UNIT 4  LATEST TECHNOLOGIES IN BOOK PUBLISHING

Structure
4.0  Aims
4.1  Introduction
4.2  Defining New Concepts, Levels and Layers of Skills
4.3  New Concepts in Publishing
4.4  The Paperless Office
4.5  E-Publishing or Internet Publishing
4.6  Future Openings in Electronic Publishing
4.7  New Domains for Publishing Professionals
4.8  Layers of Skills
4.9  Digital Publishing
4.10  Who Needs to Learn New Skills?
4.11  What are the New Skills or Levels and Layers of Skills Needed?
4.12  Will Digital Publishing Change the Form of Publishing?
4.13  Delivery of Published Materials
4.14  Desktop Publishing
4.15  Electronic Publishing
4.16  Where Do We Go From Here?
4.17  Technology and Convergence of Editorial Functions
4.18  Convergence of Technologies
4.19  Multimodal Publishing
4.20  Multimedia
4.21  Summing Up
4.22  Further Reading

4.0  AIMS

In this unit we shall try to give you an overview of the book publishing scenario so that you get an idea of the domain you use of the latest technologies are going to encounter and its scope for employment.

4.1  INTRODUCTION

Here we shall look at three issues:

Many exciting possibilities are before us because of developments in the technologies of printing, distribution and publishing. Naturally, professionals trained in these domains are needed and we would like you to explore the levels and layers of skills you would want to acquire in order to work in these domains.

Then we look at computer-aided publishing, electronic (or e-) publishing and desktop publishing – the three domains one can choose from.
The last section takes an overview of the present-day publishing scenario and attempts to predict the future trends for you. Multimodal publishing, multimedia publishing, publishing over the World Wide Web or Internet are largely unexplored domains and "the more you venture, the more you gain" could be its signature. Problems are bound to be there in these largely unexplored domains and the more you address these, the more the future prospects that open up before you.

### 4.2 DEFINING NEW CONCEPTS, LEVELS AND LAYERS OF SKILLS

By now you are already aware that technology today permits one to generate a print document that is error-free, readable, copy after copy. The use of carbon paper to make copies, the existence of the first copy and the second is no longer a reality. A book can be designed electronically as to size and shape and colour and you can get a clear picture of how the final product will look even before printing a single copy.

Then what is the purpose of book design? What is the necessity for designing a book? Can technology replace the experienced human hand? After all, the DTP systems available today enable anyone to turn publisher. What then is the necessity of incurring extra expense, spending time and effort in designing a book after the matter is all edited and composed?

Can technology reduce prices? What makes one book more readable and attractive than another? Why is it better business sense to purchase books of one particular publisher and not that of another even though they may be cheaper? What are the various skills and abilities needed to bring out books that are more saleable than others, given that the textual content is the same?

### 4.3 NEW CONCEPTS IN PUBLISHING

Technological advances have brought about many changes in traditional concepts about publishing. Mostly the changes are in the domain of the "how" rather than the "what" or the content. The fact is that, today, technology dictates the content.

#### 4.3.1 How versus What

Investment in publishing domains has so far focused on hardware and better and faster machines and better-internet connectivity, high resolution printers, more memory in computers and so on. Just because one machine's output is better than that of another, one would imagine that the finished product is of better intrinsic value. That is to say, the content is better. This is, of course, not necessarily true.

#### 4.3.2 Content Delivery

New ways about how readers want content delivered, the whole concept of interactive texts, e-books, e-readers for them etc. have created a demand for skilled manpower even as these concepts are themselves still evolving.

However, what still remains is that the requirements for good content seem primary, technological advancement notwithstanding.

E-publishing has been a much awaited and much acclaimed event. In fact, today it is very much a reality. However, despite the prophets of doom for the printed word, the possibility of electronic books completely replacing the printed word, e-publishing would see a remote possibility.
4.4 THE PAPERLESS OFFICE

Ever since the personal computers appeared there have been reports of the demise of the printed word, the advent of the paperless office etc. In fact, ever though it may be a passing phenomenon, the office clutter has actually increased! Simply because there are versions of documents in printed form. There are electronic versions in various computers and then there are copies of these. More and more paper is used and this clutters scarce office space.

'Since the advent of personal computers, experts have predicted that the paperless office, the electronic book, and the World Wide Web would be the beginning of the end of the printed book. However, trends show that sales of paper have increased with the act of picking up a book and reading rather than looking at chunks of information on screen. However, more than 10% of journalists currently work for publications that exist entirely online and another 20% of journalists think their publications will only be available online be available online within 10 years.' (Source: City University, March 2000)

4.4.1 Old Habits Die Hard

The generation that is growing up in the opening years of the 21st century may very well get attuned to reading books electronically. However, current trends show that the sales of paper that goes into the making of books have actually picked up. As one reads, the need to underline, write in margins, fold down corners of books or use bookmarks are habits that die hard. Even to flip through the pages a book to see how it ends is a habit people find hard to get rid of. Designers of readers for e-books accept this too.

Look at the following instructions in the README file of 'Palm Reader':

We have designed the Palm Reader to allow the reading experience to match, as closely as possible, the reading experience of a paper-based book. For this reason, Palm Digital Media books, like paper-based books, have pages.

The Palm Reader allows the reader to read in the standard font or to switch to a larger font for easier reading. Therefore, books will effectively have two different page counts and layouts, one for each font size. Note that changing font sizes will, by design, have no effect on the strictly formatted title pages of a book. Font changes will only affect the pages that follow.

If you would like to use other fonts or colors than those provided by the Palm Reader, or make use of a dictionary while reading a book, you should upgrade to Palm Reader Pro.

Palm Digital Media books are shipped in a proprietary encrypted format. They are not readable using other text-reading software. E-Books are encrypted to protect the intellectual property rights of publishers and authors.

Notice the effort to approximate as closely as possible the format of the conventional book.

Activity 2

What are some of the features that distinguish the electronic book from the conventional?

........................................................................................................................................
........................................................................................................................................
........................................................................................................................................
........................................................................................................................................
........................................................................................................................................

(Check your answer with that given at the end of the unit)
Most readers prefer books in hardcopy and seem to ‘bond’ with them more than with a book in electronic form even today.

4.4.2 Physical Qualities of a Good Book

What are the qualities of a printed book that cause this bonding? A conventional book (leaving out e-books for the moment) should be well presented and well designed. A book is to be sold. It is to be laid open, held and carried. It is to be seen. It is to be kept. The designer must concern himself with the intellectual (content) as well as the optical process of reading (how), arranging the text and illustrations and their headings, captions, notes, reference systems and other accessories in a clear and convenient manner. A book should not be of a size or shape which makes it difficult to store, place on a shelf in a library or carried. Certain books, however, like atlases and encyclopedias are not meant to be carried and can be of different shapes and sizes and even weights.

4.5 E-PUBLISHING OR INTERNET PUBLISHING

E-publishing is the design and delivery of content by electronic means. It is a much more elementary process than website design or multimedia programming. Basically, e-publishing is putting the content part of a text (book, journal or newspaper) into an electronic format. Website designing and multimedia programming require sophisticated technical skills which you as an editing professional would need to learn separately and are beyond the scope of this programme. However, most learning today in your field would be on the job. This is why one must strive for attaining new levels and layers of skills. For example, even today, most of the professionals working in the domains of e-publishing come from conventional journalistic or publishing backgrounds. Basically, they would have learnt some degree of work processing and even active page making skills and programs like FLASH and DIRECTOR.

4.6 FUTURE OPENINGS IN ELECTRONIC PUBLISHING

Internet or e-publishing is the design and delivery of content electronically. It is different from website design or multimedia programming, both of which often require significant technical skills. Internet or e-publishing is putting the content part of a book, journal or newspaper into electronic format. This format itself has its own qualities and requirements.

One reason why publishers are not questioning the industry’s traditional value chain is that they themselves are not clear on whether the Internet is a new channel (e-commerce, online catalogue, core product enhancement, institutional focus) or a new business (e-learning, learning modules, non-institutional focus). Using the web as a utility will not generate cash. Content may be primary but it is what you do with it that counts. Services that evaluate content such as those carrying out testing, tracking, hotlinks, teacher management tools and downloadable printed materials, are setting benchmarks. Learners want content (with tailor-made educational designs), which is updated regularly and broken up into learning ‘chunks’. And of course, they also expect it to be free! What learners do not wish to accept that material that is free may have a hidden purpose, and the content generators would not just offer it for philanthropic reasons:

What could these reasons be? One of the reasons, obviously, is to obtain advertising revenue through advertisements that piggyback onto free content. Where do you as a publishing professional see your role in this scenario?
4.7 NEW DOMAINS FOR PUBLISHING PROFESSIONALS

The content bit of electronic media can be divided into news, books and journals, and databases and directories. The jobs fall under roughly the same headings as in traditional media: editorial, production and sales and marketing. The design bit of electronic media is often still the territory of the technical designer or multimedia programmer. While a traditional publishing or journalistic background is often the way to entering the domain of electronic media, the future of the industry rests on people who can take an overview by having a combination of technical knowledge, content production skills and business acumen. That is to say, now you need to generate content, acquire knowledge about production and its technical aspects and ensure that at the end of it all, you still make money!

4.8 LAYERS OF SKILLS

So which job would suit you? Editorial jobs will attract those who can research write, edit and commission, with an interest in people, places and events, acknowledge of current affairs and a love of words. Needless to say an understanding of grammar, spelling and punctuation are just as important in this new setting as more traditional media. Designers in the new media need the combination of technical skills such as Java Script, HTML, XML and Quark Express and as well as good visual flair. Production people need to see the whole picture with a sound understanding of the editorial, design and commercial aspects of the business. They need to have an organized mind and to get on with people at levels. Finally the sales and marketing team need to do everything from selling advertising to developing a revenue model.

Activity 3
What are the demands of editorial jobs today?

(Check your answer with that given at the end of the unit)

4.9 DIGITAL PUBLISHING

Bill Kasdorf, editor of "The Columbia Guide to Digital Publishing" says everything in the digital revolution is about doing new things, and about doing the old things in new ways. Digital technology is part of almost everything we do in publishing today, from writing and editing to the design and production of printed material to publishing on the web. What implication does this have for publishing professionals?

1) You cannot get away from technology. No matter how original and creative a work is, there are always innovative days of publishing it.

2) Writing, editing, designing, printing and publishing — all benefit from digital technology.
3) New opportunities for streamlining workflow in an editorial office means faster and more accurate work.

4) The digital revolution is all about collaboration. For example, units to related issues and topics in online work will
   a) Reduce the effort of reinventing the wheel;
   b) Save you much time and money by providing information at the click of a mouse button; and
   c) Will expose and sensitize you to what others in the field know, are working on or have already found out.

4.10 WHO NEEDS TO LEARN NEW SKILLS?

The answer is—everyone who is in any way concerned with publishing and printing. Publishers themselves, firstly, as they need to surprise the editorial and production staff to they must be aware of the latest developments. Editorial staff also need to learn about word processing software, linking or XML. Production staff need to understand different graphic file formats or colour management. Others who need to familiarize themselves are printers, typesetters, freelance designers, editors, authors, software developers, service providers, libraries and booksellers.

4.11 WHAT ARE THE NEW SKILLS OR LEVELS AND LAYERS OF SKILLS NEEDED?

Word processing is the most obvious skill. Communicating and generating new documents—reports, in house magazine newsletters, web page development—this is a domain where editorial professionals could be absorbed. Librarians need to get familiar with the fundamentals of digital publishing and to be comfortable in electronic environments. People who are in the business of developing and/or publishing e-books will need to acquire new levels of skills elementary word processing, advanced word processing, and page making.

4.12 WILL DIGITAL PUBLISHING CHANGE THE FORM OF PUBLISHING?

As a publishing professional, you will find that you need to be on your toes, acquiring new levels and layers of skills all the time. Digital printing has been transformed by digital technology. Reference publishing, scientific journals and documentation are areas of publishing have gained most from the electronic environment: Remember that "those very technologies and techniques that make print publishing most efficient result in files and processes that lend themselves to electronic publishing as well.”

4.13 DELIVERY OF PUBLISHED MATERIALS

While print is not yet outdated, as an editor you will need to offer content, since there is market for them, in forms that can be accessed on the laptop, PDA, the e-book reader. You may have to ask the customers or consumers, whether they want it in printed form or whether they want to print it themselves. Digital publishing will also eliminate geographical boundaries, so you can get a job in, say, Singapore, while sitting in India.
4.14 COMPUTER-AIDED PUBLISHING, ELECTRONIC PUBLISHING AND DESKTOP PUBLISHING

As a publisher you may need to make content available—whether in encrypted form (so as to recover your costs) or in free downloadable form (as a social service).

In this section, we shall be looking at the sea changes that technology has brought about in the domains of publishing. Word processing software, graphic software and multimedia software have enabled the publisher and his team to produce matter that is beyond mere text and graphics. We may call this sort of publication a multimedia publication.

Here shall be looking at computer-aided publishing, desktop publishing and finally electronic publishing in this unit. In order to help you distinguish between terms that are used loosely and indistinguishably nowadays, we shall try and explain each of these at some length so that at the end of this unit you will be able to distinguish between the three types of publishing, and choose which of the three domains you would like to specialize in.

When a book’s index or bibliography is to be prepared, technology is indeed useful. The computer’s word processing software can be used to generate a bibliography, index or reference list. In earlier times, when books used to be manually set in type, the bibliography, index or references or footnotes had to await the finalization of the text. At this point, we may add that several of the available options with any software need human mediation before these references, indexes etc can be generated by the software. The software will ask a question and proceed only after setting the relevant feedback.

When the word processing software has finalized the text, as desired, one would imagine that, after the illustrations and graphics have been sized and placed, what one gets is a CRC – a Camera-ready Copy. However, this is not so. One still needs to go to a page-making software which would almost completely change the settings and formatting. At this point we would need to look at the phenomenon of Desk Top Publishing.

4.15 DESK TOP PUBLISHING

What led to this phenomenon? Human vanity, for one. Unavailability of publishers/ printers to carry out the desired tasks for reasons such reasons varying from timing to finances would be another set of factors. The increasing demand for in-house publications which do not need a large distribution network, which are not priced publications and which do not need the infrastructure of a printing house since the pages are few in number and can very well be centre-stapled before distribution would be still another reason for the popularity of desk top publishing.

Desktop publishing is the use of the computer and specialized software to create documents for desktop or commercial printing. Desktop publishing refers to the process of using the computer to produce documents such as newsletters, brochures, books, etc. As you will notice, many of the documents we have listed are not meant for large-scale consumption. Publishing and printing establishments will always have to relied upon for large volumes of printed matter—books or otherwise.

Let us answer some questions about the general topic of desktop publishing using:

- Who
- When
- How
• Where
• What, and
• Why is it important.

**Who does Desktop Publishing?**
Freelance and in-house graphic designers, small business owners, secretaries, teachers, students, and individual consumers do desktop publishing.

**When was Desktop Publishing invented?**
Several events of the mid-1980s including the development of Aldus PageMaker (now Adobe PageMaker) ushered in the era of desktop publishing.

**How do you do Desktop Publishing?**
The mechanics of desktop publishing after the design stage involves using software tools to set up the document, place text and graphics, and prepare digital files that will print properly using desktop or commercial printing processes.

**Where is Desktop Publishing used?**
Desktop publishing software can be found in both graphic design firms and other types of businesses of all sizes, homes, schools, quick copy centers, service bureaus, and print shops.

**What does Desktop Publishing involve?**
The mechanics of desktop publishing after the design stage involves using software tools to set up the document, place text and graphics, and prepare digital files that will print properly using desktop or commercial printing processes. DTP involves using computers to lay out text and graphics for printing in magazines, newsletters, brochures, etc. A good DTP system will provide, among other things, facilities to fit text into irregular shapes in a variety of fonts and sizes.

**Why is Desktop Publishing important?**
Desktop publishing, used properly, enhances visual communication and streamlines the process of disseminating information of all kinds.

| Activity 1 |
| What is desktop publishing? Give your answer in 30 words, using the space given below. |

(Check your answer with that given at the end of this unit)

---

**4.15 ELECTRONIC PUBLISHING**

**Definition:** The process of creating and disseminating information via electronic means including email and via the Web is electronic publishing.
Electronically published materials may originate as traditional paper publishing or may be created specifically for electronic publishing.

Also known as e-publishing/web publishing/internet publishing, electronic publishing involves producing documents to be viewed on a computer screen, which may never be printed on paper. Electronically published documents may be on CD-ROMs or floppy disks, or available via computer networks such as the internet, and in addition to text and illustrations, may include video and sound clips, animated graphics, and hypertext links.

Activity 2
What do you understand by the term “electronic publishing”?

(Check your answer with that given at the end of this unit)

4.15.1 Definition of Electronic Publishing

Electronic publishing will always be assisted by computer technology.

Hawkins et al. (Hawkins, D. Smith, F. Dietlhin, B. Joseph, E. and Rindfuss, R. 1994) have defined electronic publishing as “the use of electronic media, computers and telecommunications to deliver information to users in electronic form or from electronic sources.”

Electronic Publishing is used in electronic bulletin boards, online catalogues, newspapers, books, mail, and journals, as well as real time downloaded information services, and even for remote conferencing.

The potential benefits of electronic publishing include enhanced peer participation, quality, review, navigational design, production costs and instant access.

4.15.2 Hypertext and User Competence

It is difficult to suggest an optimum design strategy for electronic publications. The unique ‘language’ hypertext (sound, animation and: navigability”) raises concerns about the compromise between a publication’s functionality and complexity. Since a reader’s ability to navigate a hypertext document depends on his individual I.T. dexterity, the successful conveyance of the message will depend as much on the quality of the publishing medium’s design, as on the content itself, and the reader’s own I.T. capabilities.

4.15.3 From DTP To Electronic Publishing

As a computer-mediated process, Desktop publishing is the answer to any one who aspires to control the entire publishing process, from creation to typesetting and printing. The distribution, sales and marketing process are usually the responsibility of the publisher who has the infrastructure of sales outlets, printing establishments and distribution networks. In that sense, DTP is inaccurately titled.

Electronic Publishing, on the other hand, puts the access device in the hands of the reader via a mouse-click or a switch or button.
4.16 WHERE DO WE GO FROM HERE?

Electronic writing, and thence to electronic publishing requires that all those involved in the process—from author to editor to publisher—learn new technologies, appreciate and acknowledge the need for incorporation of new interactive techniques and gain expertise in design-related issues of presentation.

So, what you would need to would be to take crash courses in Flash, Director etc. so as to understand the requirements of electronic writing that incorporates ideas, visuals, sound and graphics!

4.17 TECHNOLOGY AND CONVERGENCE OF EDITORIAL FUNCTIONS

Just as there is a convergence in communication technology, there is a convergence in the various roles the editor is expected to play in the new scenario. Earlier it was just one mode of publication that the editor was to take care of where, however, he/she was expected to oversee and monitor the various functionalities viz. the author, designer, typographer, graphic artist, stripper, printer and the binder.

In today's changing scenario, let us think of a dictionary which has to be published in two modes—a regular printed edition and a multimedia edition of the same on the CD-ROM. We do not expect to have two different editors for these two editions, since the content remains the same. Thus, the editor will have a dual role to play and will have to grapple with all necessary components of the multimedia edition as well. The edition on the CD-ROM cannot be merely a scanned copy of the printed volume, because the computer gives more facilities in the use of such reference material. The printed dictionary cannot give the pronunciation of the words and cannot explain what the different sounds mean. A multimedia edition can provide sounds and also animated or moving pictures. Hence, the editor has to plan the dictionary keeping both the editions in mind so that he/she may not have to replicate the same tasks again. In this context it will be essential for us to understand the different kinds of publications that are coming up in the modern world and which are going to be more common in the future.

4.18 CONVERGENCE OF TECHNOLOGIES

Information technology is synonymous with advances in the fields of computation and communication. To some extent, they converge and tend to be the same. Communication using the modem has brought all the computers of the world into a network such that we can access information from other computers on the network. Till the middle of the 20th century, printing was the sole medium of communication and the manual typesetting had its own limitations. The computer has changed the whole scenario and we are able to do most of the printing jobs in our own workplaces without having to depend on others. The earlier publisher had to depend on graphic artists for even small illustrations like a square. Now the computer has programs which can help us prepare most of these illustrations. If need be, we can use a scanner to import pictures into our programmes. Communication technology has also helped us in this regard.

The Network of Networks

We can have access to readymade pictures or reference material from the internet, which is called the worldwide web. These two technologies have become accessible to the common man in the modern world and this in turn has enhanced the quality of life. Where does this knowledge come from on the web? The information on the web is actually provided by persons from different institutions who generate knowledge by
their work. The persons who provide the information are also editors in a technical sense because they have to make the information presentable. The information comes from almost every institution and important individuals in the world. In that sense, most of us who are in charge of information building in our places of work need to know the art of web authoring that is the technique of presenting material on the internet. Earlier it was only a chosen few who had the task of editing to perform in their institutions. With the changing scenario, we all need to know a bit of computing and the art of editing in the normal performance of our duties.

### 4.19 MULTIMODAL PUBLISHING

We need to extend the definition of publishing in the context of information technology, to include various forms of communication. Traditionally it implied the production of books in print. It had various forms such as textbooks, fiction, journals and magazines, newspapers, manuals and rule books of offices, reference books like dictionaries and “Who’s Who”, reports of various types etc. It also included small but significant jobs like proformas, invitation cards, business cards and the like. The modes of printing varied from the most complicated and high speed four colour offset printings to the lowly manual printing on the treadle machine. The style of printing also varied from mere text printings to highly illustrated colour printings. The editor was expected to have knowledge of the various options available and the techniques to be employed.

In the changed scenario, the horizons of ‘publishing’ have widened. There are many modes of communication available to us that can be used for dissemination of information and knowledge due to advances in digital technology. The audio medium invokes sounds and is used in the radio broadcasts. The visual medium is exploited for cinema. Traditionally, these two media were considered to be sources of entertainment, though they were also employed by educators for producing audio-visual aids. As the name suggests, they were supplementary in nature, and hence do not qualify to be called a ‘published work’. The notion is also justifiable due to the fact that there was not much scope for interactivity in the case of recorded radio and television programmes. The programmes once made could not be easily revised.

Computers have effectively mixed the different modes to usher in a new era of different modes of ‘publishing’. Let us discuss some significant modes.

#### 4.19.1 Radio Combined With Print Material

This can be one of the new modes of publication. It is more useful as a textbook and allows interactivity through the use of telephones. The audio delivery is the main plank, the radio being the main carrier of the message. The printed text is used for illustrations, tables and flowcharts etc., that have a visual impact. It can be used for providing exercises to the learner, thus enabling interactive learning. Commercial publishers have exploited this mode for publishing editions of books of fiction on tape. These books on the tapes called ‘talking books’ were accompanied by the printed text also. One can just listen to the tapes instead of reading the book. Alternatively, one could listen to the taped voice while reading the text so that readability increases.

#### 4.19.2 Text-To-Speech Programmes

The same edition of a text can now be brought on a CD-ROM, which would allow one instant access. One does not have to get the text rendered into voice, get it recorded, edit it and fuse it with the text now, as it was the case with tape recorded voice. The computer itself can immediately render the text into speech using the newly developed technique of speech synthesis in text-to-speech programmes. The computer ‘reads’ the text and renders it into voice. Thus, advances in computer technology opens up new
vistas and benefit mankind in many ways. The text-to-speech programmes can be immersely useful to the visually challenged sections of the society; they can be useful for the people on the move and they can also be used by illiterates to access information or by agencies to fight illiteracy.

4.20 MULTIMEDIA

Let us look at multimedia as a new form of publishing. The pre-electronic times witnessed publishing using manual typesetting. It used both text and graphics. Electronic publishing adds sounds as well. Yet, there is a great difference in the techniques. Earlier the text was composed by hand, letter by letter, generally by a semi-literate person. It went through proof reading by a semi-literate person. Now these stages are avoided and the author and editor can plan their work from day one.

Earlier the graphics were done by artists and plates were made on metals by etching to be used in the galley. Now preparing a graphic is much easier. A lot of graphics such as geometrical shapes, line drawings can be made by the author or editor himself using graphic programmes on the computer, they can get readymade programmes for graphics like natural scenes, maps supplied by software makers or download the required illustrations from the internet, or they can scan.

Multimedia programmes have three components – text, graphics and sounds. The text is normally composed like we prepare a text on the typewriter. While typing the text one can choose the type of the style, font size and font type. The text can be checked for spelling using the spell check programme. We can also prepare tables and charts using a spreadsheet programme like MS Excel. The format command in the computer can be automatically programmed for different types of headings, spaces between paragraphs and lines and indenting different lines as per need. For a better look, one can also use fancy and artistic lettering programs which are available on the computer. The sophisticated desktop printing software allows us to arrange footnotes etc. automatically and can also help us prepare an index.

Graphics comprise illustrations, line drawings, photographs and moving pictures. The moving pictures can be of two types namely animations using computer generated objects and real movie clips. We have different sources for procuring these graphics. Computer programmes for desktop publishing provide clip arts which can be directly imported into the text. Digital photos and movies can also be directly taken into the programme. Photographs and movie clips can be taken as attached files into the programme. Utility programmes like Paint allow the user to create illustrations. If we need to take only a few diagrams in the text we can easily put them in the place where we like. If it is a small diagram, the text can also go around the text which is technically called wrapping. If we need to use various moving pictures etc. they ought to be linked to the text by a hyperlink. When a particular word is hyperlinked to a particular object like a movie clip, the computer automatically brings in the clip when the word comes on the screen. So both the author of the programme and the editor have to plan the various graphic components and work out a proper linking.

The use of sounds is very useful in a variety of programmes. Dictionaries need to indicate the pronunciation of words. A set of learning material for music should definitely have sound files so that the learner gets to know what is being discussed. The ability of the computer to handle human speech is used in programmes like text-to-speech where the written text is rendered in spoken form by the computer.

A multimedia programme is not effective only because it can handle all the three components. It is useful because it can integrate all the three components into a unified whole. There could be programmes where the sound becomes more important
or there could be programmes where the use of graphics is more significant, as in computer aided designing. A normal class room situation in fact presents all the three components in a natural way. Likewise the presentation of the learning material using all the three components can be very effective in preparing instructional material. As instructional material, the multimedia programmes allow a high level of interactivity so that self learners especially in the distant mode can benefit.

**How can one plan and produce multimedia material?**

Inputting the various components as separate files does not help. We need to integrate the presentation of material in a sequential and coherent manner. In this respect, there are specific programmes or software that allow the preparation of multimedia material. **MS Powerpoint** is a very basic programme. It is useful for making presentations using different slides accompanied by sound files. A programme called **Flash** is more versatile because it allows preparing a whole lot of vector graphs. It also allows animations as separate layers on the screen so that we get the feeling of bringing in topics one by one in a coordinated manner. A more powerful programme is **Macromedia Director** which is like the director of a film who tries to synchronize various aspects of moviemaking.

**Authoring Programmes**

There are also specific software programmes called authoring programmes which allow the developer to use readymade formats for material production. The role of the editor in the preparation of material on presentation programmes is very significant because he/she has to work out the synchronization and navigation parts. By navigation we mean the scope of getting to where we want to go as a user. For example a learner may need to consult a dictionary while going through the text or a newspaper reader may like to see the map of the country or consult a government report. The editor should provide proper links for all related information at the time of preparing the programmes so that the learners can easily study on their own.

**4.21 SUMMING UP**

- Today it is essential for us to change according to the changing situations. Electronic publishing has many advantages over the conventional system of impact printing. The training of today’s workforce to adopt the new technologies may be a huge task.

- The role of an editor has qualitatively changed in the modern world, as typesetting has changed from manual to digital. He/she has to know the basics of desk top printing so that the job of printing can be done in-house. Though the main activity of composing is done by the data entry operator in the office, the work of designing and adding special features has to be done by the editor. This becomes more essential in the case of bringing out a multimedia edition where the editor has a plethora of new techniques and various options that can enhance the quality of the production.

- Just as there is a convergence of communication and communication technology, the editor’s role too has become multifarious. He/she has to look after multiple editions of the same material. For example, the editor of a renowned dictionary may have to plan a multimedia edition of the same or a teacher in an open university may have to bring cut two editions of the same material – one through print media and the other: a multimedia edition to be used for computer aided instruction.
4.22 FURTHER READING

