CHAPTER VI

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1. A BRIEF ACCOUNT OF THE PROBLEM AND PROCEDURE

Many subjects are taught in schools and colleges by different methods used by the teachers. Testing is held to find out the consequence of the teaching of the teachers and the learning outcomes and progress of the students within a fixed period of time in a particular subject. Generally three examinations are held within an academic year namely - The Third-monthly examination, the Sixth-monthly examination and the Annual examination. The researcher wanted to test the motivating effect of testing. To this effect, he chose the problem - "Frequent Testing and Its Effect on the Learning Outcomes".

In this study, the researcher wanted to test the effect of testing on the achievement of students if they were given monthly tests in place of tests given after three months, as the prevalent practice followed in schools and colleges.

The two main objectives of this study were -

(1) To compare the consequence of frequent testing on the achievement of students with traditional testing.

(2) To compare the effect of knowledge of results on achievement by keeping the result confidential from the students.
The researcher selected two institutions - 'Mohan Vidya Mandir Higher Secondary School, 'U' Block' and 'Mohan Vidya Mandir Girls Higher Secondary School, 'G' Block' - both situated in the same vicinity of Govind Nagar, Kanpur, for his testing programme. He selected Class VI of both the schools as his sample and chose only one subject 'Arithmetic' for testing purpose. The researcher administered pre-tests on the students of Class VI to know the standard of each student in each school. The researcher collected family information from each subject of his sample as per Schedule for Family Information (prepared and got printed) by contacting them individually and their parents when necessary before July, 1974. The researcher administered Intelligence Test on all the subjects of his sample and computed I.Q. of each subject and formed three equivalent groups A, B and C of Class VII (the same class previously chosen in April, 1974), in each institution. The researcher also selected five male and four female teachers equivalent on the basis of I.Q. capable of teaching arithmetic in Classes VII & VIII. The whole course of arithmetic for Class VII was divided into six equal units, each to be taught within a period of one month.

According to the programme, the teaching under the guidance of the researcher, started in October, 1974. Thus the very first test of the testing programme was held in November, 1974.

The experimental design was Rotational in this study. During the first three months of testing i.e. Term I, the position of each group in each school was as under :-
TERM I - NOVEMBER, 1974 TO JANUARY, 1975

Group A or C1 - Controlled Group (Given test after three months).

Group B or C2 - Experimental Group I (Given tests frequently after one month at regular intervals without giving them the knowledge of their results).

Group C or C3 - Experimental Group II (Given tests frequently after one month at regular intervals along with giving them the knowledge of their results).

Here the following terms have been used to identify the position of each group in each term of three months:

C1 indicates - Controlled Group.

C2 denotes - Experimental Group I without giving knowledge of results to the subjects.

C3 stands for - Experimental Group II along with giving knowledge of results to the subjects.

After three months the groups were rotated and the respective position of each was changed. Then teaching of the topics of arithmetic continued for another three months. During this term the position of each group in each institution was as under:

TERM II - FEBRUARY, 1975 TO APRIL, 1975

Group B became C1 - Controlled Group (Given test after three months).

Group C became C2 - Experimental Group I (Given tests frequently at regular intervals (say after one month) without giving knowledge of results to the subjects).
Group A became C3 - Experimental Group II (Given tests frequently at regular intervals (say after one month) along with giving them the knowledge of their results).

After the sixth test paper administered in April, 1975, the testing programme was postponed as per provision in the plan.

After summer vacations the institutions reopened on 8th July, 1975. The researcher reviewed the course book of arithmetic for Class VIII and selected three topics which could be taught within the period of 3 months. The researcher attained facilities of time table, class-rooms and teachers from the authorities. Again the groups were rotated consequently the position of each group was changed in each institution. Teaching of selected topics was started under the direction of the researcher in July, 1975. The first test of term III or the seventh test of the whole testing programme was administered on the subjects in August, 1975. The position of each group in each school during this term III was as under:

TERM III - AUGUST, 1975 TO OCTOBER, 1975

Group C became C1 - Controlled Group (Given test after three months).

Group A became C2 - Experimental Group I (Given tests frequently at regular intervals say after one month without giving knowledge of results to the subjects).

Group B became C3 - Experimental Group II (Given tests frequently at regular intervals say after a month along with giving them the knowledge of their results).
After administering the last (ninth) test paper in October, 1975, the testing programme was completed. The achievement scores secured by each subject of the sample in each test paper were recorded. Each subject of each group in each institution was tested repeatedly seven times - once under controlled condition, thrice under condition of Experimental Group I and thrice under condition of Experimental Group II. The researcher computed mean score of each subject of each group of each school of the three scores secured by him/her when placed in Experimental Group I. This mean-score was named as M1. Similarly M2 - mean-score of the three scores, achieved by the individual subject when placed in Experimental Group II was also computed.

Thus the researcher got scores of three type of each subject of his sample viz., (1) score under controlled condition, (2) M1 - mean-score under condition of Experimental Group I, and (3) M2 - mean-score under condition of Experimental Group II, as data for comparison as well as for analysis and statistical treatment.

2. VERIFICATION OF HYPOTHESES

The researcher computed mean of all the scores achieved by all the subjects in each group in every term of each school and compared them. This comparison clearly shows the following results:

(1) Frequent testing does motivate the students for harder labour and brings about better results than in-frequent testing that is, test given at the end of three months.

(2) Frequent testing with knowledge of results stimulates the students and it brings about better results than frequent testing without giving them the knowledge of their results.
Further the data were analyzed in two ways -

(1) Data of matched pairs groups (Correlated) under equal locations was analyzed by The Wilcoxon Matched Pairs Signed Rank Test.

(2) Data of independent groups boys and girls, uncorrelated under unequal locations was analyzed by The Wilcoxon Rank Sum Test.

In the analysis of both the type, the results evidently favoured by the findings obtained by comparing the means of the groups. The Null Hypothesis was rejected in each case. It clearly shows the following two results:

(1) That the achievement scores obtained by frequent testing are superior to those obtained by giving tests infrequently.

(2) That the achievement scores obtained by frequent testing along with giving them knowledge of results are always better than those obtained by frequent testing without giving them the knowledge of results.

Thus frequent testing with knowledge of results produces results superior to frequent testing without knowledge of results as well as to infrequent testing.

3. CONCLUSIONS

After computing means of each group and after comparing these means of the achievement scores of different groups as well as after testing the hypotheses laid down in this study, the researcher arrived at the following conclusions:

(1) That frequent testing does motivate the students and stimulates their learning.

(2) That frequent testing along with an early release of knowledge of results to students regarding the test held, also serves the purpose of motivation for the subjects and helps in their learning.
(3) That in case the tests are held frequently, the learning process will move on in a better way because the frequent tests serve as a feedback to both the teachers and the students for desirable modifications in teaching method and learning procedure. Tests are an integral part of the activities in the field of learning.

(4) That frequent testing stimulates the students for continuous and regular study and becomes useful for effective learning. Some educationists wrongly believe that frequent testing causes students to adopt the habit of cramming. Here the researcher concludes that cramming is not the fault of testing system, it is the product of the type of material on the test. Thus such questions as demand the use of knowledge and thinking, in place of the straight recall, should be used in the frequent tests to avoid cramming.

(5) That students should be given the knowledge of the results as early as possible to enable the students to overcome incorrect responses and to diagnose their difficulties and to learn the method of removing them. Hence the more frequently the tests are held and the earlier, the knowledge of their results given, the better and the more effective learning will take place.

(6) That the first two or three tests in the very beginning of frequent testing programme may not show better results than in-frequent testing. But in the long run, the frequent testing repeatedly held at regular intervals for the fifth and sixth time, certainly brings about better results than testing held infrequently after long gaps.
(7) That frequent testing held repeatedly makes students highly satisfied. Their mood is one of alertness rather than anxiety. They are relaxed during examinations and their morale is high.

(8) That frequent testing provides students a stimulus and a way to master material which is neglected by students in conventional method of examination given after long gap of three months.

(9) That frequent and repeatable tests provide an excellent atmosphere for scholarly activities of the beginners.

4. LIMITATIONS OF THE STUDY

The researcher, in the course of the completion of the testing programme planned for the study, realized some difficulties in drawing reliable and accurate results. Thus the investigator wishes to point out those limitations which are as under:

(1) The sample of this study was a small one between 20 to 24 subjects and a small sample sometimes becomes a reason for inaccurate and unreliable results.

(2) The testing programme of the researcher passed through two academic years i.e. from November, 1974 to October, 1975, covering courses of Class VII and a part of Class VIII.

(3) Traditional type of sums produced a difficulty of objective marking on account of a lack of objective marking in essay type papers.

(4) The duration of the test paper was three hours — a lengthy and boring one for both the teachers and the students.

(5) The subjects in the sample were students of Class VI to VIII, of immature age in giving co-operation in the programme of testing.
(6) Girls in the sample showed less interest in 'arithmetic' than the boys as this subject is generally neglected by the girls after passing Class VIII in this province of Uttar Pradesh. As arithmetic is not compulsory subject for High School for Girls. It has been replaced by 'home science' which is compulsory for High School girls.

(7) The sample of the researcher in this study was mixed regarding sex i.e. it contained both boys and girls. Sometimes the result is affected as there exists some difference in the male and the female sex.

(8) The frequent tests were administered after one month. Gap of one month is a lengthy period and involves much course to learn and produces a difficulty for the subjects to learn and a difficulty for the teacher to touch every type of sum in setting the test paper.

5. SUGGESTIONS FOR FURTHER STUDY

The researcher feels his duty to give some suggestions based on his own research work, for the guidance of the students interested in making further study of this problem. These are as under:

(1) Suggested that a larger sample should be chosen for frequent testing for more accurate and more reliable results.

(2) Suggested that the frequent testing programme should be planned with a view that it should be completed within one academic year i.e. from July to April every year to avoid a gap of some months on account of annual examination and summer vacations.

(3) Suggested that only the objective type of sums should be set in the test papers to avoid the difficulty of objective marking of traditional type of sums.
(4) Suggested that the duration of each test in frequent testing should be short, say an hour or 40 minutes and the number of objective sums should be more, say up to 40 sums in 40 minutes or 60 sums in an hour.

(5) Suggested that the sample should be selected from secondary classes IX to XII because the students of these classes are of matured age and can be easily convinced for fuller co-operation in the testing programme.

(6) Suggested that any subject other than 'arithmetic' should be chosen for frequent testing for a mixed sample of boys and girls for example Science, Geography, History or Language because girl students are generally weak in arithmetic.

(7) Proposed that the sample for the study should be wide enough of exclusively boys or exclusively of girls to achieve a clear and more reliable results because sex difference is always there.

(8) Suggested that frequent tests should be administered weekly or fortnightly at regular intervals in place of holding after a month. It will avoid the difficulty of lengthy courses for the subjects to learn and facilitate them to prepare easily.

(9) Conventional examinations provide only a single opportunity to show knowledge, and diagnostic information cannot be used to improve one's grade. Therefore, frequent testing should be adopted to allow the students more than one chance to demonstrate competence with material.

(10) Moreover frequent testing releases the student from his inner conflict between fear and fatigue, he has the opportunity
to set a humane pace of study for himself to show improvement in the subsequent tests.

These are some of the suggestions which if taken into consideration, will go a long way in improving teaching-learning process.