

Unesco

The Elaboration  
of School Textbooks

Methodological Guide

by  
**Roger Seguin**

Division of Educational Sciences,  
Contents and Methods of  
Education

**THE ELABORATION OF SCHOOLTEXTBOOKS  
METHODOLOGICAL GUIDE**

by Roger Seguin

Division of Educational Sciences, Contents  
and Methods of Education  
Unesco

December 1989

ED-90/WS-24

## PREFACE

The problem which many countries still have to face today is that of ensuring the provision of school books to their educational system. This is an undertaking which demands considerable resources given the complexity of the different operations involved in the production and distribution of school books. Unesco has promoted a series of regional meetings on this theme which have offered the countries directly concerned recommendations on aspects related to costs, management, production planning, and on the distribution of school textbooks. However, besides these very important and decisive aspects, one of the main objectives of educational authorities is to provide textbooks which are adapted to the social and cultural context of their countries and which meet the needs of their educational system. Engaging national personnel to elaborate these textbooks is one of the main ways of attaining this objective.

If the production process has been the subject of studies and publications on material, technical, financial and administrative aspects, the same cannot be said for the elaboration of manuscripts which is the starting point of this process, and which has never been systematically studied. A few countries have prepared guides on technical aspects and the drafting of manuscripts to simplify the work of authors and formulate rules to be followed to standardise elaboration. This handbook attempts to respond to the need for a general methodological approach which could guide authors and teachers who wish to take on the work of textbook elaboration, and the educational authorities who are responsible for the promotion and the quality of books used in the teaching and learning process.

### **Note about the author**

Roger Seguin, who has a Phd in educational psychology from the University of Paris, has devoted a great part of his professional life to the development of education in many countries. He spent ten years in Brazil where, from 1953 to 1960, he undertook research on behalf of the Ministry of Education, on the achievements of primary school and the factors involved in ensuring success at school. Later, in 1977 and 1978 he coordinated a masters course in education at the Federal University of Santa Catarina.

His career as a Unesco expert began in 1965. He has taken part in various technical cooperation projects in Latin America and Africa in the domains of school guidance, educational research, teacher training and curriculum development. As a Unesco consultant he has, since 1983, carried out missions in Africa, and Latin America in the domains of teacher training, curriculum, school textbooks, organisation of training seminars and the preparation of technical cooperation projects for the reform of curricula.

## CONTENTS

<b>I</b>	<b>INTRODUCTION</b>	5
	Textbooks and educational achievement	5
	Provision of school textbooks	6
	Projects to develop the production of textbooks	7
	Conditions and Constraints on textbook production	8
	Identification of needs	8
	Financial resources	8
	Elaboration	9
	Publishing	9
	Printing	11
	Distribution	12
	Circulation and marketing	12
	Decisions to produce a textbook	13
	Formulas and conditions for elaboration	14
	Original Design	15
	Adaptation of existing textbooks	15
	Translation	16
	Rights and protection of authors and translators	17
<b>II.</b>	<b>ELABORATION OF TEXTBOOKS</b>	18
	The main categories of textbook	18
	The roles of textbooks	18
	The objectives in using textbooks	20
	Teacher Training	20
	Authors of textbooks	21
	The author's contract	22
<b>III.</b>	<b>TEXTBOOK MANUSCRIPTS</b>	23
	Textbooks and curricula	23

Teachers' guides and school textbooks	23
The contents of textbooks - origins	24
The nature of content	25
Accuracy, precision, topicality, objectivity	25
Contribution to social objectives	26
Learning experiences and development of attitudes	26
Progression of concepts and abilities	26
Interdisciplinarity	27
Educational approaches	27
Levels of ability of pupils	27
Interests and motivation of pupils	27
Stimulating an enquiring mind	27
Learning and evaluation exercises	28
Self -evaluation	28
Drafting a manuscript	29
The outline of the manuscript	29
Structure and organisation of chapters	30
Presentation of chapters	31
The text: language used in textbooks	31
Vocabulary	31
Phrases	34
Punctuation	35
The continuous link	35
The summary	36
Writing style	36
The first and last pages of a manuscript	37
<b>IV. ILLUSTRATIONS</b>	<b>38</b>
The role of illustrations	38
Types of illustration	38
Characteristics and conditions of a good illustration	39
Cost of illustrations	40
Qualifications of illustrators	42

<b>V. MANAGEMENT OF THE ELABORATION OF MANUSCRIPTS</b>	<b>43</b>
School Textbook Committees	44
Functions	44
Status	45
Members	45
Working procedures	46
Submission of manuscripts	46
Submission dates	47
Technical guide-lines for presentation and composition of text	47
Corrections in the text of a manuscript	48
Presentation of Illustrations	49
The final manuscript	49
Submission of the final manuscript	50
The definitive manuscript	50
<b>VII. EVALUATION OF THE FINAL MANUSCRIPT</b>	<b>51</b>
Aspects of Evaluation	51
Questions to be raised for the evaluation of a final manuscript	52
Guidelines for evaluation	56
Evaluators	56
Modalities and criteria for evaluation	57
Evaluation by teachers	58
The trial edition	59
Testing	59
Evaluation	60
<b>VII. CONCLUSION</b>	<b>62</b>
<b>REFERENCES</b>	<b>63</b>

## I. INTRODUCTION

### **Textbooks and Educational Achievements**

At a time when oral instruction still prevailed as the method used to transmit knowledge and instruction, written texts, although then the reserve of a privileged minority of educated people, had already taken on a didactic role. Whatever their nature, such texts had for many centuries served as teaching tools and instructional aids, alongside their function of historical conservation or of leaving tangible and faithful traces of societies and civilisations.

Since education for all was at first introduced in a few countries and then later recognized as a universal right, the generalized use of textbooks has become mandatory in ensuring the effectiveness of instruction and success at school. Yet, if needs for books have been satisfied in quite a large number of countries, notably the developed or industrialized ones, this is not the case for many developing nations. Once generalisation of primary education had been defined as a priority target by all developing countries at the beginning of the sixties, the problem arose of the prerequisites for its attainment build schools, train teachers and educational personnel, adapt curricula to development objectives, multiply didactic resources, in particular school textbooks, for millions of children. For the majority of countries faced with this problem, the financial and human resources required far exceeded real possibilities. Choices had to be made. Teacher training has most often been given priority due to the rapid increases in school enrolment figures resulting from rising demographic growth rates. Substantial external assistance has been provided for teacher training, particularly by Unesco, and the number of teachers has increased significantly, even though a severe deficit remains in many developing countries.

However, despite the fact that training a great many teachers has provided access to school for more and more pupils, it has not for all that solved the problem of the output of educational systems which has been, and still is, conspicuous in the high percentage of pupils repeating a year, failure and dropout. A variety of reasons can be offered to explain the rather low achievements of these systems, but from the instructional point of view, three main causes can be suggested:

- the presence of under-qualified teachers, taught too quickly and badly paid, teacher training colleges being unable to produce enough teachers with a diploma;
- classes are too large, especially in urban areas, often with fifty, or more, pupils;
- the lack of instructional materials, and notably textbooks which, when they do exist, are insufficient in number and often not adapted to local needs. The introduction of educational audio visual media is limited. Its use is difficult to master for poorly trained teachers, and it has not, therefore, proved a substitute for the textbook as an instructional tool.

Considerable efforts have been undertaken to improve teacher training in order to enhance the quality of teaching and instruction. But, such efforts have proved to be inadequate when there is a lack of good textbooks to support the teaching-learning process. Educational authorities in most developing countries have now understood that a quantitative and qualitative increase in school textbooks is a decisive factor in improving instruction in school.

The World Bank has published an analysis undertaken for a sample of countries in several regions of the world which indicates that the availability of textbooks, or an increase in their number, is the most constant factor in school success rates. In 15 cases out of 24 (83%) this factor is positive and in 13 out of 24 (54%) more favourable than teacher training. This does not mean that the role of the teacher is less important than that of the textbook, but rather that even when lessons are taught by a well qualified teacher there is no guarantee of success if the school has but a few second-rate textbooks at its disposal. It is not uncommon, for instance, to discover schools which have no textbooks at all for certain subjects or levels of schooling, and sometimes the only solution for the teacher is to dictate summaries of his lessons.

### **Provision of School Textbooks**

Although statistics do not allow us to - evaluate with any precision the present situation of school textbook provision to schools, they do indicate that this situation varies considerably from region to region. For the developed countries, production and distribution of textbooks usually caters for all needs. Moreover, these countries export their publishing and printing techniques, equipment and technical assistance to less privileged countries. Some developing countries do produce books which, to a great extent, meet the needs of different levels of instruction, thanks to sizeable investments and competent personnel trained during the last two decades. Other countries, who import most of their books, -have begun production over the last ten years, partly with international or bi-lateral financial and technical assistance. Nevertheless this does not yet meet all their needs, especially at the secondary and higher education levels. Most of the least developed countries, despite some noteworthy exceptions, cannot yet

ensure sufficient national production, both qualitatively and quantitatively, even at the level of primary education. The importance of the role of the textbook is, nonetheless, recognized and efforts have been made to supply textbooks to schools.

Provision of textbooks for all pupils at the various levels of instruction is a problem which many countries can only solve progressively, given the density of needs. Priority is accorded practically everywhere to primary education where needs are most urgent. The role of the textbook is not only to facilitate teaching, but also to develop the child's attraction to books and the habit of using them to widen his field of knowledge and seek information.

### **Projects to Develop the Production of Textbooks**

Projects to develop textbook production have increased rapidly in number over the last fifteen years. Whereas in 1973 only 6 percent of education projects financed by the World Bank had a textbooks provision component, by 1983 this had risen to 43%, with still further increases over the last few years. Amongst others, Unesco undertook the study of a 25 million dollar school textbook project in the Philippines, financed by the World Bank. This project, started in 1976, has already shown that increased provision of high quality textbooks to schools has had a positive influence on school results: an additional cost of 1 percent of educational expenditure per pupil producing a 14% increase in results.

Projects often- include three components: adaptation of curricula, retraining of teachers and production of textbooks. According to the situation and the priorities of an educational system a construction or restoration of schools as a project component can be added, which sometimes replaces that of curricula. Linking these three decisive factors responds to desires for relevance and effectiveness of education and, in this respect

- the introduction of curricula which are better adapted to development objectives implies retraining for all teachers who will be called upon to use them, in particular those least qualified. Adaptation of training programmes in teacher training colleges is also required.
- as the importance of the textbook for educational achievement is now proven and universally recognized, reform of curricula and in-service teacher training cannot alone guarantee optimum yield of education. Whence the need to increase provision of textbooks to schools both quantitatively and qualitatively.

Without rigorous planning and coordination of activities in these three domains, projects to develop and produce textbooks can present serious defects:

- unsuitable manuscripts of textbooks if their elaboration is not coordinated with that of curricula;

- inadequate preparation of all teachers if retraining is undertaken before newly formulated curricula and teachers' guides have been sufficiently tried and tested.

Renewal of curricula and teaching programmes should precede the elaboration of manuscripts of textbooks by approximately two years so that the latter faithfully reflect the objectives and content of programmes.

If these projects, for which sizeable financial and technical assistance is necessary, are to be successfully implemented then rigorous management and well trained human resources are essential. Various domains are involved (curriculum, teachers, manuals), but it is mainly in the field of book production that the requisite skills are the most abundant and, often, the most difficult to obtain.

### **Conditions and Constraints on Textbook Production**

The production and distribution of school textbooks is a complex and long-term venture, necessitating large investments, the work of competent personnel, forward planning and organization of the whole process from the elaboration of manuscripts up to their distribution to schools.

#### **Identification of needs**

It is essential that textbook needs be studied in-depth and quantitative estimations made, on the one hand, for the different levels of instruction and, on the other of the objectives and content of programmes. In order to obviate the production of books which are not adapted to needs, such studies are generally based on surveys of books already used in schools, on the opinions of the most qualified teachers, and on comparable books published in other countries. It is usually one of the tasks of Textbook Committees to undertake these surveys. Planning of the provision of books to schools should be undertaken on a longterm basis and, therefore, foresee needs in accordance with well calculated estimations of growth in school enrollment figures.

#### **Financial resources**

If there are no private publishing organisations, or if responsibility for production rests with State textbook production services, then production will require substantial long-term funding, at least for operational implementation. Drafting manuscripts, publishing, printing and distribution require a minimum of six years and it is reasonable to foresee a global period of approximately ten years, given the time needed for preliminary stages, planning, recruitment and often staff training. Financial resources must be anticipated and guaranteed if there is to be continuity of production. Continuity can be ensured either by selling books at a price families can afford, or by allocating a budget which will cover the difference resulting from a retail price lower than production cost. It

will usually take many years to reach financial equilibrium between expenditure and profit from sales.

Free distribution of textbooks is only possible when a stable state budget is sufficient to cover the costs, which is not the case for the majority of the least developed countries. Moreover, such distribution requires active follow-up and control which is not always easily guaranteed.

The problem of financial resources is not, however, an unsurmountable obstacle for many countries. If it is recognized that textbooks play an important part in successful schooling, then it should be possible to obtain resources, whether from the State or elsewhere. What is often lacking is a valid policy to promote books as an essential component in education - both in-school and outof-school - within the framework of a country's social and economic development plans.

### **Elaboration of textbooks**

Based on an in-depth study of needs, Textbook Committees can take decisions about the elaboration of textbooks in line with the following main aspects: objectives of curricula, priorities for levels of study and disciplines, quality of publications, any financial constraints. Writing a textbook assumes that competent and experienced authors are available, working in close cooperation with those responsible for programmes and with specialists in the field of publishing. Whereas, it is rare to find sufficient authors of this calibre in the least developed countries. In some countries, educational research institutes undertake the task of writing the textbook, but their staff is not always fully qualified to do so. These institutes can, nevertheless, make recommendations when writing is entrusted to independent authors and can evaluate the quality of the written manuscript, as well as its relevance to curricula.

### **Publishing**

Publishing a school textbook is a complex activity which demands a multiplicity of skills insofar as it "sets the styles of the book. Many visual, graphic and material aspects have to be examined. Composition of texts should take into account phenomena such as the reading process, legibility, visual perception and memorization. Editing involves very specialised and very precise techniques. What it does, in fact, is to determine the "shape" of the school textbook, i.e.

- the physical aspect of the book (with a cover, sections which can be placed in a file, teaching guide, exercise book, etc);
- the format or size of the book, which should be a practical item which pupils can easily handle;
- the choice of lettering and page lay-out which are directly linked to ease of reading and comprehending a text;

- the illustration to text ratio, and where illustrations are placed. Esthetic quality cannot be the only criteria for choice of illustrations, because the latter must be adapted to the content of the text and the type of teaching. The choice of one or several colours in part determines the legibility of the book and also its cost;
- the type of paper used, which varies according to thickness, colour, quality and whether it is more or less well suited to printing.

Publishing is the central point of production, because during this phase the most important decisions have to be taken as regards planning, coordination and control of the different stages of production. The publisher is, therefore, to a large extent responsible for the quality of the work produced. Decisions have to be taken on the following main aspects:

- The objectives of the textbook: what is the main objective of the book; what need does it meet? Could there be thought to be secondary objectives?
- The cost of the book, which will vary according to the type and quality of paper, format, number of illustrations, number of colours, complexity of page lay-out and illustrations, conditions of storing and distributing the books, the physical life of the book.
- The target audience: level of instruction, age of the user (pupil), socio-cultural context and the language of instruction, level of training and qualification of teachers (an aspect which should be carefully studied when choosing authors of manuscripts).
- Planning, which stipulates information on the number of books per level of instruction, number of copies to be printed, priorities and urgencies, dates foreseen for receipt of basic elements (manuscript and illustrations) and their nature (typescript, drawings, photos, etc) book printing capacities, distribution networks.

Many of the least developed countries suffer from a lack of personnel qualified in book publishing, as well as possibilities to train such personnel. This raises many problems in ensuring good quality and autonomy of textbook production. Training in publishing takes a long time if the requisite skills are to be acquired. At least five years practical experience is necessary and should, generally speaking, be undertaken "on the job". Local training courses, monitored by foreign experts could be effective in teaching certain techniques to quite a large number of people when the country is unable to offer theoretical courses. This solution is often less expensive than a relatively long period of training abroad, from which only a very limited number of people can benefit, except perhaps for the Director whose role is vital in ensuring efficient management of

all editorial activities. Moreover, training in publishing is possible through technical cooperation offered by international organizations, such as Unesco, within the framework of projects financed by the World Bank. There are other solutions, such as contracts with private publishing houses, if they exist in the country, publishing abroad, or the recruitment of foreign specialists. This latter solution is sometimes advantageous in that it enables on the spot training of national personnel.

### **Printing:**

Printing is only one stage in the manufacture of a book. Other stages precede it, some of which are undertaken by publishing houses:

- design of dummies or paste-ups, which take into account format, measure the texts to be composed, illustrations, drawings, photos, choice of colours and the printing procedure chosen;
- preparation of texts, composition and page lay-out - especially choice of lettering (size, type), width of composition - followed by entering these texts into typesetting or photocomposing machines. Proofs are read through, corrected and then laid out in page form;
- photoengraving for the photographic reproduction of texts and illustrations. The resultant films are mounted and copied on special metal plates which are used for the actual printing;
- printing: printing presses print the pages of the book, i.e. this is the actual printing process. Printing presses have different attributes, from simple typographical presses to off-set printing presses, with different size formats, according to the complexity and speed of printing. The number of colours determines the complexity of printing and can require highperformance machines to obtain good quality results;

finishing: the last operation - the "finishing" is the binding and covering. The cover can be soft or hard. The choice of finish directly influences the physical life of the textbook. A bound book will last longer and a hard cover is more resistant to daily handling. However, bound and hardback books are more expensive and this additional cost is not always reasonable.

Printers in the least developed countries sometimes work in unfavourable conditions occasioned by various difficulties:

- equipment and materials which are sometimes unsuitable, lack of detailed information on materials which could respond to precise demands of printing certain types of books, especially textbooks. Moreover, considerable delays often occur in delivery of equipment and supplies for printing and difficulties also arise in procuring spare parts;

- the tardiness of bureaucratic procedures and, sometimes, restrictions on import of materials, due to lack of foreign currency;
- lack of qualified personnel, both to operate and maintain the printing presses, although in some cases, suppliers of equipment train local personnel in repair and maintenance;
- finishing (binding, cover) which is often flawed, resulting in quicker deterioration and a shorter physical life of the books.

Apart from difficulties linked to availability of equipment and materials, it appears that efficient collaboration between publishers and printers, as well as coordination of their respective activities in the book production process would lead to good results so far as the quality of books is concerned. Such cooperation would also help as regards delivery dates and distribution of books to schools before the beginning of the school year.

### **Distribution**

Distribution of books to schools is a vital aspect of any school textbook production policy. It will not suffice to produce good books; these books must arrive at the right time at their final destination - the school. Many developing countries have not yet been able to solve this problem satisfactorily and the distribution system is often the weak link in book production. Conditions which cannot always be ensured are needed to ensure efficiency of distribution.

- warehouses and depots for storage which must be spacious, safe, locked, sheltered from rain, humidity and insects and installed with easily accessible shelving;
- "relay" shops for far flung regions. These relays are necessary, but add to the complexity and cost of distribution given increased transport requirements;
- transport - adequate methods of transport to deliver books to shops and schools within the given time limits;
- a network of roads in a country giving access to all regions without running the risk of excessive delays or impossibility of access.

### **Circulation and marketing of school textbooks**

According to policies adopted for circulation and marketing of books, several systems are used or are possible, but which will depend upon the financial resources allocated to the educational system:

- sale of books in bookshops or selling points at a normal commercial selling price;

- sales through the normal commercial circuit, but at a price fixed by a governmental instance;
- sales at a price families can afford. This price could correspond to the cost price of the book or to participation of the purchaser (which sometimes represents 50% of the cost), a subsidy covering the difference between cost and retail price;
- free distribution to pupils by the Ministry of Education. Free distribution will depend upon national educational policy, but implies sufficient, stable financial resources.

There is no doubt that the problem of distribution of school textbooks to all schools is, to a great extent, a financial one. Replacement of old books, subsequent re-prints or revised editions imply stable and sufficient resources. It should be possible to recover production costs, which include all operations from the manuscript to distribution, in one way or another more or less on the longterm. In addition, continuity in supply of books must be ensured and extended progressively to all levels of teaching and all pupils. If at a preliminary stage it is possible to distribute only one book for several pupils in the same class, the aim should be eventually to succeed in supplying each pupil with his own book, even if this is a long-term venture.

### **The Decision to Produce a Textbook**

The decision to produce a textbook raises a variety of questions. Firstly, any such decision implies an unquestionable need for school books to improve the achievements of an educational system at one or several levels of education. It can be estimated that, in the majority of developing countries, this need is situated mainly, and in priority, at the level of primary education. Criteria for decision can be: lack of textbooks; textbooks used are unsuitable; costs of importing textbooks are too high (insofar as foreign textbooks suited to local instruction exist). This leads to the next question: Is a textbook project feasible?

To reply to this question, several aspects must be examined:

#### Estimation of needs, based on

- the level of instruction, priority school cycles, subjects;
- quantities of books to be produced, in line with school enrolment figures of the pupils concerned, foreseeable growth rate of such figures and the choice of a pupil/book ratio.
- the estimated physical life of a textbook.

### Financial aspects. according to estimated needs

- foreseeable cost of production which is dependant upon: investment required, quantities to be produced, quality desired, manufacturing costs;
- financial resources available or which can be obtained from external sources to begin production;
- stable and sufficient financial resources to ensure continuity of production;

### Material and technical conditions

Equipment and materials for production available or to be acquired; local production capacity; personnel trained for the different stages in production and need for training of other personnel.

### Methods which exist or need to be sought for distribution and marketing of books.

#### Elaboration of books

Several options are possible:

- original creation of textbooks;
- adaptation of existing textbooks inside or outside the country;
- translation of textbooks from other countries suitable for local use.

For a group of developing countries in the same region with the same language of instruction and satisfactory inter-state communication networks, it could be interesting to seek ways of joint-production of school textbooks, concentrating production in one country, at least for publishing and printing. This solution could render production more profitable by pooling financial resources, equipment and materials in one common budget. To preserve the originality and specificity of objectives and contents of curricula, each country should undertake the drafting of textbook manuscripts. An inter-governmental publishing body could be created for management and production aspects.

#### **Formulas and conditions for the elaboration of textbooks**

Once a decision is taken to produce a textbook, the question arises of the choice of an option for its elaboration. The three most common formulas are: original design, adaptation and translation of existing textbooks.

## **Original design**

This option will imply availability of authors and illustrators (for textbooks with drawings or images as well as text). These people must be qualified in their respective fields if a book of good quality is to be obtained. Quality is evident in a well drafted, educationally appropriate, text which is pertinent to the objectives and content of the curricula of a specific discipline, accompanied by clear, detailed, evocative and informative illustrations. The design of original textbooks is the option which raises most difficulties and which often gives poor results if it is undertaken within the framework of a project covering all stages of production in a country where personnel is insufficiently qualified to write manuscripts, produce illustrations, undertake the tasks of publishing. This option can also be the most expensive when the quantity of textbooks to be produced is too low to render production profitable.

However,

- original manuscripts can be necessary for subjects like history, geography, moral and civic education, language, literature. They are less so for subjects like mathematics and science.
- they can also be needed when there are one or several national languages of instruction

Moreover, if State publishing bodies are not endowed with sufficient skills in publishing and printing, then these latter procedures can be contracted out to private or foreign publishers and printers

## **Adaptation of existing textbooks**

One of the first forms of adaptation in many countries was that of modifying books from periods preceding independence to cater for instruction which had been changed to meet the needs of the new national educational objectives. However, such adaptations responded to an urgent desire to obtain textbooks for curricula which still reflected the influence of foreign cultures. The profound reforms within national curricula since the seventies have lead national authorities to consider it essential to have textbooks suited to these new curricula and some developing countries have already produced good school books. These books could be adapted for the least developed countries when no language barrier exists.

It is often easier to adapt a good textbook used in another country with a similar social and cultural context than to write an entirely new book especially for subjects such as maths and science or agricultural manuals for countries whose agricultural activities are at similar levels of productivity.

Adaptation can also consist in reproducing existing books, with modifications in the text or in paper, colours, covers, etc. This is an economic option, but content is not always well adapted to local contexts.

Publishers in developed countries offer adapted textbooks for certain groups of countries (for example Africans using the same language of instruction, such as English or French). This solution, although practical in that books can be supplied to smaller numbers of pupils, has the disadvantage of requiring payment in foreign currency.

Adaptation is often a realistic compromise solution and the best one if the country has neither the resources nor the logistics for local production of original manuscripts. It is cheaper than translation which is expensive and brings with it problems of translators' skills and copyright. Adaptation is usually easier to negotiate with publishers or State publishing houses in other countries.

### **Translation**

Translation of books published abroad is a formula which, a priori, would seem to be practical. However it raises problems for many of the least developed countries.

it is frequently difficult to obtain authorizations of foreign publishers and royalties are often high. These two problems have recently been partially attenuated thanks to Unesco's action in this field;

it is difficult to find skilled translators fluent in two languages knowledgeable in educational fields. Two people, each a specialist in one language, are often needed to obtain a satisfactory result;

translation of textbooks which are too highly specialized and complicated both for pupils and teachers, and which are badly adapted to curricula whose objectives and content have been defined with a specific school population in mind;

in the case of the national languages which have not been brought up-to-date, the difficulty is embedded in the absence of appropriate terminology and vocabulary, especially for science and technical subjects, as well as the lack of up-to-date dictionaries;

the work of translation is often badly paid which does not motivate people who have the necessary skills. The two formulae, payment of a global sum or royalties, each have advantages and disadvantages, according to the quantity of copies produced.

Translation is difficult to teach. The translator must be sufficiently motivated by this type of work and training is often of a practical nature. Meetings to discuss problems and exchange ideas with specialists could contribute

to improving the quality of work. Moreover, the presence of an experienced publications specialist can help and his advice is often more useful than theoretical courses.

### **Rights and protection of authors and translators**

The Universal Convention on Copyright and the Berne Convention to protect artistic and literary works have given authors and translators a guarantee for their work, both so far as remuneration and pirated editions or abusive reproduction is concerned. Not all countries have, however, ratified these conventions and this is the case for the least developed or developing countries. The work of their authors and translators is consequently insufficiently protected and can lead them to publish their work abroad, if this possibility is open to them.

Unesco has undertaken useful action to improve the situation regarding copyright and authorisations to publish and other national organisations like the British Council, the Books Development Council in the United Kingdom as well as Franklin Publications in the United States have given considerable assistance to foreign publishers over recent years.

## II. ELABORATION OF TEXTBOOKS

### The main categories of textbooks

**Textbooks which are organized in a systematically progressive fashion:** these are educational texts which propose a structure, an order and a progression in the teaching-learning process:

- instruction is structured, organized in chapters and in units;
- the content of learning (information, explanations, comments, practical exercises, summaries, evaluation) is presented in an order;
- there is systematic progression of learning towards the acquisition of new knowledge and learning new concepts, based on known items of knowledge.

These textbooks are real working tools for the teacher and the pupil. Whilst teacher's guides do enter into this category, they are intended only for the teacher and their structure, organization and content differs from textbooks for pupils.

**Books for Reference or Consultation.** These are texts containing a body of information in a certain field for the purposes of reference or consultation as and when needed. Neither their organisation, nor structure is specifically applicable to the learning process.

### The roles of textbooks

From the instructional standpoint, the textbook has three main roles:

#### **An information role, implying:**

- presentation of a selection of items of knowledge about a specific subject and on a specific theme, taking into account that the acquisition of knowledge should be progressive and sequenced

according to succeeding years of scholarship and bearing in mind that curricula must not be overloaded;

- filtering of items of information in order to synthesize them, sometimes simplify them and render them accessible and clear for pupils at the level concerned.

The textbook offers information and knowledge, but often within a certain ideological perspective: the relative importance of science and technology; a conception of history; established linguistic norms. The way it is conceived can determine what information is contained in a textbook and make it seem unsuitable in certain historical situations or for certain socio-economic or cultural objectives defined by development policy.

### **Role of structuring and organizing learning**

The textbook suggests a progression in the learning process organized in successive blocks of teaching units. It offers several possibilities for the organization of learning:

- from practical experience to theory;
- from theory to practical exercises with assessment of what has been learned;
- from practical exercises to theoretical elaboration;
- from statements to examples and illustration;
- from examples and illustrations to observation and analysis.

### **Role of guiding learning**

To guide the pupil in his perception and comprehension of the outside world, in putting together knowledge acquired from sources other than the curriculum, in mastering what he has learned. There are two alternatives, either of which can be used to guide the learning process:

- repetition, memorisation, copying models;
- more open and creative activities where the pupil can make use of his own experiences and observations.

According to the subject, progress can be:

- more constraining for subjects like mathematics, science, reading, foreign languages:

- less constraining for literary texts, geography, history (chronological order).

According to its pedagogical conception, and depending upon the learning objectives, the textbook can comply with:

- a more "interventionist" instruction for the transmission of knowledge; this highlights the constraining influence of the textbook on teaching and learning;
- a more open instruction, facilitating the pupil's development of aptitudes for observation, reflection and a certain autonomy in his learning activities. For this type of instruction the teacher will need good professional training.

The textbook often expresses a specific perception of communication and child-adult and pupil-teacher relationships.

### **The Objectives in using textbooks**

A textbook can be conceived as a working tool either for the teacher or for the pupil. Decisions as to choice in this respect will determine the nature of the textbook as a tool for communication: language used, quantity and level of information, text, illustrations and links between the latter two elements. Generally speaking, the least developed countries give priority to textbooks for pupils. For teachers, the choice is that of a teacher's guide which differs from school textbooks in its nature.

Moreover, the possibility of collective use, for example in a class, of certain elements in the textbook, such as illustrations, maps, diagrams, can also be considered; this reduces production costs.

### **Teacher Training**

The elaboration of textbooks and teacher training should preferably be coordinated in a way that will ensure that teachers can, in practice, use the books available to the pupils in the most effective way possible. The type of education for which teachers are trained and their qualifications must, therefore, be taken into consideration. Textbooks inspired by a pedagogy which leaves little freedom for initiative could require the teacher to complement the textbook by means of surveys, information seeking, practical work and the like.

Moreover, it would be unreasonable to elaborate textbooks whose level and complexity would preclude the teacher's taking advantage of all their possibilities. They should, therefore, be adapted to the average skills of teachers, bearing in mind that the textbook can be one way for less qualified teachers to improve their training, and thus, their teaching.

## **Those elaborating the textbook**

Textbooks are a very important element in instruction but their production is often expensive, particularly for primary and secondary levels. Their elaboration must, therefore, respond optimally to the needs of instruction. Authors of textbooks play a decisive role in the success of operations following submission of the manuscript, especially in the publishing phase, and for the quality of the final work. Authors should possess a number of skills and abilities:

- skill in drafting, with a clear and precise style;
- knowledge of the subject for which the textbook will be used;
- knowledge of pedagogy and teaching experience;
- ability to evaluate the level and complexity of the textbook in accordance with the needs of teachers, their qualifications and the socio-cultural characteristics of the pupils;
- stamina and perseverance, insofar as writing a school textbook takes a long time;
- willingness to accept criticism and discuss it objectively;
- understand the obligations and requirements of his other partners in book production, in particular, those responsible for curricula, illustrators, book designers, and publishers. He should also know how to take into account financial constraints which might result from budgetary allocations for the book.

These skills, capacities and abilities are essential to prevent, or at least reduce the possibility of disappointing results which could compromise the quality of the book. One way of assessing an author, especially when he is writing his first book, is to ask him for a detailed outline of the future textbook, and then to draft a few short chapters or paragraphs in order to appreciate the quality of his writing.

School textbook writers are more often than not experienced teachers with a good basic training and having specialised in a subject, school inspectors, secondary or technical teachers, teachers working in educational research institutes, or university professors. Some textbooks can be designed with the cooperation of specialists working, for example, in health or agricultural sectors.

Is it possible to train someone to write textbooks? Such work demands strong personal commitment, motivation and applied creative penmanship. If these exist, and professional qualifications are sufficient, then seminars and training courses could be used to discuss problems of elaboration and teach

potentially capable men and women how to seek and utilise the basic material and elements which make up a good textbook. Specialist consultants within the framework of school book production projects can provide help, advice and methodology for the elaboration of textbooks.

### **The author's contract**

The content of an author's contract and its wording are drafted in accordance with customs and legislation in the country concerned. However, some specific items should preferably be mentioned:

- type and level of instruction, individual or collective, level of pupils, qualifications of teachers;
- the outline of the textbook;
- approximate number of pages in a defined format;
- submission dates for various chapters and the final typed manuscript.

### **III. TEXTBOOK MANUSCRIPTS**

#### **Textbooks and curricula**

Many of the least developed countries who began to carry out reform of their instructional programmes as of the seventies were primarily concerned with obtaining school books adapted to the new curricula. But, whilst the reform of programmes requires time and a lot of qualified personnel, it does involve much fewer financial, material and technical resources than does the production of a book. For that reason, many countries have not yet been able to supply schools with all the textbooks required to meet the needs of education. Nevertheless, the existence of renewed and tested curricula considerably facilitates the elaboration of textbooks well adapted to these needs.

In countries already having a solid tradition and long experience of large-scale use of a wide variety of textbooks, competition exists between authors and publishers which offers teachers the possibility to choose those school books they consider most apt. Such is not the case for many countries who are often limited to one single textbook for each discipline at each level of schooling. It is therefore essential that the books produced are of the highest possible quality.

Textbooks are an instructional aid in the teaching-learning process and must correspond to curricula so far as objectives, content and methodology of instruction of each subject are concerned. A textbook usually corresponds to the syllabus of a discipline, the objectives of which can serve as titles or sub-titles of different chapters of the book. In some cases the outline of the textbook is based on these objectives, but the titles of chapters or sub-chapters do not necessarily correspond to the content of the discipline as it stands in the curriculum. The content of the book is, in any case, much richer, in order to provide the quantity of information, explanation, and comment needed to go deeper into the discipline.

#### **Teachers guides and school textbooks**

The teacher's guide is an instructional tool intended to facilitate his work by indicating the objectives to be attained in each discipline, the content to be taught and the pedagogical methodology to be followed. The conception and the way in which a teacher's guide is written comply with the objectives of its use:

- a clear definition of general and specific objectives which are to be achieved by the pupils;
- a synthesis of content which provides information and basic knowledge to be taught to attain the defined objectives;
- progression of content in accordance with set cycles (quarterly, six-monthly, yearly) for the teaching units;
- suggested learning activities;
- recommended pedagogical methodology;
- educational material to be used;
- procedures for evaluating pupils' results (in relation to objectives). Evaluation should permit continuous assessment of pupils' progress and, when necessary, to revise certain aspects of content where pupils' success rates are too low.

The school textbook is more a tool for the pupil, the organisation and structure of which prepares the ground for learning content of a subject, as well as a written text, a presentation and often illustrations designed to facilitate reading and comprehension of the text. The pupil is offered practical exercises, activities and an evaluation of his results. Although the teacher can use it as reference material, the pupils' textbook should enable the latter to work on his own, after the teacher's lesson. The textbook can also be a source of information for others, such as parents.

### **The content of textbooks - origins**

The content of textbooks corresponds to indications given in curricula which define;

- what has to be taught in each discipline, according to the level of education;
- what will help in understanding the physical and social environment
- what will contribute to the pupil's education; development of theoretical and practical abilities, behaviour and attitudes, as defined in the objectives of the curricula.

However, textbooks cannot be limited to a simple synthetic reproduction of contents indicated in a curriculum. Over and above the way in which they are organized, textbooks enrich, develop and strengthen contents.

## Origins of content

Based on information outlined in the curriculum, the content of textbooks is enriched from other external sources:

- what the author knows in a specialised discipline, and often the content of courses he has elaborated and improved progressively over many years of teaching;
- reference books which contribute detailed, exact, objective and in-depth information on the subject matter dealt with in the textbook;
- basic textbooks already published locally or abroad;
- scientific, technical, economic, social and cultural journals which contribute topical information or innovations; educational publications;
- information from the social and economic sectors, from state institutions and the social and cultural environment.

## The nature of content

### Accuracy.

Contents should be based on scientific facts, on exact, verified information and free from errors. Simplifications, which are often needed to avoid overloading the child's mind with an excess of knowledge, should be justified and retain the exact meaning of information. If information has to be selected or filtered, then the most essential data must be retained.

### Precision.

Contents should not be presented in an incomplete or an ambiguous fashion. If content is rather complex, then it should be explained and remain totally comprehensible.

### Topicality

Given its constant evolution, information presented should be up-to-date and correspond to present day realities.

### Objectivity:

Content should not, due to ideological or dogmatic standpoints, transmit distorted or incomplete knowledge or information, especially in fields such as social sciences, moral and civic education. Objectivity can sometimes consist in presenting several interpretations of the same fact or event or several possible explanations of the same phenomenon.

### **Contribution to social objectives.**

Contents should awaken social and moral attitudes favourably disposed to community life and relationships between individuals, as well as contributing to the development of an appreciation of social, moral and aesthetic values. Content should equally arouse positive behavioural attitudes towards protection of the environment and life in all its forms.

### **Learning experiences and development of aptitudes.**

The acquisition of knowledge by means of summaries and explanations by the teacher will not suffice to develop pupils' skills and new behavioural attitudes. Pupils must, therefore, carry out experiments or activities to strengthen the effectiveness of instruction and which are, in any case, an important component of learning. They are guided by the teacher who finds pointers about them both in the teacher's guide, and from his own professional experience. The textbook should also propose activities which the pupil can carry out, either under the guidance of the teacher, or on his own, which should be presented in the form of practical applications, either of knowledge or theoretical concepts, or of rules to be learned or even in the form of problems to be solved, information to be sought, surveys or experiments. It is through these learning experiments that abilities are really developed. They can take place both within the context of the school, as well as within the physical and social environment of the pupil.

### **Progression of concepts and development of abilities**

Curricula foresee a progression in the development of intellectual or academic abilities and a hierarchy of the concepts that the pupil must learn and master. Amongst the main mental capacities that school education develops are those of observation, description, memory, recognition, identification, indexing, organisation, comparison, establishing relationships, and solving problems. The ability to observe, for instance, should normally precede that of describing or comparing, that of identifying should precede that of indexing. A progression should therefore appear in the content of the textbook, starting from basic abilities considered as elementary, in order to attain the most complex ones, thus enabling the fulfilment of the objectives of intellectual development fixed by the curriculum.

The same applies to concepts such as space, time, causality, number, society, environment, settings, adaptation, values, justice, etc. On the one hand, each concept should be clearly explained in the written text of the book and, on the other, progression of content and learning activities should lead the pupil towards knowing how to use simple concepts, and then more complex ones, in order to master their application to a variety of situations or facts. Some themes can be organised around specific concepts, such as space and time, which prepare the pupil to understand, for instance, environmental or historical ones.

## **Interdisciplinarity**

The content of textbooks can, in many cases, integrate elements of two or more disciplines, permitting inter-connection of facts, events or phenomena of a complex nature that the point of view of a single discipline cannot satisfactorily explain. Content of disciplines such as history and geography can, in this way, be integrated to explain better and facilitate understanding of events or phenomena. Sciences and mathematics also offer possibilities for interdisciplinarity. Integration of contents contributes to developing the child's capacity to establish relationships between subjects which are usually isolated from each other, or between facts which appear to be totally unconnected.

## **Educational approaches**

### **Levels of ability of pupils.**

All pupils have different levels of ability, according to age, their socio-cultural milieu, their psychological traits. Similarly, the speed of learning can also vary. Designing a textbook for an average pupil will not correspond to the reality of these differences and variations. Therefore, examples of different activities must be proposed in order to facilitate learning, particularly in scientific disciplines. More abundant and varied contents should enable the majority of pupils to understand the facts studied, the principles or general ideas introduced in a lesson or in a teaching unit.

### **Interests and motivation of pupils.**

Elaboration and choice of content should take account of the fact that the interests of pupils are varied and, like abilities, differ according to age, environment, psycho-affective traits. Learning is facilitated if the pupil's interest is aroused by the content of the textbook - not only personal interests, but also as a member of a group: scientific, technical, agricultural, social, artistic, etc. A clear and precise presentation of text and evocative, attractive illustrations can play an important part in stimulating the interest of pupils. Moreover, in the presentation of content the pupil should be able to find situations which are familiar to him, or examples drawn from his own environment.

Motivation should appear in all aspects as and when needed and can take on varied forms: original, unusual exercises, characters serving as a continuous link, transmitting information or posing questions etc. Motivation and interest introduced into textbooks also contributes to developing a the pupil's liking for reading as a method of self-instruction.

### **Stimulating an enquiring mind.**

The school book should put across the idea that, as well as an organised body of knowledge, different disciplines can be used to seek information. Natural sciences, mathematics, social sciences, all offer opportunities for research

activities. The textbook can, thus, suggest practical observations, surveys, measurement and information research activities.

### **Learning and evaluation exercises.**

Exercises are important part of the learning process. On the one hand, they consolidate and fix the acquisition of knowledge and the mastery of concepts, encouraging the development of intellectual capacity. On - the other, they are a means of evaluating results and progress of the pupil. They can take the form of activities added to a chapter of the textbook, questions (open or multiple choice) on texts or illustrations (maps, diagrams), or practical written work, calculations, problems to be solved and sometimes, drawings. Exercises should cover content already taught and may refer to what has already been learned in a previous chapter. They can also be presented in a context which differs slightly from the content taught, particularly, for an exercise in using and applying concepts.

Exercises should also serve as a method of evaluating learning progress and comprehension of content, in relation to subjects and objectives of a chapter or a section of the textbook. They can be presented with increasing degrees of difficulty (for instance, in maths) thus enabling a more accurate evaluation of results. Exercises also assist in verifying aspects of content which need to be revised or reinforced. They are used in nearly all disciplines, each of which can require its own particular form of exercise.

The formulation of practical exercises and revision demands particular skill on the part of the author of a textbook. He must know how to choose the most relevant and most useful exercises in a given discipline, suggest the presentation which is best adapted to different contents with a view, on the one hand, of consolidating and memorizing what has been learned in a chapter and, on the other, facilitating evaluation of results and the progress of the pupil.

### **Self -evaluation .**

Even though this is a characteristic of programmed instruction manuals which do not, in theory, stipulate a normal school situation, self-evaluation by the pupil of what he has learned and understood can be foreseen within the framework of a section or a chapter of the book. Questions can be submitted to the pupil in order to verify, for instance, his understanding of a text he has read, or the results of a set problem. In this case, correct answers or solutions should be given in a specified place in the textbook where the pupil can consult them. This is useful to him in his revision, looking back over a previous chapter of the book or seeking the help of the teacher. However, if the textbook does propose a method of self-assessment, then the teacher must show the pupil how to use it and explain the benefit he can reap for his success at school.

## Drafting a manuscript

### The outline of the manuscript

A textbook can be conceived either for the teacher or for the pupil. This guide essentially covers the latter perspective, even though the teacher can use the pupil's textbook as a supplement to his teacher's guide.

A textbook cannot be planned like a literary work to be read from beginning to end. It should be possible to read different chapters or sections of a school book independently of the others, choosing them from the Table of Contents (or the summary) or from an index placed at the end of the book. For this reason, whatever the structure of the book, its outline should foresee relatively short and numerous drafted sections, each individualised and easily located by the pupil reader, either for his learning, or because a chapter or subchapter interests him especially. This does not mean that there is no link between the different sections, because the subject dealt with should progress in a logical content sequence, from the first to the last chapter. The outline of the textbook should therefore show that organisation of drafting exists, a well organized text being simpler to memorize and more favourable to learning content.

The outline of the manuscript should draw upon the orientations contained in the curricula of the different disciplines, the main aspects being:

- learning objectives
- central components of the content
- pedagogical approaches.

The choice of a pedagogical approach (or of the pedagogical conception followed in the book) depends, on the one hand, on orientations set out in the general objectives of the educational system: profile of academic and social training, skills, attitudes and behaviour that school education should develop in the pupil. On the other hand, it depends upon the type of communication and dialogue that the author wishes to establish in the pupil-teacher relationship. The present general trend of educational systems is towards a more open education, encouraging the development of pupils' abilities to reflect, take initiative and be creative, as well as continuous self-learning.

Generally speaking, the outline of the textbook should comprise:

- a table of contents, or a summary
- a clearly drafted, comprehensible introduction;
- a main text - containing the content - divided into chapters, or sections, into sub-chapters or paragraphs and organized according to the objectives and content of the instructional programmes. Titles and sub-titles of chapters correspond to the central topics of the disciplines concerned;

- in certain cases, a short conclusion, and a bibliography and index, depending upon the type of textbook, the discipline and the level of instruction.

The length of each chapter should be defined when the outline is drafted and will depend upon:

- the total number of pages fixed for the book, which corresponds to the defined learning needs within a particular discipline, at a certain level of instruction. The number of pages normally increases as studies become more advanced, during primary and then during secondary education.
- the importance of the topic dealt with in each chapter or section, whilst retaining a relative balance in their respective length. Chapters which are too long, or too short, can confuse the reader and give him the impression that the longest is the most important, which is not always the case. Moreover, according to the level of instruction at which the textbook is to be used, consideration must be given to the attention span and concentration of the young reader. A text which is too long runs the risk of discouraging reading and of thus losing its effectiveness.

### **Structure and organization of chapters**

Each chapter can comprise the following elements:

- a short introduction clearly summarising the goal (objectives) and the meaning of the subject under consideration. The better the pupil understands these aspects, the better equipped he will be to approach the contents of the chapter with ease, and with resultant benefit for his learning.
- a text centred around the topic of the discipline. This is where the author should reflect upon how to enrich content he should consider summaries, information, explanations, and comments necessary to learn the subject as it is described in the curriculum but also what information should be expanded upon to better understand and go deeper into the theme. This is a difficult problem given that the author must remain within the limits fixed for the chapter's length.
- a summary which sets out the main points and generalities of the lesson and which is usually placed at the end;
- practical exercises and an evaluation of knowledge sheet.

## **Presentation of chapters.**

A relative uniformity of presentation is useful in facilitating assimilation of content of chapters in sequence, and how they inter-relate. Diversity in presentation would confuse the reader and oblige him to readapt to a different presentation to the detriment of learning. Moreover, uniformity simplifies the work of the author by providing him with a model upon which to build each section.

An order of presentation following the constituent elements of a chapter or section can be considered:

- a short introduction;
- development of content during acquisition phase;
- integration of new content to that already assimilated;
- memorisation of content to fix it;
- precise and succinct summary generalising the content presented;
- practical exercises.

The problem consists in presenting the required minimum of contents for the acquisition phase and establishing liaison with the integration of new content, without lengthening the text too much. A compromise has to be reached between a contribution of information and explanation which is sufficient to permit learning of new content and a length of text which, if excessive, might discourage the reader. On the other hand, pupils who already know more than others might lose interest and motivation if information is repeated to excess.

## **The text - language used in textbooks**

Basically, a textbook is made up of written words: (and often illustrations) and of understanding what they mean. It is important that the author be able to evaluate the level of comprehension, because it is on this that the worth of the textbook as an teaching and learning tool will depend. Evaluating this level of comprehension concerns mainly vocabulary, phrases, their construction, their length, punctuation, and style of writing. 7

## **Vocabulary in textbooks**

One objective of school textbooks is to expand the vocabulary of pupils, i.e. to enable them to learn and to use new words. Words used in school books are:

- those commonly used, recognized and accepted by the educational system, and usually familiar to pupils. They are used as a means of communication in teaching;
- new words, or those the pupils are not fully familiar with, which will be needed to teach the content of a subject (knowledge and concepts,

especially in maths, science and geography) and which the pupils must learn to use.

### Words familiar to the pupils:

on the one hand, a pupil's basic vocabulary varies with age, socio-cultural environment and, in some cases, the ethnic milieu. The child begins his school life with a whole parcel of words he knows orally, and with linguistic structures which are a mirror of his family and social life,

and, on the other, there do exist lists of words that children know (basic vocabularies) according to age. These basic vocabularies permit the verification and use of words in teaching and in the drafting of textbooks. If these lists have not yet been formulated, then the author must rely on his own personal linguistic and didactic experience and avoid using unfamiliar words when familiar words exist. If he cannot avoid using a little known word to comply with the needs of teaching, then he must explain it with a definition or place it within the context of other words which the pupils already know.

In his book "Conception et production de manuels scolaires: guide pratique", published by Unesco in 1979 (in French and Spanish only), Francois Richaudeau includes a paragraph on the conclusions of research on the facility of reading words at the primary level, and particularly at the beginning of a pupil's school life, which indicates that:

In order to draft a text the pupil will find easy and agreeable to read, it is preferable to use as often as possible certain types of word which are generally easier to memorize:

short, simple, lively, real, easily visualized, the powerful visualization of a word being an important factor in easy reading and visual memory being more efficient than verbal memory;

nouns, verbs, more often than adjectives or adverbs

However, the author must bear in mind the fact that a pupil's vocabulary also contains long, abstract, infrequently used words the meaning of which must be reinforced and fixed in his mind. This is a problem of measuring the degrees of facility of reading texts, by choosing and adapting vocabulary according to subject matter and topics under consideration.

### Words which are new to the pupil.

The author should take care not to use words, terms or concepts which are probably quite unfamiliar to the pupil. However, learning and teaching the different disciplines in curriculum requires that new words be learned and used. The pupil must therefore be taught a new vocabulary, bearing in mind his

intellectual and linguistic capacities for memorising it. There can be two kinds of new words:

- words in the general vocabulary, which gradually develop, and are added to those the child already knew when he started school;
- subject-specific words in, for example, maths, sciences, geographical designations and historical facts, foreign words.

The author must make sure that new or difficult words are placed within a context of simple, known and easily read words, thus ensuring better comprehension.

A few rules can be applied to make it easier to memorize new words.

- limit the number of new words in a text; each lesson should only include a few;
- define each new word, even in the case of words in the general vocabulary category, but which are unfamiliar to the child (definition of the word, or using the "i.e.", "which means" formulae, or synonyms) either within the text or in a margin note or footnote. It is always better to use the correct technical word, introducing it in the body of the text with an explanation, an example, or a correct illustration;
- each new word should be repeated as often as possible, in the same and subsequent lessons;
- there is no argument in favour of using an approximate term (or an approximate vocabulary) just because a technical term is difficult or unfamiliar. If the corresponding concept is accepted by the pupil, then the technical term is also acceptable. However, such terms should be introduced into the pupil's vocabulary because they are useful for the learning process and not because they represent a purely quantitative enlargement of vocabulary. Terms which are not used are soon forgotten.

### Memorising new words

The objective of an educational text is its comprehension and memorisation so that a trace is left in the pupil's mind. Links between writing, reading and memorization are imperative for a text's effectiveness. Meaning is an important component in ensuring that a word and a sequence of words are memorised.

A chain of words, easy to read, which mean something to the child and spark his interest will be easier for him to memorise and understand.

Visualisation is an important factor, because if words or new concepts are related to mental images they will be easier to understand and memorize. These images can be tangible (drawings, photos) or linguistic (for example, metaphors).

## **Phrases**

Short, simply constructed and familiar phrases are generally better memorised and understood than long, intricate phrases with a complex structure. This point is especially valid for textbooks for primary school pupils. However, textbooks for secondary education, except for the study of literature, should also avoid overly long and complex phrases.

### **Length of phrases and ease of reading**

#### Conclusions of studies on readability of texts.

On the subject of readability of texts, Francois Richaudeau (op.cit) quotes from D. P. Pearson's "Syntactic complexity and semantic relationships" (In: Reading Research Quarterly, Vol.X.No.2. 1974/75).

- Avoid making phrases too long or complex, and adapt their length to the age and cultural level of pupils.
- Short, oversimplified phrases (telegraphic style) are not, however, understood as well as phrases which are a little longer and better articulated.

For example:

The man worked hard and was tired.

The man was tired because he worked hard.

To be effective, the average length of a phrase should be approximately 15 words. (This also applied to text for adults). More words can be used for older, better developed children, fewer words for younger or less developed pupils. For school textbooks, the limits of ease of memorisation and comprehension is estimated at between 8 and 20 words, according to the level of the pupils and the subject under consideration.

The meaning of a phrase, like the meaning of a word, is of the utmost importance. If a phrase is to be understood and memorized, then it must signify something to the reader. The clearer the meaning, the more interest it will arouse, and the simpler it will be to understand the message. Meaning can be the logic of story related by the phrase or phrases, or a precise description of phenomena or events.

One single word is rarely sufficient to express a complete-thought. A normally structured phrase is a complete thought or an element of narration

which is self-sufficient. A phrase made up of five to ten words can suffice to explain a simple thought which will be acceptable to a young child. Two simple thoughts expressed in two phrases will be better understood than their combination in a more complicated idea formulated in a longer, and relatively complex phrase. Moreover, experience has shown that not all the words in a well constructed, meaningful phrase made up of words in common use are remembered after reading. The words at the beginning of the phrase are apparently better memorized than words at the end. This does not apply to very short phrases, but to those which are quite long, i.e. more than a dozen words Essential words should - without making this an absolute rule - be placed at the beginning of a phrase, especially the subject, the verb, the main complement.

The author of the textbook must decide whether he can write complex phrases of, for example more than 20 or 25 words, to express inter-connected thoughts. He must also look into the possibility of combining several complex phrases in a larger unit of related thinking, for example a short paragraph. The question here is knowing what is the best way to communicate an idea to be shared with others or taught to them. For school textbooks, the best way is without a doubt the one which is best adapted to the learning objectives and the characteristics of the pupils.

### **Punctuation**

A phrase is a series of words generally placed between two punctuation marks: full-stop, question mark, exclamation mark. Other common punctuation marks are the comma, the semi-colon, the colon and the hyphen. Punctuation marks confer a reading rhythm on phrases, especially long ones, which makes the text easier to understand.

Semi-colons are often used to divide a text into segments of phrases; they split a long phrase without interrupting the reading flow and without jeopardising comprehension. Authors should, however, avoid two pitfalls:

- too many punctuation marks chop up phrases and interrupt the normal reading flow;
- not enough punctuation makes reading more difficult and reduces comprehension of the text.

Authors may have habits of punctuation - using too much or too little which should be corrected in accordance with the specific requirements of textbooks which cannot allow any ambiguity which would endanger comprehension of the text when it is read.

### **The thread, or continuous link**

The importance of meaning for good comprehension and good memorisation of words and phrases has already been mentioned. This often leads to the use of a thread which guides the reader and, sometimes, lets him anticipate

what he is going to discover. It connects the different elements in part of a text - series of words, phrases and chains of phrases which form a paragraph. A thread can be:

- the meaning, the logic of the story, or train of thought, recounted by the sequences of phrases;
- syntax, grammatical link words (for example, what, who, because) which impose a logical construction on the phrase permitting the reader to anticipate the content of the text.
- logical sequence of argumentation;
- chronological evolution of a concept (influence of time or space on geographical transformation, on historical events, on human life);
- a story with endearing characters, with whom the reader can identify; this is the argument in favour of strip cartoons;
- situations and people who transmit information, or apply general concepts in practice (health, hygiene, natural environment, social behaviour etc).

The continuous link arouses the interest of the reader and stimulates his desire to go on reading to the end of the text.

### **The summary**

Texts, even when their meaning is clear and they are easy to understand, are not fully memorised by a certain proportion of pupils. For this reason, authors include a summary indicating the main points and general ideas of the lesson which the pupil should remember. This "reminder" helps the reader to retain these points and ideas and fix them in his mind.

Generally speaking the summary is best placed at the end of the lesson or teaching unit, in order to associate the main points with the body of content taught.

### **Writing style**

The style of school textbooks differs from that of literary works in that a textbook is a tool for the acquisition of knowledge and the development, through learning, of mental capacities and intellectual skills. The style of drafting should therefore be adapted to way in which the book is divided into sections and split up into autonomous elements. Sections must not be too long; dry, protracted itemizations of facts should be avoided as should historical chronologies isolated from the context of events. Any explanations should be precise and unambiguous.

Drafting should:

- highlight the differences between each theme;
- show the passage from one concept to another;
- denote the autonomy of each element in the text with phrases which signal the beginning and the end and fix limits. In some cases, the first phrase can constitute a link with the previous elements, briefly summarising them; the continuous link can facilitate this articulation and memorization by stimulating thought association.

The style should be sober, efficient, avoid sensational or dramatic language, emphasis and inaccuracy. However, the text should be agreeable to read and interest the pupil. In certain cases, the text can address itself directly to the pupil.

### **The first and last pages of a manuscript**

The author should accord particular importance to the pages preceding and succeeding the actual text.

He should write an introduction which clearly summarizes the objectives of the book, the meaning of the subject matter contained therein and how it is organized. He should also prepare a table of contents incorporating detailed and concise information on each subject dealt with in the textbook. For the author, this is a useful summary of the overall outline of the subjects chosen during the textbook planning phase. For the reader, it facilitates rapid and easy consultation of chapters and sub-chapters, of the topics dealt with in each of them and their logical sequencing. It permits the pupil or the teacher to refer back easily to the topic he wishes to study or read more thoroughly.

The final pages should also include appendices where applicable, the need for which varies from subject to subject. Language textbooks usually provide an appendix of summaries of basic rules of grammar, lists of the main irregularities, verb conjugation tables, etc. Mathematics and science textbooks can provide the answers to problems set out in the text in an appendix. For problem-solving exercises, indications or keys can also be included. This aspect of a textbook is important when the book is used by teachers who are poorly qualified or have insufficient training .

## IV . ILLUSTRATIONS

### The role of illustrations

One of the factors having contributed most to the evolution of the school book over the last decades has, without a doubt, been the use of illustrations and colour (over and above the fact that typesetting and printing techniques have improved considerably). Illustrations in textbooks have very precise objectives which differ from those of images in books for leisure, or those of a purely aesthetic or informative nature addressed to the general public, with no didactic aim. Illustrations for school books assume varied appearances, techniques and styles (photos, drawings, diagrammed etc) which, by virtue of their tangible, realistic nature, contrast the abstraction of prose. Explanations, definitions, arguments and logic require words and phrases, whereas material things are better represented by illustrations. The physical aspects of a country, animals or plants, machines or tools, laboratory experiments will all be more faithfully and speedily described if a map, a photo, a drawing or a diagram which visually supports the author's text is used.

Illustrations are useful in parts of a text giving information about items or events which are not encountered in the pupils' daily life or in the school setting, the region or even the country. They show the pupil more evocative and more accurate representations of the outside world, human life, geographical environments and landscapes with which he is unfamiliar.

### Types of illustrations

Three main categories of illustration can be defined:

- photographs, either original or copied;
- drawings, either figurative or technical, drawn with a desire for realism, maps;
- diagrammes, sketches, statistical graphs.

All three types can be printed in several colours (two or three colours and black) or in two colours (usually one colour and black) in one colour (usually black). This adds up to nine categories of illustration, ranging from photographic reproduction in four colours (most expensive) to the simple sketch printed in

black (the most abstract and least expensive). The author of the textbook must choose which of these nine categories is best suited to the educational objectives of his text, given the financial resources available. Coloured illustrations are expensive and the cost-benefit ratio of any additional advantages should be carefully considered.

### **Characteristics and conditions of a good illustration**

Several conditions determine the choice or production of a good illustration:

#### **How evocative is it.**

This brings affective and esthetic elements into play. The realism of a colour photo will stimulate the interest of a young pupil. From this point of view a photo can be more effective than a drawing (landscapes, portraits, scenes of everyday life in other regions). However, some coloured drawings which faithfully reproduce reality are just as effective as a photograph. Moreover, drawings are often given preference in childrens' reading books, because of their evocative force (for example, strip cartoons which highlight, simplify and symbolize the essential message).

#### **The quality of the message transmitted**

When its production is based on pedagogic motivation and precise objectives of information a coloured drawing can sometimes be more effective in transmitting an item of information than a photo. It frequently enables details to be better emphasized or important and significant elements of an object or an experience to be highlighted (botany, study of the human body and its function, biological experiments, chemistry, physics, technical instruments), even if only a black line is used. "Reading" a drawing often gives a young pupil more accurate information than a photo which cannot bring out strongly enough some significant details.

#### **Clarity and accuracy**

Illustrations should faithfully depict and explain what is described in the written text. They should be clear and accurate and not give rise to ambiguities. From this standpoint, drawings are often more effective than photos. The designer can draw the outline of people or objects and highlight the different elements of the illustration which the author wishes to bring to the fore for the purpose of his instruction. Separate images can be drawn to follow the successive stages of a process. Drawings should be as true to life as possible. The introduction of fantasy can hamper comprehension, as can an excessive search for aesthetic quality which might divert the attention of the reader from the real aim of the illustration. Decorative illustrations are justified to stimulate and develop a pupil's artistic sensibility. Whereas it is true that school books should be attractive, the insertion of decorative images for the sake of aesthetics should not,

however, serve to dissimulate the weakness of objectives and content of the text. Any artistic aspects inserted in the text should have a pedagogical function.

The sketch, which is a drawing simplified or distorted to increase comprehension, is the simplest type of illustration and the easiest to read, but also the least attractive, given its lack of affectivity and aesthetic value. Nonetheless, they can be very useful at the initial stages of education, for example in mathematics, even for young pupils. However, the pupils must be taught how to read them and their objectives must be explained. A black line or coloured line can be used depending upon the topics or content of the text.

### **The cost of illustrations**

In selecting illustrations, the author must also take into consideration the budget available to the publisher and the purchasing power of the customer (usually families) if the book is to be sold. Illustrations, particularly in colour, can increase production costs quite considerably. When textbooks are distributed free of charge, available finance should be sufficient to ensure continuity of distribution to all pupils, which implies seeking costs compatible with national resources. However, the quality of the illustration is a factor which to a great extent depends upon the skill of the illustrator. Whereas, the price of creating a high-quality original image does not excessively influence production costs especially when the volume of printing is high.

The cost of illustrations is determined by:

- quantity, which is generally higher at the primary school level: first and second year reading primers have a greater proportion of illustrations in ratio to text (as high as 70%). The same applies to a mathematics textbook with its numerous images, figures calculations and geometrical forms. Geography, natural history and biology textbooks all contain more illustrations than books of prose or social science textbooks.
- the cost of creating an original image, which is the amount paid to the illustrator, artist or painter. Price will depend on his notoriety and whether it is to be in colour or black and white. The cost can also be the expense involved in reproducing a drawing, a table, a photo, when it is not an original work.
- processing the original image to make it suitable for printing (photoengraving). The cost increases in ratio to the number of colours.
- the work of the printer involved in preparing plates and the printing press. The cost increases if the illustration is in several colours.

- the number of copies to be printed. Low print-runs increase production costs.

If colour reproductions are used they must be of good quality. Mediocre colour can be misleading and confusing. Colour photos can be difficult to reproduce, except at great expense.

### **The illustrators**

Despite several noteworthy exceptions, the scarcity or lack of skilled illustrators raises problems for many developing countries in obtaining highquality textbook illustrations . Several reasons, some of which are linked, explain this fact:

- lack of the means to train these specialists;
- lack of coherent planning of textbook production which accords insufficient importance and financial resources for illustrations;
- lack of recognition of the need for good quality illustrations for the educational effectiveness of school books;
- low remuneration offered to skilled illustrators;
- under-employment of full-time illustrators whose level of skill is not always very high and who have to do other jobs as well.

Despite all this, it is often possible to improve the quality of illustrations with a relatively small increase in expenditure, on the one hand to remunerate qualified illustrators (even, if necessary, calling upon personnel living in other countries), and on the other, with the use of colours. In fact, if such expenditure is shared over a large number of printed books, then it represents only a modest proportion of textbook production costs. Whereas, print-runs of school textbooks, especially those for primary education are often in excess of a hundred thousand and subsequent re-prints considerably increase this figure.

What mainly raises the price of production for many countries is that they have to import most or nearly all of the material elements: paper, cardboard, equipment and supplies for publishing and printing, spare parts and maintenance. But, even if books are to be distributed free of charge or sold at prices falling under the real production costs, the quality of illustrations still remains an essential element. Should then the quantity perhaps be limited in order to safeguard quality?

## **The qualifications of illustrators**

The qualities required of a good school textbook illustrator are not necessarily those of a well-known artist, draughtsman or painter. The abovementioned characteristics and conditions of a good illustration clearly distinguish the purely artistic drawing or image from illustrations for school books. The illustrator must certainly be gifted for drawing and have training in the arts, but he must also, through training courses and intensive practice, acquire the professional experience which will turn him into a skilled textbook illustrator. It is sometimes necessary to attend such courses and work abroad, but not necessarily in the highly developed countries. There are countries in each region of the world where talented illustrators work, where workshops for the illustration of school books have already been set up, and where it is possible to gain professional experience.

Over and above artistic skill and experience of techniques in illustrating school books, an illustrator should:

- know something about the content for which the illustrations are prepared, without necessarily being a specialist in a specific discipline;
- use a technique and style of drawing which corresponds to the content (scenes, people, situations, maps, technical drawing, scientific diagrammes, etc) and the text of the book;
- have a good understanding of the educational objectives of the textbook.

Illustrators cannot, at one and the same time, be good designers, specialists in a discipline and teachers. So, there must be close collaboration between illustrators and the author of the manuscript, the latter giving precise details on the type and characteristics of illustrations required in his textbook. In addition, the illustrator should take into consideration the requirements of those who will typeset and lay out the pages of the textbook, so far as dimensions and presentation of illustrations is concerned.

## V. MANAGEMENT OF THE ELABORATION OF MANUSCRIPTS

The preceding chapters have analysed and, hopefully, lead to a better understanding of the problems raised by the elaboration of textbooks, as well as suggesting or recommending approaches or solutions which could be applied to the preparation of manuscripts. The way in which their elaboration is managed from beginning to end now needs to be envisaged.

In developed countries, school textbook production is usually undertaken by governmental or private industrial enterprises with the long experience, skills and capacities required to estimate and cover needs for books at the national level. The intervention of educational authorities is more often than not limited to an evaluation of the merit of texts published and their relevance to official curricula. It is primarily those responsible for educational content and teachers who choose and recommend school textbooks.

In most of the least developed countries, where no real industry or largescale market for books has yet been established, Ministries of Education usually undertake production of textbooks and their provision to schools. General policy adopted as regards school textbooks can vary:

- a governmental service or agency under the auspices of the Ministry of Education (textbook publishing organizations, school book centres, or specialised institutes) is responsible for all production activities and book provision;
- publishing or printing or sometimes both is sub-contracted to private publishing organisations, the governmental agency being responsible for planning provision of textbooks, elaboration of manuscripts and distribution of books.
- private publishing organizations are responsible for printing and distribution, the Ministry of Education undertaking the planning and elaboration of manuscripts.

Each of these modalities corresponds to a specific situation in countries confronted with the need to solve the crucial problem of lack of textbooks. According to whether capacities exist within the private sector to undertake certain aspects of production and distribution, governments are lead to adopt the

solutions which best coincide with the needs of their educational system. However, it would seem that overall responsibility for the totality of production and distribution activities by a state publishing organization is, for many countries, a difficult undertaking, given the considerable financial technical and material resources required. Moreover, this modality implies the intervention of several Ministries (education, finance, planning) which can lead to problems in coordinating the different services involved, slow progress in decision-making, difficulties in applying rigorous production schedules, with not very satisfactory results. It also assumes the existence of personnel specialised in all the various production activities or that training in these domains is available.

### **School Textbook Committees**

Generally speaking, and over and above the policy adopted for textbooks, Ministries of Education are responsible for the study of needs, planning and provision of school books and the elaboration of manuscripts, insofar this is a question of promoting production at the national level, which was either limited to publishing a few books, or lacked the resources to meet the all the needs of the educational system.

Textbook Committees (sometimes called School Book Committees) can play an important role when a genuine national book promotion policy exists. The functions and responsibilities of these committees vary from country to country. In some cases, they simply make recommendations on the suitability of published school books. In others, they supervise the elaboration of textbooks, give the final seal of approval after evaluation and, in some instances, control all aspects of production and distribution.

A distinction should perhaps first be made between Textbook Committees and publishing services (whether the latter are state controlled or private). If publishing services, as their name would indicate, take care of publishing manuscripts and sometimes printing and distribution, the same is not true of the Committees whose attributed functions are those of study, consultation, survey, control supervision, and approval. The functions and responsibilities of these committees should, therefore, be neither too finite, nor too extensive if their work is to be an objective, impartial and efficient contribution to specific and significant aspects of the elaboration of textbooks.

### **Functions of Textbook Committees**

Within the above-mentioned general framework, the functions of Textbook Committees can be defined as:

- Establish priorities for the provision of school textbooks to schools, by level of instruction and by subject, based on the results of surveys of textbook needs (carried out at the request of the committees or by study and planning departments at the Ministry of Education):

- Determine the characteristics of the textbooks and norms for the elaboration of manuscripts and administer applications;
- Seek and approve candidates to write the textbooks (and, where needed, illustrators) or detach qualified personnel from the Ministry (study centres or research and educational research institutes, services to elaborate textbooks under the auspices of a curriculum development committee) to elaborate manuscripts; establish contracts or agreements;
- Read manuscripts bearing in mind criteria defined and indicate any eventual corrections or adjustments the author should make during drafting.
- Have the drafted manuscripts evaluated and request authors to make any necessary revisions;
- Approve the final manuscripts before transmission to the publisher.

The Committees may also organize seminars or training workshops for the elaboration of manuscripts, with the eventual cooperation of invited specialists, and arrange study abroad for national personnel.

All these functions are crucial, but do not take place simultaneously. They are carried out according to a schedule of activities which starts with choice of priorities and terminates with final approval of the manuscripts.

### **Status of the Committees**

Committees should have institutionalised status in order to confirm their authority. They should be permanent bodies in that textbook production is a continuous activity which involves revision, re-prints, introduction of new textbooks better adapted to the evolution of the content of curriculum. However, their work is periodical and does not require full-time assignment of members.

### **Members of the Committees**

Members should represent various departments or services within the Ministry of Education:

- Curriculum development departments (or centres or curriculum development committees), which supply specifications of curricula (objectives, content) for the elaboration of manuscripts;
- Educational Research Institutes, Centres or educational institutions which can, themselves, be engaged in the elaboration of manuscripts;

- Qualified, experienced primary and secondary teachers, and other educational personnel (inspectors, educational counsellors, headmasters) to whom can be added university professors for textbooks for secondary education, the opinions and advice of these latter members being especially useful on the relevance and merit of manuscripts submitted to the committees.
- Planning and finance services who provide information and recommendations based on the Ministry's estimations of needs (quantities, costs, available finance) and of expenditure which can be made available for elaboration, especially when authors and illustrators are to be paid;
- Publishers who can advise the members of committees on the presentation of manuscripts, lay-out and illustrations, as well as on characteristics, such as format, colours, etc.

### **Working procedures**

As soon as the members of the Committee begin work, they should be kept informed of all aspects of school book production. They must know about and understand all technical, material and financial constraints which might influence production, so that their decisions are in harmony with priority needs and available resources.

The members of the Committee should not themselves be engaged in the elaboration of textbooks. Assigning functions to the Committee which do not directly involve their members in elaboration and production activities is apparently a precondition of optimum objectivity and impartial judgement.

Members of Committees will not all be specialised in the same field; it is the overall conjunction of their varied expertise which will enable them to efficiently fulfil their duties. Opinions, judgement, advice and recommendations should be complementary in order to reach agreement on points under discussion and decisions to be taken.

The person (or persons) in charge of the Committee plays a vital role. His skill, abilities and personality are a pre-requisite for the smooth running of activities and the success and effectiveness of work.

There should be no more than 10-12 members, given that each contributes competence, knowledge and experience in a particular field. Committees can call upon specialists and experts for advice upon specific aspects of their work.

### **Submission of manuscripts**

Drafting a manuscript is a lengthy assignment, which may entail six months, a year or more, depending upon whether it is an original work or an

adaptation and on its size and complexity. However, a time limit must be set taking into account the time required by the author to draft and make revisions suggested by the Committee once they have read the text, as well as stringencies of production planning in order to provide books at specific dates (i.e. before the start of the school term).

### **Submission dates**

The agreement or contract established between the Committee and the author should indicate the date limit accepted by the author and the date for submission of the entire manuscript. However, once a detailed outline of the work has been submitted, intermediate dates could usefully be set for submission of sections of the manuscript, either chapter by chapter if these are long, or two or three at a time if they are short. The advantage of intermediate dates is that:

- shorter texts will be provided at relatively regular intervals to members of the Committee who will be able to read them in less time;
- the Committee will be in a position to request the author to revise shorter texts which are fresh in his mind and therefore easier to amend than longer texts possibly written quite some time before.
- the author will notice shortcomings he must correct for the rest of the text, or necessary modifications which he can take into consideration for succeeding chapters of the manuscript. Successive revisions are helpful in ensuring a qualitative improvement of the text.

The date fixed for submission of the final manuscript should allow sufficient time for revisions; it can be calculated in accordance with the following phases:

- elaboration of the manuscript;
- reading chapter by chapter and successive revisions right up to the last section;
- submission of revised final version of the manuscript.

### **Technical guidelines for presentation and composition of text**

Manuscripts should be typed in double line spacing for easy and quicker reading and to allow legible and clear corrections to be inserted. Several copies are usually provided for the readers. To improve presentations of text, sample models of page lay-out exist, space being foreseen, for example, for standard pages, two column pages, or pages with margin notes. These models facilitate the work of composition and lay-out.

There should be wide margins on the left hand side, the top and the bottom of the page for evaluators' annotations, and typographical instructions.

All pages should be typed on one side only and of uniform length.

Pages should be numbered consecutively from the first to the last page of the text and should be well separated from the body of the text.

Titles of chapters and sub-chapters should be typed in capital letters and stand out from the body of the text, quadruple interline spacing being used. Sub-titles should be aligned on the left and typed in triple line spacing. The location of illustrations should also be quite clearly indicated.

The summary at the end of a lesson or chapter can be presented in a "frame" to better retain the reader's attention.

Italic type in printed publications is indicated by underlining and should be used sparingly i.e. foreign words and words and phrases of paramount importance. For content which should be underlined in the printed book, words or phrases can be circled in pen and "underline" written in the margin.

A chapter, a lesson or an important section of the book should always start on a new page.

Long quotations from books or documents for insertion in the text should be visible, wide indentations being provided at the left, top and bottom of the text.

A footnote or a reference should be separated from the body of the text by a line across the page.

It is preferable to limit the number of variations in a book (lettering, different chapter heads, too diversified types of illustration or changes in layout) to facilitate reading and use

### **Corrections in the text of the manuscript**

Corrections are better made in the body of the text than in margin notes, for easy comprehension and to avoid errors in copy preparation and typesetting.

Rather than altering a letter, word or phrase, it is better to cross out the part to be corrected clearly and re-write it legibly above in printed letters.

Corrections which are too long to be written above a line of text should be typed on a separate piece of paper and pasted to the relevant page, without, of course, covering up non-corrected text. A page with a lot of corrections should be completely retyped.

Margins give readers room to write in their annotations or short comments (written legibly) and the editor's typographical instructions, indications on lay out and illustrations.

### **Presentation of illustrations**

A detailed list of illustrations, indexed by category, must accompany the manuscript (photos, drawings, graphs, maps, technical diagrams, comic strips). The number of the page on which each should appear must be clearly indicated.

The correct place of illustrations in the text should be clearly indicated in the manuscript. This is the responsibility of the author. If for reasons of format or printing, it is not possible to juxtapose text and illustrations, the latter should be very carefully placed so that the reader has no difficulties in consulting them rapidly at will. A list of captions accompanying illustrations which are to be inserted in the text should be attached.

The author should try to give an accurate, detailed description of illustrations, along with their characteristics, according to the educational goal. If he has a gift for drawing, he can make a sketch or outline, to show the illustrators exactly what he is looking for.

Tables with figures, statistics or information classified under headings, including columns, rows, vertical and horizontal lines, titles, sub-titles, etc., should be composed and inserted where they appear in the text (and not separately) and should be numbered consecutively.

Illustrations should be numbered from beginning to the end of the manuscript and an index provided at the end for their easy location.

References indicating the origin of illustrations, especially photos, paintings or original drawings should be supplied.

### **The final manuscript**

The final manuscript presents the following elements:

#### **First pages:**

- title page
- name of the author(s)
- summary or table of contents
- preface or introduction, or both
- cover page, which can be an introduction.

#### **The body of the text:**

- the whole text, divided into chapters and sub-chapters, tables, graphs, footnotes and, if necessary, exercises or sets of questions, keys and answers, with details about illustrations.

### **The last pages, where applicable:**

- all the appendices
- a glossary of definitions
- an index of illustrations
- an index of authors and subject matter
- a bibliography and list of references

A detailed, complete, numbered list of illustrations indexed according to category should be established and accompany the manuscript in a separate file.

**Authorisations** and indications of “**copyright**” materials and photographs used.

If need be, the author will add a **list of missing items** (illustrations, authorizations, index, etc) and the date at which he can submit them.

### **Submission of the final manuscript**

The final manuscript, drafted and typed in accordance with technical guidelines for presentation is submitted to a small working group, composed of all or part of the Textbook Committee, for reading and evaluation. A teacher or an inspector specialised in the field in question and a curriculum development specialist join in this evaluation. After examination of the manuscript, the author receives comments, conclusions and recommendations of the evaluators and will then make any necessary corrections or revisions to his manuscript. Sometimes there are very few corrections to make, but in all likelihood the author will discover flaws in presentation, difficulties of comprehension in the text and other similar shortcomings which require slight modification. Discussions with the evaluators can provide him with additional information regarding improvements to the text.

### **The definitive manuscript**

The definitive manuscript is the final typescript which has been corrected and revised after evaluation and has been approved by the Director of the Textbook Committee. After a rigorous and detailed examination on the part of the publisher, the manuscript is copy-prepared for transmission to the service responsible for typesetting and page-lay out. At this stage it is still possible that some final modifications may have to be made for the purposes of composition and typesetting.

## **VI. EVALUATION OF THE FINAL MANUSCRIPT**

It is recognized that school textbooks are one of the factors which determine the effectiveness of the teaching and learning process in school. They do, therefore, have a positive impact on the yield of educational systems. For this reason their quality is of the utmost importance so far as their relevance to the objectives and content of curricula is concerned and their value as a method of learning and acquiring knowledge.

Before the production of school books enters into the actual production phase, the final manuscript has to be evaluated to ensure that the text offers all the guarantees of quality and corresponds to learning needs.

Whilst it is being written, parts or successive chapters of the text are submitted to readers for assessment: This enables a partial evaluation of the manuscript to be made and permits the author to correct the text or make necessary revisions to improve its quality. However, only when the final manuscript is submitted can a complete and detailed evaluation be made.

### **Aspects of evaluation**

Aspects which should be evaluated correspond to those defined as determining the quality of textbooks:

- Content
- Pedagogical approach
- Language
- Illustrations

All these aspects are equally important and their level should be judged to be at least very satisfactory if the final manuscript is to be approved. Imperfections or an inferior level in one aspect will inevitably have negative repercussions on the others. For example, poor quality illustrations, which are blurred or inaccurate will distract the reader when he tries to relate them to explanations and information contained in the body of the text. Similarly, phrases which are too long and complex, or too many unfamiliar words and terms, can impede comprehension of the text and discourage the pupil's interest in content.

Presentation and composition of the text should also be satisfactory. The author should follow the technical guidelines recommended for presentation and composition and may also ask for guidance and assistance from the publisher.

These aspects of evaluation are, in general, all valid for textbook manuscripts. However, differences do exist, depending upon the discipline under consideration and the year or level of instruction. It is evident, for instance, that content, pedagogical approach, drafting and illustrations for a first year reading primer will not be the same as those for an final year junior school textbook for literary studies and prose. These same aspects will also differ for a mathematics, science or geography textbook. Before applying evaluation criteria, therefore, the textbook manuscript must be situated in relation to the aspects evaluated and its final destination. It can be situated in the following manner:

Content	Discipline
Pedagogic approach	Year or level of instruction
Drafting	Type of textbook for who

Chapters III and IV should be referred to for an analysis of the evaluation of these aspects.

**Questions to be raised in the evaluation of a final manuscript**

All the following suggested questions can serve as guidelines for evaluation. Some can be more or less important, depending upon the discipline under consideration, the teaching objectives and the level of instruction.

<b>Content</b>
1. Does content correspond to the objectives of the curricula for the school year under consideration?
2. Does the level of content correspond to what pupils have previously learned? (For the first year of schooling, previous results refer only to whether or not the pupil has had any pre-school education)

3. Is content accurate? Concise? Topical? Varied? Sufficiently objective?
4. Is it sufficiently enriched in relation to the content summarized in the curriculum?
5. Will it stimulate and develop positive social and moral attitudes?
6. Does progression in learning and concepts transmitted by content go from the simple to the complex, from the elementary to the advanced?
7. Are concepts clearly explained and does content offer practical applications?
8. Do learning activities and experiments proposed in the different chapters help to enhance learning? Are they varied?
9. Do such activities call for the intervention of the teacher? Or can they be carried out by the pupil without the teacher's help?
10. Has the author tried to integrate elements from two or more disciplines where possible and desirable?

### **Educational Approaches**

11. Does the method applied in the textbook correspond to a pedagogical concept recommended by the educational authorities?
12. Does the method correspond to a constrained, interventionist pedagogy? Or, on the contrary, is it inspired from open learning methods, inciting the pupil towards some autonomy in learning?
13. Does the manuscript propose research activities for the pupil: observation, surveys, measuring, information?
14. Are the interests of pupils taken into account to stimulate learning and has the author included motivational aspects (varied topics, familiar environment, evocative illustrations, etc)?
15. Has the author taken account of some of the pupils' characteristics, such as age, environment, to arouse their interest?
16. Are there learning exercises, and assessment for each chapter?
17. Are exercises varied? Well adapted to the content of the chapter? Do they seem too difficult or too easy?
18. Are exercises formulated clearly and concisely?

19. Can these exercises serve as a method of evaluating learning?
20. Are they prepared in such a way that the pupil can verify his own progress and success (for instance, answers contained in an appendix, solution routes proposed)?

## **Drafting**

### **Organization**

21. Does the manuscript clearly reflect the existence of logical organization of the text (Presentation. Main text divided into chapters and sub-chapters according to the curriculum. Summary. Exercises, Evaluation)?
22. Are some chapters organized in a different way from others, destroying the balance of the overall text, or is this difference justified?
23. Does the length of chapters correspond to the importance of themes?
24. Are some chapters too long, despite the importance of the topic? Or, too short?

### **Language**

25. Is the language used in the text easy to understand and adapted to the level of the pupils for whom the textbook is intended?
26. Does the vocabulary used correspond to the assumed level of the pupils, taking into account previous knowledge?
27. Is subject-specific vocabulary or terminology used? Are definitions given of new or unfamiliar words?
28. In general, is the length of phrases and their structure well adapted to the comprehension level of the pupils?
29. Is the meaning of the text clear and intelligible?
30. Is the punctuation in the text always justified?

### **The continuous link or thread**

31. Where content permits, has the author used a continuous link or main theme to arouse the interest of the reader and incite him to further study the text?

## **Summary**

32. Is the summary placed at the beginning or the end of the chapter? Is it clear, concise and does it correspond to the main aspects of the text?

## **The style of writing**

33. Is the style sober and efficient or are there too many enumerations, imprecisions, dramatisation?

## **First and last pages**

34. Does the introduction or the presentation clearly establish the objectives of the book and the meaning of the subject?

35. Is the table of contents detailed and accurate?

36. Were appendices and an index foreseen and have they been provided?

## **Illustrations**

37. Are all the illustrations contained in the textbook fully justified? Or, are there too many?

38. Do they correspond to the content of the chapters in which they appear?

39. Are they clear and accurate?

40. Do they transmit interesting information, and visual representations unfamiliar to pupils or outside their environment?

41. Are illustrations evocative and will they arouse the pupils' interest?

42. Has too much attention been paid to aesthetic quality of illustrations to the detriment of their role of transmitting accurate information?

43. Are they in the right place? Is their location clearly indicated in relation to the texts to which they refer?

44. Are accompanying titles and captions clear and accurate? Have they been numbered?

45. Is their cost justified. (For reproductions of photos, works of art, processing of original images, printing, number of copies of the book foreseen?)

## Guidelines for evaluation

To standardise and facilitate the work of evaluators, an evaluation sheet can be used. For the-sake of commodity, it is preferable to use one sheet for each of the aspects evaluated. The following is a suggested lay-out:

Aspect evaluated :	CONTENT			
Questions posed:	Replies			Comments or suggestions
	Yes	No	In part	
1.....				
2.....				

## The evaluators

Evaluators must fulfil certain conditions to participate in an evaluation:

- Possess excellent qualifications and professional experience in a given educational domain (teaching, curriculum, educational psychology, educational research, publishing school textbooks, elaboration of school books).
- Not be personally engaged in the elaboration of the manuscript under evaluation.
- Possess or have previously received full information on the different stages and operations of textbook production (seminars organized by a Textbook Committee...)
- Have received special preparation for the work of evaluation and know about all aspects of the elaboration of manuscripts (preparatory working sessions under the guidance of a competent expert who could be the Chairman of the Committee).

In principle, evaluators are members of the Textbook Committee. However, outside personalities meeting the requirements for participating in the evaluation can be called upon to collaborate in this work.

## Division of work amongst the evaluators of aspects evaluated

<b>Aspects</b>	<b>Evaluators</b>
<b>Content</b>	<ul style="list-style-type: none"><li>- <b>Subject specialists: teachers inspectors, supervisors</b></li><li>- <b>Secondary school teachers</b></li> <li>- <b>Curriculum specialists</b></li></ul>
<b>Pedagogical approaches</b>	<ul style="list-style-type: none"><li>- <b>Subject specialists</b></li><li>- <b>Educational psychologists</b></li></ul>
<b>Drafting</b>	<ul style="list-style-type: none"><li>- <b>Language teachers</b></li><li>- <b>Publishing organizations</b></li></ul>
<b>Illustrations</b>	<ul style="list-style-type: none"><li>- <b>Subject specialists</b></li><li>- <b>Graphic artists</b></li></ul>
<b>Presentation and composition</b>	<ul style="list-style-type: none"><li>- <b>Publishing services (compositors)</b></li></ul>

Division of work is not mandatory, but simply indicative of the need to make use of all available qualifications. For countries having resources sufficient only for the production of one single textbook per discipline per school year, the evaluation of a manuscript can be the determining factor in obtaining the best possible quality of school books.

### **Modalities and criteria for evaluation**

Basically, the objectives of evaluation are to identify evident and important problems which appear in the manuscript and make recommendations to the author as to the corrections and revisions which will make his book a valuable teaching tool.

Evaluation is carried out by members of institutional groups (committees, or commissions) according to modalities which vary, but of which the main lines can be defined:

- a small group of evaluators is appointed to make a detailed reading of the manuscript. Reading is based on an guidelines which should assist all those participating in the evaluation;
- each evaluator carefully reads the text analysing in particular those aspects for which he is most qualified. If an evaluation sheet is used, he replies to

questions and notes his comments, observations and judgements. In addition, he makes recommendations regarding any eventual corrections or revisions;

- the evaluation group meets and the evaluators compare the results of their analyses and recommendations. A discussion, monitored by the director or chairman of the Committee enables agreement to be reached on the conclusions of the manuscript's evaluation, for instance:
  - very favourable, with only minor revisions which are then submitted to the author;
  - favourable, with a certain amount of revision and improvement indicated by the Committee;
  - less favourable, in which case the author is invited to redraft certain parts of the text.
  - It is rare that a final manuscript is rejected, insofar as partial readings during its elaboration will have enabled judgements to be made on the capacity of the author to produce a satisfactory manuscript.

### **Evaluation by teachers**

The final manuscript, evaluated by members of the committee and subsequently revised by the author, may then be submitted for evaluation by teachers, which is carried out under the supervision of one or two designated members of the committee. It can take the following form:

- successive detailed reading by several teachers (four or five) chosen according to the subject they teach, at what level and their qualifications. Each reader is accompanied by an evaluator who notes down the teacher's observations and comments;
- shortcomings observed and suggestions for corrections are discussed with the evaluator to reach decisions which will be submitted to the committee for approval.

Certain criteria should be applied to guarantee the validity of opinions expressed and modifications suggested:

- successive readings by each teacher should be made without knowledge of the observations of the previous teacher(s);
- imperfections observed and corrections suggested by only one teacher will not be taken into account if they are of only minimal importance;

- on the other hand, if three or four, or four out of five teachers indicate the same shortcomings, then these must be carefully examined and the suggested corrections submitted for the approval of the committee.

Another method can consist in submitting the manuscript to a small group of selected teachers and requesting them to note down any imperfections. Once the reading is complete, a meeting is organized for a group discussion under the guidance of one or two evaluators who take note of the participants' observations and comments. Suggested corrections are also noted and submitted to the Textbook Committee which will decide on action to be taken.

### **The trial edition**

Many countries do not yet have sufficient experience in the elaboration of textbooks and their generalized use at all levels of schooling. In such cases, a trial edition can avert serious drawbacks and waste of resources which would result from the mass production of school books which contain shortcomings which could be prejudicial to the quality of teaching. Such cases can occur in a country where there are no competent authors, or no teachers with sufficient experience in writing textbooks. For these reasons a trial edition should be tested, the main objective being to evaluate the effectiveness of the final, revised textbook in the teaching-learning process within a real school situation.

A trial edition can be produced with relatively limited resources, using, for instance, mimeographed reproduction or printing on small off-set presses. Illustrations playing an important role in the text should be reproduced, unless reproduction involves complicated techniques (such as the use of several colours). Reproduction in black and white can often suffice.

Copies may be limited to a few hundred.

### **Testing**

The trial edition is produced once the final manuscript has been evaluated and revised. So, it is guaranteed, a priori, as relevant teaching material. However, testing in schools can reveal imperfections which have passed unnoticed during evaluation. The following conditions are applicable for testing a trial edition:

- The trial edition is tested in a small number of schools and in classes which correspond to the instructional level of the textbook (four or five schools);
- The schools chosen should be located in different zones (urban and rural or semi-rural);

- Teachers taking part should have good or average qualifications; if qualifications are too low, much of the validity of the testing and evaluation will be lost. Moreover, these teachers should be capable of expressing valid opinions on the experimental textbook and of making pertinent suggestions as to eventual modifications;
- The teachers designated to take part in the experiment should understand the objectives. They should also be aware that their observations and suggestions will be transmitted to the author(s) and to the publisher;
- An evaluator will accompany and supervise the experiment.

### **Evaluation**

The reactions of teachers and pupils to the use of a trial textbook will serve as a basis for evaluation. After testing, the teachers should be able to answer the following questions:

- Is content interesting for the pupils?
- Is content well adapted to the objectives of the subject and the instructional level?
- Can the progression of content be followed without difficulty?
- Is the vocabulary of the textbook well adapted to the age and level of the pupils?
- Is the text sufficiently comprehensible for the pupils?
- Are illustrations clear and accurate enough and do they interest the children? (In this respect, the quality of reproduction of illustrations in a trial edition should be borne in mind).
- Is the pedagogical methodology which inspired the textbook easily applicable and is it adapted to the learning objectives and the level of instruction?
- Are exercises easy or difficult for the pupils and do they enable good evaluation of learning?

On the use of the textbook:

- Is the textbook easy to use and practical both for teacher and pupils?
- Do teaching conditions permit fully efficient use of the textbook?

### **Observations and suggestions from teachers**

Once the teachers have completely understood the objectives of testing and with the help and advice of the evaluator, observations and suggestions can be made during actual teaching practice. These observations and suggestions, examined and recognized as pertinent by the group of evaluators can therefore be applied, if need be, to correct or immediately revise the manuscript without waiting for the end of the experiment.

## CONCLUSION

This guide will certainly not have answered all of the host of questions posed by the elaboration of school textbooks. The topics taken up in the various chapters primarily concern those aspects for which a methodological approach seems to be required if manuscripts are to correspond to the specific objectives of school books. It should not be forgotten that the latter are teaching and learning tools and, for this reason, should be manufactured in a way which, whilst rendering them both practical and effective for the reader, does not renounce an agreeable and attractive presentation.

There does, however, remain one aspect for which no methodological guide can provide a solution or a recipe. And that is what could be called the "intellectual talent" which, when linked to professional motivation and method will result in the production of a high-quality school textbook. This gift cannot be learned or taught. It can, however, be revealed when potential authors feel the need to transmit the knowledge and experience they have accumulated over the years, and to make a contribution to educating young minds. Beginner authors must convince themselves that, whereas elaborating their first manuscript will doubtless be an arduous task and a test of endurance, it will, at the same time, be a rewarding learning process, of benefit in their future work.

## REFERENCES

- APEID, 1985. Studies and Documents No. 48. Paris, Unesco. Textbooks and Related Teacher Learning Materials: For Primary Classes. Bangkok, Unesco.
- Boligaugh, J. et al., 1980. Educational Development: A Practical Issue: Guidelines for the preparation, production and distribution of textbooks. Paris, Unesco.
- Pearce, D., 1982. Textbook Production in Developing Countries: Some Problems of Preparation, Production and Distribution. Paris, Unesco.
- , 1988. A Guide to Planning and Administrating Government School Textbook Projects. Paris, Unesco.
- Richaudeau, F. 1979. "Conception et Production des Manuels Scolaires: Guide Pratique", Paris, Unesco.
- Seguin, R., 1986. Programmes et Manuels Scolaires: rapport techniques, Paris, Unesco.
- Unesco, 1983. b. Textbooks and Reading Materials. Vol.2. Outcomes of Regional Seminar. Bangkok, Unesco.
- 1983 c. Textbooks and Reading Materials. Vol. 3. Textbook Production and Utilization in Asia and the Pacific. Bangkok, Unesco.