Visual Literacy, New Secondary School Curriculum and Development of Hong Kong Students'

Critical Thinking Skills

Integrating visual education for educational reform

The education reform in Hong Kong has been the subject of much debate and discussion as secondary schools and tertiary institutions work tirelessly to overhaul the current education system. The New Secondary School Curriculum (NSSC) attempts to meet the diverse interests and abilities of pupils by offering a range of options that provide "other learning experiences" structured (in the form of community service, professional and other forms of educational experiences concerning ethical, civic, aesthetic and physical dimensions) and the study of Chinese and English languages, mathematics and general education programmes. These changes have been introduced in order to increase the effectiveness of student learning.

The Hong Kong education system has been accused of "spoon-feeding" students and promoting rote learning, and it has been asserted that this has resulted in students' use of superficial strategies for learning, which transform them into passive subjects. With NSSC, students will be able to connect knowledge from different disciplines and understand a topic from different perspectives, thereby adopting a more holistic attitude towards learning. This can help realise one of the major goals of the education reform, i.e. strengthening the skills of critical thinking of students (Cheung, 2009). Bearing this broader perspective of education in mind, visual education can be integrated as an important aspect of NSSC to help students to think critically and creatively within a visually saturated environment.

As visual representations become the predominant mode of communication (Jenkins, 2008), the words of Aristotle (cited by Benson, 1997 p.141) - "without image, thinking becomes impossible" - resonate, showing the correlation between visual education and critical knowledge. Consequently, the new secondary education reform can now provide an invaluable opportunity to students to develop their capacity for critical thinking of students through integration of visual literacy.

Defining visual literacy

Traditionally, "literacy" has meant the ability to read and write. Therefore, the term "visual literacy" ("visual literacy") has been challenged because of the automatic association made with the spoken or written language. Nevertheless, more and more often, this term was also used to refer to the ability to "read images" (Thibault & Walbert, 2010). The proliferation of images in our culture, in the form of newspapers and magazines, advertising, television and the Internet, has led to recognize the importance of skills in terms of "image education ". The term "visual literacy" (literacy and image education) was used for the first time by John Debes in 1968.

Visual communication is a process of sending and receiving messages using images. In a broad sense, visual education can be defined as the ability to communicate and understand through visual means. Girogis, Johnson, Bonomo, Colbert et al. (1999) define it as "the ability to construct meaning from visual images" (p.146). Felten (2008) develops this definition by stating that visual education is the ability to understand, to produce and use images, objects and visible actions, culturally significant. Visual education can therefore be understood as the ability to both understand and explain the images of the present and the past and to produce images for the future, communicating effectively intentional message to an audience. Thus, visual education can be defined as the critical ability to recognise and understand the ideas transmitted by visible actions or images, but also the ability to convey ideas or

messages using colourful language (Aanstoos, 2003).

In summary, although the visual education includes critical knowledge of relatively traditional features such as facial expressions, body language, drawing, painting, sculpture, hand signals, signs and street international symbols, it refers more to the modern technological aspects like the images on computer, Internet pages and the elements of their design, the layout of images and words in a book, still images, to sequences of films and videos and to critically analyze advertisements on television. Indeed, we expect visually educated students to simultaneously play the role of critical consumer and the producer of critical video content.

The need for visual education

Forlin (2010) argues that the Hong Kong education system is still confined to teaching methods long-established, traditional and conventional. So is it not surprising that they are mostly based on printed materials.Nevertheless, from an educational point of view, visual and multimedia presentations capture student interest;more easily understood, they allow the student to successfully identify the steps in solving a problem and focus on critical thinking process to a higher level (Cooper 2003). Similarly, Stokes (2002) shows that many studies published in 1990 suggest that use of visual, in education, leads to a higher level of learning. Yet rather than simply teaching with presentations and visual media, we must work towards a teaching image, Hong Kong, under the NPES.

As the place of images increases at the expense of the text and that people devote more time to digital visual media in a world dominated by bits and bytes, basic education cannot be summarised in learning writing and reading (Goldfarb, 2002; Rheingold, 208). Accordingly, the dominant position of the text received is slowly but gradually challenged, while innovations in methods of communication, as demonstrated by the World Wide Web, challenging the traditional forms of communication, such as newspapers and 'edition. Goodman & Greene and notice that with the explosion of Internet and communication via the web, graphic design and printing computer generated transformed in many ways the printed word to image, and the image has become the form dominant language, adding also: "the image - fixed and animated, black and white or color, chemically developed and scanned electronically, broadcast and downloaded, analog and digital - transformed and eclipsed the printed word" (Goodman & Greene 2003, p.5).

Therefore, learning cannot be reduced to the representation of knowledge and skills acquisition mainly through writing. Give the written word the highest status is increasingly contradictory with the practical importance of visual representations in the daily life of Hong Kong students. And although it is undeniable that the written or spoken word continues to be the main form of communication, students also need to understand the importance of graphic art and film, so pithy today, precisely because they are deeply part of Hong Kong culture of youth (Information Services Department, 2008; Ofta, 2009).

Youth and children of today are constantly bombarded with images, and much of their information reaches them through the language of moving images on a screen. The language of the screen therefore needs to be taught the same way we teach writing or music (Daly, 2004). A glance is enough to understand that the means of visual communications or image-based texts - such as television, film, photo and Internet - are the currently preferred means of cultural expression by students in Hong Kong. In January 2009, the rate of diffusion of broadband per household was 77.8%. This means that there were a total of 1,952,335 registered customer accounts with broadband access in 2009 excluding the customers with dial-up (Ofta, 2009). According to Internet World Stats, Hong Kong is the first Asian country for the rate of Internet penetration and the ninth in the world (Hong Kong Trade Development Council, 2007). In March 2009, there were 7,987 public access points Wi-Fi In addition to internet access. Hong Kong also has an impressive penetration rate of mobile phones -163.1%. This means that there are 11.4 million subscribers to a mobile operator for a population of 7 million.

Hong Kong is also known for its high level of media penetration. At the end of 2007, there were 44 daily newspapers

and 689 periodicals, two local independent television programs, 16 non-local television programs, public radio, and two broadcasting stations licensed (Information Services Department, 2008). The presence and use of mass media, as well as new forms of recent media technology, are ubiquitous realities in Hong Kong.

To evaluate the use of media by young people, Chu (2010) administered a semi-structured questionnaire with 649 Grade 6 (chosen to be part of the study because they grew up in the digital environment), in 11 Hong Kong secondary schools between December 2008 and February 2009. Young people were asked to assess if they spent more or less time than the previous year on different media, and to estimate the time spent on each type of media. The results are shown below (Table1).

Table 1: Self–reported changes in the amount of time spent on different media.
Note: N = 649.

Amount of time/Medium	More (%)	Roughly the same (%)	Less (%)	Never use/Seldom use (%)	Time spent per day(M/SD)
Television	11.9	39.1	42.8	5.9	1.68hr/1.34
Radio	10.5	18.6	23.3	46.7	0.53hr/0.86
Newspapers	27.3	51.8	14.6	5.4	0.67hr/0.56
Magazines	12.2	29.4	22.5	34.2	0.34hr/0.44
Movies	21	43.6	20.8	13.9	1.3/mth/1.71
Fixed line telephone	11.4	42.8	43.4	16.2	0.56 hr/0.64
Mobile phone (Voice)	30.5	44.5	13.6	10.6	0.76hr/1.32
Mobile phone (SMS)	35	32.8	12.6	18.5	NA
Facebook/social networking	40.7	20.3	27.4	18.5	0.7hr/1.41
E–mail	20.5	38.2	16.3	23.9	0.33hr/0.43
Online chat	16.6	40.5	21.9	20	0.99hr/1.31
Online forums	12.5	32.4	18.5	35.9	0.58hr/1.07
Online games	6.6	18.8	24.5	49.2	0.47hr/2.94

(Source: Chu, 2010)

In this study, the table shows that the number of students who reported an increase in time spent for a given media as well as to the number of students who reported to spend as much time as the previous year, is clearly greater than the number of students who reported spending less time, and this is true world-wide. Thus, at a more global level, this table shows that the use itself, and the time devoted to the use of different types of visual media is on the rise.

From a very young age children watch images on the TV screen. It is pointless to ask them if they understand everything they see. What is important, however, is the fact that as future students, they process most information that comes from television. As children grow, they become able to understand the information at several levels, visual and verbal, on TV or at the computer screen. Everywhere outside the school, students are faced with all kinds of visual images. These young people talked about as the "Net Generation", according to their demographics and Internet usage, were also called "net-geners" (Leung, 2003). They are described as entirely comfortable in the new media environment, and hence also called "digital natives" (Prensky, 2001) unlike "digital immigrants" (Ryberg &

Dirckinck-Holmfeld, 2008) who were born earlier. Jenkins (2008) writes: "Young people learn more than half of what they know by means of visual information, but few schools have an explicit programme to teach students how to critically evaluate visual data." As the new media landscape continues to shift rapidly, many Hong Kong students produce visual content on the Internet in the form of blogs, YouTube videos and social networking sites (Chu, 2010). Chu's study seeks to find more answers by asking students specific questions about their involvement in blogs or video sharing as illustrated in Table 2.

Table 6: Prosumption activities.
Note: N = 649.

	Yes	**Yes but I do not update often**	**No**	**No answer**	**Update frequency(M/SD)** *(for those who answered Yes only)
Own a blog	228 (35.1%)	233 (35.9%)	180 (27.7%)	8 (1.2%)	7.2/12
Upload videos to YouTube or other video–sharing sites	47 (7.2%)	110 (16.9%)	484 (74.6%)	8 (1.2%)	26/78.6

(Source: Chu, 2010)

The table above shows that despite the fact that 71% of students who responded have their own blog, 74.6% of them have never uploaded a video to a sharing website. The general trend among high school students however shows that they are subject to increasing exposure to different visual media (in Tables 1 and 2). Despite this trend, high school teachers continue to make significant efforts to teach young people to scan written texts, their pedagogical approach often uninformed by the fact that during their free time, students watch television, movies and commercials, play video games, and spend hours on the computer. If Hong Kong schools want to continue to be considered related to the world of work and leisure, their teaching methods are expected to reflect these worlds.

Although visual representations - such as photographs, cartoons, drawings, diagrams and concept maps – have been used in schools for some time, the use of images has become ubiquitous in modern culture. In the communication environment today, representations may include the relationship between visual images and the written word, e.g. for visual design in desktop publishing or in the interface between visual and linguistic meanings in multimedia. Therefore, it is crucial that schools tailor their educational programmes and practices to these new forms of communication in this electronic age, where the dominant visual, requires a different pedagogical approach.

For these reasons, Hong Kong school curriculum is encouraged to make extensive use of visual communication strategies. Visual education - which can develop capabilities in image analysis - has become a vital need for communication, and should be taught in schools. In order to contribute to the needs of modern society, which is increasingly driven by new global technological developments, students need to get better acquainted with the visual (Roblyer & Edwards 2000). It is expected that asking teachers to move away from the constant use of the written

word and the traditional text format will be challenging. However, it can be drawn to their attention that the current literacy approaches in Hong Kong, severely limit the prospects of emergence of creativity and critical thought.

Visual education and critical thinking

The need to develop a critical reading in the field of vision is largely taken for granted. Baker (2008) points out that we are exposed daily to thousands of images, but unfortunately we still know too little to "read images". He (ibid) adds that many students could believe what they see, and that, therefore, one of the ways to teach critical thinking is to start by studying the still image. The student can be instructed how to pay pay attention to the intentions of those who have created. For students who demonstrate critical thinking, these images convey information and ideas, and this basic knowledge of visual culture allows them to understand such information and ideas through the image, to place them in context and to determine its value before moving on to a higher level to produce their own video content.

Hocks (2003) emphasises that as the visual culture is strengthened, education should include criticism of an environment saturated with visuals and technology; an environment in which students are immersed in today. Moreover, Mitchell (2002) asked teachers to help students develop a critical visual world by "going beyond the familiar feel and evidence that are required to experience the vision for turn into a problem under analysis ... "(p. 166). Thus, several researchers have been particularly supportive of the necessity of critical thinking in studying texts created with new media technologies (Bleed, 2005; Duffelmeyer, 2002; LeCourt 1998). Given the combination of computer technology and visual communication in this media environment, conditions of production and reception must be explicitly studied in class.

Despite these pleas to develop critical thinking, misgivings remain regarding the integration of the visual in pedagogy. Hills (2004) notes that this reluctance is due to the "aversion to mass culture and its denigration" in the current education system (pp. 108-110). However, rather than futile efforts directed at designing year-long visual literacy courses, Russell (2002) argues that it might be better if policy-makers, teachers and students see it “as an opening of the educational area, for the purpose of critical education and to fulfil the notion of responsibility as defined by Dewey, which implies a balance in teaching - between the interests of the teacher and the requirements of the subjects taught - in our lives as individuals and our lives in democratic societies mediated by communication technologies "(p. 332).

Based on these definitions critical thinking, in the context of visual culture can be understood as the ability to see and create a visual text not as if it were a transparent window reflecting reality, but a point of view, endowed with intention with the purpose to communicate. This view is reflected in Willeman’s (2002) arguments: "Education should not focus on either the transfer of information or reproduction of value systems, but on the urgent task of providing citizens of "thinking tools" to give meaning to the historical processes so that individuals can learn to better assess the character of the "plausible" explanation or any representation of the world "(p. 20). This applies to all forms of visual representation. The student criticism is able to go beyond a particular image so that this increased awareness can be exercised in any given context. Students, then, don’t just passively consume images and visual narratives, but become able to acquire a critical awareness of the world and the recurring dominant discourses through a thorough understanding of how an image can be used or created, either by themselves or by someone else, for a particular use at some point.

Visual literacy and classroom practice

If students and teachers, in this information age, must meet the requirements of various forms of new learning, they must be able to communicate and adapt as the visual media landscape continuously changes. The critique of visual culture, when taught by teachers trained in visual culture can allow each student to take an active interest in the modes of visual communication not only to understand, analyze and evaluate, but also to create and build forms of visual messages. The first point is however not as easy to achieve because it involves judgments with respect to the accuracy, validity and value of messages (Metros, 2008). Recent work on the nature of visual images (Dikovitskaya, 2006; Kress & Leeuwen, 2006; Manghani, 2008; Sturken & Cartwright, 2007) have contributed to the knowledge of visual culture and may be useful to teach students decode and interpret visual messages so as to develop and compose a visual communication that makes sense.

Branch, Kim and Brill (2000) state that a person (or student) receiving visual education is able: (a) to discriminate and give meaning to the visible objects, (b) to create static objects dynamic perfectly visible in a defined space, (c) understand and evaluate eyewitness to a third party, and (d) visually conjure objects. This critical knowledge can be instilled by examining the different ways in which images have been used throughout history and educating students to see how an image, object or event has been intentionally designed to develop a type of particular experience or set up some type of spectator. This can be done creatively and innovatively so all imagination and "critical" go together and reasoned responses are combined with sensitive and unique reactions (Bamford 2003).

During the course, critical awareness of students can be developed showing different types of images to students, which they can discuss with questions and prompts from teachers. Thus, the integration of critical image education, in school curricula, through pictures and videos about key issues can promote the critical thinking process. Students can learn to assess visual messages by using questions such as (Riesland, 2005):

- What am I looking at?
- What does the image mean to me?
- What is the relationship between the image and the message of the text displayed?
- How is this message delivered efficiently?

But just understanding the meaning of visual messages is not enough because students must also learn to ask questions during the course of the visual process (Riesland, 2005):

- How can I visually show this message?
- How can I design this message more effectively through visual means?
- What are the audio-visual elements that can be used?

In addition, students can be made aware that visual messages exist everywhere: in dance, film, fashion, hairstyle, exhibitions, public buildings, interior design, lighting , computer games, advertising and photography. Day by day as students realise the visual elements that are part of their lives, students may find it interesting not only to study the messages conveyed by these images but also to develop critical thinking skills in the visual field. A student with a visual critical consciousness would be able to (Bamford, 2003):
- Analyze the style and composition of the image;
- Analyze the techniques used to produce the image;
- Assess the aesthetic value of a work;

- Assessing the value of work in terms of its object and its public;
- Understand innovation and the visual emotional impact of the images (or lack thereof).

In addition, students, helped by experienced educators in the fields of visual, will frequently be encouraged to work together to produce a web page or to make an interactive movie, which would be consistent with the concept of constructivist learning where students learn by making, give birth to ideas, solve problems and produce creative visual messages themselves. Thus students will be involved in building their own knowledge by discussing and creating visual messages rather than having to constantly depend on an external source. Further, these activities are likely to attract the interest of students and can stimulate their minds, lead to greater motivation to learn and help to better retain what is learned. Once students internalise these issues they cannot only identify the implicit negative or harmful messages, and the propaganda of new media and new technologies in their various forms, but are also ready to communicate through visual messages developed, which will allow them to better integrate education that is increasingly dependent on multimedia as well as fit into a work environment now characterized by a constant evolution of online technology.

Undertaking educational initiatives

While it is necessary to integrate education in the image in the NSSC, it is essential to recognise that the majority of information we consume is actually perceived by the eyes. However, visual education in Hong Kong image remains in its infant stage. Bleed (2005) notes that the new students, new technologies, new skills to the workplace, such as new modes of creative expression, make the need for a more full-fledged visual education. In the current educational system, this can be achieved when visual media become necessary aspects for the functioning of education, entertainment, communication and the world of work. Developing a visually critical culture among students can be an important future step to introduce and develop NSSC more effectively.

The NSSC provides a valuable opportunity to act especially since opportunities for understanding visual expressions are missed every day as the focus of literacy development remains entrenched in traditional reading and writing while new visual media remains largely ignored in schools. It will certainly take some time before the teaching guidelines and assessment criteria of visual education are clearly established but it is an essential skill that will determine how Hong Kong will be able to effectively position itself in the interconnected and multimodal communication systems of contemporary society.

Current visual forms of communication can enable students to have a real education, in the full sense of the word because to be an effective communicator, a student must be able to interpret, select and create images to convey a range of meanings. However, before the Hong Kong education system takes this important step, it is essential to ensure that the teachers have the skills that include not only teaching by making use of visual elements, but also the ability to teach visual culture. Unless education in the near future heads in this direction, the school system will move away from the learning skills and foundations of knowledge, which Hong Kong actually needs. Recognising the need for such changes in teaching and learning in Hong Kong implies that these changes should be implemented immediately.

References