

### A scale to measure computer anxiety/nervousness amongst agricultural students

Computer is the greatest discovery in the recent times. It has transformed the world into a global village and has provided the channel for exchange of information quickly. In the field of education also it has become a part of the life of the academicians and students. It is used extensively by those students who are involved in research work. Especially agriculture education is concerned with the knowledge of diversified field for which affection with computer is very much essential for the agricultural students. It is observed that due to computer anxiety, many students are not in position to take advantages of computer application for their development. It is therefore a need to examine the major problems and issues associated with students in working with computer.

The challenges in adopting computerization in day-to-day work are a prominent need of the time. It is well known fact that computer plays a tremendous role in the life of students. In spite of this, many students do not show enthusiasm towards computer. It is sure that many social scientists and researchers involved in the students' development work would like to investigate existing sensitivity of the students towards

computer in using this smart machine for the development of their career and education as well as level of their anxiety or say nervousness towards computer. Understanding this, a systematically developed reliable scale was thought to be developed. This scale can be used to know the students apprehensions in the uses of computers.

Among the technique available for the construction of scales, the Thurston's Equal Appearing Interval Scale (1928) and the Likert's Summated Rating Scale (1932) are quite well known. Both the methods suffer from the limitations, the first one in getting discriminating response and second one in selection of items. Thus, the technique chosen to construct the scale was of "Scale Product Method" which combines the Thurston's technique of Equal Appearing Interval Scale for selection of the items and Likert's techniques of summated rating for ascertaining the response on the scale.

As a first step in developing the scale, 40 statements (items) about computer anxiety/nervousness were collected from the relevant literature, experts of computer cell and extension personnel. Out of these, 24 statements were selected

Table 1. Final format of the scale with scale value and scoring for each statement

No	Statements	SA	A	UD	DA	SDA
1	I would like to use computers, If given the opportunity. (+) ( Scale Value 1.30)	5	4	3	2	1
2	I dislike working with computer machine that is smarter than me. (-) ( Scale Value 3.00)	1	2	3	4	5
3	The challenge of learning about computers is exciting. (+) ( Scale Value 1.00)	5	4	3	2	1
4	I have trouble in knowing the technical aspects of computers. (-) ( Scale Value 2.90)	1	2	3	4	5
5	I think I will not be able to learn a computer programming language. (+) ( Scale Value 4.60)	5	4	3	2	1
6	I hesitate to make use of computer for fear of making blunders that I cannot correct. (-) ( Scale Value 2.20)	1	2	3	4	5
7	I am confident that I can learn computer skills. (+) ( Scale Value 1.18)	5	4	3	2	1
8	I think that only masterminded person can make use of computers. (-) ( Scale Value 3.89)	1	2	3	4	5
9	Anyone can learn to use a computer if they are patient and motivated. (+) ( Scale Value 1.97)	5	4	3	2	1
10	I am worried that if I start using computer I will become dependent on it and be unable to do some work without it. (-) ( Scale Value 2.58)	1	2	3	4	5
11	I think that with time and practice I will be as comfortable working with computers as I am with papers or typewriter. (+) ( Scale Value 1.90)	5	4	3	2	1
12	I like to avoid computer use because it is unfamiliar and somewhat unapproachable to me. (-) ( Scale Value 3.7)	1	2	3	4	5
13	I feel that to get best result one should use computer in day-to-day life.(+) ( Scale Value 1.21)	5	4	3	2	1
14	I feel myself incompetent to work with computers. (-) ( Scale Value 3.60)	1	2	3	4	5
15	I feel computers are necessary tools in both educational and work settings. (+) ( Scale Value 1.13)	5	4	3	2	1
16	I feel tension in using computers (-) ( Scale Value 3.80)	1	2	3	4	5

SA-Strongly Agree A- Agree UD- Undecided DA-Disagree SDA- Strongly Disagree

in order to judge its dependability after careful editing on the basis of the criteria suggested by Thurstone and Cave (1928).

In order to judge the degree of “Unfavorableness” to “Favorableness” 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, computer specialists and statisticians with considerable practical experience of computer from the Anand Agricultural University. The judges were visited personally along with a letter of instructions so as to guide them for rating the statements in desired manner for each set of the statements.

The five points of the rating scale were assigned score ranging from 1 for most unfavorable and 5 for most favorable. Based on judgment, the median value of the distribution and the Q value for the statement concerned was calculated. The inter-quartile range ( $Q = Q_3 - Q_1$ ) for each statement was also worked out for determination of ambiguity involved in the statement.

When there was a good agreement among the judges, in judging the degree of agreement or disagreement of a statement, Q was small compared to the value obtained. When there was relatively little agreement among the judges value was higher. 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, 16 statements

were finally selected to constitute attitude scale. The scale values were ranging from 1.0 to 4.6 with 0.5 class intervals.

A scale is reliable when it consistently produces the same results when applied to the same sample. In the present study, split-half method of testing reliability was used. The 16 statements were divided into two halves with eight odd numbered in one half and other eight 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, which came to 0.716.

The present scale satisfied the content validity, because the contents were selected by discussion with specialists, extension academicians. After all the statistical procedure, total 16 statements were selected with eight positive and eight negative statements.

The selected 16 statements for the final format of the attitude scale are randomly arranged to avoid response biases, which might contribute to low reliability and detract 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 favorable or negative statements and with the respective weights of 1, 2, 3, 4 and 5 for the unfavorable or positive statements. The odd statements in the scale are negative, while even statements are positive.

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