UNIT 10 EDITING SCIENCE AND TECHNICAL TEXTBOOKS

Structure

10.0 OBJECTIVES:

In this unit we shall deal with all issues about the editing of Science and Technology textbooks.

On completion of this unit, you will be able to

- state the aim of editing Science and Technology textbooks
- explain the method of editing in Science and Technology textbooks
- recognize the need for editing Science and Technology textbooks
- judge the standard of editing in Science and Technology textbooks
- assess the importance of editing Science and Technology textbooks

10.1 INTRODUCTION

Every kind of book needs editing. Without editing, a manuscript may have its raw strength and rugged beauty but it may also have irritating errors and factual mistakes. Editing helps in removing those avoidable errors and factual mistakes. It also results in a well produced book. In case of a textbook, the editing acquires still greater significance.

As regards textbooks and science and technical textbooks in particular, the editor checks the manuscript closely to see that the text satisfies all the requirements of the syllabus. In certain subjects like Social Studies and History, the editor has to rigorously scrutinize the manuscript from the point of view of the local conditions and regional or religious sentiments. It is for the editor to ensure that the manuscript does not contain any material that is seditious or obscene. Similarly, there should be no defamatory reference to an individual or an institution or an organization. Every author has her/his prejudices, biases or pet theories which may get reflected in the manuscript; the editor has to carefully look for those elements and weed them out. Such points, noted by the editor, are sent to the author, who after some time, gets back to the editor with necessary corrections or with strong justification for the material objected to, by the editor. In many cases, in order to avoid unnecessary delay, the author and the editor work on a developing manuscript simultaneously. Thus, conflicts and differences are sorted out on the spot and the manuscript gets ready in time for printing.

Editing textbooks of Science and technology requires a different kind of sensibility and sensitivity. In a book of science and technology, its total length has to be seen from the student's point of view. The level of vocabulary has to be judged by the editor, keeping in mind the class and the age group for whom the book is being prepared. The sentence structure is also examined and if it is found that some sentences are very complicated, the editor gets them split into smaller and simpler sentences.

In the field of Science and Technology, the question of copyright always comes up. The editor has to find out the authors and publishers who are holders of copyright for various selected writings.

The editor of a Science and Technical textbook has to do much more than merely edit the text. She/He has to decide upon the suitability of a particular textbook. But, generally, before taking a final decision, the editor gets in touch with the production department and the sales department. It is at this stage that a decision is taken regarding the number of copies to be printed. No publisher will like to print more copies of a book than what she/he can conveniently sell in a stipulated period of time.

Editing, by itself, is a challenging task. Editing of textbooks brings in a much greater responsibility. And editing of Science and Technology textbooks demands another type of competence and perception.

10.2 HOW TO BEGIN (THE EDITORIAL PROCESS)

The editor is basically supposed to evaluate the information content of the received manuscript-its accuracy, completeness and substantiation. It is the responsibility of the editor, who is concerned with the impact of the published document on the reader, to evaluate the language and presentation of the manuscript and to recommend and even make changes in it himself. The content material should be intelligible, clear and concise so that the reader gets the message intended by the writer without too many obstacles to comprehension. This is easier said than done. As you are familiar by now that a manuscript passes through various stages of processing for comprehension before being sent for publishing.

In case of scientific and technical textbook editing, the editor has to understand that the organisation and presentation of a text according to some logical order or pattern, differs greatly from the rhetoric of fictional writing, mainly because the content, purpose and audience are different. If the text is sounds too complex or too stuffed with information, the editor may sit with the author and go over the text minutely i.e word by word, sentence by sentence and para by para. In case the flow of the ideas/content is not easily understandable, he/she may suggest reorganisation of the content, additions, re-arrangement of sentences/ paragraphs or deletions of irrelevant portions. The Editor may insist on changes in wording or structure of a sentence. And all this he will do to make the meaning more exact. All the time the editor should always remind him/her self of the fact that he/she is the editor and not the author. The essential meaning should not be touched and even if something looks quite obvious, still everything must be consulted with the writer and never changed without the permission of the author. Any changes made by the editor must be in the knowledge of the author for the final decision on any particular change rests with him.

There are four major areas of difficulty in a text to which an editor should attend:

a) Logical organization of the content material

b) Intricacies/complexities in sentence structure

c) Inconsistent/Incorrect usage and vocabulary

There are different patterns for presenting different kinds of information. For instance, the time order is necessary for historical writing (chronological order); time order is also necessary for description of a process or for instructions for process (sequential order); space order is required when a writer tries to give a picture of spatial relationships as in the description of parts of a machine in relation to each other and to the whole. Information about measurements is also described in terms of spatial relationships i.e., cubic, square and linear measures. The writer should know what features of vocabulary, grammar and rhetorical style will be most suitable for the kind of logical order he will be using in his presentation. For instance, in the physical description of an object he has to give the dimensions shape, weight, material, volume, colour and texture. He has to link the descriptions of the various parts of the object to one another and to the whole. And in writing this description he/she has to use the present tense.

As far as the paragraph development is concerned, a theme has a central idea and related concepts which, when linked logically and grammatically, develop the thesis or argument of a text. The writer develops his/her thesis through a series of related paragraphs. Each paragraph, in a number of sentences, develops a single idea, concept or aspect of the theme, which links with the idea or concept of the links and references within and between paragraphs are established by the use of pronouns, conjunctive adverbs and car juncture adverbial phrases: however, therefore nevertheless previous and the following paragraph. A series of sentences in a paragraph, related to each other develop its central idea by description, definition, elaboration, explanation, exemplification or illustration. The sentences of a paragraph are arranged in the logical order necessary for the presentation of a particular theme. The first sentence of a paragraph is usually the topic sentence the one that states the main idea.

The editor has to keep in mind that the introductory paragraph is the first communication on the topic between writer and reader. It should aim at defining the theme and any important terms used throughout the essay, provide relevant background information, identify the situation, and, in general, link smoothly into the main body of the article or essay. For instance, in a research article on the results of an experiment or survey, it would be necessary not only to state the thesis and the sources of data but also the methodology employed.

Ultimately, the writer as well as the editor should pay close attention to the concluding paragraph. All the main points of the topic should be summarized and there should be some thinking on future action/research/investigation.

Editing is most of the times equated with Revising, or with Proofreading. Once you feel you have revised the draft as much as is needed, editing comes into play. Editing involves a number of small changes in a draft that can make a big difference in the draft's readability and coherence. Editing can happen at several points in the drafting process—not just at the end to "fix" things that are wrong So, what kinds of things happen when editing? Here are a few.

- word changes
- minor sentence rearrangement
- added transitions
- changes for clarity
- minor deletions

Three main areas that should be addressed in editing are: Content, Structure, and Mechanics.

While editing the **content** of the writing, it is crucial to make sure your work has a clear focus or a clear perspective. By addressing a few questions, one can avoid incomplete thoughts and/or irrelevant material:

- Do I know what is important about my topic.
- I know precisely about the main idea of writing.
- Have I deleted the portion that is unnecessary, confusing, or irrelevant.

Editing for **structure** takes care that your ideas are presented in a logical order. A single idea should be represented in each paragraph. Transitions serve to make the relationships between ideas clear. The following checklist is helpful in editing structure:

- ideas are logically harmonized with one another.
- Each paragraph deals with only one major idea.

Refining the **mechanics** in the editing phase prevents the reader from being distracted from your ideas. Grammar and usage errors may be avoided by keeping a dictionary or grammar handbook nearby. A checklist can also help you catch these errors in your writing.

- punctuation marks and capitalization correctly.
- the spelling of unfamiliar words.
- All subjects and verbs agree.
- correction of run-ons and sentence fragments.
- Usage of right words in their proper context.

Word Choice

Sample Sentence: Technology is bad for people.

Edited Sentence: Technology harms our sense of community.

The edited sentence is an improvement because it uses more specific language. We learn that technology is not only harmful, but we also learn what it harms.

Transitions

Sample Sentence: I hated mathematics. I failed in tenth class.

Edited Sentence: I hated mathematics; therefore I failed in tenth class.

The transition "therefore" makes a connection between the two thoughts, making the reader see that failing the tenth class was a result of hating mathematics.

Sentence Structure

Sample Sentence: There was three boys in the cricket ground.

Edited Sentence: There were three boys in the cricket ground.

In the sample sentence, the subject and verb do not agree. In the edited sentence, the subject and the verb agree.

Self Check Progress 1

Note: i) Write your answer in the space given below.

ii) Check your answer with the answers given at the end of this Unit.

1. Distinguish between chronological order and sequential order.

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10.3 IMPORATNCE OF EDITING SCIENCE AND TECHNICAL TEXTBOOKS

The importance of editing is acknowledged universally. Without editing, it is difficult, if not impossible, to have a good book of any kind. Editing turns a manuscript into an excellent book for the people to read and enjoy.

However, a Science and Technical textbook is a double-edged weapon; it cuts both ways. If it is according to the readers' expectation and caters to the demands of the discipline, it is given a warm welcome. It becomes the general talking point. It is recommended to others as a fine book. On the other hand, if a book is not properly edited in terms of all factual details and all the relevant messages, this may not invite any response from the learners. In the case of a Science and Technical textbook, the editor has to see very closely that the text observes all the requirements of the syllabus. The editor has to use his/her blur pencil more often in cases when the author

points out something without adequate reason or rational and have to take on te role of a censor. It all depends on the editing of a Science and Technical textbook whether it will be welcomed and praised or opposed and hooted down.

Editing of a Science and Technical textbook makes the book suitable for being studied by the students who are its target readership.

Check Your Progress II

2. What is the importance of editing a Science and Technical textbook? What is the necessary quality of an editor of a Science and Technological textbook?

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10.4 THE PROCESS OF EDITING SCIENCE AND TECHNICAL TEXTBOOKS

We understand that Science and Technology textbooks are different from other books. Similarly, editing of Science and Technology textbooks is not the same as editing of other books. While editing general books, the Editor has to take care of things like its thematic relevance, suitability of facts and figures, grammatical points, the style etc.. But for Science and Technology textbooks, the editorial approach has to be somewhat different.

The idea of editing a manuscript is to make it useful to the reader in every possible way. Whatever is given in a Text book should be quite clear and easily understandable to the reader. No words, phrases, or sentences should prove a hurdle in comprehending what is being conveyed. The Author might have written beautifully about a certain matter, but if the readers are not able to grasp its meaning, the whole purpose is defeated.

If there are any facts and figures, they should be checked by the Editor. In Science and technical Books, much depends on facts and figures; the Editor has to ensure that everything has been fully checked. That is how, editing of a Science and Technical Book improves its quality and gives confidence to the student which enables her/him to internalize the message presented in the book

Editing a text book has two objectives. One, and obviously the primary, objective is to determine that a textbook achieves its objective for which it was created. A textbook, thus, must define and describe its subject without distraction and, must develop its subject with a degree of unity of thought, maintain a degree of relevance, and suit its thought content to the intended audience, among several other things.

What must be understood clearly is that this primary objective of a textbook's content can be and will be achieved through certain tools of communication. That is the second objective which must the guiding principal for an editor.

Great ideas are totally infructuous and irrelevant, unless they are expressed and thus communicated through certain shared norms of linguistic behaviour. Language it is through which all human commerce is carried out. The failure of the linguistic medium in a textbook is a death knell for the book. A textbook that does not speak to its readers is still born. For an editor this must the most important part of the entire editorial process. An editor therefore must come equipped with a set of norms that would guide him to determine the success of a book in this context:

a) An editor must determine the intended audience of a textbook.

b) An editor must determine the level of linguistic proficiency on the part of the author, and his readers.

c) An editor must determine whether there are any norms of linguistic patterning that have has been set up within a publishing house or within the community where the text book will be used, and

d) An editor must ensure that those norms are successfully observed. Description of those norms, detailed and extensive examples and illustration from actual editing.

Science and Technological textbooks deal with a well defined area. The content is very specific rather than general so as to accommodate the largest number of learners. There is for once no syllabus, no defined field of a specific knowledge group within which the tests would set. There is a general understanding of the level of intelligence expected. But the field is open as far as the writing of meaningful text books is concerned.

Again, the intended audience must be defined, the field of knowledge being dealt with delimited, level of communication established, and manner and method of transmission of this knowledge completely understood. At the editorial level, the small is beautiful, so the knowledge being communicated should packaged in adequately small dosages, small enough to handled by the recipient at his own pace and level.

10.5 CATEGORIES OF TEXTBOOKS

If we look at the level and the category in which science and technology textbooks are published, we can enlist them under the following categories:

a) Primary level textbooks

b) Middle level textbooks

c) Secondary, Higher Secondary and above

Primary level Textbooks

Science and technology books as far as the primary level are concerned cover basic information on the fundamental aspects of the respective area. Primary level books are important in the sense that if children or beginners get to study science and technology textbooks which are designed expertly and filled with adequate number of illustrations, then it is all the more easy for them to grab the complexities of the discipline and once they find those things interesting at the entry level, a continued interest and participation on the part of students can be ensured. At the primary level, colour scheme and the quality and the thickness of the paper used is important because the paper should be such that it has a visual appeal and attracts the attention of the student immediately. The paper quality should be good and thickness factor should be taken seriously and preferably thick paper should be used so that it may endure the rough handling of its users.

The editor at the level of Primary level textbooks should ensure that there are sufficient number of illustrations, diagrams and images so that the attention of the learners is intact all the time. At the same time, children should be involved in some 'to do' activities, such as fill in the blanks and colouring the outline drawings. This way, we can ensure more understanding on the part of our students.

Middle Level Science and Technological textbooks

In the primary level textbooks, the subjects and their treatment is limited to their basic details but in the middle level science and technical books the variety of the subjects/topics increases and in the same way the editor has to ensure that adequate number of illustrations, diagrams and images are incorporated and he/she also has to ensure that the type size is slightly bigger than the type size for adult reading.

Secondary, Higher Secondary and above

This category of science and technology books is generally classified as general books also. These books may or may not carry illustrations

10.6 EDITING AND VETTING

A common man may not be able to realize the difference between the act of Editing and Vetting but the professionals would know that these are two different activities and thus requires different kind of approach and qualification. The Editor has his/ her task to improve the clarity of the text as far as the physical presentation and the consistency of the text is concerned. The editor checks the accuracy, fairness and pre-publication verification among other things. On the other hand, Vetting is an exercise performed by a subject expert of the discipline. The expert investigates into the text for the factual correctness, authenticity of the argument and level of academic merit into the act of writing. This course however does not go to the extent of guide you in the aspects of vetting.

Vetting is all about evaluating any piece of writing from a subject specific point of view. For example, if a social science document has to be vetted; only an expert in social science is asked to delve into that. In case of a science and technical document, it has to go only to a scientist or a technical expert. During the process of vetting, sometimes very valuable inputs are suggested by the subject expert and that in turn increases the readability and acceptability of the text. The importance of vetting can be identified with the fact that in case any deficiency or anomaly is found with the published text, the Vetter or the subject expert is held more responsible than anyone else. Thus a publishing house should be very particular about the process of editing and vetting.

10.7 CREATE YOUR OWN STYLE SHEET

Each subject has its own methods of editing. For instance, in scientific editing, often the use of articles (a, an, the) which is very particularly observed in the literary editing or even otherwise is left untouched. Like when a word is used in a generic sense, for example 'in cow and mouse the effect of injecting this is…' you would do well to leave the usage like that only. The standard editorial advice to use are in place of 'is' may not hold any weight as the usage is in consonance with the subject specific 'jargon'

In this respect, owing a separate style sheet is very useful and productive as tis can easily ensure a more consistent and responsible approach. While working on your own style sheet, it is worth attention to decide about the use of British/American English, indentation of paragraphs, capitalization and abbreviations, superscripts and subscripts. Once all these issues are decided as a policy, the process of editing and published can be carried out in a smoother manner.

10.8 LET US SUM UP

In this Unit, discussions have been made on the processing of manuscripts with particular reference to science and technical textbooks i.e., various stages involved for processing or preparation of manuscripts in order to make it ready for the printer. Focus has also been made for better understanding of the process by using the language as a tool of communication. In order to make the manuscript more understandable and readable, organisations of words into sentences, paragraphs and complete texts are the important elements of editing the manuscripts. We have taken you through the importance of editing science and technical textbooks and also the process of the same. We have also tried to supply information on some practical dimensions of editing of those texts. It would prove very productive for if you utilize the information while editing science and technical books. While talking of the various kinds of text books, difference between vetting and editing and style sheet we have discussed major dimension of the editing of science and technology text books. After reading the Unit, we expect that the learners will be in a better position to learn about the structural deviations in sentences and paragraphs and provided some ways of rectifying them.

10.9 CHECK YOUR PROGRESS: POSSIBLE ANSWERS

1. Chronological order is essential in historical accounts, biographical sketeches, evolutionary descriptions; on the other hand, sequential order refers to the various steps involved in an experiment, assembling of parts, descriptive and creative narrations etc. Chronology refers to actual time and sequence refers to logical relationships. The editor ensures that the text follows these orderings faithfully.

2. As you have been reading about the editorial responsibilities in the other blocks and units, it is pertinent to point out that the responsibility of the editor as far as the science and technical books is concerned are more or less the same. The Editor checks a draft for its style, format, length, vocabulary, copyright and plagiarism etc.

A checklist for the editor is given below:

1) The editor has to check all verbosity and repetition of the same idea for the sake of principal of economy. For this he/she can break the long sentences/passages into suitable ones.

2) The Editor has to follow the rule that all the numerals less than 10 should be in words and those above nine should be in figures.

3) The editor needs to check whether all the figures, diagrams, charts are cited in the numerical order.

4) The editor also looks at the headings and the captions in the tables. They always offer scope for improvement. Heading are meant to be crisp and should not be long-winded.

5) The editor has to take note of propriety in terms of Grammar, idiom, punctuation, clarity and elegance.

10.10 FURTHER READING

Anderson, Dorothy (1989). A Guide to Information Courses for the Preparation, Editing and Production of Documents, London: Gower Publishing.

Butcher, Copy-editing, Judith: The Cambridge Hand Book, 2nd ed., Cambridge

University Press, Cambridge, 1981, rpt, 1987.

Chandra, A. and Saxena T.P. (1979). Style Manual. New Delhi: Metropolitan Book.

Communication 2000 A.D.: Silver Jubilee Commemorative volume of the Indian Institute of Mass Communication, N. Delhi.

Cooper, B.M. (1986). Writing Technical Reports. New York: Penguin.

Ghai, S.K. (Ed) one to one: Glimpses of Indian Publishing Industry, Institute of Book Publishing, 2008.

Huekin, T.N. and Olsen, I.A.(1983). English for Science and Technology, New York: Mc Grawhill.

Malhotra, D.N., Book Publishing; Principles and Practices. Clarion Books. 2008.

Rahgavan. D. An Introduction to Book Publishing. Institute of Book Publishing, N. Delhi 1998.

Varma A.K. Advanced Journalism Har – Anand Publications. New Delhi (Revised Edition 2001).

Weisman, H.M. (1980). Basic Technical Writing. Columbus: Charles Orenill Publishing.