

Relative Effectiveness of Extension Teaching Methods in Retention of Knowledge by Farm Women

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Introduction

Research institutes and other organizations engaged in agricultural research give out many ideas, new technologies and innovations of interest to the farming community. An innovation may be a new variety of a crop, breed of animal/ poultry, a new implement or a method to prepare a processed product. These technologies cannot be locked within the four walls of the laboratories, where they originated. They need to be transferred to the ultimate users of the technology, i.e. farmers or homemakers. However there is a wide gap between technology development, dissemination and adoption (Khanna, 1977).

In order to communicate an idea or a technology, extension professionals use different methods to communicate the message effectively. Extension teaching methods may be defined as the devices or tools used to create situations in which communication can take place between the instructor (extension worker) and the learner (farmers). The success of an extension worker depends upon his ability to select and use the best combination of extension teaching methods.

Pomegranate has become a commercially important horticultural crop in Maharashtra State. The processing technology of pomegranate has assumed great importance. Considering the involvement of farm women in agriculture, it is essential to impart scientific knowledge of pomegranate processing technology (PPT) through effective extension teaching methods.

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The present study was undertaken with the following objectives:

1. To measure the relative effectiveness of selected extension teaching methods in terms of retention of knowledge of pomegranate processing technology,
2. To study the relationship between the various characteristics of farm women and retention of knowledge.

Methodology

Ahmednagar district of Western Maharashtra is one of the districts in the state where pomegranate is grown extensively. The Sangamner tahsil, having an area of 1210 ha. under pomegranate cultivation was selected for the study. The pomegranate processing technology (PPT) developed and recommended by Mahatma Phule Krishi Vidyapeeth, Rahuri was selected for the study. Accordingly, a video cassette, audio cassette and a folder were prepared and these extension teaching methods were applied singly and in combination, in order to know their effectiveness in terms of retention of knowledge. A sample size of 200 farm women respondents from 5 villages of Sangamner tahsil were selected for the study. The 'One Group-Before and After', experimental design was used for the study. Accordingly a knowledge test was administered to the sample groups before the treatment (pre-test), immediately after the treatment (post-test) and 15 days after the treatment (post delay test). An interview schedule was prepared in line with the objectives of the study. The paired 't' test and correlation coefficient were used for analysis of the data. Karl Pearson's correlation coefficient (r) was computed for testing the relationship of variables.

Findings

The findings of the present study are given below.

Effectiveness of Selected Extension Teaching Methods

The amount of knowledge retained by the respondents 15 days after exposure to the respective extension teaching method was computed from the

difference between the mean knowledge gain score, immediately after exposure and mean knowledge retention scores 15 days after exposure. It was compared by using paired 't' test and the results are presented in Table 1.

Table 1. Effectiveness of extension teaching methods in retention of knowledge

Extension teaching methods	Mean knowledge score			Difference (IAT-15 DAT)	Standard deviation	't' value	Rank
	BT	IAT	15 DAT				
Audio Cassette	0.00	7.62	4.70	2.92	3.1946	5.78**	V
Folder	0.00	9.90	7.20	2.70	4.4396	3.84**	IV
Video Cassette	0.00	10.25	7.87	2.38	4.7470	3.17**	III
Audio Cassette + Folder	0.00	11.07	9.02	2.05	5.3405	2.42**	II
Video Cassette + Folder	0.00	12.12	10.12	2.00	5.9558	2.12**	I

BT = Before Treatment, IAT = Immediately After Treatment, 15 DAT = 15 Days After Treatment ** indicates 1 % level of significance

The data revealed the t values of paired t test for different extension teaching methods. The Video Cassette + Folder emerged as the most effective method in terms of retention of knowledge about the pomegranate processing technology. It was followed by the Audio Cassette + Folder, Video Cassette, Folder and Audio Cassette. In the combination of Video Cassette + Folder method, there was ample scope for the respondents to associate the material learnt through Video Cassette with that of the folder. This might have resulted in effective retention of gained knowledge after a lapse of 15 days as compared to other methods.

Relationship between Various Characteristics of Farm Women and Retention of Knowledge

The relationship between retention of knowledge and the personal, social and psychological characteristics of the respondents is presented in Table 2. It

Table 2. Relationship between retention of knowledge and personal, social and psychological characteristics of farm women

Sl. No.	Characteristics	'r' values				
		Audio Cassette	Folder	Video Cassette	Audio Cassette + Folder	Video Cassette + Folder
1.	Age (X_1)	-0.4013**	-0.2633	0.1771	-0.2718	0.0380
2.	Education (X_2)	0.1718	0.2141	0.2144	0.2996	0.2704
3.	Marital status (X_3)	-0.2302	-0.3081	0.0493	-0.3316*	0.1434
4.	Family type (X_4)	0.1292	-0.1811	0.1141	0.3334*	0.0207
5.	Family size (X_5)	0.0125	-0.1332	-0.0440	0.3950*	0.1362
6.	Extension contact (X_6)	0.2627	0.5059**	0.1887	0.5065**	0.2987
7.	Extension participation (X_7)	0.3637*	0.5363**	0.2458	0.4810**	0.2411
8.	Mass media exposure (X_8)	0.2380	0.3705*	0.2074	0.5778**	0.3849*
9.	Achievement motivation (X_9)	0.2907	0.3460*	0.3602*	0.1836	0.3200**
10.	Scientific orientation (X_{10})	0.2938	0.3352*	0.3174*	0.3389*	0.4252**

** indicates 1 % level of significance

* indicates 5 % level of significance

was observed that in the 'Audio Cassette' sample group, the extension participation had positive and significant relationship with retention of knowledge. In case of 'Folder' sample group, characteristics like extension contact, extension participation, mass media exposure and achievement motivation of the respondents had a positive and significant relationship with retention of knowledge. Further the data in Table 2 revealed that in the 'Video Cassette' sample group, characteristics like achievement motivation and scientific orientation had a positive and significant relationship with their retention of knowledge. In the 'Audio Cassette + Folder' sample group, it was observed that family type, family size, extension contact, extension participation, mass media exposure and scientific orientation of the farm women respondents had a positive and significant relationship with retention of knowledge. Finally the data with respect to the 'Video Cassette + Folder' sample group indicated that exposure, scientific orientation and achievement motivation of the respondents had a positive and significant relationship with their retention of knowledge.

Conclusion

From the findings, it is observed that among the various methods and their combinations used, the Video Cassette + Folder combination was found to be the most effective method followed by Audio Cassette + Folder in terms of retention of knowledge on pomegranate processing technology by the farm women. It was also observed that at the overall level, characteristics namely education, extension contact, extension participation, mass media exposure and achievement motivation of the respondents were observed to be significantly contributing to their retention of knowledge on pomegranate processing technology. Thus, the study focuses on the proper selection and combination of extension teaching methods in communicating the message. The extension workers need to use more than one method in communicating farm technology. The use of printed material with visual and audio aids is essential for imparting knowledge to literate farm women.

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