film) play dominant roles in representing the world, resulting in a move from print to image culture.

- An explosion in information occurs, as well as a boom in IT.
- Globalism has become an eminent factor in the world economy.
- The psychosocial condition of the period is often depicted as “ironical,” “cynical,” “fragmented,” and even “schizophrenic.”
- The world has become commodified, and values, such as “the True, the Good, and the Beautiful” are replaced by criteria of marketability and efficiency.

Jencks (1996) states that, in the postmodern world, a shift toward *pluralism* and *cultural eclecticism* has taken place. Numerous ethnic, religious, and cultural groups are present and tolerated within a society. This condition is perceived by most people as desirable and beneficial. The world is united by current technologies, enabling cultural boundaries to be easily crossed. Increasing trade, easy trade, and instant world communication have turned the world into a “global village.” People in such a global village eventually develop a sense of global consciousness. People have become aware of the impact of globalization on the development of their own community and have recognized that they themselves act within the global village (see Suárez-Orozco 2007). Governments must tolerate democratization and allow the decision-making power (regarding public policies and education policies) to be shared or decentralized to local authorities/schools and teachers. In fact, in the postmodern world, traditional ways to identify the social status of people (in terms of class, wealth, types of job, gender, and so on) have become “fuzzy.” “Knowledge, not ownership, is power” (Jencks 1996, p. 52). If there is any definition of control on any matter, it is the ability to manipulate knowledge, rather than any class or group.

Impact of postmodernism on curriculum

Postmodernism has “radical” implications on contemporary education and curriculum development (Doll 1989, p. 244). Many academics recommend that the postmodern curriculum should be student-centered, planned around inter-/transdisciplinary learning and multiculturalism, include a collaborative discourse among the learners as a community, and have a vision transcending the past toward the future.

Authors often compare postmodernism with modernism. Whereas the modernist perspective emphasizes the transmission of knowledge, postmodern philosophy enjoys the privilege of actively seeking new ways of looking at the world. The postmodern curriculum respects students as the masters of their own learning. A belief exists that students have the ability to generate their own learning agenda and ultimately their views of the world (Alba et al. 2000). To better equip students to understand the world, teachers and schools are recommended to devise subject domains using the inter- or transdisciplinary approach. As commented by Alba et al. (2000, p. 10),

What grounds are there in the so-called information age for continuing to stipulate subject content ranges for school year levels as closely as we typically do?

Hence, a school must become “an information base” for students to work with teachers as a community of learners, delving into such trans-disciplinary learning. As Alba et al. (2000) further recommend,

... would it not make altogether more sense to encourage approaches that have learners, teachers, and other relevant experts work together to generate information, organize and analyze this information, compile reliable databases, and the like on a model of the school as an information base for its community?

This way, students become “insiders” (of the knowledge acquisition process), rather than learn passively from prepackaged content (2000, p. 10).

According to postmodernist thinking, the relationship between teachers and students is changing. Teachers are becoming less authoritative because, in the modern world, they will play a different role by interacting with students in a communal and dialogic way in order to explore and construct knowledge together (Schön 1983).

Doll (1993, p. 8) provides a few conceptual suggestions for constructing postmodern curriculum based on the remarks of Jencks (1987):

- It looks to the past, while, at the same, time transcends the past. This means the new is built, often literally, on the old.
- It is eclectic by nature. Educators or curriculum developers have to take pluralism when developing a curriculum. They need to choose and combine traditions selectively, including those aspects from the past and present, which appear more relevant for the issue.
- It is a deliberate mix that is multifaceted, mixing the technological with the human, the proven with the innovative, and the serious with the playful.

Facing various international economic, social, and philosophical changes, the curriculum in Western countries, Hong Kong, and its nearby neighbors (e.g., Taiwan) showed a shift in the underlying theory of knowledge in the late 1990s and early 2000s. In the educational and curriculum reform proposal of the Education Commission (2000) and the CDC (2001), there were no shortage of evidence that demonstrates the adoption of the postmodernist perspective: “student-centered” orientation, “whole-person development,” “learning to learn,” and so on (also see other chapters in this book). Appendix 1.1 summarizes the educational and curriculum reform in Hong Kong as a response to the quest for change in the Global Age. Whether or not these changes can be implemented successfully is a key

concern for local officials. In contrast, frontline teachers are concerned with whether such changes are really advantageous for students.

Summary

In this chapter, we have introduced various definitions of curriculum, followed by an overview of several important global changes and their impact on school curriculum.

Changes in social, political, and economic aspects in today's world exert influence in all realms of the society: the professions, the workplace, communication media, the family, the home, and the individual. Scholars must remind educational practitioners that conservative ways of thinking regarding the school curriculum and teaching have to be changed (see, for example, Gardner 1999 and Kennedy 2005).

This chapter has discussed the various trends that illuminate the quest for change in education and curriculum. Globalization, advancement in IT, the knowledge explosion, the conversion of world ecology into a knowledge society, a change in the concept of knowledge acquisition, the definition of learning, multiculturalism, postmodernism, and so on, all are powerful forces of change for the educational system and curriculum development. In considering these "forces" and their possible implications for the future world, the researchers and educators mentioned in this chapter have suggested ways to reform curriculum and teaching:

- A student-centered approach that stresses the active acquisition of knowledge through experience, inquiry-based learning, and problem-solving activities of students should be used in designing the curriculum.
- Curriculum and pedagogy should be capable of developing higher-order thinking skills and other capacities that are pertinent to the lifelong process of learning to learn.
- Rather than stressing obstinately the objective approach, curriculum should be developed with a process approach, which uses the experience and interest of students as the bases for content selection or the design of learning activities.
- The concepts of global consciousness, multiculturalism, environmental studies, and so on should be included or infused in the curriculum and pedagogy.
- An inter-/transdisciplinary approach should be adopted to integrate knowledge into all disciplines.
- Values and civic and moral issues of all relevant kinds should be conscientiously dealt with.
- Multicultural issues, differences in gender, intelligences, and other kinds of diversity in the classroom must be considered.
- Learning must be personalized or individualized accordingly, as well as collaborative or cooperative to encourage learners to learn with peers and teachers as a community.

- Constructivist pedagogy, such as knowledge building through computer networks, must be encouraged.

Teachers and curriculum planners may need a detailed discussion of all these curriculum initiatives before they are well equipped to implement them in the classroom. The above innovations are discussed in greater detail in the chapters that follow.

Facing tremendous changes, “schools cannot be cordoned off from the process” (Gardner 1999, p. 49). How can schools embody these changes or offer their own alternative mode of how education should be pursued? Alternately, should schoolteachers teach by their own ways or even against the market? Indeed, Gardner (1999) is correct in saying that the decision on which course to pursue is a moral one, reflecting the “sense of the good” (1999, p. 49) of educators.

Questions

1. The number of dropouts (defined as students who fail to show up at school for a prolonged period without a legitimate excuse) has risen by forty-five percent, from 1,035 in 2005–06 to approximately 1,500 in the school years 2008–09 and 2007–08 (“Drug tests will boost dropout rate,” 2009). This means an average of six pupils per one thousand stop attending class. Discuss the reasons behind this problem. If someone says the problem lies with faults in the school curriculum, how would you comment? Suggest ways to improve the situation.
2. Many people say that computer games dominate the daily lives of most students. How can teachers utilize the computer and IT in curriculum planning to positively educate students?
3. Evaluate how globalization and postmodernism affect your life and that of the students. List both the positive and negative effects, then evaluate if the existing school curriculum in Hong Kong is inert or proactive toward such influences.

Appendix 1.1 Educational reform in Hong Kong

As an international city, Hong Kong is not immune to the impact of globalization and postmodernism. From their recent research in Singapore, Taiwan, Hong Kong, mainland China, and other Asian societies, Mok and Chan (2002) found that postmodernism and other education reform measures are being adopted in response to globalization. The promotion of “lifelong learning” and “quality education” in preparing youth for a knowledge-based economy is one of these measures. Another significant phenomenon is that these governments simultaneously propose comprehensive reforms for their educational systems and heavy reforms for their curriculum.

The educational reform launched by the Hong Kong Education Commission a response to this global call for change. In September 2000, the Commission published a document entitled “Learning for life, learning through life,” which focuses on a review of the academic structure, curricula, and assessment mechanisms:

Society is undergoing fundamental changes. As it transforms from an industrial society into an information society, and as our economy shifts its emphasis from manufacturing to knowledge-based activities, knowledge has become an essential element of our daily lives and our economy. (p. 15)

The Commission’s reform proposal envisions local education to aim at developing the whole local community to become a lifelong learning community. Based on this underlying principle, it proposes five major principles guiding the future development of education in the territory:

- Student-focused: Learning should be focused on the personal development of students.
- No losers: Everyone should be given the opportunity to learn anywhere, any time, and be given due recognition for what he or she achieves.
- Quality: All citizens must be given access to the most appropriate learning opportunity so they can realize their potential. Everybody should achieve basic standards and strive for excellence.
- Life-wide learning: Learning is not limited to school subjects or examination syllabi. Students should receive a comprehensive learning experience through formal, nonformal, and informal modes.
- Society-wide mobilization: Lifelong learning is the key to a person’s success, and to Hong Kong’s success. The government, educators, all sectors of the community, as well as the learners themselves, should contribute to the reform. (Education Commission 2000, p. 16)

Comprehensive Curriculum Reform (CDC 2001)

Following the Commission’s proposal for launching educational reform in Hong Kong, the CDC (2001) issued its own proposal for a comprehensive reform for all levels of the school curriculum. As indicated in the official document (CDC 2001, p. 5), the rationale for this round of curriculum reforms is to prepare our students to meet the challenge of the following:

- a knowledge-based society,
- globalization,
- the impact of IT,
- the interdependent but competitive world, and
- increasing public participation in government affairs.

The guiding principles of this curriculum reform are as follows: the development of generic skills (e.g., critical thinking, creativity, communication) under various Key Learning Areas and so on; the use of different methods of learning and teaching to achieve learning targets; the provision of a broad and balanced curriculum for students; and the widening of student space for whole-person development.

The curriculum aims and framework illustrate the timely shift of local curriculum orientation in response to a quest for change in the current age of globalization, postmodernism, the IT boom, and the knowledge society. Apparently, the local curriculum is now based more on the contemporary theory of knowledge than on a traditional, overly rationalist one.

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