APPENDIX - VI

RELIABILITY COEFFICIENTS OF TEN EDUCATIONAL SCALES

(N = 38)

1. Agriculture

$$r = \frac{xy}{x^2 \times y^2}$$

$$= \frac{810}{1285 \times 769}$$

$$= \frac{810}{991.66}$$

$$= 0.82$$

2. Arts

$$r = \frac{1083}{1573 \times 1027}$$

$$= \frac{1083}{1269}$$

$$= 0.85$$

3. Commerce

$$r = \frac{1330}{1859 \times 1423}$$

$$= \frac{1330}{1626.10}$$

$$= 0.81$$

4. Fine Arts

$$r = \frac{1375}{3917 \times 41}$$

$$= \frac{1375}{1606}$$

$$= 0.85$$

5. Home Science

$$r = \frac{1073}{1638 \times 899}$$

$$= \frac{1073}{1231.57}$$

$$= 0.87$$

6. Medical

$$r = \frac{720}{1232 \times 929}$$

$$= \frac{720}{1066}$$

$$= 0.67$$

7. Performing Arts

$$r = \frac{987}{1565 \times 1014}$$

$$= \frac{987}{1256}$$

$$= 0.78$$

8. Science

$$r = \frac{1008}{1515 \times 1052}$$

$$= \frac{1008}{1262}$$

$$= 0.79$$

9. Social Work

$$r = \frac{856}{38.6 \times 29.9}$$

$$= \frac{856}{1154}$$

$$= 0.74$$

10. Tech. & Engg.

$$r = \frac{751}{36.7 \times 27.56}$$

$$= \frac{751}{1011}$$

$$= 0.74$$

APPENDIX

Pearson's r = $\frac{\Sigma XY}{N\sigma x\, \sigma Y}$ - (I)

Here

$x = (x - \bar{x})$, $Y = (y - \bar{y})$

σx = standard deviation of series x

σy = standard deviation of series y

N = Number of Pairs of observation

r = the (Product moment) correlation Coefficient.

The first formula for computing correlation coefficient. Correlation can be transformed to the following form which is easier to apply.

$$* \quad r = \frac{\Sigma xy}{\sqrt{x^2 \times y^2}}$$

$$* \quad r = \frac{\Sigma xy}{N\sigma x\, \sigma y} \qquad \sigma x = \sqrt{\frac{\Sigma x^2}{N}}, \quad \sigma y = \sqrt{\frac{\Sigma y^2}{N}}$$

$$r = \frac{\Sigma xy}{\sqrt{N \sqrt{\frac{\Sigma x^2}{N} \times \frac{\Sigma y^2}{N}}}} = \frac{\Sigma xy}{\sqrt{x^2 \times y^2}}$$

Steps :

i. Take the deviations of x series from the mean of x and

denote this deviation by x.

ii) Take the deviations of y series from the mean of y and denote this deviation by y.

iii) Square these deviations and obtain the total that is $\sum x^2$ and $\sum y^2$.

iv) Multiply the deviations of x and y series and obtain the total that is $\sum xy$.

v) Substitute the values of $\sum xy$, $\sum x^2$, $\sum y^2$ in the above formula and compute r.