Self-Learning through Programmed Learning in Distance Mode

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Abstract: *This paper attempts to present the characteristics and development of Self Learning Material. Programmed learning has certain principles which are useful as guidelines while preparing the self learning material. The course writers are expected to adopt these principles.*

Teaching in Distance Education system is generally considered an activity, which is designed and performed for multiple objectives, in terms of changes in learners' behaviours. The distance education organizers should use different strategies of teaching which match the objectives of teaching on the one hand and learners' style and personality dimensions on the other.

The organizers of Distance Education have to deal with large and diverse groups of learners very different from those in conventional stream. They have to organize the learning experiences, and adopt techniques of teaching to which learners can respond as matured individuals. The choice of educational objectives and the methodology must be suitable.

Programmed learning is learning through an arrangement of the material to be learnt in a series of steps designed to lead the learners from the known to the unknown. In the discussion of the possible combination of correspondence teaching with programmed learning, the term programmed learning is used to mean the process of learning through the arrangement of the material to be learnt in a systematic, sequential order. Mechanical, electronic or printed books in several formats are merely devices which put programmed material before the student. The actual instrument of teaching is not the machine but the arrangement of material.

Printed materials present the student with a degree of learner control, since they are portable. The well-structured information in a compact format, of a book can be accessed at a place appropriate to the individual learning pace and place of the student. The potential instructional efficiency of this traditional medium is further enhanced by its useability since it does not require have power supply, like the range of electronic media. The quality of lessons therefore should have high academic merit and should stimulate interest of the students to go to original texts in the subject concerned.

Introduction

Education through distance mode is getting very popular because the learners are free from the shackles of a classroom, a college or a University. They can learn at their own

pace and place of convenience. They can learn while they earn. There are no limitations imposed on them like age, etc. The quality of the distance education system depends on the degree of motivation of the adult learners and the learning experiences provided to them.

There is more or less a consensus that the Open University could be viewed (a) as an institution of higher education providing independent learners, (b) as a method of providing education to a mass audience at a reduced per pupil cost, (c) as an attempt at exploiting scarce resources to better advantage and achieving greater effectiveness in higher education and (d) as a means of employing new and conventional methods of instruction and exploiting new technologies.

The method employed by the Open Universities will have to be determined by the resources available. The approach would be multimedia integration using postal communications, radio and television programmes, summer schools and individual or group guidance at selected places scattered all over the country.

In compliance with this thinking most of the correspondence Courses/Open Universities/ distance education institutions are supplying print medium to their clientele for self-leaning. A few distance education institutions in India are still lagging behind in their student support services. Such institutions will have to up date their services by adopting the self-learning materials approach of print medium.

Teaching in Distance Education system is generally considered an activity, which is designed and performed for multiple objectives, in terms of changes in learners behaviours, learners on the other hand have multi-dimensional personalities having different learning styles.

The common implication of these facts is that the distance organizers should use different strategies of teaching which match the objectives of teaching on the one hand and learners style and personality dimensions on the other. To pursue this objective, distance organizers will have to communicate certain basic information, develop some specific skills, inculcate independent study habits, help learners to select and organize their own study material and make it necessary to bring changes in the directions of qualitative improvement in learning facilities.

Teaching with Programmed Learning

The preparation of the programme is crucial in programmed learning. The sophisticated presentation of the material makes no difference in learning efficiency of learners. (Mores & Max Wing, (1968). Two general type of programmes are in use today. One of them is Skinner's the 'linear approach'. In the linear programme, the material to be learnt is broken into numerous small segments and arranged in a logical sequence. Each segment is followed by reinforcement questions and response mechanism.

The second approach, called the 'branching' or 'intrinsic' programming developed by Crowder is presented in somewhat larger units, say in one or more paragraphs. Most programmed books called 'scramble books' today follow intrinsic programming techniques (Waiter Dicks, 1965). Krumboltz (1964) indicates that the response

requirement may not be as important as has been generally thought in programmed learning. Further, the structure of the programmed material evidently makes it possible for the learner to identify all the points to be learned and an exposure to them is enough for learning to take place.

A criticism against the linear approach is that it is not helpful in learning about social sciences where analysis and reasoning are required. Crowders 'intrinsic approach' does not have to face this criticism. The Self Learning Material (SLM) of distance learning is developed on the principles of intrinsic programme technique'. The 'structure' (i.e. the instructional design) is given importance in writing the programme/lessons.

Personalized system of instruction: In this, a number of elements of programmed instructions are present: stress on independent learning, systematization or programming of learning material into learning units and the frequent-testing of students to ensure mastery of subject matter. Programmed instruction typically involves the whole course, which is generally divided into nearly fifteen segments or modules. Directions for students' learning are provided through a study guide, which replicates many of the functions of a human teacher in a normal class room situation: The guide lays out the content of each course and for the individual module. However, for the course material itself the student is referred to out side sources. These sources are usually the conventional textbooks, and articles. Students study 'this material in their own time and at their own speed, the only logistical constraints are imposed by library hours, final examination deadline, and so on. For each module there is a short quiz to test the mastery of material which the students can take at any time they are prepared. There is no penalty or failure, and alternative versions of the quiz are available for students to attempt, on subsequent occasions. However, a student must successfully pass all of the modules' quizzes to complete the course and the mastery requirement dictates the passing mark is very high — 80-90% correct responses (Malhotra, 1988).

Distance teaching and programmed instruction have some common principles. Both guide the learners from the known to the unknown through steps small enough for the sudents to progress with understanding. Both allow student participation. In programmed instruction, however, the steps are smaller and student participation usually demands an immediate response to each step in the sequence of steps. The main difference between teaching and programmed instruction lies in the speed of reinforcement. The student working on a programme usually lets him/her know the cause and directs him/her through a remedial situation, although distance instruction and may give the student some self-check tests and written exercises which require him to apply knowledge to reveal the extent of his/her understanding. The distance teacher has to comment upon the answer and return it by post to the student. There is a time gape between making a response and receiving reinforcement by the student. Units of programmed instruction offer an additional teaching instrument for use within distance courses. This type of methodology is flexible, economical and psychologically sound. The students preparing through this method must express themselves at any point in the course. The students have to check their own work which requires initiative and persistence leading to self-reliance. They get greater opportunities to present the subject matter fully and to write with understanding. Students who have doubts are more ready to ask questions as they go ahead.

This strategy can be used to present the learning material independently as well as in combination with other media. In distance teaching situations where the content to be covered is more of informative nature, programmed learning can be very effective. Learning material can be presented to individual learners in the form of booklets. It can also be presented with the help of a filmstrip projector or a slide projector or video recording to a homogeneous group of learners (Sansanwal, 1988). It is also possible for learners to replay these at their convenience to suit their own pace of learning. In distance mode of education the student's immediate contact is with the study material. Unless the study material is prepared on the basis of sound theories of learning and pedagogic principles, it may not serve the intended educational purpose (Ramanujam, 1995).

Holmberg (1986) identified the following features as the strengths of self-learning materials besides the other:

- Fully self-contained character of the courses

- Modular forms

- Mediated, non-contiguous communication

- Feed back to students.

Any self-learning material, in order to ensure the above strengths, will have to be prepared after considering a number of factors such as the profile of the distance learners, (their social, economic cultural, linguistic, academic background), readability of the content matter, sequencing and presentation of the level and style of language used, the physical features of the printed texts, adherence to the typical features of a SLM-access devices, in-text questions, activities, glossary, reading list, etc. and other issues related to the specific, local conditions of the learners. Experts should be engaged for writing the courses.

Independent self-learning may lead the students residing at distant places, to feel too isolated and to fall behind. To prevent this, distance education institutions make personal contact an integral part of the system.

Structure of Self-Learning Material (SLM)

As mentioned earlier, SLM is on the lines of intrinsic programmed learning. In this approach the teacher is also intrinsic. The structure used offsets the physical presence of the teacher. IGNOU has evolved a sound structure which can serve as a model for other schools/institutions of distance education in India and other developing nations:

The Structure

The SLM of IGNOU has a particular kind of structure. Every Programme of study happens to be a combination of several courses, a course is combination of several blocks and a block is a combination of several units. One block is what we get as a booklet and every unit therein begins with its '**structure**' which is not only the contents list of the unit but it provides a frame work of conceptual development of the unit,

which generally leads a learner from a familiar to less familiar topics. Following the '**structure**,' the learner gets to study the '**introduction**' where one gets to know globally about the contents of the unit. The '**introduction**' is to provide the necessary motivation to the learners for studying the unit. Then we have a very vital component called the '**objectives**' which spell out in very clear cut behavioural terms why one should study the unit and what would be the capabilities of the learner after studying the unit. After the '**objectives**' comes the main body of the unit and finally comes the '**summary**'. We know that a seasoned teacher always makes it a point to repeat the items which are very vital from the conceptual point of view, so that they get impregnated in the minds of the learner. Similarly, the teacher in-built in the self-learning material repeats the items that are vitally important. First, these are handled through the 'structure'; then through the '**introduction**' and '**objectives**' and subsequently through the main body of the unit and the 'summary'.

The self-learning print material also contains different types of questions, which are called the Self-Assessment Questions (SAQs), in-text Questions (ITQs) and Check Your Progress (CYPs).These are analogous to the questions which a teacher asks the learners at the classroom to make an assessment regarding their understanding. Over and above these we have the '**Terminal Questions**' (TQs) which are analogous to the exercises given at the end of a chapter in a conventional textbook. Every course and thereby every block has credit points associated with it. One credit is equivalent to the task to be accomplished by a learner in 30 hours of study time. The task covers all learning activities given in a block, such as is reading and deciphering the contents of a block, answering all questions given therein and doing several supplementary activities. (Ghosh, 2001).

Research studies show that in the performance of courses, instructional design plays a key role but a lot depends upon students' motivation in exploiting the potential of SLM. As Holmberg (1986) says. 'Distance education offers possibilities for high effectiveness, whether these possibilities (like those of conventional education) are exploited depends on the educators, students and milieus concerned'.

Self-Learning Material: How it helps in self-study

Self- learning material that has questions in the beginning helps the reader to have a *gestalt* view of the content presented in the chapter. It helps the reader to get mentally prepared for learning. On the other hand, the questions at the end of the chapters help the reader know the extent to which he/she has understood the contents of the chapter. These questions are helpful in maintaining the learner's attention, and to facilitate learning and remembering the important points.

Another feature of self-instructional material is the modular approach: "a module is a learning opportunity around a well-defined topic which contains the element of instruction, specific objectives, teaching-learning activities and evaluation. Module is a teaching-learning strategy of a system with a set of definite objectives to meet the divergent learning styles and individual, differences by personalized instruction using multi-sensory approach and built-in education schemes" (Gabriel, 1981).

An instructional module is a small booklet on any subject which arranges the instructional activities in a particular sequence with adequate instruction for the individual learner to progress with respect to the achieving of predetermined objectives. It is individualized as well as group-paced (Mukhopadhyay, 1980).

Lecture delivery concept of collegiate teaching no longer holds good. Teaching is only to stimulate and to provoke self-learning. It is chiefly a student-concerned activity where a teacher serves as a counsellor, a guide and a catalytic agent only and the students are encouraged to observe things for themselves, ask questions and to arrive at concomitant results of the promises given. The students are taken as reasonably intelligent persons who can react constructively to proper motivation. The teacher stimulates the self-efforts, of his/her students.

To enable a fresher to the college to make the right start the best thing would be impress upon the students that the classroom lectures should be taken only as guidance lectures to be supplemented by their own study by the use of the library reading of journals, magazines and encyclopedia etc.

Ghosh (2001) lucidly explains the evolution of distance education methodology. The correspondence courses have developed to the stage of digital distance education today. Yet, in the Indian context the SLM in print has to play a key role for many more years to come. During the 50s and 60s the learners were sent printed lessons which are no different from lessons of the conventional textbooks. A few contact classes were arranged to clear the doubts of the learners. The absence of the teacher was evident in this mode. To improve the situation SLM was brought in at the second stage. The intrinsic programme and Keller plan techniques were incorporated in the SLM.

In the next stage the SLM in print medium is supplemented with audio-video media. This could enrich learning experiences of distant students. Learning becomes more pleasant and efficient. Next comes instruction through satellite in the teleconference mode. In this mode a group of experts gather in the studio and are instantly connected with the distant learner via the satellite and telephone. The latest development is the virtual classroom. This is made possible through the Internet. This digital distance education is an example of globalization. These are used in a limited way in the Indian distance education scenario. Print medium is still the most widely used and cost effective mode of distance teaching learning. Considering the economic status of our learners as well as the educational institutions, print medium alone is still the best. The SLM developed by IGNOU can be further refined and perfected.

The effectiveness of the SLM depends on certain norms to be fulfilled by the distance teaching institutions. Firstly, the SLM writers should be chosen on the basis of their knowledge, experience and expertise in writing the self-learning programmes. Secondly, great care should be taken in the production of the material. Thirdly, different types of questions and assessment questions like SAQs, intext questions and assignment questions should be constructed according to the objectives of the lesson and the overall unit. The need for prompt collection of the response sheets from the learners, correction of the learner responses with necessary comments and sending the feed back to the learner must be realised. This arrangement is very essential for

the realization of the principle of self-motivation. This arrangement is neglected by many distance education institutions. They little realize that if learners lose interest, self-learning will be greately effected.

Conclusion

The instructional material has an important role to play in the distance education set-up. The material should be self-paced, flexible, auto-instructional, economical in time and effort. It must be interesting and arouse the interest of the learner and should be developed using the available resources. In this connection we have to acknowledge the essential contribution of programmed learning in developing the print material for distance education, not only in the form of commercially produced scholarly texts but also in the printed study guides produced specially for use in this setting. Print material is likely to remain the core medium of higher education specially in distance education for some time to come, in spite of the emergence of electronic media, provided, print material is designed and produced on the lines of programmed learning to make the student an active learner. Print materials are relatively cheap to produce and the skills required to use them is possessed by a majority of adult students in many parts of the country.

Print materials present the student with a degree of learner control, since they are portable, well-structured and compact, can be accessed easily by the individual student. The sequence can be made relevant to the students' personal needs. The potential instructional efficiency of this traditional medium is further enhanced by its simplicity and practicality which the range of electronic media do not have. The quality of lessons should be made of high academic merit and these should stimulate interest in the students towards learning more original texts on the subject concerned.

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