1. Introduction

The purpose of this set of guidelines is to familiarise interested e-textbook publishers with the curriculum aims and objectives, guiding principles for writing e-textbooks, etc of the Senior Secondary (SS) Information and Communication Technology (ICT) in a bid to ensure that the e-textbooks are written in accordance with the specific requirements of the curriculum. For the general principles and requirements for writing textbooks, publishers should refer to the latest edition of the *Guiding Principles for Quality Textbooks* available from the Education Bureau’s Textbook Information website (www.edb.gov.hk/textbook).

2. Curriculum Aims and Objectives

2.1 Curriculum aims

The ICT Elective curriculum aims to:

- provide students with a body of essential knowledge, concepts and applications of information, communication and computer systems;
- equip students with problem-solving and communication skills, and encourage them to think critically and creatively;
- develop students into competent, effective, discriminating, ethical and confident users of ICT, so as to support their lifelong learning; and
- provide students with opportunities to appreciate the impact of ICT on our knowledge-based society, so as to nurture in them positive values and attitudes towards this area.

2.2 Learning Targets

Students work towards the following learning targets:

(a) Knowledge and Understanding

- develop knowledge and understanding of the range and organisation of computer systems, and the interrelationships between hardware, software and data; and
- realise the social, ethical and legal issues pertaining to the use of ICT.

(b) Skills
• use a range of applications software effectively, ethically and with
discrimination to support information processing and problem-solving;
and
• demonstrate an understanding of methods for analysing problems, and
planning and implementing solutions using ICT.

(c) Values and Attitudes
• appreciate how information literacy and the sharing of knowledge using
ICT influence decision-making and shape our society; and
• develop responsible and positive attitudes towards the use of ICT.

3. Guiding Principles
3.1 Content
• Reference should be made to the following curriculum documents:
  Technology Education Key Learning Area – Information and
  Communication Technology Curriculum and Assessment Guide
  (Secondary 4-6) 2007 (with updates in November 2015) and Information
  and Communication Technology Curriculum and Assessment Guide (S4-
  6) Supplementary Notes.
• The curriculum is organised into a Compulsory Part and an Elective Part.
The Compulsory Part consists of five modules, namely Information
Processing, Computer System Fundamentals, Internet and Its
Applications, Computational Thinking and Programming and Social
Implications. The Elective Part has four options: Databases, Web
Application Development and Algorithm and Programming. Based on
their abilities, interests and needs, students are required to choose two
specialised areas for in-depth study.

3.2 Learning and Teaching
The following section outlines the rationale and guiding principles for
effective learning and teaching in ICT.
• Knowledge
  Knowledge exists in different forms and contexts. Some knowledge is
  established while some is dynamically changing and contextualised. In
  order to be useful, all knowledge has to be constructed by the learners;
• Learning
  Learning takes place in different ways. Knowledge can be acquired from
  instruction and reading the literature. Knowledge can also be learnt
through experience followed by reflection. Finally, it can be learnt through collaborative interaction with others;

- Understanding the learning targets
  Each learning activity should be designed with learning targets which are clear to both teachers and students;

- Teaching for understanding
  The pedagogies chosen should aim at enabling students to understand what they are learning rather than just to memorise it;

- Building on prior knowledge and experience
  The learning activities should be planned with the prior knowledge and experience of students in mind;

- Using a wide range of pedagogies
  A range of learning and teaching approaches and activities should be designed to suit different purposes and students’ various learning styles, so that effective learning can be achieved by all;

- Promoting interaction
  Teachers need to bring about interaction in which students can explore what they know and don’t know, and try out ideas. Teachers should use open-ended questions that get students thinking and offering views, so that students can learn from each other;

- Promoting self-learning
  Generic skills and reflection can be nurtured through learning activities in appropriate contexts of the curriculum. Students should be encouraged to take responsibility for their own learning;

- Using formative assessment
  Assessment activities should be designed to collect and provide information to improve learning and teaching;

- Effective use of resources
  Various types of teaching resources should be employed as tools for learning;

- Enhancing motivation
  Learning takes place best when students are motivated to learn. Appropriate motivation strategies should be used to arouse the interest of students;

- Maximising engagement
In conducting learning activities, it is important for all students to be mentally engaged in each activity; and

- **Catering for learner diversity**
  Learners have different characteristics and strengths. Teachers should employ various strategies to cater for such learner diversity, for example by establishing a learning community in which learners of varied ability support each other’s learning.

### 3.3 Structure and Organisation

- The organisation of curriculum should facilitate teachers to have a better grasp on the coverage of learning elements in order to provide a broad and balanced TE curriculum for students.
- The learning and teaching materials should be arranged in an appropriate sequence, e.g. from easy to difficult, from concrete to abstract. It must also be emphasised that the sequencing of topics in the curriculum is for reference only and should not be taken as the only way in organising the topics.
- Concept clarity is an important aspect affecting students’ learning. New concepts should be introduced at an appropriate pace and when needed during the development of the text. Efforts should be made to help students connect new concepts with concepts already learned.
- Structure of text should be readily apparent to students as evidenced by chapter titles, headings, outlines, introductions and conclusions.
- The text should be coherent at a local level. Pronouns should have a clear referent and the relationship between ideas should be explicit and obvious.

### 3.4 Language

- The language used should be clear, fluent, accurate and easy to understand.
- Pinyin should be adopted for Chinese names and places.
- The interspersing of languages (e.g. English followed by its Chinese translation or vice versa) in the text is undesirable.

### 3.5 Pedagogical Use of e-Features
• Appropriate multimedia - video, audio and/or animation, should be included in layout according to the aforesaid requirements, and with captions / labels / synopsis where available.

• For the general principles and requirement for writing e-textbooks, publishers should refer to the latest edition of the *Guiding Principles for Quality Textbooks* for the relevant requirements.

3.6 Technical and Functional Requirements

• Refer to the latest edition of the *Guiding Principles for Quality Textbooks* for the relevant requirements.

4. Others

4.1 It is incumbent on the publishers to ensure that all proof-reading work, including the electronic functions, language, information, punctuation, illustration, pagination, etc., is completed and accurate before submitting the e-textbooks for review.

4.2 Publishers should clear all copyright issues of the e-textbooks as appropriate.

4.3 Publishers should pay attention to the curriculum time allocation suggested in the curriculum documents of this subject to ensure that the learning contents are designed with an appropriate quantity and level.

4.4 Information should be objective and avoid showing brand-names of commercial items in the illustrations and images.

4.5 If the content involves third party information or news reports, the source of the information should be provided.

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