CHAPTER V

THE ANALYSIS OF DATA

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The entire range of studies available pertaining to "Communication of Innovation" has been analyzed by Rogers and Shoemaker (1971). Havelock (1971) has systematically presented the results of around 2820 studies and has used them to evolve a linkage model for the installation of innovations. The communication aspect runs through the entire structure of analysis of these authors. A classified summary of the literature surveyed by the researcher has been presented in Chapter III. But this study is probably a first study of the communication between colleges of Education and their practising schools

analyzing the pattern of communication and with the main objective of evolving a model for effective communication between Colleges of Education and the Schools in their area.

The data collected with the help of the three tools (as has been described in Chapter IV) are statistically analysed and presented below to provide an overall idea. Moreover these particulars form the basis for testing the various hypotheses and as such presenting them here at the outset, is deemed to be relevant. Hypotheses testing and discussion follow at the next stage.

5.1 Descriptive Analysis

The colleges of education have been given numbers arranging them according to the alphabetical order of the district in which they are located and the school groups take the number of their source college of education. The same numbers have been maintained right through the study. The names of the colleges of education and the schools attached to them are given in Appendix

From the data collected through tool 1, the innovation index for the colleges and schools are computed as follows:

The data were quantified as mentioned in Chapter IV. The scores of individual teachers in schools were summed up forthe group of staff belonging to one institution, then for groups of institutions and finally for the entire source system and the adopter system. The total score fornan individual could range from 0 to 336(84 x 4). To compute the innovation index the total acore is divided by the maximum possible score and multiplied by 100. The formula used to arrive at the innovation Index (I.I) is as follows.

$$I.I = \frac{\leq X}{N_1 N_2 V} \times 100$$

Where $\leq X$ is the total score for an institution

N_1 the number of persons who have responded

N_2 is the number of innovations given in the tool

V is the maximum scale value of an innovation (here it is 4)

Innovation Indices so arrived at, are subjected to statistical analysis for hypotheses testing.

Innovation Indices

In the descriptive analysis, the innovation indices of the schools computed on the basis of the information supplied by the college teachers and by the school teachers are considered first.

TABLE NO. 8

Table showing the innovation indices calculated on the basis of the information given by college teachers and the respective school teachers.

Sl. No.	Group Number	According to College Teachers	According to School Teachers	S/C ratio
1	2	3	4	5(4/3)
1	I	64	59.2	.925
2	II	62.6	67.9	1.085
3	III	58.5	59.8	1.022
4	IV	47.2	62.1	1.316
5	V	54.4	58.9	1.083
6	VI	65.9	60.3	.915
7	VII	52.8	59.6	1.129
8	VIII	77.2	70.2	.903
9	IX	40.9	57.0	1.421

TABLE NO. 8
(Contd..)

Sl. No.	Group Number	According to College Teachers	According to School Teachers	S/C ratio
1	2	3	4	5 (4/3)
10	X	53.8	56.2	1.945
11	XI	50.7	63.5	1.255
12	XII	68.9	64.5	.936
13	XIII	61.9	67.6	1.092
14	XIV	51.5	52.2	1.014
15	XV	58.3	55.4	.95
16	Global	58.2	61.1	1.05

Obviously the majority of the school teachers think of themselves more innovative than what the College teachers perceive of them.

The innovative indices for Group VIII according to the College teachers as well as the school teachers, are high. There is no isolation between this College and its practising schools.

The following facts emerged out of an interview with the Principal. There is a model school attached to this college located within the same campus. Ample opportunities are there for the College and school staff to mix and exchange views. The facilities available in the Training college are shared by the school also. The administrative control of the school lies with the Inspectress of Girl's schools who sanction the grant. The Principal considers it a barrier to better communication between colleges and schools.

The maximum difference in opinion occurs in Group IX. That this college is isolated from the schools is revealed by the results.

Distortion in the innovation Index between what college teachers perceive of school teachers and what the school teachers express of themselves has been discussed elsewhere (p.5·16).

Innovation Scores - Typewise

There are fifteen types of innovations catalogued for the study. The mean score value for these fifteen types were separately calculated using the data supplied by the

college teachers and the respective school teachers. The significance of difference between the two mean score values so calculated was also found out using 't' statistic.

TABLE NO. 9

Table showing the significance of differences between mean values of innovation scores of different types calculated from the data supplied by college teachers and school teachers

S.No.	Innovation Type	Mean Max.	As perceived by College Teachers	As expressed by school teachers	t value of difference
1.	Planning and Organization	4	2.08	2.39	1.083
2.	Ancillary Services	4	2.91	2.48	1.996
3.	School Identity	4	3.11	2.58	3.256*
4.	Linkage with Education Institutions	4	1.83	1.75	0.491
5.	Linkage with community	4	2.40	2.00	3.24 *
6.	Linkage with other organizations	4	1.94	1.61	1.487
7.	Professional Growth	4	2.28	2.68	2.324**
8.	Student Improvement	4	1.93	2.68	4.344*
9.	Curricular Innovations	4	2.73	2.85	0.549

TABLE NO. 9
(Contd.)

10.	Co-curricular Innovations	4	2.35	2.30	0.431
11.	Method - Student Centred	4	2.34	2.71	2.153**
12.	Method-teacher Centred	4	1.63	2.33	3.945*
13.	Evaluation	4	2.48	2.69	2.787**
14.	Mass Media	4	2.22	2.36	0.742
15.	Improvised Aids	4	2.55	3.16	2.673**

* Significant at .01 level

** Significant at .05 level.

The estimate of the college teachers about the school teachers are more than what the school teachers have expressed of themselves in the following areas:

1. Ancillary services
2. School identity
3. Linkage with community

These are institutional innovations. So, according to College teachers there are more of institutional innovations than instructional ones in schools. But the school teachers say that they are effecting more of instructional

changes which is not agreed upon by the college teachers. The instructional innovations where there are significant disagreement are as follows:

1. Professional growth
2. Student improvement
3. Methods - student centred
4. Methods - Teacher centred
5. Evaluation
6. Improvised aids.

The school teachers have a tendency to overvalue the things that directly tell upon the quality of their work. They seem to be working to achieve them. But probebly the outcome or effect is not visible to the college teachers.

Innovation type score - groupwise

In this section the innovation type scores are analysed college groupwise. The 't' values for the differences in the college and school scores for all the fifteen types of innovations are calculated.

C. Table 10 ; Table showing the significance of differences ('t' values) between innovation score means with reference to college - school groups and innovation types.

On an average significant disagreement is seen in 47.5% of cases. This is not a negligible value. The Kothari Commission (1966) has spoken about isolation between Colleges of Education and schools. The above table supports the view of the Kothari Commission.

Among the seven groups, where significant disagreement is in less than the coverage for the various groups, in four, there are Extension Departments. Total number of colleges of Education having extension Departments is five. In five there are model Schools. Total number of colleges of education having model schools is nine. Obviously the presence of extension departments and model schools reduces the isolation between colleges of education and their practising schools.

d. Communication and reception scores:

Tool 2 gathered data regarding the communication. The Colleges of education are the major source of communication. The scores arrived at analysing the data furnished by the college staff are called communication scores and the scores calculated using the school data are named the reception scores.

Communication score is the percentage of the ratio between the actual total score and the maximum score. The formula adopted was:

$$C.S = \frac{\leq X}{N_1 \; N_2 \; V} \times 100$$

Where X is the total score for an institution

N_1 is the number of persons who have responded

N_2 is the number of statements given

V is the maximum value for each statement (here it is 5).

Same formula has been used to arrive at the Reception Score (R.S) where the schools are concerned. Angle i of distortion is calculated using the following formula.

$$A.D = \frac{(C.S) - (R.S)}{(C.S)} \times 90$$

Where A.D is angle of distortion

C.S is communication score

and R.S is reception score

FIGURE-XIII

COMMUNICATION AND RECEPTION SCORES

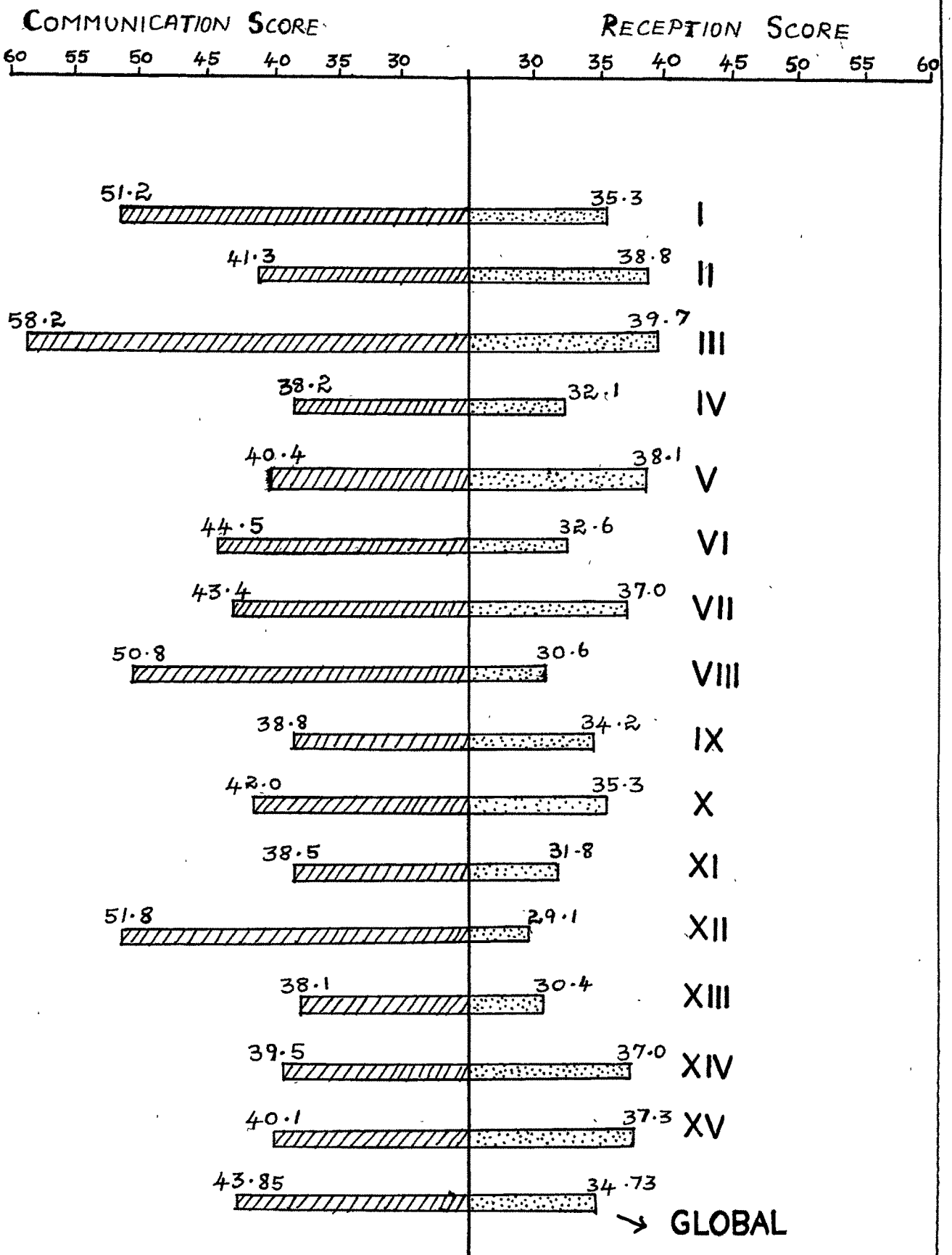


TABLE NO. 11

Table showing the communication and reception scores

S.No.	Groups	Communication Score	Reception Score	S/C Ratio
1.	I	51.2	35.3	.689
2.	II	41.3	38.8	.937
3.	III	58.2	39.7	.682
4.	IV	38.2	32.1	.84
5.	V	40.4	38.1	.943
6.	VI	44.5	32.6	.733
7.	VII	43.4	37	.853
8.	VIII	50.8	30.6	.602
9.	IX	38.8	34.2	.881
10.	X	42	35.3	.840
11.	XI	38.5	31.8	.826
12.	XII	51.8	29.1	.562
13.	XIII	38.1	30 4	.798
14.	XIV	39.5	37	.937
15.	XV	40.1	37.3	.93
16.	Global	43.85	34.73	.792

The reception scores in all the cases are less than the communication scores. The difference is accounted as due to distortion. The explanation relating to distortion analysis has been taken up at a later stage.

The communication score is maximum in Group III; but the reception score is very low. This college is situated away from the town while most of the practising schools are situated within the town. The good work done by this college is not reciprocated by the schools.

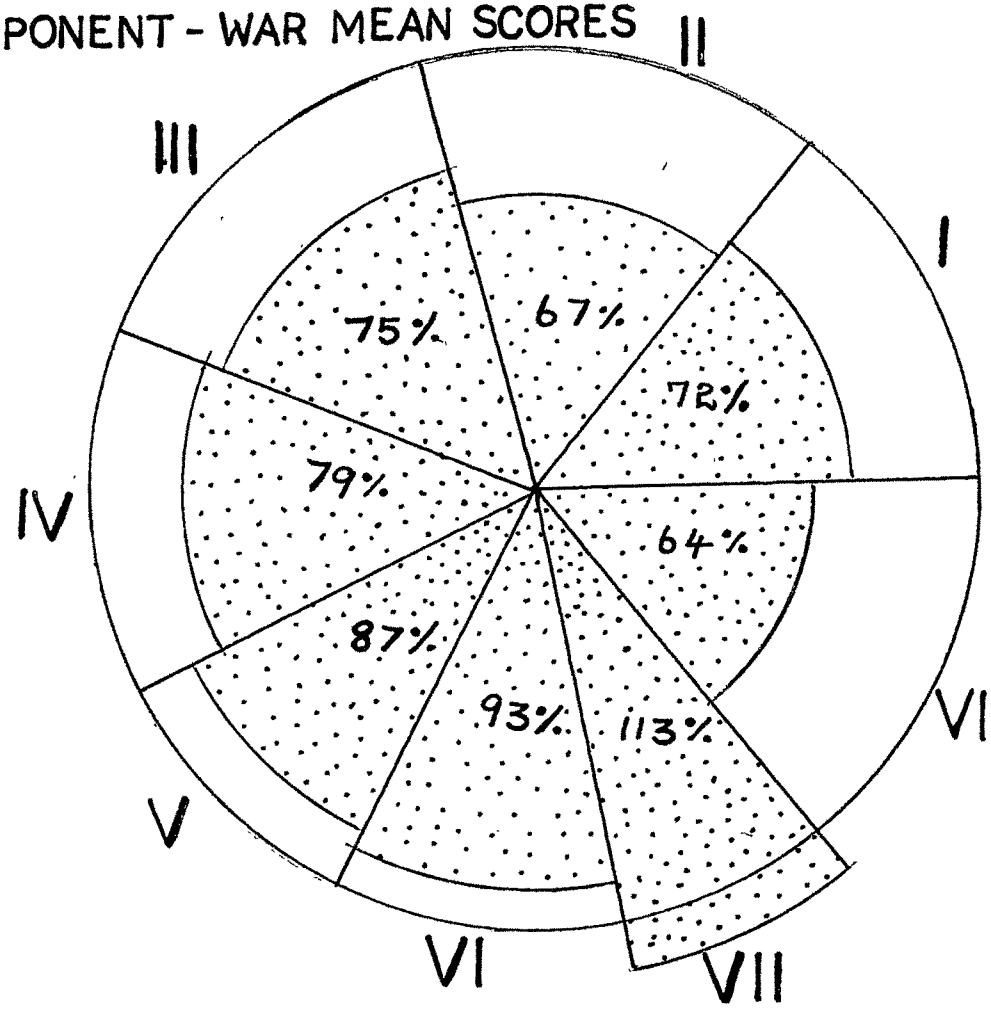
Generally while the communication scores range from 38% to 58% the reception score lie between 30% and 40%. This reveals the need to tone up the communication system.

e. Component wise communication scores:

Eight components are identified in the communication system. The communication and reception scores for all these eight components are calculated separately and the significance in their differences are also studied.

FIGURE - XIV

COMMUNICATOR AND RECEPTOR COMPONENT - WAR MEAN SCORES



No	COMPONENT	COM. SCORE IN Degrees
I	SOURCE	50
II	MESSAGE	53
III	RECEIVER	54
IV	ORAL MEDIUM	48
V	WRITTEN MEDIUM	36
VI	INDIRECT MEDIUM	37
VII	MASS MEDIUM	28
VIII	FOLLOW-UP	54

RECEPTION

TABLE NO. 12

Table showing the Global - Factor - war mean values relating to communication

S.No.	Factor	Communicator mean	Receptor mean	t-value of difference
1.	Source	2.45	1.76	5.26 *
2.	Message	2.60	1.75	6.26 *
3.	Receiver	2.63	1.99	5.53 *
4.	Oral Medium	2.33	1.85	3.33 *
5.	Written Medium	1.76	1.54	2.31 **
6.	Indirect Medium	1.79	1.67	1.94
7.	Mass Medium	1.39	1.57	1.32
8.	Follow up	2.65	1.71	7.61 *

There are significant distortions in six factors out of the eight factors of communication taken up for the study. Further analysis of each of these factors has been taken up at a later stage. There is need to tone up or improve the process of communication.

f. Componentwise difference between the communicatior and receptor scores for all the groups separately.

The differences in the communication and receptor scores for all the eight components are studied for their

significance with reference to each group. Thus 120(15x8) differences were subjected to 't' test analysis. The results are shown below.

TABLE NO. 13

Table showing the consolidated group war-factor war distortions expressed as 't' values

S.No.	Factors Groups	Source	Message	Receiver	Oral Medium	Written Medium	Indirect medium	Mass Medium	Follow up	No. of distortions
1.	I	15.337*	13.137*	6.148*	7.216*	6.918*	4.811*	3.935*	23.061*	8
2.	II	0.203	3.586*	3.104*	1.535	0.388	1.004	1.821	0.504	2
3.	III	8.962*	7.287*	8.917*	12.875*	8.417*	6.404*	4.716*	10.024*	8
4.	IV	1.339	4.392*	1.275	1.309	0.684	0.178	0.535	7.311*	2
5.	V	2,756*	0.125	1.061	0.238	1.016	0.043	3.694*	1.628	2
6.	VI	2.884*	4.634*	1.089	2,897*	0.523	1.291	1.091	4.589*	4
7.	VII	1.874	2.794*	2.493*	2.063	0.659	0.344	3.028*	4.545*	4
8.	VIII	9.570*	0.869	6.437*	4.332*	9.965*	6.370*	2.762*	10.707*	7
9.	IX	2.350*	1.821	2.616*	0.500	0.527	0.980	0.112	5,187*	3
10.	X	4,434*	4,469*	4,867*	1,333	0.867	0.425	2.326**	6.739*	5
11.	XI	7,951*	4.505*	1.919	0.900	0.833	0.673	0.890	9.516*	3
12.	XII	17,419*	13.074*	11.324*	16.896*	1.841	4.014*	10.106*	18.142*	7
13.	XIII	0.458	6.073*	1.986	5.190*	4.561*	1.061	0.454	4,270*	4
14.	XIV	5.564*	2.676*	5.708*	0.075	0.241	2.369**	5.225*	5.515*	6
15.	XV	2.313**	2.602*	14.348*	0.311	1.911	1.349	1.605	1.388	3
No. of significant distortions		11	12	10	6	4	5	8	12	

In 40% of the total 15 groups the distortion is more than 50%. In the remaining 60%, it is 50% or less. The distortion is more in source, message, receiver and follow-up variables than in media variables. Further analysis has been taken up elsewhere (page 5·24).

5.3 Analysis of Hypotheses

Among the many methods available for analysis of data the researcher of this study has decided upon the hypotheses-war analysis of d·ata. The results are finally consolidated and made use of, in evolving an effective communication model for colleges of education in Chapter VI.

Hypothesis 1

There is no distortion in the innovations communicated from Colleges of education to their practising schools.

To test this hypothesis the mean innovation index for the college staff and that for the school staff were calculated separately.

TABLE NO. 14

Table showing the mean and standard Deviation of the Innovation indices for colleges and Schools

S.No.	Institution	Mean	S.D	't'
1	Colleges	58.2	8.884	1.1677
2	Schools	61.1	4.861	

The 't' value obtained is not significant. Hence the hypothesis is accepted. However there are certain other facts that emerge out of this study which need discussion.

The mean value of the school staff is higher then that of the college staff. As has already been mentioned the estimation of the college staff do not reflect the exact conditions ~~obtaining~~ in schools. Probably schools receive messages about innovations from other sources like SCERT, NCERT etc. apart from the colleges of education.

b. Hypothesis II

There is no difference in distortion among the different types of innovations communicated from colleges of education to schools.

After making a global study of the distortion in communication of innovations in its totality, as the next phase of the study it was decided to find out whether there is significant difference in distortion among the fifteen types of innovations communicated to schools. Results are presented in the following table.

TABLE NO: 15

Table showing differences in distortions among the factors expressed in percentages.

This table has been interpreted making use of Garret's (1973) significance of the difference between percentages. From the matrix, the maximum difference in distortion obtained is 27.8 and the minimum is 0. For this difference of 27.8 in percentage the C.R. works out to 2.201 as shown below:

$$P = \frac{N_1P_1 - N_2P_2}{N_1 - N_2}$$

$N_1 = 15$

$N_2 = 15$

$P_1 = 0$

$P_2 = 27.8$

$P = 13.9$

$Q = 86.1$

$$C.R = \frac{P_1 - P_2}{\sqrt{PQ\left\{\frac{1}{N_1} - \frac{1}{N_2}\right\}}}$$

$= 2.201$

The next in rank in difference is 25.8 for which

the C.R. is 2.1078 which is not significant at .01 level. Except the difference in distortion between Teacher Centred method and Co-curricular activities all the other differences are insignificant and therefore the hypothesis that 'there is no difference in distortion among the different types of innovation communication to schools' is accepted with one exception.

c. Hypothesis III

There is no relationship between the communication score and innovative Index of schools.

The main assumption on which this study is based is that, the more the Colleges of education communicate with the schools - the more the innovations in them. A consolidated statement of the communication score and innovation index as perceived by the College teachers is given below.

TABLE NO. 16

Table showing the calculation of correlation between the communication score and innovative index

Groups	Communication score X	Innovative Index Y	X^2	Y^2	XY
I	51	64	2601	4096	3264
II	41	63	1681	3969	2583
III	58	59	3364	3481	3422
IV	38	47	1444	2209	1786
V	40	54	1600	2916	2160
VI	45	66	2025	4356	2970
VII	43	53	1849	2809	2279
VIII	50	77	2500	5929	3850
IX	38	41	1444	1681	1558
X	42	54	1764	2916	2268
XI	38	51	1444	2601	2052
XII	52	69	2704	4761	3588
XIII	38	62	1444	3844	2356
XIV	39	52	1521	2704	2028
XV	40	58	1600	3364	2320
Total	653	870	28985	51636	38484

$$\gamma = \frac{N\Sigma XY - \Sigma X \Sigma Y}{\sqrt{\{N\Sigma X^2 - (\Sigma X)^2\}\{N\Sigma Y^2 - (\Sigma Y)^2\}}}$$

γ works out to .753 which is significant at .01 level. Therefore the hypothesis that, there is no relationship between the communication score and Innovation Index of Schools, is not accepted. That there is relationship between communication and innovativeness of schools is hereby established.

d. Hypothesis IV:

There is no distortion in communication from college teachers to School teachers.

The present study attempts to measure the communication relationship between colleges of education and their practising schools. Desai (1969) has defined the 'arc of distortion' as the arc against the angle of deviation between what one intends to communicate and

what he actually communicates, which may not be what he intended to communicate.

Kirk and Tolbot (1966) talk about three kinds of distortion, the systematic or stretch distortion (SD) fog distortion (FD) and the mirage distortion (MD). In Stretch distortion no information is lost; it is simply recoded. In fog distortion information is lost whereas in mirage distortion something more specially spurious is added.

Such a delicate classification of distortion is not attempted in this study. What is considered here is a combination of all the three types with an attempt to quantify the loss in the process of communication.

When what is communicated is totally received by the adopter system, or in other words when the communication score and the reception score are one and the same, the arc of distortion is 0. Arc is decided by the angle subtended between the arm of communication and the arm of reception. This angle of distortion is calculated from the difference in the communication and reception scores.

Keeping 0^{o} as the least and 90^{o} as the maximum angle of distortion, angle of distortion in the various cases have been arrived at.

Results are presented in the following table.

TABLE NO.17

Table showing the angle of distortion in the communication between colleges and schools - group-wise.

S.No.	Groups	Communication Score	Reception Score	Difference	Angle of distortion
1	I	51.2	35.3	15.8	28^{o}
2	II	41.3	38.8	2.5	6^{o}
3	III	58.2	39.7	18.5	28^{o}
4	IV	38.5	31.8	6.7	16^{o}
5	V	40.4	38.1	2.3	5^{o}
6	VI	44.5	32.6	7.9	24^{o}
7	VII	43.4	37	6.4	13^{o}
8	VIII	50.8	30.6	20.2	36^{o}
9	IX	38.8	34.2	4.6	11^{o}
10	X	42	35.3	6.7	14^{o}
11	XI	38.2	32.1	6.1	14^{o}
12	XII	51.8	29.1	22.7	39^{o}
13	XIII	38.1	30.4	7.7	18^{o}
14	XIV	39.5	37	2.5	6^{o}
15	XV	40.1	37.3	2.8	6^{o}
16	XVI				
	Total altogether	43.85	34.73	9.12	19^{o}

The maximum distortion is in Group XII and critical ratio for the difference in the percentages works out to 1.2667 which is not significant.

All the other distortions are much less and therefore the hypothesis that, there is no distortion in communication from College teachers and reception by school teachers, is accepted.

e. Hypothesis V

There is no difference in the distortion among the different components of communication.

The decision to include eight components in the communication model of this study has been justified in Chapter IV. Here a matrix has been formulated to study the differences in distortion among the various components. The matrix is presented in the following table.

TABLE NO. 18

Matrix to study the differences in distortion among the components of communication

S.No.	Components	Distortions	Differences 1	2	3	4	5	6	7
1	Source	28.2							
2	Message	32.7	4.5						
3	Receiver	24.3	3.9	8.4					
4	Oral Medium	20.6	7.6	12.1	3.7				
5	Written Medium	12.5	15.7	20.2	11.8	8.1			
6	Indirect Medium	6.7	21.5	26.0	17.6	13.9	5.8		
7	Mass Medium	12.9	15.3	19.8	11.4	7.7	0.4	6.2	
8	Feed Back	35.5	7.3	2.8	11.2	14.9	13.0	28.8	22.6

The maximum distortion is 35.5. The minimum is 6.7. C.R. for these two percentages works out to 2.196. The difference in the distortion between Indirect medium and Feedback variables is significant at .05 level. Between the message variable and the indirect media variable, the next large difference occurs. C.R. for these two percentages works out to 1.813 which is not significant.

Hence except between the indirect media and feedback variables, the rest of the differences are insignificant. The hypothesis, that there is no difference in the distortion of the different components of communication, is accepted, with an exception of the difference between feedback and indirect medium variables.

f. Hypothesis VI

There is no distortion in the perception of resource variables between the colleges of education and their practising schools.

The summary of several studies pertaining to source variable has been presented in Chapter III. Most of the studies view the source as change agent and studied the characteristics of the change agent, his ability at decision making and the roles that are to be played by the change agent. In this study, the source is analyzed with a view to decide its communicative ability. To increase the source contribution, the distortion in perception of the source variable has to be reduced. Hence the above hypothesis has been evolved and tested using relevant data.

TABLE NO. 19

Table showing mean score value for source variables for communicators and receptors

Groups	Communicator Score	Receptor score
I	3.04	1.73
II	2.06	2.09
III	3.40	1.99
IV	1.93	1.60
V	2.47	1.85
VI	2.66	1.77
VII	2.22	1.82
VIII	3.18	1.68
IX	1.86	1.55
X	2.38	1.77
XI	2.55	1.58
XII	2.81	1.46
XIII	1.92	1.84
XIV	2.35	1.80
XV	2.10	1.89
Mean	2.462	1.7613
S.D.	.436	.163

$$C.R = \frac{M_1 - M_2}{\sqrt{\frac{\sigma_1^2}{(N_1 - 1)} + \frac{\sigma_2^2}{(N_2 - 1)}}}$$

C.R. arrived at is 5.347 which is significant. Hence the hypothesis that, there is no distortion in the perception of source variables between the Colleges of education and their practising schools, is not accepted.

g. Hypothesis VII

There is no distortion in the perception of message variables between the colleges of education and their practising schools.

Several Studies relating to message variable are available. But here we are concentrating on a distortion study because it is believed that reduction in distortion could improve communicative effectiveness. Hence the above hypothesis. Relevant data for testing the hypothesis is presented in the following table.

TABLE NO. 20

Table showing the mean score value for message variables for communicators and receptors

Groups	Communicator Score	Receptor Score
I	2.75	2.14
II	3.02	1.71
III	2.28	1.62
IV	2.33	1.70
V	2.38	1.58
VI	3.00	1.32
VII	2.28	1.97
VIII	3.16	1.74
IX	1.90	1.93
X	3.06	1.59
XI	2.19	1.83
XII	2.31	1.43
XIII	3.35	1.98
XIV	2.46	1.76
XV	2.13	1.97
Mean	2.573	1.751
S.D	.507	.156

t = 5.7887

't' value is significant. Hence the null hypothesis is not accepted. There is distortion in the perception

of the message variable and efforts have to be taken to reduce this distortion.

h. Hypothesis VIII

There is no distortion in perception of oral media variables between the Colleges of Education and their practising schools. Relevant data for hypothesis testing are presented in the following table.

TABLE NO. 21

Table showing the mean score value for oral media variables for communicators and receptors

Groups	Communicator Score	Receptor Score
I	2.25	2.04
II	2.33	1.69
III	1.88	1.65
IV	2.00	1.87
V	1.81	1.65
VI	3.27	1.31
VII	1.93	1.94
VIII	2.73	1.92
IX	2.36	2.40
X	2.48	1.55
XI	1;83	1.95
XII	2.24	1.56
XIII	3.32	2.26
XIV	2.67	1.98
XV	2.05	1.99
Mean	2.343	1.851
S.D	.465	.277

't' = 3.4001

The value is significant. Hence the hypothesis is not accepted.

i. Hypothesis IX

There is no distortion in the perception of written media variables between the Colleges of Education and their practising schools.

Relevant data to test the above hypothesis is presented in the following table.

TABLE NO. 22

Table showing Written Medium Variables - Distortion Study

Groups	Communicator Score	Receptor Score
I	1.61	1.66
II	1.51	1.43
III	1.31	1.38
IV	1.75	1.65
V	1.56	1.47
VI	1.56	1.34
VII	1.69	1.66
VIII	2.22	1.65
IX	1.71	1.56
X	1.69	1.28
XI	1.69	1.59
XII	1.60	1.17
XIII	2.56	1.78
XIV	2.04	1.91
XV	1.83	1.53
Mean	1.753	1.5373
S.D	.307	.19

't' = 2.239

This value is significant at 0.05 level and not at 0.01 level. Because there is considerable distortion; the hypothesis is not accepted. However the distortion in writing media is less than that in oral media.

j. Hypothesis X

There is no distortion in the perception of indirect media variables between the colleges of education and their practising schools.

Havelock (1969) has dealt with social interaction model for installation of innovation. Communication through indirect media is a means where some people are there inbetween to carry the message to its destination. A study of the efficacy of this media is made here by calculating the distortion that occurs in the process. Table below presents the relevant data.

TABLE NO. 23

Table showing the mean score values of indirect media variable with reference to communicators and receptors

Groups	Communicator Score	Receptor Score
I	1.85	1.72
II	1.81	1.62
III	1.63	1.73
IV	1.83	1.78
V	1.60	1.63
VI	2.03	1.45
VII	1.55	1.77
VIII	1.95	1.69
IX	1.78	1.77
X	2.00	1.48
XI	1.73	1.61
XII	1.58	1.48
XIII	2.24	1.86
XIV	1.77	1.72
XV	1.53	1.87
Mean	1.792	1.679
S.D	.196	.13

't' = 1.807

The 't' value is not significant, hence the hypothesis is accepted. It is inferred that in the use of 'indirect media' the distortion is only due to change and hence it could be used on a larger scale to succeed in effective communication.

k. Hypothesis XI

There is no distortion in the perception of mass media variables between the colleges of education and their practising schools.

This is an age when technological developments are rapid. Radio, film, tape recorder, television etc. have come to common use. Mass media being one of the channels of communication, a distortion study of this media is made.

TABLE NO. 24

Table showing Mass Media Variable: Distortion Study

Groups	Communicator Score	Receptor Score
I	1.25	1.61
II	1.52	1.36
III	1.33	1.48
IV	1.42	1.58
V	1.55	1.46
VI	3.00	1.57
VII	1.04	1.72
VIII	1.83	1.54
IX	1.13	1.70
X	1.67	1.36
XI	1.69	1.71
XII	1.17	1.15
XIII	1.35	1.71
XIV	1.06	1.87
XV	1.42	1.77
Mean	1.495	1.573
S.D.	.462	.183

't' = .589

Only an insignificant 't' value is observed. There isn't significant distortion and hence the hypothesis is accepted. Mass media iscounted to be ~~the most~~ an effective medium of communication.

1. Hypothesis XII

There is no distortion in the perception of receiver or adopter variables between the colleges of eeucation and their practising schools.

For effective communication it is invitable that the source and receiver are 'tuned together'. Distortion in the perception of the source variable is observed in the study.

TABLE NO. 25

Table showing the distortion in the Receiver Variable

Group	Communicator Score	Receptor Score
I	2.6	2.15
II	2.1	1.78
III	2.27	1.82
IV	2.67	1.96
V	2.21	1.89
VI	3.50	1.96
VII	2.58	2.22

(Contd.)

TABLE NO.25
(Contd....)

Group	Communicator score	Receptor score
VIII	2.70	2.14
IX	2.37	2.11
X	3.22	1.88
XI	2.47	1.94
XII	2.38	1.93
XIII	3.41	2.23
XIV	2.44	1.98
XV	2.79	1.80
Mean	2.647	1.986
S.D	.410	.144

't' = 5.684

The 't' value obtained (5.684) is significant. Hence the hypothesis is not accepted. There is a lot to be mended in the communication system.

m. Hypothesis XIII

There is no relationship between the distortion in communication and the innovativeness of schools.

TABLE NO. 26

Table showing the relationship between Distortion and Innovativeness

S.No.	Distortion	Innovotive Index	R_1	R_2	D	D^2
I	28	64	3.5	4	.5	.25
II	6	63	13	5	8	64
III	28	59	3.5	7	3.5	12.25
IV	16	47	7	14	7	49
V	5	54	15	9	6	36
VI	24	66	5	3	2	4
VII	13	53	10	11	1	1
VIII	36	77	2	1	1	1
IX	11	41	11	15	4	16
X	14	54	8.5	9	.5	.25
XI	14	51	8.5	13	4.5	20.25
XII	39	69	1	2	1	1
XIII	18	62	6	6	0	0
XIV	6	52	13	12	1	1
XV	6	58	13	8	5	25
						231

$$\rho = 1 - \frac{6 \leq D^2}{n(n^2-1)} = 1 - \frac{6 \times 231}{15 \times 224}$$

$$= 1 - \frac{1386}{3360} = 1 - .4125 = .5875$$

This value is not significant at 0.01 level but is significant at 0.05 level. There is relationship between distortion in communication and innovativeness of schools.

n. Hypothesis XIV

There is no difference in the communication pattern adopted by men and women Colleges of education.

In the context of this study communication pattern has been defined as depending on the weightages given to the various components of communication and the first comparison of patterns relates to that between men and women colleges of education.

TABLE NO. 27

Table to study the difference in the pattern of Communication between men and women colleges of education

Components		1	2	3	4	5	6	7	8	Total
	fo fe	(.20)	(.19)	(.07)	(.01)	(.01)	(.10)	(.01)	(.23)	
Women	fo	6.14	6.57	6.37	5.79	4.29	4.53	3.66	6.24	43.59
	fe	(5.94	(6.38)	(6.44)	(5.78)	(4.28)	(4.43)	(3.67)	(6.47)	
	fo fe	(.05)	(.19)	(.07)	(.01)	(.01)	(.10)	(.01)	(.28)	
Men	fo	6.16	6.31	6.64	5.89	4.35	4.41	3.76	6.94	44.46
	fe	(6.21	(6.5)	(6.57)	(5.9)	(4.36)	(4.51)	(3.75)	(6.66)	
Total		12.30	12.88	13.01	11.68	8.64	8.94	7.42	13.88	88.05

The value of χ^2 obtained is .2549 which is not significant and hence the hypothesis is accepted. There is no difference in the pattern of communication between men and women colleges of education.

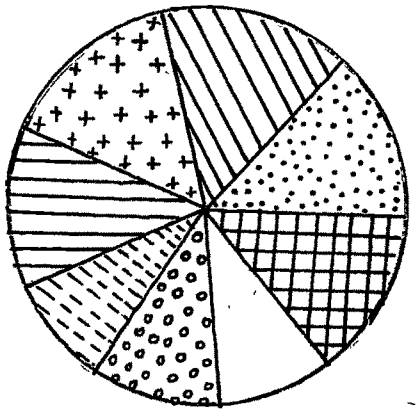
o. Hypothesis XV

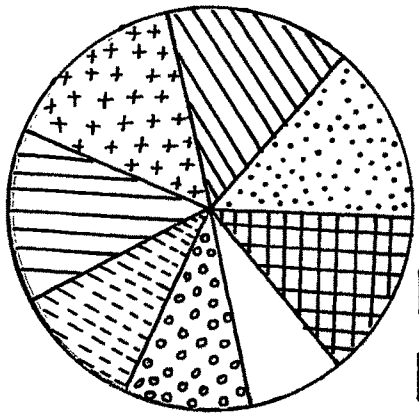
There is no difference in the communication pattern adopted by government and private colleges of education.

There are seven colleges of education managed by government and an equal number of colleges ~~are~~ managed by private bodies in the Madras University area. The hypothesis aims at studying the difference if any in the communication pattern adopted by the two types of colleges.

FIGURE-XV

PATTERN OF COMMUNICATION AMONG GOVERNMENT AND PRIVATE COLLEGES





COMPONENTS	GOVERNMENT IN DEGREES	PRIVATE IN DEGREES
SOURCE	50	51
MESSAGE	54	52
RECEIVER	53	53
ORAL MEDIUM	46	50
WRITTEN MEDIUM	32	38
INDIRECT MEDIUM	36	36
MASS MEDIUM	33	28
FOLLOW UP	56	52

TABLE NO. 28

Table to study the communication pattern of Government and Private Colleges of Education

Components		1	2	3	4	5	6	7	8	Total
Govern-ment	fo fe	.2	.31	.02	.63	.92	.03	.89	.6	
	fo	16.74	18.04	17.93	15.47	10.99	12.30	11.11	18.78	121.36
	fe	16.94	17.73	17.95	16.10	11.91	12.33	10.22	18.18	
Private	fe fo	.2	.31	.03	.63	.93	.02	.89	.61	
	fo	18.09	18.43	18.99	17.63	13.51	13.05	9.90	18.60	128.20
	fe	17.89	18.74	18.96	17.00	12.58	13.03	10.79	19.21	
Total		34.83	36.47	36.92	33.10	24.50	25.35	21.01	37.38	

The value of χ^2 obtained is .3933 which is not significant. Hence the hypothesis is accepted.

p. Hypothesis XVI

There is no difference between the communication pattern adopted by the Annamalai and Madras University colleges of education.

Madras University is an affliating University and it has fourteen colleges of education affiliated to it. Annamalai University is a residential University and it has a department of education wherein around 500 B.Ed. students are taught. A study of the difference in communication patterns of the colleges of education in these two University is attempted here.

TABLE NO. 29

Table to study the communication pattern of Madras and Annamalai University colleges of education

Components		1	2	3	4	5	6	7	8	Total
Madras University	fo fe	(.17)	(.19)	(.29)	(.06)	(1.74)	(.14)	(.24)	(.34)	
	fo	2.491	2.61	2.64	2.36	1.75	1.81	1.49	1.68	16.83
	fe	(1.89)	(1.97)	(1.80)	(1.99)	(1.53)	(1.87)	(1.77)	(2.13)	
Annamalai University	fofe	(.17)	(.18)	(.30)	(.05)	(.01)	(.14)	(.24)	(.33)	
	fo	1.89	1.97	1.80	1.99	1.53	1.87	1.77	2.13	14.95
	fe	(2.06)	(2.15)	(2.10)	(2.04)	(1.54)	(1.73)	(1.53)	(1.80)	
Total		4.38	4.58	4.44	4.35	3.28	3.68	3.26	3.81	31.78

.3591 is the χ^2 value obtained. This is not significant and as such the hypothesis is accepted. There is no difference in the pattern of communication between colleges of education in Madras and Annamalai Universities.

q. Hypothesis XVII

There is no distortion in the perception of feedback variables between the colleges of education and their practising schools.

Havelock (1969) and Rogers(1971) emphasize the importance of feedback in the process of communication. The effect of communication is dependent on the supply of feedback. To the extent there is no distortion in the perception of the feedback variables, the communication could be effective. Relevant data used to test the hypothesis are presented in the following table.

TABLE NO. 30

Table showing the mean score values of feedback variables of communicating colleges and receiving schools

Groups	Communicator Score	Receptor Score
I	2.20	2.08
II	2.83	1.58
III	2.60	1.42
IV	2.60	1.79
V	2.63	1.58
VI	3.47	1.42
VII	2.45	1.90
VIII	2.65	1.70
IX	2.16	1.86
X	3.10	1.33
XI	2.47	1.58
XII	2.08	1.47
XIII	3.47	2.08
XIV	2.67	1.77
XV	2.50	2.13
Mean	2.6587	1.7127
S.D	.404	.250
	t = 7.449	

The 't' value obtained is significantly high. There is much distortion in the perception of the feedback variables between the colleges of education and their practising schools. While the staff of the colleges of

education feel that they do pay attention to this aspect of communication, the school staff feel that it is neglected.

r. Hypothesis XVIII

There is no agreement between colleges of education and their practising schools regarding the barriers to communication.

It is intended to study the barriers to communication with the help of the above hypothesis. That barriers are to be eliminated to make the communication effective has been established by Ronald (1966) Havelock (1969), Rice (1963), Marmar Mukhopadhyaya and Buch (1975) Rank correlation has been worked out to find out the agreement between colleges and schools.

TABLE NO. 31

Table showing the details of the calculation of 'ρ'

S.No.	Barrier	Rank according to College	Rank according to School	D	D^2
1	The school staff do not feel the need for a change	7	10	3	9

S.No.	Barrier	Rank according to College	Rank according to school	D	d^2
2	The school staff are unable to express clearly their felt need	5	7	2	4
3	The communication from the college staff is very difficult for the school staff to understand	12	11	1	1
4	The communication does not reflect the solution sought after by the teachers	11	9	2	4
5	The college staff are not readily available for consultation when the school staff need them	10	6	4	16
6	The college teachers do not practise the new ideas they advocate	9	8	1	1
7	The new ideas do not easily fit into the existing condition of the school	2	4	2	4
8	Heads of institutions do not support the communication flow of new ideas	6	12	6	36
9	The college staff do not consider the practical difficulties of the school staff while advocating new ideas	8	2	6	36
10	There is no proper system of feedback between the colleges and schools	1	1	0	0
11	There is no proper system of hyrizontal flow of ideas	3	5	2	4
12	Two way flow of communication is not maintained	4	3	1	1
					116

$$\rho = 1 - \frac{6 \Sigma D^2}{n(n^2-1)}$$

$$= 1 - \frac{6 \times 116}{12(144-1)}$$

$$= 1 - .4056$$

$$= \underline{.5944}$$

This value is significant at 0.05 level and not at 0.01 level. There is agreement to some extent between the colleges of education and their practising schools regarding barriers to communication and hence the hypothesis is not accepted. But the agreement being narrow a further analysis is attempted.

Both the college and school staff agree that, 'there is no proper system of feedback between the college and the schools' because both have assigned the first rank to this barrier. However there is variation with regard to all the other barriers. Further facts that emerge out of the study are as follows.

1. Both college and school staff have a tendency to defend themselves and accuse the other for the failure.

2. The last rank is given by the college teachers to 'The communication from the college staff is very difficult for the school staff to understand' while the school staff consider "Heads of institutions do not support the communication flow of new ideas" to be the last in the list of barriers. This

reveals the faith of the school staff on the heads of their institutions while it is not so in the case of the college teachers.

3. That "Two way flow of communication is not maintained" and "The college teachers do not practise the new ideas they advocate" are agreed upon as a strong barrier by both college and school staff (ranked 3 by both).

Conclusion

"Educators - it is charged - tend to be reactors rather than planners" (Umans, 1972) As revealed by this study, the little communication effect found in the schools has rather happened than as a result of deliberate planning. In most of the colleges of education educators as a rule feel little responsibility for the consumer satisfaction. They are not sufficiently sensitive to the consumers' needs. To make the labour of this research useful the researcher feels that the best mix for successful communication, should be evolved. This model is described in the next Chapter as a completion note.