Evaluation of Self-Instructional Print Material of Distance Education System

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Abstract

Distance education system of Allama Iqbal Open University (AIOU), Pakistan mostly depends on the idea of learning through print material and other media such as television, radio, online CDs etc. For conducting this research study, emphasis was on the evaluation of the self-instructional print materials to be used in distance learning system of this university. Applying the survey method in present study the opinions regarding the quality and quantity of print material were gathered from the students and tutors at Intermediate level of education of AIOU. While focusing the quality parameters of self-instruction such as transactional, stylistic and structural (local, national and global) questionnaire for distant learners and tutors was developed. Data was collected through this questionnaire and mean score was used to analyze the data. Through this analysis, it was found that self-instructional print material of Intermediate level needs to be improved while focusing the needs, demands and psychology of the learners. It was also concluded that currently this material is just imparting the knowledge which lacks development of skills and behavior modification. Overall it was recommended that university faculty must focus on the revision and improvement of the self-instructional print material for making it attractive, interactive, effective and communicative.

Keywords: Behavior modification, distance learning, structural, stylistic, transactional

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Introduction

In these days education has got more and more importance because knowledge is the only strength which is becoming the major factor of dominance among the nations. The nations which are advancing in knowledge and processing most modern knowledge in science and technology, they are leading the world. It is evident that education plays an important role in socio-economic, political and technological development of nations. So that the idea that education is for all the people and it is a life-long process is being accepted increasingly.

Seeking knowledge from cradle to grave is one of the sayings of Prophet Muhammad (Peace be upon him). This saying has been adopted by the International Council of Distance Education (ICDE) which divides education into three categories namely Formal, Non-formal and informal based on the continuous process of learning (Mayriam, 1979).

Human learning is a lifelong process and role of distance and non-formal education is appreciable in the countries like Pakistan. Since long educational experts highlighted the importance and need of non-formal education. They opined that formal system of education could not provide education properly to all. For meeting the demand of education for all non-formal education as an alternative mode, is considered low cost and adequate (Coombs, 1973, Delling, 1987, Moor, 1993 & Peters 2002). Khawaja (1986) defines that non-formal education (NFE) is an organized and systematic arrangement or process for imparting education or training outside the conventional stream of education and training. Which supplements and complements the formal education system including appropriate interaction between learners and tutors and focusing the development of human resources to enhance both the quality of life and productive capacity.

Distance education is the quite popular mode of non-formal education which focuses on equal access for educational opportunities which make learning more clientele and student centered. According to Paine (1989) this learning process allows the learner to choose how to learn, when to learn, where to learn and what to learn as far as possible within constraints of any education and training provision.



Source: Lewis and Spencers (1986).

According to Hodgson (1993) all successful distance learning systems are built on:

- Well-designed, Learner centered.
- Self-instructional material delivered through a variety of media and proper to the circumstances.
- An administrative system for distributing the materials, keeping the learner on track of learning and possibly a production facility for materials.
- A support system for learners.

As this study is aimed to evaluate the self-instructional print material to be used by students of Allama Iqbal Open University, therefore for having the theoretical back ground from different research studies and material this section will deal with the review of available literature on distance education, self-instructional materials and the types, role, characteristics, factors and the techniques of preparation of self-instructional print materials.

In most countries of the world, there is widespread acceptance of the principle that education is a fundamental human right. Article 26 of the Universal Declaration of Human Rights, proclaimed by the General Assembly of the United Nations in 1948, states in its opening paragraph that 'everyone has the right to education. Smith (2005) also stated that the basic goal of any national development program is to provide education to all its citizens. But the formal system has failed to meet the demands of society. At the time, millions of people are deprived of education. Therefore, Non-formal education can be adopted to acquire national needs both in its methodology and its content. Formal and non-formal types of education are not two rival systems, but two branches to resolve the educational crisis in the world.

Non-formal education takes the form of distance education. Thus distance education denotes the forms of study not led by teachers present in class-rooms but supported by tutors and an organization at a distance from the student. According to the Sewart (1983) distance education whether concerned with elementary, university, informal, occupational or professional study, regularly includes three types of activities on the part of the organization that administers it, i.e.,

- The development of self-instructional study material, i.e. courses printed and/or recorded which may either be self-contained or of a study guide type relying on set texts.
- Teaching at a distance by comments in writing, on the telephone or on audio cassettes or on students' work submitted.
- Counseling and general support for students about their study and queries related to their work.

Keegan (1993) also defines the distance teaching as, so for the students of distance education implies interaction with the course material, with tutors and counselors. The method of correspondence study provides simultaneously an educational scheme for individualization in three distinct senses, students' ability, variety of courses offering and flexibility for time and place of study.

Distance education can be illustrated by following chart 1:

Distance Education



Source: David. Sewart (1983)

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- An administrative system for distributing the materials, keeping the learner on track of learning and possibly a production facility for materials.
- A support system for learners.

Distance learners usually depend a lot on learning materials. Rowntree (1993) described that materials may take many forms like books, worksheets, audio and video-tapes, CBT packages, multi-media etc. In an instructional setting the print materials fulfill dual functions: as a medium of communication and as a medium of instruction. The advantages of print materials in these two modes are several. Printed materials permit a reader to skim their contents and to react spontaneously to them by making marginal comments or underlining. They can be produced in multiple copies, and can thus be used for independent study. They will tolerate delays in completion; a reader can stop, put the material away, and return later to the point of termination, because they allow a reader to return again and again to the same point. Print materials facilitate the study of difficult or complicated concepts. These are easily portable and do not require expensive or complicated machines in order to be consulted.

Self-instructional or self-learning system can be shown by this figure 2:



Source: Tait (1992)

Hodgson (1993) also stated the self-instructional or self-learning system as all learners who use self-instructional print material whether in open, distance or flexible system are, to some extent distant learners or learner is at a distance. Another of the self-instructional material is the teacher who teaches through the material effectively. The learners can pursue their studies in their own way, in their own time and in places of their choice. These are the advantages of self-instructional material and all learners who use material of this kind, are either actual or potential distance learners. The self-instructional materials are qualitative and possess good characteristics. These materials are used by the learner.

Hodgson (1993) further stated that any form of print material is self-learning, self-instructional or learner-centered and describes the approach to teaching or training which designs learning materials and learning experience to meet the need of the learner, rather than those of teacher, institution or subject matter. The self-instructional materials have to be subdivided into places of more or less standard length. These places may be called lessons, or units, Distance learners prepare assignments with the help of self-instructional materials and submit these assignments to the tutors for feedback and marking. These assignments are particularly important in self-instructional system.

Types of Self-Instructional Print-Materials

Mostly distance learning systems usually depend on a lot of learning materials. According to Rowntree (1994) the printed materials are as under:

- Books, Pamphlets, etc. already published, or specially written.
- Specially written 'warp around' study guide to already published material.
- Specially written self-teaching text, i.e. "tutorials-in-print".
- Workbooks for use along with audio-tape or videotape, CBT (computer based teaching), practical work, etc.
- Self-texts, project guide, notes on accreditation requirements, bibliographies, etc.'
- Maps, charts, photographs, posters, etc.
- Materials from newspapers, journals and periodicals.
- Hand written materials passing between learners and tutors.

How to Plan and Design the Self-Instructional Print-Material

Planning of the printing material is important in distance education but the presentation and design of print material are also important. Holmberg (1977) stated that printed and written material is the most frequently used medium of distance education and educators have to pay more attention on creating the printed course material than to material based on other media.

Gunning (1968) has also shown that the accessibility and effectiveness of text are mainly depended on four dimensions namely (1) simplicity of sentence structure and vocabulary, (2) structure and cohesion, (3) succinctness and relevance, and (4) additional stimulation.

Preparation of the course according to above these four dimensions distant educator like Gagne (1970) pointed out the following functions as essential for course developers:

- To arouse attention and motivate; the presentation of objectives that are within near reach appears to be of particularly great importance in this respect.
- To make students aware of the expected outcomes of the study.
- To link up with previous knowledge and interest.
- To present the material to be learnt.
- To guide and structure offering guidance for learning.
- To activate.
- To provide feedback.
- To promote transfer.
- To facilitate retention.

Although self-instructional printed materials come in a wide range of types and vary greatly in format, layout, level and so on. A number of authors offer hints on how this can be done, however, among the most useful of which are twelve hints for effective writing, given by Rowntree (1994) as under:

- 1. Write as you talk.
- 2. Use the first person
- 3. Use contradictions
- 4. Talk directly to the reader
- 5. Write about people, things and facts.
- 6. Use active verbs and personal subjects

- 7. Use verbs rather than nouns and adjectives
- 8. Use short sentences
- 9. Use short paragraphs
- 10. Use rhetorical questions
- 11. Dramatize wherever possible.
- 12. Use illustrations, example, and case studies.

According to Mackenzie (1975) self- instructional print materials were used by all open universities from their beginning. These open universities with their date of incorporation are: Open University of the United Kingdom (1969), UNED Spain (1973), Allama Iqbal Open University, Pakistan (1975), Athabasca University Canada (1975), Fern universal, Federal Republic of Germany (1975), Everyman's University, Israel (1976): UNA Venezuela (1977), UEED Costa Rica (1978); Free University of Iran (1978), Open University, Sri Lanka (1980), Open University, Thailand (1981), Open University, Netherlands (1981).

Allama Iqbal Open University Pakistan is one of these universities still depends on print materials besides the non-print materials particularly at graduate and under graduates programs of education (http://www.aiou.edu.pk/). As historically development of self-instructional print materials is stipulated with the origin of distance education system. So an evaluation of existing self-instructional material is quite necessary for improving its quality through which imparting quality education will be made possible for distant learners.

Distant learners usually depend a lot on learning materials. Rowntree (1993) argued that materials may take many forms like books, worksheets, audio and videotapes, CBT packages, multi-media etc. Pakistan is a developing country and the use of electronic media is very expensive. The print materials are used mostly because it is in the range of poor and rural people. It is used for instructional purposes all over the country. In the distance education system self-instructional print material is the main medium of communication and education. So it should fulfill the requirements of self-instruction and it should revolve around the learner.

Any kind of print material is considered as self-learning, self-instructional or learner-centered which identifies the ways of teaching learning process and accordingly learning materials and experiences are designed to meet learners' needs. The self-instructional materials are comprised on lessons, or units for distant learners. Self-study and assignments are key components of self-instructional materials. Distant learners have to prepare the assignments with the help of self-instructional materials and submit these assignments to the tutors for feedback and marking. For ensuring the effectiveness and quality of self-instructional material an extensive evaluation of existing self-instructional was initiated. So this study was aimed to evaluating the self-instructional print materials at intermediate level in distance education system of Allama Iqbal Open University, Pakistan.

This study is significant from the point of view that only good and standardized self-instructional print materials are useful for the learners. An evaluation of the existing self-instructional print material at Intermediate level can lead to further improvement in instructional materials and ultimately the quality of education can be ensured with the production of high quality self-instructional print material. Overall findings of this will help the writers, course coordinators, reviewers and editor to make the material more interactive and effective and communicative. The better quality of print material will retain attention and motivation of students and can lead to better performance by students.

Objectives of Study

For ensuring the quality and effectiveness of self-instructional print material following objectives were focused during this study:

- (i) To evaluate the contents and logical structure of print material.
- (ii) To examine the relevance of the print material with needs and abilities of the learners.
- (iii) To see the relevance of unit objectives with the contents of the unit.
- (iv) To evaluate the material in terms of sequence, presentation format and quality of print material.

Methodology

Nature of study was descriptive in nature; further methodology consists of following aspects:

(a) Population

As the study was delimited to the subject of education being taught at intermediate level by AIOU, so registered students and tutors of BahawaIpur and RawaIpindi divisions registered in this subject were taken as population of the study.

(b) Sample-I

It consisted of only Intermediate level students of Allama Iqbal Open University appearing in one semester in which education subject is being offered. The total population was 600, cumulatively of two regions, 400 from Rawalpindi and 200 from Bahawalpur. While total sample consisted of 300 was taken from both regions in equal number of 150. The students were randomly selected by giving equal representation to male and female and due proportion to rural/urban students from the list provided by the Allama Iqbal Open University Regional Offices, Rawalpindi and Bahawalpur.

(c) Sample-II

It comprised on the tutors of the subject of Education at intermediate level, 10 belong to Rawalpindi and 10 from Bahawalpur region. Purposively total 20 tutors of both regions were selected and this sample was 100% of the total population of tutors.

Table 1

S. No	Group	Sample Size	Return	Percentage
1.	Students of Intermediate			
	Rawalpindi	150	125	83.33
	Bahawalpur	150	135	90
	Total:	300	260	86.66
2.	Tutors			
	Rawalpindi	10	10	100
	Bahawalpur	10	10	100
	Total:	20	20	100

Summary description of samples

(d) Instrument

For collecting data, questionnaire was used and it was designed on 3 point Likert scale. During the development of questionnaire all important aspects such as thematic content, illustrations, charts, activities, self assessment questions, relevance with learner and societal needs and presentation of material were focused.

(e) Method of Collecting and Processing Data

The study was conducted on the basis of survey. The data was collected from respondents representing two populations. With collaboration of regional offices of Rawalpindi and Bahawalpur questionnaires were sent to students and tutors through postal service. For statistical analysis of data; mean score of each item for students and tutors was calculated.

Analysis of Data

Table 2									
Tutors	(20)				Students (260)				
Mean Score	At All 1	To Some Extent 2	Mostly 3	Statements	Mostly 3	To some Extent 2	Not At ALL 1	Mean Score	
2.4	3	6	11	Objectives were clear and attainable	126	86	48	2.3	
2.5	03	04	13	There was relevance between objectives and units	95	76	89	2.02	
1.6	10	07	03	The quality of content was good	39	81	140	1.6	
1.8	09	06	05	All topics were related with each other	41	89	130	1.6	
1.8	07	09	04	Ideologically and logically sequence of content was good.	49	90	121	1.7	
1.5	13	04	03	The material was according to mental level of the students.	39	91	130	1.6	
1.8	06	09	05	All units of book were to attain the learning activities.	51	130	79	1.8	
1.4	14	04	02	Material was practically consonant with social demands.	32	93	135	1.6	
1.8	08	07	05	Examples, charts, definitions and diagrams were presented clearly in the book.	29	96	135	1.5	
1.9	04	08	06	The important points were clear in the book.	61	121	78	1.9	
1.5	11	07	02	In-text feedback questions were linked to objectives and material.	43	69	148	1.5	
1.8	08	07	05	In-text feedback questions were defined clearly.	46	136	78	1.8	
1.6	08	06	06	Language and style of	40	75	145	1.5	

				presentation of material was clear.				
1.8	07	09	04	All units were equally easy.	39	69	152	1.5
1.4	13	05	02	Book was written as we talked.	23	71	166	1.4
1.6	12	04	04	Procedure to use the material was clear.	42	75	143	1.6
2.4	02	07	11	Material helped for the completion of assignments.	140	87	33	2.4
1.7	10	06	04	Students were motivated by material.	35	94	131	1.6
2.3	04	05	11	Material was not free from typographical errors.	145	89	26	2.4
1.4	13	06	01	Delivery system of material was proper and adequate.	12	121	127	1.5
2.6	02	03	15	The examination was given from provided material.	156	95	09	2.5
2.4	03	05	12	Mostly material was aimless.	115	114	31	2.3
2.8	0	04	16	Material must be easy and interesting.	233	27	0	2.8

Table No. 2 reveals that majority of students and tutors agreed that objectives of the self-instructional print material of education subject at international level were clear and attainable. As mean score came out 2.3 of students and 2.4 of tutors, similarly students and tutors at large scale were of the opinion that there was relevance between objectives and units. Respectively mean score of each category was 2.2 and 2.5. Hence topics were not related with each other and logically sequence of the content was not good as indicated by 1.6 to 1.8 mean score of students and tutors. About the mental level of students, respondents at large scale opined that material was not according to mental level of students. As mean score came out 1.6 of students & 1.5 of tutors, hence to some extent all units of the book were to attain the learning activities as indicated by 1.8 mean score of students and tutors. Further majority of the respondents were of the opinion that practically material was not consonant with social demands and example, charts, definitions and diagrams were not presented clearly in book. Range of mean score of both categories was 1.4 to 1.8. But to some extent important points were clear in the book. As mean score of students and tutors was 1.9. Though in-text feedback questions have the significant role in self-instructional material, but respondents at large scale opined that in-text feedback questions neither linked with objectives nor defined clearly. As mean score came out 1.5& 1.8, this table also shows that clear language, talkative style, easiness of all units, motivation of students, proper delivery system were not focused during this self-instructional print material. As range of mean score was 1.4 to 1.8 of both

categories of respondents (Student & Tutors). Moreover majority of respondents agreed that material helped for the preparation of assignments and exam as indicated by 2.4 & 2.6 mean score. But material was not free from typographical errors. Mean score came out 2.4 of students & 2.3 of tutors. Overall reasonable number of respondents agreed that material should be easy and interesting

Findings & Discussion

As self-instructional material is indispensible in distance learning system and its quality can affect the learning of students. While focusing the quality of self instructional material this study aimed to examine the different aspects which make the material learner centered. For this purpose logical structure, alignment of objectives and content, illustration presentation and relevance with needs and abilities of the learners, in this regards questionnaire on three point scale was used for analyzing the quality of material. Accordingly it was found that objectives of the material were clear and attainable. Respondents also agreed with the relevance of objectives and units. Respectively mean scores was calculated for tutors 2.4 and 2.5 and for students 2.3 and 2.2. It is established fact that all types of material either print, non print or self instructional are developed effectively on basis of clarity and relevance of the objectives. And objectives provide the standards and required criteria (Rowntree, 1990, Race 1992, Lockwood, 1998, Murphy, 2000, and Terry 2006). They also asserted that logical link of material makes the quality material and this material will enhance the learning of students.

While focusing the relationship of quality material and students learning tutors and students were asked about the quality of self instructional material to be used in distance education system. Majority of tutors and students opined that quality of content was not good due to no links among topics (Mean score 1.8 of tutors and 1.6 of students) and logically sequence was not good (Mean score 1.8 of tutor and 1.7 of students). Kember, (1991), Ellington (1993) and Freeman (2004) also described the indicators of quality of self-instructional material such as learners' needs, abilities, logical link and sequence. Further Holmberg (1977), Rowntree (1994) and Swales (2000) pointed out the elements required for effective writing of material such as activities, feedback or assessment questions, writing style (write as you talk), easy language, attractive presentation and using daily life examples and illustrations. During this study researcher focused these aspects required for self-instructional material in distance learning system. Unfortunately majority of respondents of this study opined that material was not consonant with social demands (Mean score 1.4 of tutors and 1.6 of students).

Further learning activities, examples or illustrations, clarity of important points, feedback questions and language were not fully addressed. Respectively Mean score of students was less than 2. Though the majority of tutors and students agreed that material helped to prepare the assignments and exam (mean score of tutor 2.4, 2.6 and mean score of students, 2.4, 2.5), but the range of mean score more than 2 (i.e. 2.3 and 2.4) showed that material was aimless, not adequate, and not free from typographical errors and delivery system of material was not proper. On the basis of criteria recommended by Gagne (1970), Lewis (1990), Ross & Waller (2000) Kang & Gyorke, (2008) and majority of respondents of existing study recommended that material should be easy and interesting. Overall findings of this study will help the writers, course coordinators, reviewers and editors to make the self-instructional material significant, interactive, attractive and communicative. As the distant learners mostly rely on this material for their quality learning.

Conclusions

The following conclusions had been drawn on the basis of the foregoing findings:

- The tutors and students of the education subject (Code 312) at Intermediate level supported about the relevance of objectives and content. The respondents realized that the statement of the objectives was in observable and behaviour terms. Moreover the objectives were also attainable and appropriate to the levels of instructions. Hence ideologically the sequence of the content was not consonant with the learners' ability and social demands.
- 2. Majority of the tutors and students were of the opinion that quality of content and writing style of authors was not good. Writing style of the material did not talk directly to the learner.
- Though illustrations, examples, case studies, definitions, tables, figures, photographs, diagrams, charts, maps activities and feedback were given in the material but quality was very poor. Moreover the feedback questions were not clearly linked with objectives.
- 4. Tutors and students viewed that sequence, importance and coherent structure of contents, proper activities, and assessment procedure did not correspond with the course content and objectives. So the content material did not increase the student enthusiasm and for learning students were motivated by the material. The course content did not make the students well aware about the expected outcomes of their study.

- 5. Material was not free from typographical errors and contents could not facilitate retention of the material. Moreover the delivery system of material was also not adequate and proper.
- 6. Material of the text books was aimless and all units were not equally easy. Even language of the material was difficult and procedure to use the material was not clear. Due to these factors learners were not motivated through this material. Hence this material helped the students to prepare their assignments and examinations as both aspects were quite given from the provided material.

Recommendations

On the basis of analysis and conclusions following recommendations are made:

- 1. The quality of content may be made better and books may be written as we talk.
- 2. The language and presentation style of material may be made simple and interesting,
- 3. There may be relevance between social demands and provided material.
- 4. Material may be made free from typographical errors.
- 5. Material may be according to the mental level of the learner.
- 6. The delivery system of material may be made adequate and in-time.
- 7. Self-instructional material may be more practical and consonant with individual and social needs and demands.

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