

A STUDY ON THE EFFECT OF MODULAR APPROACH ON THE PERFORMANCE OF POST-GRADUATE DISTANT LEARNERS

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Abstract: The aim of this study was to find to find out the effectiveness of Modular Approach on the performance of Post Graduate students in the academic course of Educational Technology and on the attitude of Post Graduate students towards Modular Approach as teaching strategy. A sample of 30 distant learners of RGU was taken and an experimental study was conducted. Results revealed that the experimental group (Modular Approach group) was found superior in its performance than the control group (Conventional Method Group) and hence it was concluded that the Modular Approach of teaching-learning is quite effective for the distant learners and it was found that the attitude of the students was not so satisfactory before the experiment, but, after the experiment, the attitude mean score went up very high and the students were found to be satisfied with the Modular Approach of teaching and learning.

Keywords: Modular Teaching Method, Conventional Teaching method, Educational Technology, Post Graduate Students, Distant Learners.

Introduction: Education today has drastically changed from the education of yesteryears. Now education is totally learner-centred, not knowledge or teacher-centred like the past. And hence there are demands for newer and innovative teaching-learning techniques to suit the needs of different learners. Therefore, education is now no longer a stereotyped and monotonous process. And here the credit goes to educational technology, which has revolutionized and modernized the teaching-learning process, making it all the more interesting. Educational technology develops implements and evaluates technological system and aids in the field of education. Through the use of advanced technologies and innovations, now we can cater to the educational needs of the different students with varied individual needs – be it the fast learner or the average or the slow, be it the gifted, normal or the backward. So to improve the teaching-learning process, eminent scholars have put in their best efforts to innovate new approaches of teaching through various experiments, to make the educational system flawless, as far as possible. One of such new approaches is instructional technology, which is one aspect of educational technology. According to Mc Murin (1970), instructional technology is a systematic way of designing, carrying out and evaluating the total process of learning and teaching in terms of specific objectives based on research, on human learning and communication and employing a combination of human and non-human resources to bring about more effective instruction. Very simply, we can say that instructional technology is a system equipped with technological aids for achieving the desired objectives.

B.F Skinner and his associate James G. Holland's (1954) "Programmed Instruction", Robert Mager's

(1958) "Learner Controlled Instruction" and Bloom's (1968) "Mastery Learning Strategy" are vivid examples of successful and effective instructional technologies. Such technologies have helped learners to educate themselves according to their convenience at their at their own pace of learning, and ultimately the learners can learn better. A similar approach is the 'modular approach of teaching'. The main aim of such an approach is to provide the student with self-paced learning materials and thus overcome the barrier of individual differences among students – making learning more efficient and effective.

Module is a unit of work in a course of instruction that is virtually self-contained and a method of teaching that is based on building up skills and knowledge in discrete units. All kinds of subjects are being taught through modules. It is a recent development based on programmed learning, a well established and universally recognised phenomenon. It considers the individual differences among the learners which necessitate the planning for adoption of the most appropriate teaching techniques in order to help the individual grow and develop at his/her own pace. Here, in this study the investigators attempted to find out the effect of Modular Approach on the performance of Post-Graduate distant learners of Rajiv Gandhi University and their attitude towards Modular Approach of teaching-learning.

A few studies related to modules that the investigators reviewed related to the present experiment were:

1. Dishner (1973) conducted an experimental study to investigate the effectiveness of the modules, by comparing students who were taught by proficiency modules, with students taught by traditional approach. In the four of the five units and in the total tests the students taught by the

proficiency module performed significantly better than the students taught by the conventional method.

2. Purinton (1973) studied on the efficacy of modularized approach to human relation skill training. The experimental group made higher gains in their ability to use specific human relation skill than the control group.
3. Kryspin (1974) reported that self instructional module can be used as an effective teaching - learning device in educational psychology course.
4. Davis (1974), studied on effectiveness of modules on Business and consumer mathematics. He found significant difference in total score of knowledge of the experimental and control groups, favouring the experimental group.

The reviews show that all of them favoured the Modular approach of teaching. So in order to find out whether the Modular Approach of teaching will be beneficial to distant learners with respect to the subject 'Educational Technology', the investigators undertook this study .

Objectives:

The objectives of the study are:

1. To find out the effectiveness of Modular Approach on the performance of distant learners in the academic course of Educational Technology.
2. To find out the effectiveness of Modular Approach on the attitude of distant learners towards Modular Approach as teaching strategy.

Hypotheses: In accordance with the objectives, the following hypotheses are formulated:

1. There will be no significant difference in the performance of two groups of learners on the criterion test; one following Modular Approach of teaching and learning and the other following Conventional Method.
2. There will be no significant difference in the attitude of distant learners towards Modular Approach on the two occasion's i.e the attitude of Modular approach group before and after the treatment.

Delimitations Of The Study:

The present study was delimited to:

1. Modular Approach of teaching the distant learners in Educational Technology.
2. 30 distant learners of RGU.
3. Three units of Educational Technology for distant learners.

Sample:

A sample of 30 distant learners of RGU was selected randomly. The 30 students were divided into two groups on the basis of their previous academic achievement. These two groups have been designated

as Modular Approach Group (M.A group of 15 students) and Conventional Method group (CM Group of another 15 students) for the purpose of conducting the experiment.

Tools Used:

The following tools were used to conduct the experiment:

1. Modules on the conceptual framework of Educational technology for post Graduate students of Education prepared by Prof. K.C Kapoor.
2. Attitude scale to measure the attitude of the two groups of students towards the Modular Approach in teaching of Educational technology constructed by Prof. K.C Kapoor.
3. Formative tests pertaining to each module.
4. Criterion test based on the instructional objectives of the modules.

Methodology: The investigators adopted an experimental method of educational research for this study. For conducting the experiment, the investigators selected two groups of students by adopting randomized sampling technique: one following Modular Approach and designated as MA group and the second following Conventional Method of teaching termed as CM group. The present study has been carried out by adopting two approaches of teaching some units of educational technology at PG level and those two approaches of teaching are: Modular Approach and Conventional Method of teaching. These two approaches of teaching have been considered as the independent variables in the present study. And the dependent variables for the study were achievement scores on the criterion test on some units of Educational Technology and attitude scores on the attitude scale relating to the nature of Modular Approach and its utility in teaching-learning process. As far as possible the extraneous variables were controlled with the help of the process of randomization and matching the students of the two groups.

Statistical Analysis: Analysis of Co-variance was used to analyse the results of this experimental study.

Analysis And Results: Pre-test and post-test experimental designs were used to complete the experiment. Before the beginning of the experiment, the criterion test and attitude scale were administered on both the groups i.e. the Modular and the Conventional Method groups to obtain the pre-test scores and after this the treatments were given to the students in order to conduct the experiment. Then the criterion test and attitude scale was again administered to obtain the post-test scores.

The results of the study are shown with the help of the tables:

TABLE -1 Summary of results of Analysis of Co-variance for immediate performance of MA Group and CM group.				
Components of Variability	Sum of squares (SS)	Degrees of freedom (df)	Variance(V)	F
Treatments (D)	6090.58	1	6090.58	146.40
Errors (E _w)	1123.43	27	41.60	

The computed F-value 146.40 is significant at 0.01 level of confidence for 1/27 df.

TABLE -2 Means of pre-test and post-test scores on criterion test of MA and CM groups				
Groups	N	M _y	M _x	Adjusted Means M _y ,M _x
MA Group	15	64.33	21.86	64.79
CM Group	15	35.66	23.53	35.19

TABLE-3 Comparison of the pre-test and post test attitude scores of Modular Group							
Sum of Pre-Test scores	Sum of Post-test Scores	Sum of the gained scores	Mean gain	Sum of the squared gained scores	S.D of gained scores	Df	t-value
254	900	646	43.06	28310	5.90	14	28.33

The findings from the analysis were:

1. Table 1 shows that the computed F-value(41.60) is substantially greater than the criterion table F-values(4.22 and 7.68 at 0.05 and 0.01 levels) at .05 and .01 levels of significance. So the first hypothesis, "There will be no significant difference in the performance of two groups of distant learners on the criterion test; one following modular approach of teaching and learning and the other following conventional method" stands rejected. Table 1 and table 2 shows clearly that the experimental group (Ma Group) was found superior in its performance than the control group (CM Group). So it can be concluded that the Modular Approach of teaching-learning is quite effective for the distant learners and it can be effectively used in educational institutions to teach the subjects effectively.
2. Table-3 shows that the computed t-value(28.33) is greater than the criterion t-value (2.98) at .01 level of confidence for 14 df. So the second hypothesis, "There will be no significant difference in the attitude distant learners towards Modular Approach on the two occasions i.e the attitude of Modular approach group before and after the treatment" is rejected. That means there is significant difference in the attitude of distant learners towards Modular Approach on the two

occasions i.e the attitude of Modular Approach group before and after the treatment. And it was found that the attitude of the students was not so satisfactory before the experiment, but , after the experiment, the attitude mean score went up very high and the students were found satisfied with the Modular Approach of teaching and learning.

Discussion And Conclusion: From the findings of the experiment it can be concluded that modular approach is quite effective in teaching-learning of the academic course of educational technology and it was also found that the distant learners possess quite favourable attitude towards its use. So, modular approach can be adopted for the students of distance education, non formal education etc. since it provides self-learning materials through which students can learn in accordance with their individual pace of learning which results learning more effective.

Before concluding the investigators feel to suggest that further similar studies can be conducted by taking Under Graduate or School-Going students by designing modules suitable for them, similar kinds of studies can also be conducted by taking some other approaches like Computer Assisted Instruction (CAI) by selecting some other subject or discipline and their effectiveness studied, etc.

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