



## **A Scale to Measure the Extent of Entrepreneurial Skills Acquired by the Students of Agricultural Experiential Learning Programme (AELP)**

**A Jeevan Kumar, T Gopi Krishna, B Vijayabhinandana and V Srinivasa Rao**

Department of Agricultural Extension, Agricultural College, Bapatla 522 101, Andhra Pradesh

### **ABSTRACT**

A scale was developed to measure the extent to which entrepreneurial skills acquired by the students of AELP based on Likert's method of summated rating. A tentative list of 84 statements each expressing the extent of entrepreneurial skills to be acquired from AELP was collected and edited in the light of the informational criteria suggested by Thurstone, Chave, Likert and Edward. These statements were framed such that they expressed the degree to which the entrepreneurial skills can be acquired by the students. The respondents were asked to indicate the degree to which the entrepreneurial skills relevant to the AELP students on a three point continuum ranging from highly relevant to not relevant. The score of each individual item on the scale was calculated by summing up the weights of the individual items. On the basis of the total score, the respondents were arranged in descending order. The top 25 per cent of the respondents with their total scores were considered as the high group and the bottom 25 per cent as the low group, so that these groups provide criterion groups to evaluate individual items. In order to find out the discriminating index for each item, 't' value was calculated using the formula and procedure given by Edwards. The scale so developed finally consisted of 57 statements.

**Key words :** Continuum, Entrepreneurial skills, Reliability, Validity.

The graduates passing out today do not match the requirements of emerging market. Globalization and demand led market necessitate a relook at the content and delivery of curricula and curriculum delivery such that the graduates coming out not only meet the expectations of different stake holders but also be propeller of agricultural growth. As a result of the IV Deans committee (headed by Dr. S. L. Mehta) report, the AELP was introduced in all the state agricultural universities in India to impart entrepreneurial skills and practical knowledge to the students. The ANGRAU has also implemented AELP with a load of 20 credits in the VIII semester of B. Sc. (Ag.) with its emphasis on moulding graduates from "job seekers to job providers" in all the constituent colleges from the year 2010-2011.

Entrepreneurial skill can be defined as the ability to create something new with value by devoting the necessary time and effort, assuming the accompanying financial, psychic and social risks, and receiving the resulting rewards of monetary and personal satisfaction and independence (Hisrich & Peters, 2002).

Entrepreneurial skill is the ability to of an individual to exploit an idea and create an enterprise (Small or Big) not only for personal gain but also for social and developmental gain (Olagunju, 2004).

Accordingly, the present study was undertaken with the following specific objectives:

1. To develop a scale to measure the attitude of farmers towards farming.
2. To standardize the scale constructed to measure the attitude of farmers towards farming.

### **MATERIAL AND METHODS**

For measuring the entrepreneurial skills, different types of scales developed by Thurstone, Likert and several others differ markedly in type and method of construction, but the objective in every case was to assign an individual a position along a quantitative scale.

In this study, extent of entrepreneurial skills acquired by the students of Agricultural College, Bapatla under AELP was measured using the Likert's method of summated rating because of following reasons.

- a) Hall (1934) indicated that the Likert type of scales with fewer statements will give high reliability coefficients.
- b) In this scale each item was judged on a five point continuum rather more rejection of the item as in Thurstone's scale.
- c) No judges are required to rank the items as in case of Thurstone's scale. This saves time, labour and money and also simplifies the procedure.
- d) It is relatively simple and easier than equal appearing interval scale which have been claimed by Likert (1932) and supported by Hall (1934).
- e) The item on a Likert scale provide data of the individual about the specific issue covered by the single item as well as total score on the attitude dimension being studied.

Eighty four statements regarding extent of entrepreneurial skills acquired have been collected from available literature, in consultation with the specialists in the field of Agricultural Extension and they were edited on the basis of criteria suggested by Thurstone and Chave (1929), Likert (1932) and Edward (1957).

The respondents were asked to indicate the degree relevancy of each item on a three point continuum ranging from highly relevant to irrelevant. The scoring pattern adopted was a score of 3 was given to highly relevant response, 2 to relevant response and 1 to irrelevant response. Their responses were recorded and summated for the total statements was obtained.

#### Calculation of 't' value

The scores of the individual statements were summed up to get the total scores of the respondents. Based on the total scores obtained, the respondents were arranged in descending order. The top 25 per cent of the respondents with their total scores were considered as the high group and the bottom 25 per cent as the low group, so as these two groups provide criterion groups in terms of evaluating the individual statements as suggested by Edwards (1957). Thus, out of 50 respondents to whom the items were administered for the item analysis, 10 respondents with highest scores and

10 respondents with lowest scores were used as criterion groups to evaluate individual items.

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

$$t' = \frac{\bar{X}_H - \bar{X}_L}{\sqrt{\frac{\Sigma(X_H - \bar{X}_H)^2 + \Sigma(X_L - \bar{X}_L)^2}{n(n-1)}}$$

Where,

$$\Sigma(X_H - \bar{X}_H)^2 = \Sigma \bar{X}_H^2 - \frac{(\Sigma X_H)^2}{n}$$

$$\Sigma(X_L - \bar{X}_L)^2 = \Sigma \bar{X}_L^2 - \frac{(\Sigma X_L)^2}{n}$$

$\bar{X}_H$  =the mean score on a given statement for the high group

$\bar{X}_L$  =the mean score on a given statement for the low group

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

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

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

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

n =Number of respondents for in each group

$\Sigma$  =Summation

## RESULTS AND DISCUSSION

Eighty four statements expressing the extent to which the entrepreneurial skills acquired by the students of AELP were collected from available literature, in consultation with the specialists in the field of Agricultural Extension. The statements were edited. Fifty seven statements were retained after editing. These statements were administered to 40 respondents who were selected from outside the sample area and the respondents were asked to indicate their degree of acquirement

Table 1. Scale developed for measuring the extent of entrepreneurial skills acquired by the students of AELP.

S. No.	Statements	t-value
<b>I</b>	<b>Communication Skills</b>	
1	Information Processing Skills	2.6833
2	Advising Skills	2.9542
3	Counselling Skills	2.9286
4	Suggesting Skills	2.0896
5	Ordering Skills	2.9286
6	Motivating Skills	2.2778
7	Warning Skills	2.1909
8	Education Skills	2.8685
9	Vertical Communication Skills	2.8846
10	Horizontal Communication Skills	2.9542
11	Reading Skills	2.6833
12	Speaking Skills	2.3333
13	Listening Skills	2.6888
14	Conversation Skills	2.8620
15	Presentation Skills	2.2778
16	Writing Skills	2.5298
17	Reporting Skills	2.2778
18	Creative Thinking Skills	2.5584
19	Feedback	2.9286
20	Public Relation Skills	2.8620
21	Non-Verbal Communication Skills	2.5880
<b>II</b>	<b>Technical Skills</b>	
22	Conceptual Skills	2.5861
23	Designing Skills	2.6349
<b>III</b>	<b>Professional Skills/ Occupational Skills</b>	
24	Technology Procurement and Use	2.3311
25	Raw Materials Procurement and Use	2.9286
26	Production Cycle Implementation	2.7175
27	Inventory Management	2.6349
28	Production Process and Types	2.4962
29	Quality Control	2.7161
<b>IV</b>	<b>Processing Skills</b>	
30	Sorting	2.9286
31	Grading	2.5298
32	Value Addition	2.7175
33	Packaging Skills	2.9286
<b>V</b>	<b>Marketing Skills</b>	
34	Consumer Preference Identification	2.9286
35	Product Identification	2.8620
36	Market Decision Making	2.8620
37	Field Level Operational Skills	2.6349

Table 1. cont.....

S. No.	Statements	t-value
<b>VI</b>	<b>Product Promotion Skills</b>	
38	Advertising Skills	2.1909
39	Publicising Skills	2.9286
40	Sales Promotion Skills	2.7175
41	Personal Selling	2.8347
<b>VII</b>	<b>Managerial Skills</b>	
42	Planning the Enterprise	2.7414
43	Organising the Enterprise	2.5298
44	Reporting the Enterprise	2.5298
45	Budgeting the Enterprise	2.8685
<b>VIII</b>	<b>Entrepreneurial Skills</b>	
46	Creative Skills	2.8620
47	Risk Bearing Skills	2.6349
48	Problem Solving Skills	2.7161
49	Judgement Skills	2.9704
50	Leadership Skills	2.6349
<b>IX</b>	<b>Human Resource Skills</b>	
51	Co-operative Skills	2.5880
52	Collaborative Skills	2.9286
53	Co-ordination Skills	2.2778
54	Negotiation Skills	2.8620
55	Collective Bargaining Skills	2.3094
56	Conflict Management Skills	2.5861
57	Accounting Skills	2.8620

with each statement on a three point continuum ranging from fully acquired to not acquired.

#### **Selection of entrepreneurial skills statements for final scale:**

After computing the 't' value for all the items (Table 1), statements comprising of fifty seven statements with t value equal to or greater than 1.75 were finally selected and included in the scale developed to measure the extent to which the entrepreneurial skills acquired by the student of AELP. There were 57 statements in the final scale developed.

#### **Validity of the scale**

As the content of the attitude thoroughly covered the entire universe of the students and

teachers with special emphasis on AELP through literature consultation and expert opinion, it was assumed that present scale satisfied the content validity.

#### **Reliability of the scale**

Test-retest method was used to find out the reliability. In this method, the scale was further administered to 40 respondents and the 't' value was found to be (0.8926) significant validating the scale.

To conclude, a scale was developed and standardized to measure the extent of entrepreneurial skills acquired by the students of AELP. The scale was found to be valid and as well as reliable. The present study would enable the researchers to measure the extent of

entrepreneurial skills acquired by the students of AELP. The respective educational institutions can plan for correction of students those who did not acquire the entrepreneurial skills and to promote the successful running of AELP in the final semester of B. Sc. (Ag.). The entrepreneurial skills scale can further be used with little or no modification elsewhere where similar situations prevail.

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