A STUDY OF COST EFFECTIVENESS OF TRAINING MODALITIES IN POPULATION EDUCATION

SYNOPSIS

for the Degree of DOCTOR OF PHILOSOPHY (EDUCATION)

by SAROJ BALA YADAV

Supervisors
Prof. R.P. Srivastava
Department of Teacher Training and Non-Formal Education
Jamia Millia Islamia
New Delhi 110025

Prof. N.K. Jangira
Head
Department of Teacher Education and Special Education, NCERT
New Delhi 110016

DEPARTMENT OF TEACHER TRAINING AND NON-FORMAL EDUCATION
JAMIA MILLIA ISLAMIA
NEW DELHI
May. 1993
SYNOPSIS

The Context

The population pressure in developing countries is the major roadblock in improving the quality of life of its people. In a number of developing countries the fruits of development are not only neutralised but also become invisible due to higher rate of population growth. In our own country, this fact can be conspicuously felt. The positive effects of development cannot be felt unless the population is controlled through systematic planning and education. In the absence of these efforts, the threat to environment also looms large.

Conscious of the negative effects of higher rate of population growth, India planned a number of initiatives. One of these initiatives, refers to education. The young generation studying in school on population related issues. It serves the purpose of developing and informed generation and at the same time avail of the trade off in the forms of transmission of knowledge about these issues from child to parents. The effectiveness of the population education programme
depends, to a large extent, on the effectiveness of teachers. As teachers' behaviour is an important variable in the teaching-learning process, learning in children depends, to a great extent, on teaching competencies of teachers. Teacher's competency to a great extent depends on the training. Teacher training is considered as one of the vital components particularly in an area which is value laden. The training of teachers at the secondary level becomes more important as teachers have to teach students who are in adolescent stage. It is during these years that population related attitudes, habits and thinking are formed. In order to educate them about various population issues and enable them to take rational decision, on various aspects of life the secondary school teachers play very important role. The effectiveness of the teachers, in its turn, depends upon the effectiveness of the training they receive. The training programmes have to be cost effective so that millions of teachers can be trained within the limited resources and reasonable time span.

Related Studies

Though no study on cost effectiveness of training modalities in population education was found, various
studies reflected on the cost effectiveness of population programmes, particularly family planning and health programmes. Sirageldin et. al. (1983); Mitra (1982); Mehta (1982); Reinke (1974); Stewart and Blumenfeld (1970) and Castadot (1975) studied cost-effectiveness of family planning programme.

Tatto, Maria et. al. (1980) studied the cost effectiveness of inservice training programme and found distance education as a cost effective training programme. Ramachandran (1974); Garcia (1979), SIERT (1988); SCERT (1983, 1984); Mishra (1988); IIPS (1990); SIE (1992) and Giri (1992) studied the effectiveness of inservice face-to-face training programme and found positive change in awareness and attitude of teachers and other functionaries towards population related issues and ideas. Effectiveness of different teaching methods are reflected in the work of Parameswarappa (1975); Robin (1975); Villanueva (1976, 1977); Jayasuriya and Krystall (1980); Kumar (1984); Kathuria (1984); and Kaur (1990).

The Problem

The specific problem can be stated as "A Study of Cost Effectiveness of Training Modalities in Population Education".
The present study purports to investigate the cost effectiveness of three training modalities, namely, Face-to-Face Interaction Mode, Self Learning Individual Mode and Self Learning Paired Mode.

Objectives

The study purported to achieve the following objectives.

1) To study the training gains in terms of awareness of population related issues in teachers trained through the three modalities.

2) To study the training gains in terms of attitude change towards themes and messages of population education among teachers trained through the three modalities.

3) To study the cost of training teachers in population education using three modalities.

4) To study cost effectiveness of the three training modalities used for teacher training.

Hypotheses

The following hypotheses were formulated for the study:

H1: There is no significant difference in the mean gain scores of groups of teachers with regard to
awareness of population related issues under the three modalities.

H2: There is no significant difference in mean gain attitude scores of teachers on population related ideas and themes under the three training modalities.

H3: There is no difference in the per unit cost of teacher's trained through the three modalities.

H4: There is no difference in the cost effectiveness of teachers trained through the three modalities with regard to awareness of population related issues.

H5: There is no difference in cost effectiveness of the three modalities with regard to attitude change in teachers.

H6: There is no difference in the cost effectiveness of the three training modalities both in respect to awareness and attitude.

H7: The gain in awareness of teachers is related to the sex of the teachers.

H8: The gain in awareness of teachers is related to the age of teachers.

H9: The gain in awareness of teachers is related to the academic qualifications of the teachers.
H10: The gain in awareness is related to the professional qualification of the teachers.
H11: The gain in awareness is related to the teaching experience of the teachers.
H12: The gain in attitude change is related to the sex of the teachers.
H13: The gain in attitude change is related to the age of teachers.
H14: The gain in attitude change is related to academic qualification of the teachers.
H15: The gain in attitude change is related to the professional qualification of the teachers.
H16: The gain in attitude change is related to the teaching experience of the teachers.

Delimitation

Due to the constraint of resources, the study was delimited in several ways. It was limited to the schools in one district of a state. Being experimental study, the tests had to be personally administered. So, the subjects were to be kept within a reasonable geographical range. It could have been teachers across educational stages, but it was confined only to secondary school teachers.
Procedure

Design and Methodology

The study employed pretest and postest design. It involves study of effect of independent variables, (training modalities) on dependent variables, namely, awareness and attitude of teachers. Though complete control over all the intervening variables was not possible, efforts were made to control some. Some factors were controlled in the design itself.

Sample:

96 secondary school teachers teaching in rural schools from Gurgaon district were selected through stratified random sampling technique. For two modalities one teacher from one school, whereas for third modality two teachers from one school were selected.

Tools

In order to collect the data the following tools were used:

1) Population Education Awareness Test

2) Population Education Attitude Scale

3) Training Cost Assessment Sheet
Data Collection

For data collection first of all rapport with the District Education Officer, principals and teachers was established. List of schools and teachers were procured. Modalitywise allocation of teacher's list was prepared. Population education awareness test and attitude scale were administered before training. Then teachers were given treatment under the three modalities. After the training posttest was administered. Data on cost was collected through training cost assessment sheet, by studying cash book and account book and through personal discussion with the project staff of SCERT.

In order to test the hypothesis relating to the effectiveness of three training modalities analysis of variance, F-test, t-test and Chi-square test were used.

Findings

The significant findings emerging from the study are given below:

(A) Teachers Training Effectiveness

1. Teachers awareness on population issues improves after training under all the three modalities.
2. Face-to-Face training modality is effective than Self Learning Individual Mode and Self Learning Paired Mode. The teachers trained through the Face-to-Face training modality scored higher (32.13 mean score) than Self Learning Individual Mode (27.83 mean score) and Self Learning Paired Mode (31.37 mean score).

3. There is a significant difference in the awareness level of teachers trained through three modalities.

4. Teachers trained under Face-to-Face and Self Learning Paired Mode show improvement in the attitude towards population related ideas and themes. Attitude scores of teachers trained under Self Learning Individual Mode show negative change in the attitude as the mean scores declined from 127.07 to 124.99.

5. There is no significant difference in the change of attitude of teachers trained under three modalities.

(B) Teachers Variables and Training Effectiveness

1. When viewed sexwise, no significant difference was seen among the male and female teachers trained under the three modalities.
2. Age of the teachers is related to population awareness under Self Learning Individual Mode. The teachers of higher age performed better on population related issues, whereas under Face-to-Face and Self Learning Paired Mode age is not found related to population awareness.

3. Under Self Learning paired Mode and Self Learning Individual Mode, academic qualifications have no significant influence on the awareness level of teachers. However, in Face-to-Face Interaction strategy, teachers of higher academic qualification showed more awareness on population issues.

4. Professional qualification of teachers grouped under the three modalities is not related to post training awareness level of teachers regarding population issues.

5. Teaching experience of the three groups of teachers is not related to the post training awareness level of teachers regarding population issues.
6. There is no significant difference in the attitude of male and female teachers towards population related themes and messages under the three modalities.

7. Age is not a significant factor affecting the attitude of teachers towards population related themes and messages under the three modalities.

8. Academic qualification does not influence attitude of teachers towards population related ideas and messages under Self Learning Individual Mode and Self Learning Paired Mode. However, academic qualification under Face-to-Face Interaction influences the attitude of teachers.

9. Academic qualification has been found related to both awareness and attitude level in the post training stage under Face-to-Face Interaction Mode. Higher academic qualification helps the teachers in positively changing the awareness and attitude towards population related themes and messages.

10. Teachers having B.Ed. degree and teachers having M.Ed. degree in three groups do not differ
significantly in relation to attitude towards population related themes and messages.

11. Teaching experience of different groups of teachers trained under the three modalities is not related to attitude towards population related themes and messages.

(C) Cost Effectiveness of Training

1. Face-to-Face Interaction Mode has the highest mean gain scores both for awareness and attitude whereas Self Learning Paired Mode has the second largest mean gain score for awareness and attitude towards population related issues and ideas.

2. Self Learning Paired Mode is the least costly modality and Face-to-Face Interaction Mode is most costly modality.

3. Self Learning Paired Mode is the most cost effective.

Implications

Policy Makers

In the overall effectiveness of three training modalities, Face-to-Face interaction emerged as more effective than the other two modalities. It is however costlier. When cost per unit and outcomes are taken
together the Self Learning Paired Mode is the most effective. It is more effective than the Self Learning Individual Mode. The reason appears to be that in this modality the opportunity to discuss and share learning with a colleague improves their understanding of the issues on an area in which attitude and values are important. This type of interaction assumes significance. This is the reason that the Face-to-Face interaction modality was most effective. The Self Learning Paired Mode has the advantage of plus points from both the other modalities and within reasonable cost. This modality, therefore, needs to be incorporated in the plans for training teachers.

Researchers

This study was confined to only three modalities in schools within a district. More studies need to be generated through:

(a) increasing the number of modalities (taking from other studies);

(b) including school climate as also one of variables;

(c) improving learning packages by including audio video materials;
(d) extending measurement of outcomes periodically after the experiment to study the sustenance of the training effects.

(e) linking the training to classroom practice by including classroom observation to study the extent of transfer of training effects to learning;

(f) further refinement of cost effectiveness measures; and

(g) the use of multivariate design to study the interactive effects of the variables affecting the training effectiveness.

Teacher Educators

As Face-to-Face interaction modality has emerged as more effective than the other two modalities and Self Learning Paired Mode has emerged as the more cost effective than the other two modalities, the implication is that the teacher educators should provide opportunity for peer interaction on population related issues. Even in the Self Learning materials such interactive activities should be provided. In the support programme of school visits, the teacher educators may encourage discussion among teachers.
Conclusion

The study has yielded findings relating to the training for secondary teachers in the area of population education. Despite the limitation specified in the study it indicates a trend towards better learning through the use of self learning material supported by peer discussion. There is always a scope for the improvement of design, treatment measurement and analysis of the data. It is hoped that the future researchers will carry this work forward thorough improvement in all these aspects as suggested in the preceding section. It is also entering policy research in manpower development for population education. An auspicious augury indeed!