

Device to Measure Extension Education Orientation of Postgraduate Scholars

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ABSTRACT

Extension Education orientations defined as the degree of willingness to accept profession of academician or trainer to develop different types of extension human resources needed to work as an extension workforce. Extension education is the fundamental academic activity to be undertaken in extension to develop necessary human resources to work as extension educationists, extension workers, extension service provider and extension trainer. Till today there was no any tool to measure the orientation of Postgraduate scholars towards Extension education. Keeping this in view a standardized scale has been developed to measure the orientation of the postgraduate scholars towards extension education as one of the important components of extension. A summated (likert) rating scale was been developed. The process started with identifying the dimension, collection of items followed by relevancy and item analysis and checking the reliability and validity for precision and consistency of the results. A total of 22 statements were framed in which finally 10 statements were finally retained which has practical applicability in measuring the attitude of postgraduate scholars towards extension education. The scale contains total ten statements, out of which five are positive and five are negative. The scale developed was found well reliable.

Key words: Extension education; Willingness; Academician; Extension trainer;

Agricultural extension is the application of scientific research and knowledge to agricultural practices through farmer education. Generally, agricultural extension can be defined as the “delivery of information inputs to farmers”. Human Resource Development is one of the predominant functions of offering higher agricultural education. The each higher agricultural extension education offering institute tries to develop agriculture and rural India through developing human resources for effective agricultural teaching, research and extension education. The activity of extension contains three major character viz. Extension Education, Extension Work and Extension Service. Extension education is the fundamental academic activity to be undertaken in extension to develop necessary human resources to work as extension educationists, extension workers, extension service provider and extension trainer. It is expected to have encouraging orientation towards extension education, extension work and extension

service amongst those who want develop their future in extension as profession. Extension Education orientation is defined as the degree of willingness to accept profession of extension academician or trainer to develop different types of extension human resources needed to work as an extension workforce. Keeping this in view a standardized scale has been developed in the year 2018 to measure extension education orientation of postgraduate scholars as one of the important components of extension.

Amongst the methods accessible for the development of scale, the method suggested by *Likert (1932)* and *Edward (1957)* was used for scale construction and for ascertaining the response of the scale. The technique chosen to construct the orientation scale was “Scale Product Method” which combines the technique of Equal Appearing Interval Scale of *Thurstone (1946)* for selection of the items and *Likert’s* techniques of summated rating for ascertaining the

response on the scale. Similar procedure was also followed by Christian and Chauhan (2008), Parmar and Patel (2013), Patel and Chauhan (2015) and Vaidya and Chauhan (2008). The following procedure was applied to develop scale.

METHODOLOGY

Collection of statements : The items structuring orientation scale are known as statements. A statement is something said about mental object. As a first step in developing scale a list of statements were prepared by reviewing the available literature and consulting academicians and researchers who are having expertise in that particular field. A list of 40 statements were prepared and these statements were edited to match the Edwards criteria in which finally 22 items were retained and presented to judges for their rating.

Judge's rating of attitude statements: With a view to judging the degree of "Unfavorableness" to "Favourableness" of each statement on the five point equal appearing interval continuum a panel of 50 judges was selected. The judges selected for the study comprised extension educationists and statisticians with significant realistic understanding from the Anand Agricultural University. The judges were visited individually along with letter of directions to direct them for rating the statements in desired manner for each set of the statements.

Determination of scale and quartile value: The five points of the rating scale were assigned, ranging from 1 for most unfavourable and 5 for most favourable. On the base of judgment, the median value or scale value (S value) and the Q value for the statement concerned was calculated, the inter-quartile range [$Q = (Q_3 \text{ or } C_{75}) - (Q_1 \text{ or } C_{25})$] for each statement was also worked out for determination of ambiguity involved in the statement. Following formulas were applied to work out S, Q_3 and Q_1 values.

$$S \text{ or Median Value} = L + \frac{0.50 - \sum Pb}{Pw} \times i$$

Where,

- S = The median or scale value of the statement
 L = Lower limit of the interval in which the median falls
 $\sum Pb$ = The sum of proportion below interval in which median falls
 Pw = The proportion within the interval in which median falls
 i = The width of the interval and is assumed to be equal to 1.0

$$C_{25} \text{ or } Q_1 = L + \frac{0.25 - \sum Pb}{Pw} \times i$$

Where,

- C_{25} = The 25th centile value of the statement
 L = Lower limit of the interval in which the 25th centile falls
 $\sum Pb$ = The sum of proportion below interval in which 25th centile falls
 Pw = The proportion within the interval in which 25th centile falls
 i = The width of the interval and is assumed to be equal to 1.0

$$C_{75} \text{ or } Q_3 = L + \frac{0.75 - \sum Pb}{Pw} \times i$$

Where,

- C_{75} = The 75th centile value of the statement
 L = Lower limit of the interval in which the 75th centile falls
 $\sum Pb$ = The sum of proportion below interval in which 75th centile falls
 Pw = The proportion within the interval in which 75th centile falls
 i = The width of the interval and is assumed to be equal to 1.0

Final statements for attitude scale: When there was a good conformity amongst the judges, in judging the degree of agreement or disagreement of a statement, Q was smaller compared to the value obtained, when there was relatively little agreement among the judges it was reverse. Only those items were selected whose median (scale) values were greater than Q values. However, when a few items had the same scale values, items having lowest Q value were selected. Based on the median and Q values 10 statements were finally selected to constitute attitude scale. The scale values were ranging from 1.21 to 4.54.

Reliability of the scale: A scale is dependable, consistent and trustworthy when it over and over again generates the consistent performance in showing results when applied to the same sample. In the present study, split-half method of testing reliability was used. The 10 statements were divided into two halves with five odd numbered in one half and other five even-numbered statements in the other. These were administered to 25 respondents. Each of the two sets of statements was treated as a separate scale and then these two sub-scales were correlated. The co-efficient of reliability was calculated by the Rulon's formula (Guilford, 1954), which came to 0.8037.

Table 1. Calculation of S values and Q values to measure orientation of postgraduate scholars towards extension education

Statements	S Value	Q Value	Decision
I like to work as trainer of extension trainers	1.40	1.01	Selected
I am confident to work as teacher to develop extension human resource	1.40	1.14	Rejected
I feel motivated to be a part of extension human resource development work	1.40	1.06	Rejected
Development of human resource for extension related jobs is noble job	1.60	1.15	Rejected
Contributing as the trainer of extension HRD activity is my dream	1.70	1.21	Rejected
Extension education helps in developing able trainers to work with farmers	1.21	0.87	Selected
Extension education breeds only theoretical knowledge among trainers	3.60	2.30	Selected
To work as trainers trainer is unproductive profession	3.80	2.77	Rejected
Extension education produces rural workability in trainees	1.60	1.05	Selected
Extension education is incapable to develop competent agricultural trainers	3.80	2.78	Rejected
Connecting me in extension education profession means wastage of life	4.54	3.83	Selected
The trainer of extension trainers is respectful job for me	1.70	1.19	Rejected
If given chance I would love to work as trainer of extension trainers	1.70	1.16	Selected
I don't understand myself fit as a trainer of extension trainers	3.80	2.46	Rejected
Working as trainer of extension trainers is incredible work for rural development	1.50	1.19	Selected
If given a chance I like to choose other than the job of trainers of extension personnel	3.50	2.28	Selected
Providing training to professional extension trainers is wastage of resources	4.12	2.02	Selected
Act of training extension trainers one can't transform extension workforce	3.80	1.81	Selected
Extension education is capable in developing leadership ability skills in others	1.40	1.11	Rejected
I feel proud to tell others that I am from the department of extension education	1.30	1.00	Selected
Extension education is the least preferred job by me	3.60	3.00	Rejected
Extension education is the most important occupation to develop valuable human resources for agriculture development	1.20	0.98	Rejected

Table 2. Final attitude scale with 10 statements representing the orientation of postgraduate scholars towards extension education

Statements	SA	A	UD	DA	SDA
I like to work as trainer of extension trainers. (+)					
Extension education breeds only theoretical knowledge among trainers.(-)					
Extension education helps in developing able trainers to work with farmers. (+)					
Connecting me in extension education profession means wastage of life. (-)					
Extension education produces rural workability in trainees. (+)					
If given a chance I like to choose other than the job of trainers of extension personnel. (-)					
Working as trainer of extension trainers is incredible work for rural development. (+)					
Providing training to professional extension trainers is wastage of resources.(-)					
I feel proud to tell others that I am from the department of extension education. (+)					
Act of training extension trainers one can't transform extension workforce.(-)					

As reliability is directly related with the length of the scale when we split the scale on odd and even number items. The reliability coefficient which has been calculated is the value of half size of the original scale. Thus correction factor is calculated by using Spearman Brown formula (Kishan et al, 2016).

$$rtt = \frac{2 roe}{1 + roe}$$

rtt= Coefficient of reliability of original test

roe= reliability of coefficient of odd and even score

The coefficient of reliability was calculated by the Spearman Brown formula which came to be 0.8911 for Extension education orientation. Thus, the scale developed was found highly reliable.

Content validity of the scale: The validity of the scale examined for content validity by determining how well

content were selected by discussion with specialists, extension academicians, etc. thus, the present scale satisfied the content validity.

Scoring system: The responses of the selected 10 statements can be collected on five points continuum viz. strongly agree, agree, undecided, disagree and strongly disagree with respective weights of 5, 4, 3, 2, and 1 for the favourable statements and with the respective weights of 1, 2, 3, 4 and 5 for the unfavourable statements. To know the level of extension education orientation of person the score of each statement can be summed up.

RESULTS AND DISCUSSION

The final scale was called to be the standardized one which consisted of 10 statements. The scale developed to measure the orientation of postgraduate scholars towards extension education where 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, and 1, respectively. The attitude score of each respondent can be calculated by adding up the scores.

CONCLUSION

This scale was made to be standardized one to measure the orientation of postgraduate scholars towards extension education which helps in showing the willingness and intensity of postgraduate scholar to have positivism towards extension education and to accept academician as a profession to develop valuable human resources in the discipline of agricultural extension and who aids in making right decisions by policy makers.

This scale also aids in enabling the universities and extension departments in developing course curriculum in making future decisions regarding the development of extension education.

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