RESEARCH NOTE

A Scale to Measure Extension Personnel's 'Attitude towards ATMA' under Extension Reform in India

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ABSTRACT

A scale was developed to measure the attitude of the extension personnel towards ATMA based on Likert's technique. Tentative lists of 60 statements were drafted keeping in view the applicability of statements suited to the area of study. The statements collected were edited in the light of the informal criteria suggested by Thurstone and Chave (1929), and Edward and Kilpatrick(1948). These statements were framed in such a way that they expressed the positive or negative attitude. There was no scale available to measure the attitude of the extension personnel towards ATMA. The present study was contemplated to develop and standardize the same. The final scale consists of 20 statements and the reliability and validity of which indicates its precision and consistency of the results. This scale can be used to measure the' attitude beyond the study area with suitable modifications

Key words: *Attitude scale; ATMA; Extension reform; Likert's summated rating; Item analysis; Reliability; Validity;*

Attitude is an organized predisposition to think, feel, perceive and behave towards a cognitive object. Attitude is the degree of positive and negative effect associated with some psychological object. According to *Thurstone (1946),* 'psychological object' means any symbol, phrase, slogan, idea, person and institution towards which people can differ with respect to positive and negative effect. In this comprehensive definition, attitude consists of three components viz, cognitive, affective and connotative. An attitude scale consists of a number of items which have been carefully selected and edited based on certain specific criteria. The items forming an attitude scale are termed as statements. A statement is anything that is said about a psychological object. The class of all possible statements that can be made about a given psychological object is called as universe. One of the important assumptions made in the development of an attitude scale is that there is a difference in the belief and disbelief system of individuals with favourable/ unfavourable attitude towards a psychological object.

'Extension Reform' itself is a change from a process of technology transfer (Research institution to farmer) to a process of facilitating a wide range of communication, information and advocacy service (demand driven, pluralistic and decentralized extension). In the midst of this change, extension system is grappling with the question of how best to harness 'extension reform' to improve farming community. There was no scale available to measure the extension personnel's attitude towards ATMA. Hence, the present study was contemplated to develop and standardize a scale for measuring extension personnel's attitude towards ATMA. This was a part of Ph. D study on "*Role performance of the extension personnel under revitalized extension system in Assam*" conducted during 2014.

METHODOLOGY

The method of summated rating suggested by *Likert (1932)* was followed in the development of the scale. The following points were considered for measuring the attitude of extension personnel towards ATMA.

Collection and editing of statements: Sixty statements,

expressing the attitude of the extension personnel towards ATMA based on extension reform were collected from available literature, ATMA guideline 2010, researcher and experts in the field of extension. These items were edited on the basis of criteria suggested *by Thurstone (1946), Likert (1932)* and *Edward (1957).*

Out of the 60 statements, 50 statements were retained after editing. These statements were found to be non ambiguous and non-factual.

Relevancy test: All the statements collected may not be relevant equally in measuring the extension personnel's attitude towards ATMA. Hence, these statements were subjected to scrutiny by an expert panel of judges to determine the relevancy and screening for inclusion in the final scale. For this all the fifty statements list was then send to panel of judges. Judges comprised of experts in the field of Extension Education of Assam Agricultural University, Extension Education Institute, Jorhat, Nagaland University and field experts of ATMA.

The statements were sent to 60 judges with request to critically evaluate each statement for its relevancy to measure the attitude of the extension personnel towards ATMA. Judges were requested to give their response on a five point continuum viz., highly relevant, relevant, neutral, irrelevant and highly irreverent with scores 5,4,3,2 and 1 respectively. Out of 60 judges, only 40 responded in a time span of one month. The relevancy score of each item was determined by adding the scores on rating scale for all the 40 judges' response. For this relevancy percentage, relevancy weightage and mean relevancy scores were worked out for all the statements by using the following formulae.

Relevancy percentage (R.P): Relevancy percentage was worked out by summing up the scores of highly relevant, relevant and neutral categories, which were converted into percentage.

Relevancy weightage (R.W): Relevancy weightage was determined by the formula.

$$RW = \frac{HRR + RR + NR + IR + HR}{MPS}$$

Mean relevancy score (M.R.S) : It was determined by the following formula

$$MRS = \frac{HRR + RR + NR + IR + HR}{N}$$

Where,

HRR = Highly relevant response
RR = Relevant response

NR = Neutral response
IR = Irrelevant response
HR = Highly irrelevant
MPS = Maximum possible score
N = Number of judges

Using these three criteria, the statements were screened for their relevancy. Accordingly statements having relevancy % >70, relevancy weightage >0.671 and mean relevancy score>3.3 were considered for final selection of statements. By this process, 40 statements isolated and were suitably modified and rewritten as per the comments of judges.

Calculation of 't' value (item analysis) : These 40 statements were subjected to item analysis to delineate the items based on the extent to which they can differentiate the respondents with high attitude than the respondents with low attitude towards ATMA. For this 60 extension personnel were selected from non sample area. The respondents were asked to indicate their degree of agreement or disagreement with each statement on the five point continuum ranging from 'strongly agree' to 'strongly disagree'. The scoring pattern adopted was 5 to 1 in which, 5 weights to 'strongly agree' response, 4 to 'agree response' 3 to 'undecided' response, 2 to 'disagree' response and 1 to 'strongly disagree' response. For positive statements and for negative statements, the scoring was revised.

Based upon the total scores, the respondents were arranged in descending order. The top 25 percent of the respondents with their total scores were considered as the high group and the bottom 25 percent as the low group. These two groups provide criterion groups in terms of evaluating the individual statement as suggested by *Edwards (1957)*. Thus out of the 60 extension personnel's to whom the items were administered for the item analysis, 15 extension personnel with lowest, 15 with highest scores were used as criterion groups to evaluate individual items.

The critical ratio, that is the 't' value which is a measure of the extent to which a given statement differentiates between the high and low groups of the respondents for each statement was calculated by using the formula suggested by *Edward (1957).*

$$t = \frac{X_H - X_L}{\sqrt{\dfrac{\sum (X_H - X_H)^2 + (X_L - X_L)^2}{n(n-1)}}}$$

Where,

$$\sum (X_H - X_H)^2 = \sum X_H{}^2 - (\sum X_H)^2$$
$$\sum (X_L - X_L)^2 = \sum X_L{}^2 - (\sum X_L)^2$$

X_H = The mean score on given statement of the high group

X_L = The mean score on given statement of the low group

$\sum X_H{}^2$ = Sum of squares of the individual score on a given statement for high group

$\sum X_L{}^2$ = Sum of squares of the individual score on a given statement for low group

$\sum X_H$ = Summation of scores on given statement for high group

$\sum X_L$ = Summation of scores on given statement for low group

n = Number of respondents in each group

$\sum$ = Summation

Selection of attitude statements for final score: After computing 't' value for all the items, 20 statements (Table1) with highest 't' value (equal to or greater than 1.75) were finally selected and included in the attitude scale.

Standardization of the scale: The validity and reliability was ascertained for standardization of the scale. Reliability was measured by test-retest method

Reliability:

Test-retest method: The final set of the 20 statements, which represent the attitude of extension personnel towards ATMA, was administered on five-point continuum to a fresh group of 60 respondents, which were not included in the actual sample. After a period of 15 days the scale was again administered to the same respondents and thus two sets of scores were obtained. The correlation coefficient for the both the sets were worked out. The 'r' value (0.756) was significant at 0.01 level of probability indicating that the attitude scale was highly suitable for administration to the extension personnel as the scale was stable and dependable in its measurement.

Content validation: As the content of the attitude was thoroughly covered the entire universe of extension reform through literature and expert opinion, it was assumed that present scale satisfied the content validity. As the scale value difference for almost all the statements included had a very high discriminating value, it seemed reasonable to accept the scale as a valid measure of the attitude. Thus ensuring a fair degree of content validity.

Table 1. The final attitude scale comprising 20 statements

Statements	SA	A	UD	DA	SDA
ATMA has increased the employment opportunities in rural area					
ATMA cannot meet the location specific needs of the farmers					
Farmers feedback is fast through ATMA than earlier					
ATMA is not helpful in converging line departments					
ATMA is empowering farmers through group formation					
Extension work became more challenging due to ATMA					
ATMA has raised my performance in professional life					
Working under ATMA is not rewarding					
ATMA helps in up scaling and replication of technologies					
ATMA develops self reliance among farmers					
ATMA guidelines are too complicated to follow					
Information exchange and sharing increases due to ATMA					
Only the resourceful farmers can get the benefit of ATMA					
ATMA assist in participatory planning and decision making					
I am not satisfied working under ATMA					
ATMA is helpful in up scaling of my career					
ATMA has succeeded in rooting out poverty					
ATMA is not changing the mindset of farmers					
Money spent under ATMA is mere wastage					
The future of extension lies in ATMA					

(SA-Strongly Agree, A-Agree, UD-Undecided, DA- Dis agree, SDA- Strongly Disagree).

RESULTS AND DISCUSSION

The final scale consists of 20 statements. The responses had to be recorded on a five point continuum representing strongly agree, agree, undecided, disagree, and strongly disagree with scores of 5,4,3,2, and1 for positive statements and vice-versa for negative (indicated by *) statements. The attitude score of each respondent can be calculated by summing the scores obtained by him on all the items. The attitude score on this scale ranges from 20 to 100. The higher score indicates that respondent had more favourable attitude towards ATMA and vice-versa.

CONCLUSION

The reliability and validity of the scale indicated the precision and consistency of the results. This scale can be used to measure the extension personnel's attitude beyond the study area with suitable modifications.

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