

Development and standardization of scale for measuring the effectiveness of extension personnel in transfer for farm technology

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ABSTRACT : Along with knowledge innovations, the extension personnel need to have knowledge of handling of different extension techniques for transfer of technology. By keeping in this view, efforts were made to develop and standardize a scale for measuring the effectiveness of extension personnel in transfer of technology.

Key Words : Extension personnel, Transfer of technology, Standardization of scale

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Effectiveness of extension personnel in transfer of farm technology was operationally defined as the active participation of the extension personnel in different activities such as planning, preparation, implementation and follow up required for giving precise, clear and understandable message of horticultural recommendations to the farmers through various extension methods being implemented by the Department of Agriculture.

Effectiveness of extension personnel in transfer of technology means, efforts of extension personnel in disseminating the farm recommendations generated by M.P.K.V., Rahuri for benefit of farming community.

The procedure followed for construction and standardization of the scale to measure the effectiveness of extension personnel on transfer of technology was as below.

The first step in evolving effectiveness scale was to collect a large number of items under different extension methods *viz.*, farm and home visit, field visits, meeting, method demonstration, result demonstration, study tour, group discussion, farm publication, extension articles, posters, radio, television, exhibition, farmer's mela, campaign and training programme. Each item was expressing some opinion about the effectiveness of extension personnel under study. The items were collected from relevant literature, discussion with experts in the extension, post graduate and Ph.D. students in the Department of Agricultural Extension, Agronomy and Departmental officers *viz.*, Taluka Agricultural Officers and SDAOs and farm scientists.

An effort was made to cover all the aspects indicating effectiveness by the extension personnel in the scale. From all these sources, a battery of 235 items was prepared.

The data recorded during the course of investigation were tabulated, statistically analysed and results are interpreted here under appropriate heads:

Editing and pre-selection of items:

On scrutiny, it was found that a good number of statements were overlapping in one way or the other. Following the informal criteria suggested by Edwards (1957), the items were edited. After culling, 219 out of 235 items were retained.

Classification of items:

These 219 statements were typed and given to 52 judges who had enough knowledge about effectiveness in transfer of technology. These judges were scientists from Department of Agricultural Extension of SAUs, Extension personnel from Department of Agriculture. They were asked to check each of the statement carefully for their relevance indicating most relevant, relevant, least relevant and not relevant and ranking of each items. They were also asked to check if each of these statements carried only one interpretation and was easy to understand. They were informed that they were free to make any modification or suggest any change in each statement, if they so felt.

Item selection:

The judges were requested to give their reactions to each statement on the four points continuum *viz.*, most relevant, relevant, least relevant and not relevant with numerical value of 3, 2, 1 and 0, respectively. The score for each individual item on the scale was computed by summing the weights of the individual item response. As a percentage of items, which was not below thirty per cent of the items of the judges for all items, the value obtained more than 30 per cent was considered good and were retained in the final scale and those which did not obtain this required limit were eliminated. In the present scale out of 219 statements, 142 statements obtained more than 30 per cent value and they were retained in the final scale.

Table 1 : The breakup of final items for each of the selected sixteen extension activities

Sr. No.	Extension activity	Number of finalized items
1.	Farm and home visits	6
2.	Field visits	7
3.	Meeting	9
4.	Method demonstration	8
5.	Result demonstration	9
6.	Study tour	10
7.	Group discussion	7
8.	Farm publication	10
9.	Extension articles	8
10.	Posters	5
11.	Radio	8
12.	Television	7
13.	Exhibition	19
14.	Farmers melawa	13
15.	Campaign	6
16.	Training programme	10
	Total items	142

Reliability of the scale:

A scale is reliable when it consistently produces similar results when applied to the same sample. In the present study, the common method of testing reliability, the item analysis test was carried out by administering the 142 items to 30 extension personnel. The respondents, for administering the items were randomly selected and were not included in the sample for final study. The responses were on three point continuum like always, sometimes and never with the weightage of 2, 1 and 0, respectively. The total score for each respondent was calculated. Then the effective index was worked out with the following formula.

$$\text{Effectiveness index} = \frac{\text{Obtained score}}{\text{Obtainable score}} \times 100$$

Total number of respondents = 30

Only those items were selected for final scale, which ranged from 30 to 80 per cent of effectiveness in transfer of technology.

Finally 142 items which satisfied the above criteria were selected for assessing effectiveness of extension personnel in transfer of technology. The 'r' value was 0.93. This high value indicated high reliability of the instrument.

Validity of the test:

The main criterion of content validity was how well the content covers the information or matter which is important for variable under study. The content validity of the present scale was ascertained by the method of collection of items within the universe of the effectiveness in transfer of technology. The universe of the content, as evident from the methods employed in item collection, was covered widely. Before collecting the items for effectiveness of scale, a wide ranging sources such as referring the books, the journals, related literature and consulting experts of the Department of Extension Education, extension personnel and scientists from SAUs and relevancy rating by the knowledgeable and experienced persons were consulted. This ensured the content validity of the scale.

Administering the effectiveness scale:

Each item in the scale had to be scored against the response category of always, sometimes and never and was given the score 2, 1, 0, respectively. Thus, score of effectiveness of extension personnel in transfer of technology was worked out considering the minimum (68) and maximum score (284).

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