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EFFECTIVENESS OF SELECTED TRAINING MODULES IN TERMS OF KNOWLEDGE GAIN AMONG CUT FLOWER GROWERS- AN EXPERIMENTAL STUDY

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Training has become an integral part of Human Resource Development. Any training module can be effective only when it is able to create suitable behavioural changes in the individual. Such training strategies and modules are needed in the agricultural sector in general and export-oriented crops in particular to enhance farm production and exports and thereby improve the socio-economic conditions of the farmers.

Training is a central component of Human Resource development which can generate desirable changes in the behavioural component such as knowledge, skill and attitude. In the farming sector, training forms an important tool to sharpen and hone the skills of farmers in order to aid them in the effective adoption of improved technologies leading to sustainable levels of production locally as well as to compete in the Global agricultural market. In this context, the implications of trade liberalization and globalization has led to the Government of India identifying floriculture as a sunrise industry and accorded it a cent per cent export oriented status.

In spite of the innumerable advantages that India is endowed with for the cultivation of cut flowers in terms of climate and labour availability. The cut flower industry in India is still in its infancy mainly due to the lacunae in technical know-how and do-how skills of cut flower growers.

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

- To assess the effectiveness of different training modules in terms of knowledge gain related to skill practice.
- To assess the relative effectiveness of different training modules in terms of knowledge gain related to skill practice.

Methodology

The study was undertaken in the Nilgiris district of Tamil Nadu, since it was identified as the

intensive floriculture area, from the point of view of export production of cut flowers by the expert group on floriculture development in India in 1989. Of the four taluks in Nilgiris district, three taluks, which were considered as potential production centres for cut flowers were selected for the study.

A sample of 150 cut flower growers, 50 from each taluk was drawn through snowball sampling technique. The experiment design used for the study was multiple group random design procedure. Three training modules (treatments) namely Lecture with flip chart + discussion forum (T₁), Lecture with slides + discussion forum (T₂) and Lecture with flip chart and slides + discussion forum (T₃) were selected through this procedure 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 subjects for the three treatments. Thus nine randomized groups were selected to find out the relative effectiveness of the three selected training modules in terms of knowledge gain in different aspects of carnation flower cultivation. The 'Before-After' technique of measurement was used to find out the effect of a particular treatment.

Findings and Discussion

Effectiveness of the treatments in terms of knowledge gain

The knowledge aspects of the selected subject

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matter areas in carnation cultivation was exposed to the experimental groups through three different treatments. The knowledge level of the subjects before and immediately after exposure was assessed to find out the knowledge gain. Paired 't' test was applied to find out, whether there was any significant difference between the pre-exposure and immediate post exposure knowledge due to the three treatments. The results of the paired 't' test are presented in Table 1.

Lecture with flip chart and slides + discussion forum (T₃), was maximum with score of 21.41 which indicated 79.30 per cent of knowledge gain. This was followed by Lecture with slides +discussion forum (19.63) and Lecture with flip chart + discussion forum (17.58) which resulted in 72.7 per cent and 65.11 per cent knowledge gain respectively.

From the results it could be concluded that all the three selected treatments were effective in

Table 1. Mean knowledge gain due to exposure to the treatments.

(n=36 per treatment)

Treatment	Mean knowledge gain		Mean knowledge gain	Percentage of knowledge gain	't' value
	Before exposure	Immediately after exposure			
Lecture with flip chart and slides + discussion forum (T ₃)	3.11	24.52	21.416	79.30	42.54**
Lecture with slides +discussion forum (T ₂)	4.02	23.65	19.638	72.70	26.48**
Lecture with Flip chart +discussion forum (T ₁)	4.42	22.00	17.583	65.11	24.13**

****Significant at 0.01 level**

From Table 1 it could be inferred that all the three treatments namely, Lecture with flip chart + discussion forum (T₁), Lecture with slides + discussion forum (T₂) and Lecture with flip chart and slides + discussion forum (T₃) had highly significant 't' value indicating that all the three treatments were effective in terms of knowledge gain.

The mean knowledge gain with regard to

imparting knowledge on carnation crop though there was variation in their effectiveness.

The significance of change caused by each treatment on the subjects' knowledge level was confirmed by Mc Nemar test. The proportion of subjects who gained adequate knowledge due to their exposure to the three treatments T₁, T₂ and T₃ are presented in Table 2.

Table 2. Significance of change in knowledge gain among the experimental group

(n=36 per treatment)

Change		T ₁	T ₂	T ₃
Subjects who had adequate knowledge (13.5 and above) before exposure and lost after exposure	(+, -)	0	0	0
		(0)	(0)	(0)
Those who had adequate knowledge before and after	(+, +)	3	1	1
		(8.33)	(2.78)	(2.78)
Those who did not possess adequate knowledge before and after	(-, -)	1	2	0
		(2.78)	(5.56)	(0)
Those who did not possess adequate knowledge initially but gained adequate knowledge due to exposure to treatments	(-, +)	32	33	35
		(88.88)	(91.66)	(97.22)
X ² value (Mc Nemar Test)		**30.03	**31.03	**33.02

Figures in the parentheses indicate percentage.

****Significant at 0.01 level**

It could be observed from the table that through T₃, more number of subjects (97.22 per cent) improved their knowledge level when compared to T₂ and T₁. In T₂ the percentage of subjects who improved their knowledge level was 91.66 whereas in T₁, it was 88.88. The results clearly indicate that among the three treatments, T₃ had resulted in substantial knowledge gain.

From the above results it could be inferred that the subjects exposed to any of the three treatments were able to gain knowledge though not equally. Each treatment had differential effectiveness in causing significant changes in knowledge level of the subjects.

Relative effectiveness of different treatments in terms of knowledge gain

Analysis of variance technique was applied to find out the relative effectiveness of three different treatments in terms of knowledge gain and the results are presented in Table 3.

Table 3. Analysis of variance for gain in knowledge between the treatments

(n=108)

Source of variation	Degrees of freedom	Sum of squares	Mean square	F value
Treatment	2	264,964	132.482	46.091**
Error	105	301.804	2.874	
Total	107	566.769		

**Significant at 0.01 level

C.D. = 0.79

It is evident from Table 3. that, there existed significant difference in the effectiveness of the treatment in imparting knowledge as indicated by the significant F value at 1 per cent level of probability.

The relative effectiveness of the three treatments in respect of knowledge gain showed significant difference. The critical difference for the treatments was 0.79. The mean scores of the three treatments were found to be in the order of 21.41 (T₃), 19.63 (T₂) and 17.58 (T₁).

All the three treatments were effective, but distinctly different in terms of imparting knowledge.

It could be stated that the Lecture with flip chart and slides + discussion forum (T₃) was found to be the most effective and superior module for transfer of knowledge aspects. This was followed by Lecture with slides +discussion forum (T₂). Lecture with flip chart + discussion forum was found to be least effective in respect of knowledge gain.

T₃ was found to be the most effective compared to that of T₂ and T₁. T₃ is a combination of four methods which included both projected and non-projected visual aids. Variation in the teaching aids used, might have reduced boredom, and increased the receptiveness of the subjects to the idea being presented. The change in the learning situation created by combination of aids would have also contributed greatly to the knowledge gain.

T₁ was least effective compared to T₃ and T₂ in terms of knowledge gain. The fact that attention of the learners to the visual aid would be high if it is exposed in a dark situation than visual and exposed in a bright environment. This might be the possible reason for the result obtained.

Analysis of covariance for different treatments in terms of knowledge gain

The results of the analysis of variance revealed that there existed significant difference between treatments. However, to further confirm the results and to have a precise estimate of treatment means and their comparison, analysis of covariance was done for knowledge gain. The pre-exposure knowledge score of the individual subjects was used as a concomitant variable. Since the pre-exposure knowledge score is highly correlated with knowledge gain, inclusion of this variable in the analysis of covariance increased the validity. The result of the analysis of covariance for knowledge gain is presented.

The results further confirms that the treatments differ significantly in their effectiveness in terms of knowledge gain, as indicated by highly significant 'F' value.

Therefore, it could be inferred from the results that all the three selected treatments differed significantly in imparting

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Table -4: Distribution of farmwomen according to their behavioural components of decision-making

Behavioural Components	Category	Literate (n=87)	Illiterate (n=63)	Total (n=150)	't' value
Decision-making pattern	Low	16 (18.39)	13 (20.63)	29 (19.33)	0.481 ^{NS}
	Medium	54 (62.07)	36 (57.14)	90 (60.00)	
	High	17 (19.54)	14 (22.22)	31 (20.67)	
Extent of participation	Low	16 (18.39)	10 (15.87)	26 (17.33)	0.597 ^{NS}
	Medium	56 (64.37)	41 (65.08)	97 (64.67)	
	High	15 (17.24)	12 (19.05)	27 (18.00)	
Time of decision-making	Low	0 (0.00)	0 (0.00)	0 (0.00)	0.975 ^{NS}
	Medium	87 (100.00)	63 (100.00)	150 (100.00)	
	High	0 (0.00)	0 (0.00)	0 (0.00)	
Decision-making behaviour in agriculture	Low	0 (0.00)	0 (0.00)	0 (0.00)	0.022 ^{NS}
	Medium	87 (100.00)	63 (100.00)	150 (100.00)	
	High	0 (0.00)	0 (0.00)	0 (0.00)	

between literate and illiterate farmers explains that literacy failed to differentiate between the two categories of farmers in decision-making. In other words, it played no role in the decision-making process of the farmwomen. The reasons may be attributed to their similar agricultural experiences, mass-media exposure, interaction among households, as well as with the members of family and neighbors.

Conclusion

As regards to the pattern of 'decision-making by farmwomen', significant difference was observed between literate and illiterate farmwomen on 'choice of variety/ crops to be grown', 'borrowing money for farm operation' and 'advancing loan to others on agricultural activities'. Study also revealed that in the process of decision-making behavior in agriculture, cent per cent of the farmwomen belonged to medium category. Their highest participation was found in 'storage of farm produce' and least in 'selection of quality and type of plant protection chemicals being purchased' for their crops.

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knowledge. Lecture with flip chart and slides + discussion forum (T₃) was found to be the most effective treatment followed by (T₂). Of the three treatments, Lecture with flip chart + discussion forum (T₁) was the least effective in respect of knowledge gain.

Based on the findings presented above, the null hypothesis that there would be no difference in knowledge gain among the subjects exposed to the treatments T₁, T₂ and T₃ was rejected.

Conclusion

Training has become an integral part of Human Resource Development. Any training module

can be effective only when it is able to create suitable behavioural changes in the individual. Selection of the right combination of training module for the target clientele is vital for the effective transfer of floriculture technologies. Variation in the number and types of training modules used, arouses the curiosity and sustains the interest of the learner thus resulting in an increase in knowledge gain in the concerned subject matter on which the training is imparted. Such training strategies and modules are needed in the agricultural sector in general and export-oriented crops in particular to enhance farm production and exports and thereby improve the socio-economic conditions of the farmers.