

# **Printed Textbook Writing Guidelines for the Technology Education Key Learning Area Curriculum (Secondary 1-3) – Design and Technology (Knowledge Context)**

## **1. Introduction**

- 1.1 The purpose of this set of guidelines is to familiarise interested textbook publishers with the curriculum aims and objectives, guiding principles for writing textbooks, etc. of the Technology Education Key Learning Area (TEKLA) curriculum (S1-3) – Design and Technology (Knowledge Context) in a bid to ensure that the textbooks are written in accordance with the specific requirements of the curriculum and “The Seven Learning Goals of Secondary Education” ([www.edb.gov.hk/en/curriculum-development/7-learning-goals/secondary/index.html](http://www.edb.gov.hk/en/curriculum-development/7-learning-goals/secondary/index.html)). (For details, please refer to *Secondary Education Curriculum Guide* (2017) and its Supplementary Notes (2021).)
- 1.2 *Values Education Curriculum Framework (Pilot Version)* has been released in 2021. Upon the addition of “Law-abidingness” and “Empathy” in 2020, the Education Bureau (EDB) has listed “Diligence” as the tenth priority value and attitude. Publishers are suggested to reinforce the learning elements for values education in the textbooks where appropriate, especially for the above-mentioned three newly added priority values and attitudes. (For details, please refer to *Values Education Curriculum Framework (Pilot Version)* (2021) (Chinese version only) ([www.edb.gov.hk/tc/curriculum-development/4-key-tasks/moral-civic/ve\\_curriculum\\_framework2021.html](http://www.edb.gov.hk/tc/curriculum-development/4-key-tasks/moral-civic/ve_curriculum_framework2021.html)).
- 1.3 For the general principles and requirements for writing textbooks and the requirements for submission of printed textbooks for review, publishers should refer to the latest edition of the *Guiding Principles for Quality Textbooks and Guidelines on Submission of Printed Textbooks for Review* available on the EDB’s Textbook Information website ([www.edb.gov.hk/textbook](http://www.edb.gov.hk/textbook)).

## **2. Curriculum Aims and Goals**

The broad aims of the TEKLA curriculum – Design and Technology (Knowledge Context) are to enable students to:

- 2.1 be aware of the modern technology and its impact on society;
- 2.2 understand the relationship between technology and other disciplines;
- 2.3 design with consideration of related design factors;
- 2.4 explore the characteristics of different kinds of materials and their influences to the environment;
- 2.5 solve problems logically and creatively through hands-on and exploratory design and make activities;

- 2.6 master basic skills in the safe use of materials, tools and machines; and
- 2.7 retrieve, process, present and communicate information and ideas using information technology tools whenever appropriate.

### 3. Guiding Principles

#### 3.1 Content

- The *Technology Education Key Learning Area (TEKLA) Curriculum Guide* was published in 2002 and has been implemented in schools since then. It has been reviewed and the learning elements at junior secondary level were enriched in 2017 for schools' reference. For details, please refer to Education Bureau website at <http://www.edb.gov.hk/en/curriculum-development/kla/technology-edu/curriculum-doc/index.html>.
- The TEKLA curriculum comprises six knowledge contexts. The Design and Technology related knowledge contexts include Materials & Structures, Operations & Manufacturing and Systems & Control. Selection of materials should be done with a view to attaining the aims and objectives stated in the TEKLA curriculum and covering the contents under the Design and Technology related knowledge contexts; the learning elements under the six knowledge contexts could be connected or integrated to enhance students' learning. Information/data included should be accurate, systematic and relevant.
- In order to arouse students' interest in learning and to facilitate effective learning, the learning and teaching materials should, as far as possible, be linked to real life situation, technological applications, social issues, and students' daily experiences so as to help students in realising the importance and relevance of the concepts being discussed. Furthermore, local examples should be cited wherever appropriate.
- Learning 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.
- Bias and discrimination should be avoided in the selection of contents, examples, illustrations, activities, etc. Furthermore, information should be provided to help students in understanding and analysing an issue from different perspectives.
- All modules of learning elements (core and extensions) under the Design and Technology related knowledge contexts should be covered.

#### 3.2 Learning and Teaching

- The curriculum emphasises on learning through real-life situation. Authentic learning activities should be included to facilitate the study of

technological applications and to develop students' generic skills such as problem solving skills, effective communication skills, creativity, etc.

- Activity-based and project-based approach should be included in the teaching of Design and Technology.
- A number of case studies should be included in the textbooks, which covered the contents of the modules. The authentic cases should relate to students' daily experience, and they can learn through investigation, analysis, and applied these technologies. The case studies should include relevant background information, together with a variety of learning activities and projects, so that their learning experience can be enhanced.
- A variety of activities such as design projects, hands-on practical work, case studies, discussion, role-play, debate, investigation, survey, library search, Internet search, etc., should be included as appropriate.
- Learning activities and exercises should be so designed to develop various types of student competence at appropriate levels, including their higher order thinking skills, such as application, analysis, synthesis and evaluation, critical thinking and creative thinking, problem solving, sensitivity to the environment, etc. Student-centred and interactive approaches are highly recommended, as they are useful in providing suitable learning experiences for stimulating and developing higher order thinking. The skills to be developed in a particular activity should preferably be identified for teachers' reference.
- Activities and exercises must be categorised as basic, extension and enrichment to allow teachers using flexibly to cater for learners' diversity.
- Exercises should be so designed to help students learn how to locate and process important information in the text. They should help students focus on important learning objectives and check their own progress. Stimulus materials, such as newspaper cuttings, extracts from articles, flow-charts, photos, videos, diagrams, statistical tables or graphs, Internet web sites, etc., should be provided so that students can have some concrete materials to base on, some food for thought and incentive for attempting the exercise.

### 3.3 Structure and Organisation

- 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. Effort should be made to help students connect new concepts with the 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. For instance, pronouns should have a clear referent and the relationship between ideas should be explicit and obvious.
- Illustration should be appropriate and effective, of proper size, suitably labelled and explained. Graphics and colours should be clear, accurate and attractive. Illustrations should be numbered for ease of reference. Scales should be included wherever appropriate.

### 3.4 Language

- Publishers should refer to the [Design and Technology glossary](#) provided by the Education Bureau (EDB) in developing textbooks. The latest version can be downloaded from the EDB website.
- The interspersing of languages (e.g. English followed by its Chinese translation or vice versa) in the text is undesirable.
- Pinyin should be adopted for Chinese names and places.
- The language used should be clear, fluent, accurate and easy to understand.

### 3.5 Textbook Layout

- Publishers may refer to the latest edition of EDB's [Guiding Principles for Printing of Textbooks](#) for use of paper, colouring, use of inks, etc.

## 4. Others

- 4.1 When writing textbooks, publishers have to ensure that the content and information provided in the materials should be correct, complete, up-to-date, objective and impartial. The source and the date of the information should be provided as appropriate. The information in the illustrations and images should avoid showing brand-names of commercial items unless it is necessary.
- 4.2 Except for a single URL of the publisher's website, no other URLs or QR codes (including those linking to the listening practices' audio files of language subjects) should be included in the textbooks. Publishers are required to clearly declare in the "Preface" or "Editor's Notes" that the learning and teaching resources on the publisher's website have not been reviewed by the EDB. When textbooks of reprint with minor amendments are submitted for review, they should contain no URLs and hyperlinks, except for one single URL of the publisher's website.
- 4.3 Publishers may provide self-developed supplementary learning materials or the web links of the learning and teaching resources developed by the third party on publishers' websites. Publishers may also provide their websites' URLs in the Teacher's Book for teachers' reference in preparing lessons or

designing learning and teaching activities. Publishers should be accountable for the quality of the learning and teaching resources provided.

- 4.4 It is incumbent on the publishers to ensure that all proof-reading work, including the language, information, punctuation, illustration, pagination, etc., is completed and accurate before submitting the textbooks for review.
- 4.5 Publishers should review the textbook content from time to time. When necessary, publishers can make amendments to the textbook content in the form of corrigenda with the EDB's consent. The EDB may also require publishers to make amendments if deemed necessary.
- 4.6 Publishers should clear all copyright issues of the textbooks as appropriate.
- 4.7 Publishers should not use expiration of copyright on the textbook materials as a reason to apply for textbook "revision" or "reprint with minor amendments".
- 4.8 Publishers should pay attention to the curriculum time allocation suggested in the curriculum documents of this subject to ensure that the learning content are designed with an appropriate quantity and level.
- 4.9 If publishers submit other versions (such as Chinese version or electronic version) of the same textbook title for review at the same time, they should duly check the consistency of the content among all the versions. If another version will be submitted at a later stage, the suggestions in the Textbook Review Reports for the previous submitted version should be thoroughly followed before submission.

Technology Education Section  
Curriculum Development Institute  
Education Bureau  
February 2022