CHAPTER 3

METHODOLOGY

This chapter deals with the determination of population for the study and the description of the research instrument employed for collecting data from teachers of Indian Agricultural Universities. The data comprised of teachers' problems, attitudes and output regarding research. The statistical tests used for analysis of data are also included in this chapter.

The present study has been undertaken to fulfill the following objectives:

1. To find out the problems of teachers of Indian Agricultural Universities, related to conducting of research.
2. To find out the research attitudes of teachers.
3. To find out the research output of teachers.
4. To explore the differences in teachers' problems, attitudes and output related to research, according to their personal characteristics.

5. To study the various relationships and inter-relationships among the personal characteristics of teachers and their problems, attitudes and output related to research.

3.1 Determination of Population and Sample

The population of the study was comprised of all the professors and associate professors teaching in various colleges in agricultural universities of India and teachers of the ranks of assistant professors in addition to the professors and associate professors from Colleges of Home Science in the agricultural universities of India. The teachers of the ranks of Demonstrators/Instructors were not included in the study. At the time of data collection, the universe of the study was 1303 teachers.

It was proposed to include teachers of all status i.e. Professors, Associate Professors and Assistant Professors/Lecturers: from all the Indian Agricultural Universities, for the study. But the non-availability of the names of the teachers below the status of Associate Professors, limited the study to only teachers of Professors' and Associate Professors' ranks. There were 20 Agricultural Universities in India at the time of data collection. (Appendix 7). The names of teachers

of ranks of Professors and Associate Professors were available for only 11 Agricultural Universities from the Universities Handbook (1977). Nine Agricultural Universities' complete lists of teachers were not provided in the Handbook, so 35 colleges affiliated to 9 Agricultural Universities were sent requests to send their teachers' names and designation (Appendix 1). Out of 35 letters sent for collecting the names of the teachers, only 21 Deans of Colleges acknowledged the letters and sent their staff lists (Table 4).

Reminders were sent to the Deans of Colleges who did not respond, but there was only one Dean who sent his staff list on being reminded.

The numbers of Professors and Associate Professors were summed-up universitywise for drawing the sample for the study (Table 5).

The investigator being a home-scientist, was interested to include all the teachers from Colleges of Home Science in Agricultural Universities including those of status of Assistant Professors/Lecturers. The teachers' names were collected by writing to the Colleges of Home Science in AgriculturalUniversities. At the time of

TABLE 4

COLLEGES OF AGRICULTURAL UNIVERSITIES TO WHOM LETTERS WERE SENT FOR NAMES OF TEACHERS AND THE COLLEGES RESPONDED TO THE LETTERS

Sr. No.	Agricultural University	College	Responded to the Letter	
			Yes	No
1.	Chandra Shekhar Azad University of Agriculture and Technology, Kanpur, Uttar Pradesh	*1. College of Agriculture, Kanpur		✓
2.	Himachal Pradesh Krishi Viswa Vidyalaya, Palampur, Himachal Pradesh.	1. College of Agriculture, Palampur.	✓	
3.	Jawaharlal Nehru Krishi Viswa Vidyalaya, Jabalpur, Madhya Pradesh.	1. College of Agriculture, Gwalior	✓	
		*2. College of Agriculture, Indore.		
		3. College of Agriculture, Raipur.	✓	
		4. College of Agriculture, Rewa.		✓
		*5. College of Agriculture, Sehore.		✓
		6. College of Veterinary Sciences, Mhow.	✓	
4.	Mahatama Phule Krishi Vidyapeeth, Rahuri, Maharashtra	1. College of Agriculture, Dhulia.	✓	
		2. College of Agriculture, Kolhapur.	✓	
		3. College of Agriculture, Pune	✓	
		4. College of Agricultural Engineering, Rahuri.	✓	
		5. Post-graduate School, Rahuri.	✓	
5.	Marathawada Krishi Vidyapeeth, Parbhani, Maharashtra.	*1. College of Agricultural Engineering, Parbhani.		✓
		2. College of Home Science, Parbhani.	✓	

(Continued...)

(Table 4 continued

Sr. No.	Agricultural University	College	Responded to the Letter: Yes	Responded to the Letter: No
6.	Narendra Dev University of Agriculture and Technology, Faizabad, Uttar Pradesh	1. College of Agriculture, Faizabad	✓	
7.	Punjab Rao Krishi Vidyapeeth, Akola, Maharashtra.	1. College of Agriculture, Akola	✓	
		* 2. College of Agriculture, Nagpur.		✓
		3. College of Agriculture, Warora.	✓	
		4. College of Agriculture, Amravati	✓	
		* 5. College of Agricultural Engineering, Akola.		✓
		* 6. College of Veterinary Sciences, Nagpur.		✓
		* 7. Post-graduate Institute, Akola		✓
8.	Rajendra Agricultural University, Samastipur, Bihar.	1. College of Agriculture, Bhagalpur.	✓	
		2. College of Agriculture, Ranchi.	✓	
		3. College of Agriculture, Dholi	✓	
		* 4. College of Veterinary Sciences, Bihar		✓
		* 5. College of Veterinary Sciences, Ranchi		✓
9.	University of Agricultural Sciences, Bangalore, Karnataka.	* 1. College of Agriculture, Dharwar.		✓
		* 2. College of Agriculture, Hebbal		✓
		3. College of Agricultural Engineering, Raichur	✓	
		* 4. College of Basic Sciences, Dharwar.		✓
		5. College of Home Science, Dharwar.	✓	
		6. Fisheries College, Mangalore	✓	
		7. College of Veterinary Sciences, Hebbal	✓	

* Colleges which did not send their teachers' lists.

TABLE 5

POPULATIONS AND SAMPLE OF TEACHERS FROM AGRICULTURAL UNIVERSITIES EXCLUDING COLLEGES OF HOME SCIENCE

Sr. No.	Agricultural University	Professor		Associate Professor	
		Population	Sample	Population	Sample
1.	Andhra Pradesh Agricultural University, Hyderabad, Andhra Pradesh	36	18	58	29
2.	Assam Agricultural University, Jorhat.	10	5	26	13
3.	Bidhan Chandra Krishi Viswa Vidyalaya, Mahanpur, West Bengal.	16	8	38	19
4.	Chandra Shekhar Azad University of Agriculture and Technology, Kanpur, Uttar Pradesh.	.. List not received ...			
5.	G.B. Pant University of Agriculture and Technology, Pant Nagar, Uttar Pradesh.	30	15	96	49
6.	Gujarat Agricultural University, Anand.	36	18	40	20
7.	Haryana Agricultural University, Hissar, Haryana	28	14	39	20
8.	Himachal Pradesh Krishi Viswa Vidyalaya, Palampur, Himachal Pradesh.	10	5	22	11
9.	Jawaharlal Nehru Krishi Viswa Vidyalaya, Jabalpur, Maharashtra	22	11	100	55
10.	Kerala Agricultural University, Kerala.	22	11	52	26
11.	Konkon Krishi Vidyapeeth, Maharashtra.	28	14	8	4
12.	Mahatama Phule Krishi Vidyapeeth, Rahuri, Maharashtra.	47	24	50	27
13.	Marathawada Krishi Vidyapeeth, Parbhani, Maharashtra.	21	11	0	0
14.	Narendra Dev University of Agriculture and Technology, Faizabad, Uttar Pradesh.	2	1	2	1
15.	Orissa University of Agriculture and Technology, Bhubneshwar, Orissa.	12	6	28	14
16.	Punjab Agricultural University, Ludhiana, Punjab.	48	24	68	34
17.	Punjab Rao Krishi Vidyapeeth, Akola, Maharashtra.	1	1	2	1
18.	Rajendra Agricultural University, Samastipur, Bihar.	26	13	4	2
19.	Tamilnadu Agricultural University, Coimbatore.	37	19	106	53
20.	University of Agricultural Sciences, Bangalore, Karnataka	12	6	22	11
	Total	444	224	761	389
	Total Population	444	+	761	= 1205
	Sample for the Study = 224 + 389 = 613				

data collection there were 8 Colleges of Home Science in different Agricultural Universities as shown in Table 6.

Complete lists of teachers were received from all Colleges of Home Science. College of Home Science at Kauni (P.A.U., Punjab) was established in 1978 only and it had only 2 teachers and those also were not fulfilling the conditions/characteristics of the sample. Therefore these names were not included in the study.

The population of the study was 1303 teachers and sample comprised of 664 teachers of ranks of Professors, Associate Professors from all Colleges of Agricultural Universities. In addition to Professors and Associate Professors, Assistant Professors were also included from Colleges of Home Science of Agricultural Universities for the study (Table 7).

3.2 Research Instrument for Data Collection

Since the present study was a survey and it required to collect information from the Agricultural Universities of all the States of India, the technique of mailed questionnaire was considered to be the most suitable instrument to collect data.

TABLE 6

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POPULATION AND SAMPLE OF TEACHERS FROM COLLEGES OF HOME SCIENCE AFFILIATED TO AGRICULTURAL UNIVERSITIES

Sl. No.	Agricultural University	College	Professors		Associate Professors		Assistant Professors	
			Population	Sample	Population	Sample	Population	Sample
1.	Andhra Pradesh Agricultural University, Hyderabad	College of Home Science, Hyderabad.	-	-	4	2	16	8
2.	Assam Agricultural University, Jorhat.	College of Home Science, Jorhat.	-	-	-	-	12	6
3.	G.B.Pant University of Agriculture and Technology, Pant Nagar, Uttar Pradesh.	College of Home Science, Pant Nagar.	-	-	1	1	14	7
4.	Haryana Agricultural University, Hissar.	Indira Chakrowarty College of Home Science. Hissar.	2	1	1	1	10	5
5.	Marathawada Krishi Vidyapeeth, Parbhani	College of Home Science, Parbhani.	1	1	-	-	6	3
6.	Punjab Agricultural University, Ludhiana.	College of Home Science, Ludhiana.	2	1	6	3	18	9
7.	Punjab Agricultural University. Ludhiana	College of Home Science. Kauni.	-	-	-	-	-	-
8.	University of Agricultural Sciences, Bangalore.	College of Home Science, Dharwar.	-	-	1	1	4	2
		Total	5	3	13	8	80	40
		Grand total of Population = 98	5	+	13	+	80	
		Grand total of Sample = 51		3	+	8	+	40

@ Teachers on deputation/leave were not included in the population.
Teaching Associates/Demonstrators/Instructors were also not included in the population

TABLE 7

GRAND TOTAL OF POPULATION AND SAMPLE OF TEACHERS

Sr. No.	Teachers from Colleges of Agricultural Universities	Professors		Associate Professors		Assistant Professors	
		Population	Sample	Population	Sample	Population	Sample
1.	Teachers from Colleges besides Colleges of Home Science	444	224	761	389	-	-
2.	Teachers from Colleges of Home Science	5	3	13	8	80	40
	Total	449	227	774	397	80	40

Population of the study = 1303

Sample of the study = 664

Percentage of the population = 50%

The questionnaire was developed on the basis of review of available literature, personal experience of the investigator and discussions with friends and colleagues. The questionnaire comprised of 4 sections:

Section 1 contained questions regarding preliminary information of the respondent like age, marital status, field of specialisation of study, academic qualifications, designation, teaching experience and place of residence.

Section 2 of the questionnaire included statements regarding the problems related to conducting research. The statements were mainly regarding 3 types of problems: personal, material and human-relational. Personal-problem-area covered problems which the respondent felt because of his own personal limitations, like lack of confidence, lack of knowledge about research methodology, lack of sincere persons for guidance etc., he was unable to do research. Material-facilities - area had problems statements on library,laboratory, chemical and ingredients and transportation. The third problem-area i.e. human relation covered the aspects of Dean's/Head's

consideration towards teachers, his/her emphasis on research production and intimacy among staff members. The respondents were given five choices so that the respondents could mark the most suitable/applicable one to their own situation. The five choices were :

N = Never

R = Rarely

S = Sometimes

O = Often

A = Always

To find out the problems hindering research of Heads or Incharges of departments due to their numerous administrative duties, a separate sub-section was formulated. The Heads or Incharges of the departments, besides checking on the areas of personal, material and human relational problems, were requested to check this sub-section too.

Section 3 of the questionnaire constituted the attitude scale to find out the teachers' attitudes toward research. Various statements depicting the attitudes toward research were collected and formulated.

The four aspects of research were :

1. Attitudes toward importance of research,
2. Attitudes toward conducting research,
3. Attitude toward guiding research, and
4. Attitudes toward disseminating research.

The Likert's attitude scale contribution method (Likert, 1963) was followed for constructing the attitude scale for the study. The respondents had 5 choices to mark his responses :

S.A. = Strongly Agree
A = Agree
U.D. = Undecided
D = Disagree
S.D. = Strongly Disagree

Section 4 was composed of questions regarding the research output of teachers.

All these 4 sections comprised the questionnaire for the study.

3.3 Validity of the Questionnaire

To find out the validity of the questionnaire, the methods of logical validation and Jury-opinion (Good and Hatt, 1952, p.237) were employed. The jury consisted of experts from Faculty of Home Science, Baroda ; Centre of Advanced Study in Education, Baroda; Gujarat Agricultural University, Anand; and College of Education, Vidyanagar. The total number of the jury was 8. Besides, considering the suggestions of experts, the questionnaire was also discussed with other staff members of other faculties of the M.S.University like Faculty of Social Work and Faculty of Arts. The experts were asked to check the questionnaire regarding :

1. Adequacy of the statements/items constituting the questionnaire; whether the statements were adequate to the problems of study;
2. Clarity of the items: whether the items were clear or ambiguous;
3. Contents of the questionnaire : whether the contents of the questionnaire were measuring what the study purports to find out;
4. Consistency of ideas and language of the items in the questionnaire; whether there was continuity in the items and section of the

questionnaire; whether items were adequately worded.

Based on the suggestions and remarks, certain changes were made before pretesting the questionnaire.

3.4 Pre-Testing

The questionnaire was pre-tested on 10 teachers of Gujarat Agricultural University, Anand. The teachers belonged to B.A. College of Agriculture, College of Dairy Sciences and College of Veterinary Sciences. The questionnaires were personally handed-over to teachers in the first week of February, 1979. The teachers were requested to put their comments, remarks or suggestions for format and statements of the questionnaire, if they had any.

The completed questionnaires were collected on the next visit of the investigator on 13th February, 1979.

The data collected for pre-testing were analysed and a few changes were made in the questionnaire. The changes made in the questionnaire are discussed section-wise:

Section 1 : No changes were made in the first section of the questionnaire i.e., the preliminary information.

Section 2 : The statements in this section i.e. problems related to conducting research, were rewritten in the negative form, so that each of the statement was a statement of a problem itself. The response scale for material facilities specially regarding library and laboratory, was changed from five point scale i.e. N - Never, R - Rarely, S - Sometimes, O - Often and A - Always to Yes and No. It was reasoned out that since these facilities were facts, the responses could be collected in only yes/no categories.

Section 3 of the questionnaire was an attitude scale. To select the statements for the scale, item-analysis was done.

3.4.1 Item Analysis

Item analysis was done to select items for the attitude scale.

Each respondent's scores for all the items were calculated and arranged in descending order from highest

to the lowest. The fifty percent of the respondents i.e. the upper five and lower five respondents were taken as upper-level group of respondents and lower level group of respondents respectively e.g.

Upper Level of Respondents			Lower Level of Respondents		
Sr. No.	Respondent No.	Scores	Sr. No.	Respondent No.	Scores
1.	6	523	6.	8	480
2.	3	521	7.	1	478
3.	5	501	8.	7	474
4.	10	492	9.	2	469
5.	9	488	10.	4	451

The means of the upper and lower level of respondents for each item were calculated. Items which showed largest descrepency between the means of the two groups of respondents were retained in the final scale.

For example Item No. 8

Upper Level Group			Lower Level Group		
Sr. No.	Respondent No.	Scores	Sr. No.	Respondent No.	Scores
1.	6	2	6.	8	5
2.	3	4	7.	1	4
3.	5	1	8	7	4
4.	10	2	9.	2	3
5.	9	4	10.	4	1
Total	5	13	Total	5	17

Mean (M_1) = 13/5 = 2.6

Mean (M_2) = 17/5 = 3.4

Difference between the two means

$M_1 - M_2$ = Difference

2.6 - 3.4 = 0.8

Items yielding values equal to 0.8 or more than 0.8 were retained in the final scale while those yielding values below 0.8 were deleted from the scale. Thus, Murphy and Likert's (Edward's 1969, p.155) basis of the magnitude of the differences between the means of high and low group on the individual statement was taken for selecting the items for the scale.

Alongwith this t value was also found for each statement using the formula :

$$t = \frac{\overline{X_H} - \overline{X_L}}{\sqrt{\frac{\Sigma(X_H - \bar{X}_H)^2 + \Sigma(X_L - \bar{X}_L)^2}{n(n-1)}}}$$

The final selection of the items was done on the basis of the magnitude of the differences between $\bar{X}_s$ and t value. Items yielding t value 1.50 and less were not included in the final scale.

From the original scale consisting of 137 items, only 36 items were retained in the final scale. There were 20 positive and 16 negative items which constituted the final attitude scale for the study. The respondents were given 5 choices to respond to the items :

SA	- Strongly Agree	D	- Disagree
A	- Agree		
UD	- Undecided	SD	- Strongly Disagree

The 4 parts of the attitude scale i.e. (1) attitudes toward importance of research, (2) attitudes toward conducting research, (3) attitudes toward guiding research, (4) attitudes toward disseminating research; contained a specified number of items and also approximately fifty percent positive and fifty percent negative items as shown in Table 8.

3.4.2 Reliability of the Attitude Scale

The reliability of the attitude scale was found by split-half method. The whole scale consisting of 36 items was divided into two equivalent halves, by taking odd-numbered items, 1, 3, 5,7 etc. in one scale and even-numbered items, 2, 4, 6, 8 etc. in the other scale. From the reliability of the half-test, which was found by using the formula :

$$r_{\frac{1}{2}\frac{1}{2}} = \frac{\Sigma XY}{\sqrt{(\Sigma X^2)(\Sigma Y^2)}}$$

TABLE 8

NUMBER OF POSITIVE AND NEGATIVE ITEMS UNDER THE 4 PARTS OF THE ATTITUDE SCALE

Sr. No.	Parts of Attitudes	Total No. of Items	No. of Positive Items	Serial No. of Items	No. of Negative Items	Serial No. of Items
1.	Attitudes toward importance of research	11	6	1,3,5,7, 9,11	5	2,4,6,8,10
2.	Attitudes toward conducting research	8	4	12,13,14, 18	4	15,16,17, 19
3.	Attitudes toward guiding research	9	6	20,21,24, 26,27,28	3	22,23,25
4.	Attitudes toward disseminating research	8	4	30,31,34, 35	4	29,32,33, 36
	Total	36	20		16	

The self-correlation of the whole test was then estimated by Spearman Brown prophecy formula :

$$r_{II} = \frac{2 r_{\frac{1}{2}\frac{I}{II}}}{1 + r_{\frac{1}{2}\frac{I}{II}}}$$

(Garrett, 1967, p.339).

The reliability coefficient of the whole scale was found to be 0.62 which was significant at 0.05 level at 13 degrees of freedom.

3.4.3 Scoring

The teachers' responses on each item of the attitude scale were scored on a pre-determined Key as follows :

Strongly Agree	-	5
Agree	-	4
Undecided	-	3
Disagree	-	2
Strongly Disagree	-	1

The positive items i.e. Strongly Agree scored the highest score of 5 and negative statements i.e. Strongly

Disagree, the scores were reversed.

The possible range of scores on the items in the attitude scale was 36 to 180.

Section 4, regarding the research output, was not changed and it was kept as it was, in the final questionnaire.

3.5 Collection of Data

Letters for permission for data collection for the study were written to Vice-Chancellors of all the Agricultural Universities (Appendix 2). Acknowledgement of receipt of letters and permission to collect data were obtained from the Vice-Chancellors of the following Agricultural Universities :

1. Andhra Pradesh Agricultural University, Hyderabad, A.P.
2. Chandra Shekhar Azad University of Agriculture and Technology, Kanpur.
3. G.B.Pant University of Agriculture and Technology, Pant Nagar, U.P.
4. Gujarat Agricultural University, Anand, Gujarat.
5. Haryana Agricultural University, Hissar, Haryana.
6. Himachal Pradesh Krishi Vishwa Vidyalaya,Palampur,H.P.

7. Jawaharlal Nehru Krishi Vishva Vidyalaya, Jabalpur, Madhya Pradesh.
8. Kerala Agricultural University, Kerala.
9. Mahatma Phule Krishi Vidyapeeth, Bahuri, Maharashtra
10. Marathawada Krishi Vidyapeeth, Parbhani, Maharashtra
11. Narendra Dev University of Agriculture and Technology, U.P.
12. Punjab Agricultural University, Ludhiana, Punjab.
13. Tamilnadu Agricultural University, Coimbatore.
14. University of Agricultural Sciences, Bangalore, Karnataka.
15. Assam Agricultural University, Assam

The questionnaire (Appendix 3) along with self-addressed and stamped envelopes were mailed to 664 teachers on 26th March, 1979. Respondents were requested to return the duly filled-in questionnaire within a week of its receipt.

At first, 135 teachers out of 664, returned the completed questionnaire by 8th April, 1979. To remind the teachers about returning the questionnaire, reminders (Appendix 4) were sent to all those teachers who had not returned the completed questionnaires; on 10th and 11th April, 1979.

To facilitate the return of questionnaires, the Deans of the Colleges (of sample Colleges) were sent requests

to further request their teachers to send the completed questionnaires(Appendix 5) as soon as possible.

Another reminder was mailed to all those respondents who had not returned the completed questionnaires till 28th April 1979 (Appendix 6).

The questionnaires were being received till the first week of August, 1979.

According to Oppenheim (1970), the largest disadvantage of mail questionnaires, however, is the fact that they usually produce very poor response rates. For respondents, who have no special interest in the subject matter of the questionnaire, figures of 40 percent to 60 percent are typical; even in studies of interested groups 80 percent is seldom exceeded. The response rate could be enhanced by sending out several suitably worded reminders.

To collect data for the study, 664 questionnaires were mailed to teachers. Two reminders at the interval of 2 weeks each and a request to the Deans of various Colleges were sent to maximise the return of the responses. Total 345 questionnaires were received, out of which 10 had to be discarded due to their incomplete information. Thus,

the usable questionnaires were 335 (50.45%) as shown in Table 9.

TABLE 9

UNIVERSITY-WISE AND COLLEGE OF HOMESSCIENCE-WISE RETURN OF QUESTIONNAIRES

	Universities	Colleges besides Home Science		Home Science Colleges	
		Mailed	Returned	Mailed	Returned
1.	A.P.A.U.	47	19	10	10
2.	A.A.U.	18	7	6	2
3.	B.C.K.V.V.	27	8	-	-
4.	G.B.P.U. of Agri. & Tech.	64	29	8	8
5.	G.A.U.	38	22	-	-
6.	H.A.U.	34	19	7	7
7.	H.P.K.V.V.	16	1	-	-
8.	J.N.K.V.V.	66	29	-	-
9.	K.A.U.	37	22	-	-
10.	K.K.V.P.	18	10	-	-
11.	M.P.K.V.V.	51	31	-	-
12.	M.K.V.P	11	6	4	4
13.	N.D.U. of Agri. Tech.	2	1	-	-
14.	O.A.U.	20	10	-	-
15.	P.A.U.	58	18	13	9
16.	P.R.K.V.P.	2	0	-	-
17.	R.A.U.	15	10	-	-
18.	T.N.A.U.	72	41	-	-
19.	U.A.Sc.	17	9	3	3
	Total	613	292	51	43

Percentage of Response from Colleges besides Home Science	$\frac{292}{613}$ X 100 = 47.63
Percentage of Response from Colleges of Home Science	$\frac{43}{51}$ X 100 = 84.31
Total Percentage of Response	$\frac{335}{664}$ X 100 = 50.45

3.6 Analysis of Data

For the analysis of the data and statistical computation, help of the computer was sought. Two reasons accounted for this : (1) inability to compute the data manually and (2) complicated and higher order statistical procedures involved in the computation. The investigator prepared a proforma in which total values of all the independent and dependent variables were entered horizontally for each of the 335 teachers. These coded values were punched on the IBM cards and were fed into the computer for further calculations. The analysis was done at the computer Centre of Sarabhai Operational Research Group, Baroda. The statistics used are shown in Table 10.

TABLE 10

STATISTICS USED FOR ANALYSIS OF DATA

Sr. No.	Statistics	Objective of the Statistics used
1.	Means	1. To find out the intensity of the problems. 2. To compare the attitudes of teachers according to their personal characteristics
2.	Percentages	1. To know what percentage of teachers possessed 'less favourable', 'favourable' and 'highly favourable' attitudes toward research. 2. To find out the research output of teachers.
3.	Median	1. Used as basis to categorise teachers having favourable, less favourable and highly favourable attitudes toward research.
4.	Chi-square test	1. To test 'null' hypotheses formed for the study.
5.	Pearson-Product Moment Correlation	1. To test the 'relational' hypotheses formed for the study.
6.	Correlation Matrix	1. To study the interrelationships among aspects of problems; attitudes and output related to research.