

Effectiveness of Skill Teaching Methods for Cut Flower Growers an Experimental Study

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Training plays a major role in capacity building and enhancing the skills of farmers in their quest towards enhancing the agricultural production and productivity. Investment in Human Resource Development in the form of imparting adequate training of farmers, especially in the priority sectors such as floriculture, would help the farmers in upgrading their skills in the process of adopting improved technologies and thus preparing them to become effective players in the Global trade.

OBJECTIVES

Against this background a study was undertaken with the following objectives:

- 1) To test the effectiveness of training modules in terms of knowledge gain related to skill practice.
- 2) To find out the relative effectiveness of the different training modules in terms of knowledge gain related to skill practice.

METHODOLOGY

The study was conducted in the

Nilgiris district of Tamil Nadu, since it has been identified as an intensive floriculture area, suitable for the export production of cut flowers. Out of the four taluks of Nilgiris district, three taluks considered as potential production centers for cut flowers, were selected. A sample consisting of 150 potential cut flower growers was selected comprising 50 from each taluk, using snow ball sampling method. Multiple group random design was adopted for the study. Based on Judges opinion, three training modules (treatments) namely demonstration, practicing through coaching and video were selected and tested for their relative effectiveness using this research design. Each treatment was replicated thrice. Considering 12 respondents per replication, there were 36 respondents per treatment. Thus a total of 108 respondents formed the subject for the three treatments.

Thus, nine randomized groups were selected to find out the relative effectiveness of the three selected

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training modules in terms of knowledge gain relating to skill practice. 'Before-After' techniques of measurement was used to find out the effect of a particular treatment.

The training need assessment of the respondents pertaining to skill aspects in various subject matter areas relating to cut flowers was carried out and ranked. Based on the mean score and rank obtained it was decided to consider the skill aspect relating to the subject matter area namely packaging of cut flower which had the highest mean score and ranked as first by the respondents, based on their training needs. The cut flower selected for the study was carnation based on the preference expressed by the respondents, among the choice of cut flower crops on which training was to be imparted.

The data were collected through a well structured interview schedule. Suitable statistical techniques such as paired 't' test, Mc Nemar test, analysis

of variance and analysis of covariance were carried out to analyse the data and provide meaningful interpretations.

FINDINGS AND DISCUSSION

Effectiveness of the treatments in terms of knowledge gain related to skill practice

The skill practice namely, packaging technology of carnation was communicated to the experimental groups through three different treatments namely, demonstration (T_s1), practicing through coaching (T_s2) and video (T_s3). The knowledge level of the subjects relating to the skill practice before and immediately after exposure were assessed to find out the knowledge gain. Paired 't' test was applied to find out, whether there was any significant difference in knowledge gain due to the three treatments and the results are presented in Table 1.

Table 1 shows that all the three treatments T_s1 , T_s2 and T_s3 were distinctly different in terms of knowledge

Table1. Mean knowledge gain related to skill due to exposure to the treatments (N=36 per treatment)

Sr. No.	Treatments	Mean Knowledge gain (Skill)		Mean Knowledge gain	Percentage of knowledge gain	't' value
		Before exposure	Immediately after exposure			
1.	Demonstration (T_s1)	0.18	11.51	11.33	80.92	62.55
2.	Practicing through coaching (T_s2)	0.22	12.08	11.86	84.71	62.2
3.	Video (T_s3)	0.30	12.90	12.60	90.00	69.27

gain relating to the skill practice as indicated by highly significant 't' value.

The mean knowledge gain was maximum for those subjects who were exposed to the skill practice through video (T_s3) with a score of 12.60 which resulted in 90 per cent of knowledge gain. This was followed by the group exposed to practicing through coaching (T_s2) with a score of 11.86 which represented 84.71 per cent of knowledge gain. The mean knowledge gain was minimum with regard to demonstration (T_s1) with a score of 11.33 which ensured 0.92 per cent of knowledge gain.

It is interesting to note that video has emerged as a most effective method in imparting skill related knowledge surpassing even demonstration. The subjects for these treatments, from among the placement owners were owning and frequently using video system. This being a popular medium among the respondents would have attracted better attention from them than the other two methods.

This finding is in agreement with that of Sadamate and Sinha (1974) who reported that persons viewing the farm telecast would gain 24 to 90 per cent information. This finding also agrees with that of Mankar (1966) who stated that demonstration was effective to impart both knowledge and skills and Anuragonasekara (1987) who revealed

that Television was an effective medium to impart both knowledge and skills to the learners. Here, it has been proved that practicing through coaching has an edge over the demonstration in terms of knowledge gain relating to the skill practice.

From the results in Table 1 it could be inferred that all the three selected treatments T_s1 , T_s2 and T_s3 were effective in imparting the knowledge component of the skill regarding packing technology of carnation with considerable variation in their effectiveness in terms of knowledge gain.

The significance of change caused by each treatment on the subjects knowledge level regarding the skill practice was confirmed through MC Nemar test. The proportion of subjects who gained adequate knowledge due to their exposure to the three treatments T_s1 , T_s2 , T_s3 are presented in Table 2.

It is evident from Table 2 that through video (T_s3) more number of subjects (97.22%) changed their knowledge level related to skill when compared to T_s1 , and T_s2 . In the treatment, T_s2 the percentage of subjects who changed their knowledge level was 94.44, whereas in T_s1 , it was 91.66. The results vividly indicate that among the three treatments, video had resulted in substantial knowledge gain related to skill.

Table 2. Significance of change in knowledge gain relating to skill practice among the experimental groups

(N=36 per treatment)

Type	Change		T _k 1	T _k 2	T _k 3
A.	Subjects who had adequate knowledge (7 and above) before exposure and lost after exposure	(+, -)	0 (0)	0 (0)	0 (0)
B.	Those who had adequate knowledge before and after	(+,+)	1 (2.78)	0 (0)	0 (0)
C.	Those who did not possess adequate knowledge before and after	(-, -)	2 (5.55)	2 (5.55)	1 (2.78)
D.	Those who did not possess adequate knowledge initially but gained adequate knowledge due to exposure to treatments	(-, +)	33 (91.66)	34 (94.44)	35 (97.22)
	X ² value (McNemar Test)		** 31.03	** 32.02	** 33.02

Relative effectiveness of different treatments in terms of knowledge gain related to skill practice

Analysis of variance technique was applied to find out the relative effectiveness of the chosen treatments and the results are presented in Table 3.

Table 3. Analysis of variance for knowledge gain related to skill practice (N=108)

Source of variation	Degrees of freedom	Sum of squares	Mean square	F Value
Treatment	2	45.055	22.527	46.880**
Error		105	57.861	0.551
Total		107	102.917	

**Significant at 0.01 level C.D.=0.34

Table 3 reveals that, there existed significant difference between the three treatments, T_s1, T_s2 and T_s3 at 0.01 level of significance in imparting knowledge related to the skill.

The relative effectiveness of the three treatments in respect of knowledge gain showed significant difference. The critical difference for the treatments was 0.34. The mean scores of the three treatments are arranged from the highest to lowest and presented below.

Ts3 Ts2 Ts1
12.60 11.86 11.33

All the three treatments were effective and they were significantly different from each other in terms of knowledge gain relating to the skill practice. It can be concluded that among the three treatments, video was

found to be the most effective method and superior one to transfer knowledge aspects relating to skill practice. This was followed by practicing through compared to other two methods in respect of knowledge gain related to skill practice.

The distinct characteristics of video medium such as attracting and holding attention of the audience and forming correct images for better understanding might have facilitated the subjects to gain more knowledge than from the rest.

Analysis of covariance for different treatments in terms of

Table 4. Analysis of covariance for different treatments in terms of knowledge gain relating to the skill practice

(N=108)

Source of variation	Degrees of freedom	Adjusted		F value
		Sum of squares	Mean square	
Treatment	2	8.190	4.095	3.54**
Error	104	120.006	1.153	
Total	106	128.197		

S.E. = 0.254

C.D.= 0.5054

** Significant at 0.01 level

The results in Table 4 further confirms that the treatments differ significantly in their effectiveness in terms of knowledge gain relating to the skill practice.

On the whole, it could be inferred from the results that all three selected treatments were effective in terms of knowledge gain relating to the skill

knowledge gain relating to the skill practice.

It was known in the analysis of variance that there existed significant difference between the treatments T_s1, T_s2 and T_s3. However to substantiate the results and to have a precise estimate of treatment means and their comparison, analysis of covariance was performed for knowledge gain relating to the skill practice. The pre-exposure knowledge score of the subjects was used as a concomitant variable to increase the validity of the results. The results of the covariance analysis on knowledge gain is presented in Table 4.

communication. Significant difference was observed between the three treatments in respect of knowledge gain relating to the skill practice. Video (T_s3) was found to be the most effective treatment followed by practicing through coaching (T_s2). Among the treatments, demonstration was found to be the least effective treatment in respect of

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knowledge gain of the skill practice.

Based on the findings, the null hypothesis that there would be no difference in knowledge gain related to skill among the subjects exposed to the treatments T_s1 , T_s2 and T_s3 was rejected.

CONCLUSION

Training has become an important tool for capacity building and for honing and sharpening the skill of farmers who form the backbone of the Agricultural economy of our country. Selection and administration of the right kind of training module for the chosen subject matter of training is vital for bringing about the desirable changes in the knowledge, skills and attitude of the individual farmer. From the foregoing study it could be observed that among the three treatments used such as demonstration, practicing through coaching and video, video was most effective in knowledge gain related to

skill practices in carnation crop. Video as an audio-visual aid motivates the learners by arousing interest by providing a change from the usual through its sound, background music, pictures, photos, which provides a change in the atmosphere of the learning situation which in turn greatly contributes to learning. Learning is more effective when more number of senses are involved providing a synergistic effect to the learning process. In the present era of globalisation and liberalization, in order to help the Indian farmers to compete in the global market and to get competitive prices for their products, investment in human resource development in the right modality alone would pay rich dividends. For this the correct choice and use of the apt training module plays a vital role in enriching the skills of the farmers and preparing them to play a competitive role in the global market.

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