SUMMARY AND CONCLUSIONS

CHAPTER 5

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Teaching is the art of disseminating information to the learners in a classroom. It is looked upon more as a science rather than an art, and is recognized as the tool for bringing in changes in an orderly manner.

Education appears to be as old as the human race, though in course of time its meaning and objectives have inevitably undergone certain changes. It is the development of the power of adaptation to an ever changing social environment. It refers to any act or experience that has a formative effect on the personality of an individual, and is the process by which and through which experiances of knowledge, skills and attitudes are transmitted to the members of the community.

The present era is passing through a period of silent revolution in the field of education. Knowledge grows and accumulates at a rapid pace. The exponential rate at which new knowledge is generated makes the process of education complex. The new development in the field of science and technology of the current society also demands some solution to the problems in education, for which technology or automation is the only answer.

Technology is understood as a science of techniques and methods of doing or getting things done, related to any art,

science or to a particular profession. Accordingly, educational technology can be conceived as a science of techniques and methods by which educational goals can be achieved.

The aim of educational technology is not only to make education more widely available but also to improve the quality of existing education. Developments in technology bring about changes in the educational goals which, in their turn, stimulate the emergence of newer techniques. The need for radical changes in educational technology with a view to keeping up with the ever-increasing volume and variety of knowledge has been recognized as an inevitable phenomenon in the changing process of higher education. The lecture method which is the conventional method of collegiate teaching cannot meet the new demands of demands of education as the student is merely a passive listener. The teaching process has to change and become a student centered activity. The main goal in education should be on the awakening of curiosity, the stimulation of creativity, the development of proper interests, attitudes and values and the building of essential skills such as independent study and capacity to think and judge for ourself. For this purpose, materials may be presented in a form in which they are irresistably learnt. Materials should be so structured that they are readily grasped. Students must be encouraged to explore, to ask questions, to study themselves and to be creative. The teachers also realize the need for presenting different

learning experiances to suit individual differences among pupils and attempt to use media and methods generated by technology.

Programmed instruction which represents instructional technology aimed at developing a mastery over specified goals to secure insured learning. It involves carefully specified and skillfully arranged learning experiences that enable the learner to work at his or her own speed to achieve success. The programme embraces both the factual matter of the subject and the skills involved in learning patterns, using every aspect of reinforcement theory to lead a student to a full understanding of its materials.

Programmed learning has been successfully used in promoting Home Economics education in U.S.A. In India though a number of successful studies had been conducted on programmed learning to establish its suitability as self-instructional material or as an aid and also to establish its effectiveness when compared with the conventional method of teaching, the department of Clothing and Textiles still had to make a start in this area.

Since self instructional materials have a number of advantages over the other methods of teaching, and researchers have proved that students have learnt effectively from them, the investigator decided to develop instructional material for selected aspects of Children's Clothing course, and study its effectivensess by experimenting in the

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classroom. From the course content, the topic, "Clothing for the pre-school child" was selected.

Clothes play an important role in the life of a child. Pre-school age is the most active period in the life of a child when new mascular skills are acquired and the child develops from an almost helpless baby into a relatively independent school boy or girl. Since the total development depends on the activities of the child, it is important that the clothes are well fitted and well constructed so that they do not bind or constrict any part of the body. The workmanship on children's clothes should be of such a quality as to withstand frequent laundering and hard wear. Seams should be soft to prevent irritation and finished well so that they do not pull out and ravel with constant wear and washing.

Construction of garments is a technical accomplishment requiring knowledge of construction and skill in constructing so that the workmanship is of an acceptable standard. Development of skill is a complicated process for which a need was felt for genuine changes in the teaching-learning process so that learners could learn at their own rate. It was felt that development of instructional material on selected aspects of children's clothing course would help to inculcate in the learners knowledge and skill in clothing construction. It would enable them to learn about children's clothing at a speed challenging to their individual capabilities.

Keeping this in mind, the present investigation was undertaken to develop and evaluate a set of instructional material on "Clothing for the pre-school child" under which, the theoretical aspect included the knowledge on suitable clothing for preschool children, selection and buying of fabrics or garments and their care. The practical aspect included stitching of garments for pre-school children.

5.1 Objectives

This study was planned with the following objectives in mind.

1. To develop instructional material for selected aspects of "Children's Clothing" course which can be used to ensure that students will master the knowledge and skills involved.

2. To appraise the utility of the instructional material for teaching children's clothing by conducting experiments with two groups of students - one taught by the instructional material and the other taught by the conventional method of teaching.

3. To determine the differences in the achievement level of students taught by the instructional material and students taught by the conventional method.

4. To study the difference in the achievement level of students taught by the two methods according to their

intelligence, grades in English and Clothing & Textile course in the previous semester.

5. To make the students realize the quality of their workmanship through self evaluation.

6. To study the reaction of students towards self-instructional materials.

5.2 Null Hypothesis

1. There will be no significant difference in the achievement level of the students taught by the instructional material and students taught by the conventional method.

2. There will be no significant difference in the achievement level in the IRT (immediate retention test) and the DRT (delayed retention test) of students taught by the two methods.

3. There will be no significant difference in the achievement level in the IRT and DRT of students taught by the two methods due to -

   (a) their level of intelligence

   (b) their grades in English subject in the previous semester

   (c) their grades in Clothing & Textile course in the previous semester.

4.   There will be no significant difference in the reaction
      of students in relation to their achievement in the
      IRT.

5.3   Delimitations of the study

1.   The study was limited to the second year B.Sc. (Home
      Science) students registered in the year 1989 in the
      Faculty of Home Science, Assam Agricultural University,
      Jorhat, Assam.

2.   The experiment was limited to the teaching of selected
      aspects of "Children's Clothing" course.

3.   The practical aspect was limited to one garment style
      only.

5.4   Method of Procedure

      The experimental procedure consisted of pre-test,
experimentation and post-test design.

      For preparing the instructional material, a topic,
"Clothing for the pre-school child" was selected from
"Children's clothing" course by lottery method. Media for
presentation of the topic was selected according to the media
selection charts presented by Andersons (4). These charts
suggested the use of programmed learning material (PLM),
printed instruction and sample pieces for the selected topic.
Accordingly PLM was used for the theory section and detailed
printed instructions with illustrations and sample pieces

were used for the practical section.

The contents of the selected topic were analyzed and a flow chart was designed for presentation of the contents in a proper sequence. The linear style of programming was used for preparing the instructional material. The prepared programme was given to experts for their suggestions. It was revised on the basis of comments received from judges and then finalized through individual tryout.

A sample of thirty Second Year B.Sc. (Home Science) students were selected for the study. Only those students who had 100 percent attendance during the programme were included in the study.

For implementation of the programme, the whole class was divided for two similar groups according to their scores on the intelligence test. The difference in the means of the two groups on the intelligence test was statistically tested using the 't' test and found to be not significant. The groups were therefore considered to be equal in intelligence.

A pre-test was conducted before starting the teaching programme. The two groups were randomly assigned to the conventional (lecture-demonstration) method and the instructional method of teaching by using the lottery system. Group 'A' was taught by the conventional method in which the usual lecture and demonstration procedure was followed. Group 'B' was taught by the instructional materials prepared by the investigator.

All the students were instructed to work in the department only. Extra classes were arranged for both the groups during their free time. Student of group 'A' were taught by the teacher, whereas students using the self-instructional materials were asked to work on their own. Help was given to them only when asked for. On completion of the programme, a post-test (IRT) was conducted. The same test was re-administered after a period of one month for delayed retention.

The reaction of the students taught by the instructional material towards self-instructional materials was taken on a scale developed by the investigator on the basis of the scale standardized by Govinda.

The grade points of students in English and Clothing & Textile courses in the previous semester were collected from the Academic cell of the Faculty for use in the analysis of the collected data.

Data collected was coded and statistically analysed to conclude the finding of the study.

Frequency and percentages were calculated to know the distribution of the students according to the variables. The means and standard deviations of the scores were calculated and the difference in the achievement of the two group was determined using the t' test. The product-moment corelation technique was used to calculate the corelation of the

achievement scores with variables included in the study.

5.5   Major findings   .

The sample for the study consisted of 30 students belonging to the second year B.Sc class who had registered at the Faculty of Home Science, Assam Agricultural University, Jorhat in the year 1989. The age of these students ranged from 18yrs 11 months to 22 yrs 5 months. The modal age was 20yrs.

This study was a comparative study in which group 'B' taught by the instructional material was compared to group 'A' which was taught by the conventional method. Thirty students were divided into two gruops of fifteen students each according to their scores in the intelligence test. The two groups were not identical. The mean of the scores obtained by the two groups were compared using the 't' test. The value of 't' obtained was 0.4618 which was very much below the tabulated value of 2.05 at 0.05 level and 28 degrees of freedom, showing that the difference in the means of the two groups was not significant. As a result the two groups were treated as equal.

To study the effectivenss of instructional ·material, the students were further divided into two categories of high and low according to their intelligence, their scores in the English course in the previous semester and their scores in Clothing and Textiles course in the 1st year B.Sc. (Home

Science).

Raven's standard Progressive Matrices which were used to measure intelligence have categorized the scores into five grades. Since there were no students in the last grade of intellectually impaired, the other four grades were converted into two categories of high and low with two grades in each.

In the case of English and Clothing and Textiles scores, the students obtaining average and above were categorized as high and those students obtaining below average were categorized as low. The percent distribution of the students in the high and low categories according to intelligence and English was exactly the same, i.e. 63.33 percent in the high category and 36.67 percent in the low category. When distributed according to Clothing and Textiles, the high category had 56.67 percent students and the low category had 43.33 percent.

To study the overall effectiveness of the IM, the mean and standard deviation of pre test, IRT and DRT were calculated and the differences were compared using the 't' test. The mean score of group 'A' on the pre test was 16.7 (27.83 per cent) and that for group 'B' was 15.1 (25.17 per cent) with a standard deviation of 4.5 and 4.75 respectively.

The mean score on the IRT for group 'A' was 42.17 (70.28 percent) and that for group 'B' was 47.5 (79.17 percent) with a standard deviation of 6.91 and 7.65 respectively. The difference in the mean achievement of the

two groups on the IRT was tested using the 't' test. The obtained value of 't' was 2.342 which was higher than the tabulated value of 2.05 at 0.05 level and 28 degrees of freedom, showing that the difference in the mean achievement of the two groups on the IRT was significant, group 'B' taught by instructional material achieving higher.

The actual gain of the students in the IRT was measured by subtracting the pre-test scores from the IRT scores. The mean gain by group 'A' was 25.47 (42.43 percent) and that by group 'B' was 32.40 (53.33 percent). The difference in the mean gains of the two groups was tested using 't' test. The value obtained for t was 2.86 which was very much higher than the tabulated value of 2.05 at 0.05 level and 28 degrees of freedom, signifying that the difference in the means of the two groups was singificant, group 'B' taught by IM achieving higher.

The null hypothesis stating that there will be no significant difference in the achievement of the two groups in the IRT was therefore rejected for theory.

In the case of DRT, which was a sudden unanounced test one month after the completion of the programme, the mean score of group 'A' was 40.00 (66.67 per cent) and that of group 'B' was 44.30 (73.83 percent) with a standard deviation of 5.42 and 8.13 respectively. The difference in the means of the two groups was tested using the 't' test for which the value obtained of 2.53 was greated than the tabulated value

of 2.05 at 0.05 level and 28 degrees of freedom, indicating that the difference in the means of the two groups was significant. This shows that students taught by IM could achieve better than the students taught by the conventional method of teaching even in the delayed retention test.

The null hypothesis stating that there will be no significant difference in the mean DRT scores of the two groups was therefore rejected.

The garment included in the study was a baby frock for which the paper pattern was provided. Group 'A' stitched the frock with the guidance given by the teacher in the conventional method, whereas group 'B' had to stitch on their own using the instructional material provided. The second garment was stitched as a test to know how much the students had learnt from the stitching of the first garment. It was the same as the first except for smocking which was used as a means of decoration in the first. Paper pattern was provided but no instructions were given to stitch the second garment. Scoring was done by three experts from Clothing and Textiles department and the mean of their scores were taken on both the garments.

For the first garment, the mean score of group 'A' was 82.27 percent and that for group 'B' was 80.88 per cent with a standard deviation of 5.60 and 5.34 respectively.

The scores on the second garment were lower than that in the first. The mean of group 'A' was 76.06 percent and that for group 'B' was 75.69 per cent with a standard deviation of 11.13 and 8.55 respectively.

The difference in the means of the two groups in the first garment were compared and the value obtained for 't' was 0.673, which was very much below the tabulated value of 2.05 at 0.05 level and 28 degrees of freedom, indicating that the difference in the means of the two groups was not significant.

The difference in the means of the two groups in the second garment was also tested and the value calculated for 't' was 0.099 which was very much below the tabulated value at 0.05 level and 20 degrees of freedom. This shows that students of both the groups had learnt well to construct the frock.

The null hypothesis stating that there will be no significant difference in the achievement of the two groups was therefore accepted for practical.

After stitching of the first garment, the students were explained about 'quality workmanship'. In order to make them understand the quality of their workmanship, and realize their own mistakes, they were asked to evaluate their first garment and the scores obtained were compared with the scores given by experts. To study the difference in the means of the two groups in the expert evaluated scores and self

evaluated scores, 't' test was used for which the value obtained for 't' in both the groups were much below the tabulated value at 0.05 level and 28 degrees of freedom, indicating that the difference was not significant. This shows that the students of both the groups had evaluated their garments correctly relaizing their own errors.

When categorizing the IRT scores into high and low categories according to the variables, it was seen that group 'B' which was taught by IM always achieved higher than group 'A' both in the high and low categories of all the three variables, though the difference in the means of the two groups only in the categories of high in English and high in Clothing and Textiles were significant at 0.05 level.

When the DRT scores were categorized into high and low categories according to the variables, it was seen that group 'B' had always achieved higher in all but one category and that was low in Clothing and Textile. The difference in the means of the two groups was significant at 0.05 level only in the category of high in Clothing and Textiles.

The fact that students taught by IM have achieved higher in IRT and DRT in all categories except one (and that too the difference was not significant) indicates that the programme prepared was understandable by all. The programme appears to be an effective method of teaching Clothing and Textiles.

When the scores for the first garment were categorized according to high and low categories of the different variables, it was seen that among the six different categories, in four of them, group 'A' achieved more than group 'B', though the difference was never significant. In the category of high in intelligence and low in English, it was group 'B' who achieved higher, though by a very negligible amount. This shows that English language as such, in which the programme was prepared had no effect on the achievement of the students, which again indicates that the programme prepared was simple and easy to understand.

For the second garment, it was seen that for half of the times it was group 'A' who achieved high and in the other half it was group 'B' who achieved more, though the difference in the means was never significant. This means that students of both the groups had learnt well and that both the methods were equally effective for teaching clothing construction.

On studying the correlation between the different variables for group 'A', a significant correlation at 0.05 level was seen between IRT and DRT, intelligence and Clothing and Textiles, English and DRT, English and second garment, Clothing and Textiles and DRT and between Clothing and Textiles and the second garment. A high degree of correlation, significant at 0.01 level was found between English and Clothing and Textiles.

For group 'B', correlations significant at 0.05 level were between IRT and second garment, and between Clothing and Textiles and DRT. The high degree of correlations between IRT and DRT, and between first garment and second garment significant at 0.01 level justify the fact the students studying on their own through IM had learnt better and so their scores were very much consistent and highly correlated in repeat performance which was not the case with group 'A'.

All the students taught by IM had a favourable reaction towards self instructional material. The difference in the mean reaction scores of the high and low achievers in IRT was studied using the 't' test and the value of 't' obtained was 1.589 which was below the tabulated value of 2.16 at 0.05 level and 13 degrees of freedom. This indicates that the difference in the mean reaction of high and low achievers was not significant. The correlation between IRT and the reaction scores was also not significant.

The hypothesis stating that there will be no significant difference in the reaction of the students in relation to their achievement in the IRT was therefore accepted.

5.6 Conclusions

As far as the use of instructional material for teaching Children's Clothing to the second year B.Sc (Home Sc.) students is concerned, certain conclusions can be drawn

on the basis of the findings of this study.

When the students taught by instructional material were compared with students taught by the conventional method, it was found that the students taught by the IM had performed better than the students taught by the conventional method in theory both for immediate retention as well as for delayed retention. In the practical, the two groups had performed equally well as the difference in the means of the two groups was not significant. Thus it can be concluded that the prepared IM was very effective as a teaching method for teaching the chosen aspects of Children's Clothing course.

The variables namely intelligence, English scores and Clothing and Textiles scores did not have any marked effect on the achievement of the students. From this we can conclude that the programme prepared was effective and was understanable by all.

Any new programme, however effective or good it may be, cannot be put into practice if the students in general do not have a positive reaction or attitude towards it. The favourable reaction of the students towards self - instructional materials indicate that the programme can be put into practice.

On the whole, it can be concluded that the IM was very effective in teaching Children's Clothing to the second year B.Sc. (Home Sc.) students and can be adopted for use in the classroom.

However, as the content taught was limited and the sample size was also small, it is difficult to make generalizations regarding the use of IM in Clothing and Textiles. The same IM may be used for further research on a different sample, or different media may be experimented for the same content. Attempt can be made to teach other topics in Clothing and Textiles through different media or media combinations.

5.7 Recommendations :

1. A video cassette can be made using the same programme and be used for teaching and its effectiveness tested.

2. The programme can be translated into the local language and used for extension work.

3. Similar programmes can be made in other courses in Clothing and Textiles.

4. Different programmes can be made to suit the different populations.

5. Different multi-media strategies can be tried out to teach Children's Clothing and other courses in Clothing and Textiles.

6. A computerised programme can be developed for use in a class-room.