Scale to Measure Attitude of Woman Research Scholars towards the Use of Computer for Their Empowerment

B.M.Christian[1] and N.B.Chauhan[2]

1Agricultural officer, Sheth M.C.Polytechnic in Agriculture, AAU, Anand. Gujarat
2 Professor and Head, department of Extension Education, BACA, AAU, Anand
Email : christain_bindu@yahoo.co.in

ABSTRACT

In Gujarat, four SAUS working at Anand, Junagadh, Navsari and Sardarkrushinagar are contributing in developing and training personnel for agricultural research, education and extension education. To perform such works more efficiently as per the demand of present time, it is projected that students, scientists and educationists of SAUs need to be updated with latest research, communication and transfer of technology related technologies like computer and information technology. In the development of Indian agriculture, contribution of women is well accepted by policy makers, planners and academicians. It is noticed that as compared to male, participation and enrolment of women in agricultural education, research and extension activities is less. However, from last two decades, considerable woman students have shown their interest to be a part of agricultural education, research and extension activities. So, considering this immense potentiality of computer, researchers felt need to developed a scale to measure attitude of woman research scholars towards the use of computer for their empowerment. Among the techniques available, researchers were used 'Scale product method' which combines the Thurnstone's Technique (1928) of equal appearing interval scale for selection of items and Likert's Technique (1932) of summated rating for ascertaining the response on the scale as proposed by Eysenck and Crown (1949).The scale contains 10 statements viz.1. I am sure that computer affinity accelerates Woman Research Scholars (WRS) to know various job opportunities, 2. I accept that computer affinity helps WRS to develop overall personality, 3. I am sure that computer affinity gives confidence to WRS to be a good research manager, 4. I consider that computer affinity is a need of hours for WRS to be a good value addition processor of agricultural product, 5. I believe that each WRS should learn computer, 6. I think that proximity with computer is bad activity for WRS, 7. The computer motivates me in self-learning, 8. I don't think any WRS can reach on the top with the help of compute, 9. The computer improves the quality of work, 10. I feel that computer is demoralizing WRS at work. Out of these 10 statements, statement no.6, 8, and 10 are negative and remaining are positive. Co-efficient of reliability between these two sets of score was calculated by Rulon's Formula (Guilford 1954), which was 0.94. The responses can be collected on five point continuum viz. strongly agree, agree, undecided, disagree and strongly disagree with weight of 5, 4, 3, 2 and 1, respectively for favourable or positive statements and with weight of 1, 2, 3, 4 and 5, respectively for unfavourable or negative statements.

Keywords : *Attitude, Computer, Empowerment*

In present age of information and technology, computer has been considered as an important tool to carry out almost any possible tasks. Starting from very small work to amazing task, the computer has become a part and parcel of the life. In the field of education, research and development also it has significant potential to straighten effectiveness of academicians, researcher scholars and officeholder. Many experts have suggested that to develop agriculture as whole, there is need to encourage women to work as agricultural educationists, researchers and extension educationists to motivate, empower and accelerate effectiveness of farmwomen in agricultural development. The association of

woman research scholars to harness maximum advantages of facilities available on computer needs to be encouraged by the academic institutions. To understand woman research scholars' attitude towards the use of computer for their empowerment was felt needed by researchers to motivate young and energetic woman research scholars to obtain utmost benefits of ICT.

Attitude refers to the "degree of positive or negative feelings associated with some psychological object" (Thurston 1946). In this study attitude is conceptualized as positive or negative feelings of woman research scholars towards the use of computer for their empowerment. To measure this, researchers have developed and standardize the attitude scale. Among the techniques available, researchers were used 'Scale product method' which combines the Turnstone's Technique (1928) of equal appearing interval scale for selection of items and Likert's Technique (1932) of summated rating for ascertaining the response on the scale as proposed by Eysenck and Crown (1949). To develop the attitude scale following procedure was used.

Item collection

The items of attitude scale are called statements. At the initial stage of developing the scale, 51 statements reflecting feelings of the woman research scholars about the usefulness of computer for their empowerment were collected from relevant literature and discussion with experts of extension personnel. To decide relevancy, a list of the statements was sent to 50 judges. They were requested to give response in terms of 'relevant' or 'non-relevant' for each statement included in the list. The responses for all the statements were collected personally and their relevancy in percentage was calculated. Primarily 40 statements which were found relevant to include in the attitude scale by more than 90 per cent of the experts were selected for the further procedure. Thereafter these statements were edited according to the criteria suggested by Edward (1957). From the 51 primarily selected statements, 40 unambiguous and non-factual statements were selected.

Judge's rating of attitude statements

In order to judge the degree of importance of each statement more critically, a panel of other judges was selected and their opinion was collected in terms of relevance of each statement on the five points equal appearing interval continuum from 'Fully Agree' to 'Fully Disagree'. 75 slips of the selected statements were handed over to the experts working in Department of Extension Education, Extension Education Institute, Directorate of Extension Education, Department of Statistics, Department of Economics, IT centre and other centers of Anand Agricultural University. Out of 75 experts, 50 experts returned list of the 40 statements with their judgment, which was considered for the next step of analysis.

Determination of scale and quartile value

The five points of the rating scale were assigned score ranging from 1 for fully disagreement and 5 for fully agreement. Based on judgment, the median value of the distribution and the Q value for the statement concerned were calculated with the help of following formula.

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

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.

The inter-quartile range (Q = Q3 - Q1) for each statement was worked out for determination of ambiguity involved in the statements. Only those statements were selected whose median values were found greater than Q value. Thurston and Clave (Edwards, 1957) described criteria in addition to Q as a basis for rejecting statement in scales constructed by the method of the equal appearing interval. Accordingly, when a few items had the same scale values, the item having lowest Q values were selected. Based on the scale values or say median and Q values, 10 statements were finally selected to constitute attitude scale.

The selected 10 statements for final format of the attitude scale were randomly arranged to avoid response bias. Against each of 10 statements, there were five columns, representing a five point continuum of agreement or disagreement to the statements as adopted by Likert (1932). The five points continuum were strongly agree, agree, undecided, disagree and strongly disagree with weight of 5, 4, 3, 2 and 1, respectively for favourable or positive

statements and with weight of 1, 2, 3, 4 and 5, respectively for unfavourable or negative statements. The final format of the scale is presented in below table.

Table1: Statements finally selected to constitute attitude of woman research scholars towards the use of computer for their empowerment

Sr. No.	Statement	Strongly Agree	Agree	Un-decided	Dis-agree	Strongly disagree
1.	I am sure that Computer affinity accelerates girl scholars to know various job opportunities.(+)					
2	I accept that Computer affinity helps girl scholars to develop overall personality. (+)					
3	I am sure that Computer affinity gives confidence to girl scholars to be a good research manager.(+)					
4	I consider that Computer affinity is a need of hours for girl scholars to be a good value addition processor of agricultural product.(+)					
5	I believe that each girl student should learn computer (+)					
6	I think that inclination with computer is bad activity for girl students (-)					
7	The computer motivates me in self-learning (+)					
8	I don't think any girl can reach on the top with the help of computer (-)					
9	The computer improves the quality of work. (+)					
10	I feel that Computer is demoralizing girl students at work.(-)					

Reliability of the scale

The split-half technique was used to measure the reliability of the scale. The 10 statements were divided into two equal halves as two separate sets with 5 odd numbered and 5 even numbered statements in order. These were administered to 25 respondents. Each of the two sets was treated as separate scale and obtained two scores for both the sets from the 25 respondents. Co-efficient of reliability between these two sets of score was calculated by Rulon's Formula (Guilford 1954), which was 0.94. This value indicates that scale is reliable.

$$rtt = 1 - \frac{\sigma^2 d}{\sigma^2 t}$$

Where,

rtt = co-efficient of reliability

$\sigma^2 d$ = variance of those two differences

$\sigma^2 t$ = variance of total score

Validity of the scale

The validity of the scale was examined for content validity determining how well content were selected by discussing it with specialists of extension and academicians. Thus, the present scale satisfied the content validity.

Scoring system

The selected 10 statements for the final format of the attitude scale are randomly arranged to avoid response biases, which might contribute to low reliability and detraction from validity of the scale. The responses 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.

REFERENCES

Edward, A.L. (1957). Techniques of scale construction. Appeton Century Crafts Inc., New York.

Eysenck, H.J. and S. Crown.[1949]. An Experimental study in pinion attitude methodology. *International J. of Attitude Research.* 3: 47-86.

Guliford, J. P. (1954). Psychometric Methods. Tata McGraw-Hill Publication Co. Ltd., Bombay: 378-382.

Likert, R.A. (1932). A Technique for the measurement of attitude scale. Psychology, New York, PP; 140.

Thurston, L. L. (1946). The Measurement of attitude *American J. of Sociology*. Chicago University Press, 39-50.

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