Development of Evaluation Criteria for Self-Instructional Materials for Distance Education

*Anil Kumar**

Open and distance education has been accepted as an effective and viable alternative to formal education system all over the world. The term distance education is used to cover various forms of study at all levels, where the students are not in direct contact with their teachers. With the progress of new sophisticated technologies, multi-media instruction is being carried out in all open and distance education institutions. This includes print Self-Instructional Materials (SIMs), Audio and Video (broadcast and cassettes mode), Telephone, Computers, Video Disks, Teleconferencing, etc. However, printed material is the major medium of instruction in the most of the distance education programmes. Attempts have been made by most of our open universities to produce printed material on self-instructional format. As regards distance education institutions, the attempts are being made to develop study material from conventional format to SIM format.

Development of study material on SIM format is a challenging task and is quite different from the material meant for formal education. According to Rowntree (1986) 'the self-instructional materials must carry out all the functions a teacher would carry out in the conventional situation... guiding, motivating, intriguing, expounding, explaining, provoking, reminding, asking questions, discussing alternative answers, appraising each learners progress, giving appropriate remedial or enrichment help.... and so on'.

Production of SIMs is an important and a highly skilled job for the success of distance education. Since, the distance learners study in isolation from their teachers and fellow students, a learner in distance mode will have to depend mainly on self-instructional materials and other packages supplied to him/her by the institution, along with other supplementary modes of teaching and learning materials. It is, therefore, necessary to study material to suplement the teacher and the learner must feel that he/she is attending to his/her teachers. Therefore, utmost care has to be taken while preparing and producing such materials, specially the printed materials meant for self-learning.

Initiatives

Within one and half decade's time, a lot of literature has been brought out, how to write SIMs for the use in the distance education system. However, it appears that many of

the distance and open learning institutions have not been able to produce such a qualitative material, which will really serve the purpose of the distance learner. It is also a fact that some of the Open Universities like Indira Gandhi National Open University (IGNOU), New Delhi and Open University, UK have really produced good SIMs. However, these materials too need some improvements to satisfy the learners needs. This underlines the need to develop a comprehensive criteria for preparation and evaluation of self-learning print materials which will ultimately help in developing good SIMs for open and distance learners.

Textbook Vs Self-Instructional Materials

It is very important to understand the major difference between a textbook (normally used by a learner in a conventional system of education) and a SIM (study material supplied to a learner in a open and distance learning system of education). Lockwood, (1997) made a comparative study of a traditional textbook and self-instructional materials. In his study he listed the following differences :-

Textbooks	*Self-instructional Materials*
- Assumes interest	- Arouses interest
- Written for teacher use	- Written for learner use
- No indication of study time	- Gives estimates of study time
- Designed for wide market	- Designed for a particular learners
- Rarely state aims and objectives	- Always gives aims and objectives
- Usually one route through	- May be many ways through it
- Structured for specialists	- Structured according to needs of learner
- Little or no self assessment	- Major emphasis on self assessment
- Seldom anticipates difficulties	- Alert to potential difficulties
- Occasionally offers summaries	- Always offers summaries
- Impersonal style	- Personal style
- Dense content	- Content unpacked
- Dense layout	- More open layput
- Readers views seldom sought	- Learner evaluation always conducted
- No study skills advice	- Provides study skills advice
- Can be read passively	- Requires active response
- Aims at scholarly presentation	- Aims at successful teaching

While going through the criteria mentioned by Lockwood for the SIM, it is obvious that the SIMs have to play a vital role in the learning of the distance learner.

Distinctive Features of SIM

Lockwood (1997) further explains that SIM has certain attributes which can be described as :-

* Individual Learning : no need to wait until there are enough learners to form a group.

* Self-paced learning : each individual can work at his or her own best pace rather than at the pace of a group (which may be too fast or too slow).

* Private learning : no danger of "loss of face" such as might be feared in certain kinds of group learning.

* Available at any time : so learners can learn when they wish rather than to an external timetable.

* Available at any place : in students' homes or when travelling, unless fixed or special equipment is necessary.

* Available to any number : in principle there is no limit to the number of learners who can be studying a course at one time.

* Standardised content : where all learners receive the same teaching materials.

* Expert content : materials include contributions from national and international experts.

* Updateable content : package materials can usually be updated quicker and cheaper than teachers.

* Structured teaching : the teaching strategy can reflect a consensus of the most effective and efficient way to teach.

* Active learning : individuals learn by using ideas presented in the teaching rather than merely been told about them.

* Frequent feedback : learners should be getting continuous feedback to help them monitor and improve their own progress through the teaching package.

* Explicit objectives : it should be clear what learners might be expected to do as a result of working through the package.

* Individualised tutoring : tutors respond to individual learner's needs rather than repeating the teaching provided by the self instructional materials.

Development of an Evaluation Criteria Frame

An extensive study of the conceptual literature existing on distance education particularly focussing on the development of instructional materials and other materials developed by UNESCO, COL, APIED, IGNOU and other Open Universities and institutions has been made by number of scholars in order to evolve an evaluation criteria frame for distance education materials. For instance, Roger Lewis (1981) made a pioneering effort to identify the characteristics of SIMs which can be described as under :

* An indication of what the learner should be able to do before taking a particular project (i.e., any pre-requisites).
* A statement of what should be learned from the particular section (objectives).
* Practice, so that the learner can see whether or not she/he has successfully reached the objectives.
* Feedback on learner's performance.
* Advice on how to tackle the work, example on how long it should take, how to take notes.
* Motivation and stimulation.
* Un packing and often difficult of the textbooks so that it makes sense to the students.
* Relating concepts to the learners experiences.

Since then, a lot of materials have come up in different parts of the world. In India, the Indira Gandhi National Open University (IGNOU), New Delhi, has brought out a Handbook titled 'Self-Instructional Course Units-Handbook-5' (1989) wherein the major characteristics of the SIM should be :

(i) *Self-explanatory :* The content should be presented in a style so that a learner can go through the material without much external support. The content should be self-explanatory and conceptually clear. For this purpose, the content is analysed logically before it is presented. This order maintains, the continuity and the consistency of the content. Thus, the SIMs promotes self-learning on the part of the learner.

(ii) *Self-contained :* Efforts should be made to make the text self-sufficient so that a learner does not hunt for the additional sources or even a teacher. For this, the scope of the content of the unit should be visualized in detail. While avoiding the

non-essential details, only the essential details need to be presented so that unit can cover every information required by the learners and keep away all that is not necessary.

(iii) *Self-directed* : The study material should aim at providing necessary guidelines, hints and suggestions to the learners at each stage of learning. The self-directed material is presented in the form of easy explanations, sequential development, illustrations, learning activities, etc. The material performs the role of a teacher who can guide, instruct, moderate and regulate the learning process in classroom situations. Thus, the course material should direct the entire process of learning.

(iv) *Self-motivating* : In distance education system, the learners remain off the campus for most of their study time. The study materials should arose curiosity, raise problems, relate knowledge to familiar situations and make the entire learning meaningful for them. The sense of reinforcement should be strengthened at every stage and retention.

(v) *Self-evaluative* : As the learners remain separated from the distance institution and the teachers, the study materials should make provisions for feedback as well. To ensure optimum learning, the learners should know whether they are on the right track. Self-evaluation in the form of self-check questions, exercises, etc., provides the learners with the much-needed feedback about their progress, reinforces learning and motivates them for learning. The attribute of self-evaluation course writer should develop a built-in evaluation system by giving an appropriate number of self-check exercises, activities and check your progress questions.

(vi) *Self-learning* : Self-instructional materials are based on the principles of self-learning. So a unit, beside information provides the learners study guide, directions, hints references, etc., to facilitate their independent learning. To make the content comprehensible, it is supported by simple explanations, examples, illustrations, activities and so on.

IGNOU suggests the above mentioned criteria need to be kept in view for writing the self-instructional materials.

Similarly, Gauchuni and Matira (1989) in "Writings for Distance Education" by International Extension College, and "Handbook for Designing and writing Distance education materials" have made an attempt to identify the attributes of good SIMs. An extensive reading of the various literatures like books, journals and other publications enabled the author to identify certain criteria for preparation and evaluation of SIMs. The identified criteria were further discussed with the persons involved·in developing self-

instructional materials particularly from the IGNOU, NCERT, and NOS, New Delhi. On the basis of the suggestions of the experts, the identified criteria were edited in order to develop a comprehensive evaluation criteria frame.

Evaluation Criteria Frame

The evaluation criteria frame developed (**Appendix-1**) for preparation and evaluation of the distance learning materials has been divided into two major sections viz., A) Academic Aspects, B) Physical Aspects.

The Academic Aspects include :-

    i)   Selection of Content, ii) Organisation of Content, iii) Presentation of Content, iv) Language, v) Ilustration and vi) Exercises and Assignments.

The Physical Aspects include :-

    i) Printing, Lay-out and get-up, ii) Durability, and iii) Size of the Book.

Each statement in the Evaluation Criteria frame has four alternative responses viz., *Fully Agree (FA); Partially Agree (PA); Can't Say (CS) and Fully Disagree (FD)*. This option has been given to record the evaluator's response to each item.

The 'Evaluation Criteria Frame' will prove helpful in getting a fairly good idea about the quality of the Self-instructional Material with regards to the academic and physical aspects. However, improvements in the material may be done after careful observation of the contents provided in the materials.

Evaluation Criteria for Preparation and Evaluation of
Self-Instructional Materials

A) Academic Aspects

1. Selection of Content				
FA=Fully Agree; PA=Partially Agree; CS=Can't Say; FD=Fully Disagree				
1.1 The selected content is based on the prescribed syllabus of the course.	FA	PA	CS	FD
1.2 The selected content is adequate in respect of the duration of course.	FA	PA	CS	FD
1.3 The selected content is accurate in respect of concepts, terms, facts etc.	FA	PA	CS	FD
1.4 The selected content is culled from authentic sources.	FA	PA	CS	FD
1.5 The selected content is in accordance with the mental maturity of the learner group.	FA	PA	CS	FD
1.6 The selected content contains no redundant materials.	FA	PA	CS	FD
1.7 The selected content is upto date.	FA	PA	CS	FD
1.8 No serious omissions from the prescribed syllabus of the Course.	FA	PA	CS	FD
2. Organisation of Content				
2.1 The content is organised into small units; sub-units and the units are further divided into sections and sub-sections.	FA	PA	CS	FD
2.2 Each unit, sections and sub-sections have a title and a number.	FA	PA	CS	FD
2.3 Each unit has an objectives, introduction, self-check questions, summary, model answers activities and excersises.	FA	PA	CS	FD
2.4 The length of each unit is appropriate keeping in view of the theme and title.	FA	PA	CS	FD

2.5	Each unit is self-contained and self-explanatory and self-directed.	FA	PA	CS	FD
2.6	Sufficient priority has been given to most important topics.	FA	PA	CS	FD
2.7	The headings of the units convey the central idea of the unit.	FA	PA	CS	FD
2.8	The sequence of the units is logical.	FA	PA	CS	FD
2.9	In each unit, there is a link between the sections and paragraphs.	FA	PA	CS	FD
2.10	Each paragraph in the unit contains only one or two related ideas.	FA	PA	CS	FD
2.11	An orientation about how to go ahead with the text is given in the beginning of each unit.	FA	PA	CS	FD
3.	**Presentation of Content**				
3.1	A list of content is provided in the beginning of each unit.	FA	PA	CS	FD
3.2	The presentation of content is in accordance with the objectives.	FA	PA	CS	FD
3.3	The presentation of content is according to different pedagogical considerations.	FA	PA	CS	FD
3.4	The contents of each units are presented in a logical manner.	FA	PA	CS	FD
3.5	The important points of the content are highlighted for easy reference.	FA	PA	CS	FD
3.6	All the main points and sub points are presented in right order.	FA	PA	CS	FD
3.7	Linkages to the previous units are made throughout the text.	FA	PA	CS	FD
3.8	The presentation of the content is accordance with the readability level of the learners.	FA	PA	CS	FD
3.9	The presentation of the content is in such a manner that helps the habit of independent study.	FA	PA	CS	FD
3.10	References are made wherever appropriate to the use of supporting media.	FA	PA	CS	FD
3.11	The content is presented in such a manner that it helps in reinforcing back to the particular concepts.	FA	PA	CS	FD

4.	**Language**				
4.1	The language used is simple, precise, correct, clear, unambiguous and comprehensible.	FA	PA	CS	FD
4.2	The language used is in a personalised style like you, I, we and so on.	FA	PA	CS	FD
4.3	The presence of humour throughout the material.	FA	PA	CS	FD
4.4	The vocabulary used is appropriate keeping in view of the mental maturity of the learners.	FA	PA	CS	FD
4.5	The structure of sentences is appropriate, that is simple, short and clear.	PA	PA	CS	FD
4.6	There are no too many clause in a sentence, not too more negative, passive and impersonal words.	FA	PA	CS	FD
5.	**Illustrations**				
5.1	The illustrations are adequate enough to cover all significant aspects of the content that need to be illustrated.	FA	PA	CS	FD
5.2	Illustrations have an instructional value than merely decorating the text.	FA	PA	CS	FD
5.3	Illustrations included in the text help in creating interest, stimulus, imagination, increase comprehension and retention of information/knowledge.	FA	PA	CS	FD
5.4	Illustrating a process involving separate steps as many individual steps are there.	FA	PA	CS	FD
5.5	Illustrations are accurate, clear, vivid and in a variety of forms.	FA	PA	CS	FD
5.6	The size of the illustrations are suitable and they properly placed in the text.	FA	PA	CS	FD
5.7	Illustrations have a caption/title and a number for easy reference.	FA	PA	CS	FD
5.8	Visual aids given to represent important themes.	FA	PA	CS	FD
6.	**Exercises and Assignments**				
6.1	**Self-assessment Questions**				
6.1.1	Self-assessment questions are included wherever necessary to test each of the objective and also to provide effective feedback.	FA	PA	CS	FD
6.1.2	Self-assessment questions are in a varied form.	FA	PA	CS	FD
6.1.3	An advice is given how to carry out self-assessment questions.	FA	PA	CS	FD

	FA	PA	CS	FD
6.1.4 Model answers to the self-assessment questions are given at the end of the each unit.	FA	PA	CS	FD
6.1.5 Enough space is given in the text for writing the answers to the self-assessment questions.	FA	PA	CS	FD
6.2 Assignment				
6.2.1 Assignments cover most of the important units of the course.	FA	PA	CS	FD
6.2.2 The scope of each assignment is defined clearly and guidelines regarding the length, issues to be covered, etc., are stated explicitly.	FA	PA	CS	FD
6.2.3 Assignments are given in various forms like essay, short answers and objective type questions.	FA	PA	CS	FD
6.2.4 Assignments are well structured, attractive and encouraging.	FA	PA	CS	FD
6.3 Activities				
6.3.1 A variety of activities are included to enable the learner to become actively involved in the learning process.	FA	PA	CS	FD
6.3.2 The activities included at the end of each unit are interesting and inviting.	FA	PA	CS	FD
6.3.3 The activities included are related to the objectives of the course.	FA	PA	CS	FD
6.3.4 Necessary advice is given on how to carry out the activity.	FA	PA	CS	FD
7.0 Prelims				
7.1 The title page includes the title of the book, the author(s)'s name and the publisher's name and address, etc.	FA	PA	CS	FD
7.2 The reverse of the title page gives information about the year of publication, copyright, price (if any) position of reprints or editions etc.	FA	PA	CS	FD
7.3 The prelims also include the names of members of the editorial board, course committee, course contributors etc., associated with the production of the material.	FA	PA	CS	FD
7.4 The preface inter-alia mentions the purpose and scope of the material and the class for which the	FA	PA	CS	FD

	material is meant. It also acknowledges the material used/adapted/adopted from other sources.				
7.5	The table of content includes titles of blocks, units, topics and sub-topics, page numbers, list of tables, maps etc.	FA	PA	CS	FD
8.0	**Back Pages**				
8.1	A glossary of the important technical terms is given.	FA	PA	CS	FD
8.2	There is an index of important terms and topics used in the main text.	FA	PA	CS	FD
8.3	There are appendices giving additional important informations which may be relevant to the main text.	FA	PA	CS	FD

B) Physical Aspects

9.	**Printing, Lay-out and Get-up**				
9.1	The design of the cover page is attractive and appealing.	FA	PA	CS	FD
9.2	Sufficient margins are provided to make short notes.	FA	PA	CS	FD
9.3	The type sizes for the main text, chapter headings, sub-headings, captions, exercises, etc., are appropriate.	FA	PA	CS	FD
9.4	The lay-out is effective and eye-catching.	FA	PA	CS	FD
9.5	The length of each line is such that the book can be read without straining the eyes.	FA	PA	CS	FD
9.6	Spacing between the lines is proper.	FA	PA	CS	FD
9.7	Spacing between the words is proper.	FA	PA	CS	FD
9.8	The words and lines are aligned properly.	FA	PA	CS	FD
9.9	Printing is clear and even throughout the book.	FA	PA	CS	FD
9.10	The shade of the printing ink is appropriate.	FA	PA	CS	FD
9.11	The cutting and brushing of the paper is smooth.	FA	PA	CS	FD
10.	**Durability**				
10.1	The paper used in the text book is durable.	FA	PA	CS	FD
10.2	The binding of the book is durable and attractive.	FA	PA	CS	FD
10.3	The cover page is durable.	FA	PA	CS	FD
10.4	The binding is such that the book opens flat.	FA	PA	CS	FD
11.	**Size of the book**				
11.1	The size of the book is appropriate.	FA	PA	CS	FD
11.2	The number of pages included in each course book is appropriate.	FA	PA	CS	FD

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*Dr Anil Kumar, Junior Programme Officer, DPEP, IGNOU, K-3, Green Park Main, New Delhi-16.