

Teachers Problems, Attitudes and Output Related to Research in Agricultural Universities of India

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A teacher employed in an Agricultural University is not only expected to teach, but also conduct research and disseminate the research findings to the people who need it. Out of the three functions required of a teacher i.e. teaching, research, and extension, teaching and extension are performed quite satisfactorily but the research aspect gets neglected. The neglect could be due to certain problems like lack of (i) funds, (ii) interest, (iii) time, (iv) initiative-ness, (v) confidence and (vi) guidance etc. (Weidner, 1962, Paddayya, 1973), (vii) poor library and laboratory facilities (Chakravarti, 1968).

Many a times, the facilities are available but the attitudes towards research are not that highly favourable which would lead the teachers to higher research output. This aspect has not been explored much and very few studies have been conducted. The attitudes towards research have been found favourable by Shumsky (1958) and Bengel (1969).

The present investigation was undertaken with the following objectives :

1. To explore the problems of the teachers related to research in agricultural universities of India.
2. To determine the attitudes of the teachers towards research in general and in specific with regard to (i) importance of research (ii) conducting independent research (iii) guiding

postgraduate research and (iv) disseminating research.

3. To find out the research output of teachers.
4. To study the relationships and inter-relationships among personal characteristics and problems, attitudes and research output.

METHODOLOGY

All the Professors and Associate Professors (Readers) from all the agricultural universities and in addition all the Assistant Professors from the Colleges of Home Science in Agricultural universities constituted the population of the study i.e. 1303 teachers. A fifty per cent sample was drawn by the systematic stratified random sampling technique. Thus 664 teachers from 19 agricultural universities of India comprised the sample of the study. At the time of data collection 20 agricultural universities were existing and one did not supply the list of its teachers inspite of repeated requests.

Self-developed questionnaire was used for data collection. The questionnaire had the following components :

1. General information
2. Inventory to explore problems regarding research.
3. Attitude scale.
4. Research output inventory.

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1. Research Problems Inventory -

An inventory was prepared to covering the expected problems which may hinder teachers research. Some problems were identified by having 2-point response scale (Yes/No) and others by a 5-point scale on a continuum i.e. Always, Often, Sometimes, Rarely and Never, score of 5, 4, 3, 2 and 1 were assigned respectively.

2. Attitude Scale

Likert's 5-point scale consisting of 36 items on the four aspects of attitudes i.e. importance of research, conducting, guiding and disseminating research was constructed having equal number of positive and negative statements. The scores for negative statements were reversed as strongly Disagree-5, Disagree-4, Undecided-3, Agree-2 and Strongly Agree-1 and Vice-Versa. On the basis of medium of the distribution, the teachers were categorized as having less favourable and more favourable attitudes.

3. Research output

A research output inventory was prepared to find out the research output of teachers. The output was measured by the following methods :

- 3.1 Research produced : Number of research papers published, research papers presented at conferences, seminars etc. and number of research projects completed and under process.
- 3.2 Research guided and examined : Number of dissertations guided and examined at both M.Sc. and Ph.D. levels.
- 3.3 Literature produced: Number of books, memographs and chapters written, number of seminars given, number of popular articles published and number of Radio/T.V. talks given etc.

The questionnaire was validated and its reliability assessed and pretested before using it for final data collection. The mailed questionnaire method was used to collect data for the study. Out of 664 questionnaires mailed, 345 (51.95 per cent) were received back. Ten questionnaires had to be deleted due to the incomplete information provided in them.

The data were analysed by using frequencies, percentages, means, chi-square and Pearson product moment correlation tests.

RESULTS AND DISCUSSION

It is evident from Table 1 that, majority of the teachers in the sample were males, married, belonging to biological sciences, serving in the colleges of Agriculture and living on the campus. More than fifty per cent of the respondents were of the age from 30 to 50 years and were having teaching experience from 11 to 20 years.

1. Teachers' Problems Related to Research

The problems which were hindering the research work of the teachers are classified as under :

- 1.1 Personal problems
- 1.2 Lack of time
- 1.3 Lack of library facilities
- 1.4 Lack of laboratory facilities
- 1.5 Lack of transportation facilities
- 1.6 Problems due to human relations
- 1.7 Problems due to administrative duties.

1.1. Personal Problems

The findings revealed that, all the teachers faced problems like "lack of sincere guidance", "uncooperative respondents", "lack of statistical knowledge" and "number of family responsibilities". In addition to the above mentioned problems,

Table 1. Demographic Characteristics of the Teachers.

				N=335
S.No.	Characteristics	Number	Per Cent	
1.	Age	20-30 years	22	6.57
		31-40 years	113	33.73
		41-50 years	139	41.50
		51 and above	61	18.20
		Total :	335	100.00
2.	Teaching Experience	1-5 years	31	9.25
		6-10 years	48	14.32
		11-15 years	103	30.75
		16-20 years	89	26.58
		21 and above	64	19.10
Total :	335	100.00		
3.	Academic Qualifications	M.A.	2	0.60
		M.Sc.	117	34.92
		Ph.D.	214	63.88
		B.A./B.Tech.	2	0.60
Total :	335	100.00		
4.	Professional Status	Professors	116	34.63
		Associate Professors	191	57.01
		Assistant Professors	28	8.36
		Total :	335	100.00
5.	Marital Status	Married	4315	94.03
		Unmarried	20	5.97
Total :	335	100.00		
6.	Sex	Male	293	87.46
		Female	42	12.54
Total :	335	100.00		
7.	Area of Specialization	Biological Sciences	226	68.28
		Social Sciences	29	8.76
		Applied Sciences	63	19.03
		Natural Sciences	13	3.93
Total :	331*	100.00		
8.	College	College of Agriculture	170	50.75
		College of Agril. Engg.	21	6.26
		College of Vety. Sc.	74	22.08
		College of Basic Sc. & Humanities	18	5.38
		College of Home Sc.	43	12.83
		College of Ani. Sc.	6	1.80
College of Fisheries	3	0.90		
Total :	335	100.00		

9.	Place	Univ. Accommodation	219	65.37
		Private House	54	16.12
		Rented House	62	18.51
		Total :	335	100.00

* Four teachers did not give their area of specialization.

the younger teachers pointed out the problems like "lack of confidence", "lack of adequate training in research methodology", "non-attainment of Ph.D. degree" and "lack of command over english language".

1.2. Lack of Time

Usually teachers felt the lack of time due to certain official and unofficial reasons. Official reasons which took a big chunk of their time were : "lot of clerical work", "too many teaching assignments", "excess of co-curricular activities", "number of staff meetings to be attended". The problems due to which their research work was delayed; were pointed out as : "lack of chemicals, ingredienhts and other materials", "laboratory equipment being out of order" and "uncooperative and inactive laboratory staff".

The findings of the study were supported by Sibley (1951) and Fincher (1968).

1.3. Lack of Library Facilities

This problem was less severely felt by the teachers as all the agricultural universities have good libraries. Sometimes due to lack of funds, the foreign journal and text books are not purchased and sometimes their subscription is discontinued.

1.4 Lack of Transportation Facilities

The teachers conducting research in the field situation faced this problem more often than those who were doing it in the laboratory.

1.5. Problems due to Human Relations

Three expression of human relationships problems were pointed out by the respondents as : "lack of cooperation from Head/Dean", "lack of emphasis on production of research by Head/Dean" and "lack of intimacy among staff members".

1.6 Problems due to Administrative Duties.

Out of 335 respondents in the sample, 182 (54.33 per cent) teachers were either Head/Incharges of their departments. The problems in their descending intensity order as pointed out by teachers (182) are listed as (i) too much paper work, (ii) too many teaching problems (iii) too many official functions to attend (iv) too many students' problems (v) too much supervisory work (vi) too many meetings to be attended (vii) shortage of teachers in the department (viii) teachers in the department not willing to do research (ix) too many out of station meetings/functions to be attended and (x) number of post-graduate students to be guided.

1.7. Significant Differences in the Problems of the Teachers according to their personal Characteristics.

Chi-square test was applied to determine the difference in the problems faced by the teachers. (Table 2). The teachers differed in their problems due to their difference in University, Collège, marital status, professional status, teaching experience and place of residence.

Table 2. Significant Differences in Problems of Teachers according to their Characteristics.

Sr.No.	Characteristics	Problems	df.	Chi-square values
1.	University	1.1 Personal Problems	170	202.49*
		1.2 Lack of time	180	152.52*
		1.3 Lack of library facilities	255	296.97*
		1.4 Lack of transportation facilities	204	252.76**
		1.5 Lack of intimacy among staff	238	194.74**
2.	College	2.1 Lack of time	66	94.64**
		2.2 Lack of laboratory facilities	84	61.07*
		2.3 Problems due to administrative duties	48	69.05*
		2.4 Lack of cooperation from Head/Dean	84	60.23*
3.	Marital Status	Lack of laboratory facilities	14	24.36*
4.	Professional	4.1 Lack of library facilities	30	49.59**
		4.2 Lack of intimacy	30	45.67*
5.	Teaching	Problems due to administrative duties	32	53.02**
6.	Place of Residence	Lack of cooperation from Head/Dean	28	41.20*

* Significant at 5% level

** Significant at 1% level

The differences because of University and College may be due to the established period and the financial grant earned by way of projects, schemes and state allocated funds.

1.8. Miscellaneous Problems stated by the 150 Teachers out of 335

In order of descending order : lack of funds, lack of junior and senior staff, centralised system of administration, lack of incentives, lack of co-operation among staff, lack of academic environment, heavy

teaching loads, undesirable politics in the department, indifferent attitudes of seniors/authorities, interference in the research work, lack of accommodation on the campus, non-availability of suitable guidance from seniors number of extension activities, lack of communication, research projects not approved on time, busy system of examination, lack of clerical help and lack of research journals.

2. Attitude towards Research

The findings revealed that majority of

the teachers were found to have favourable attitude towards research on the whole irrespective of their college, age, marital status, academic qualification, sex professional status, teaching experience and place of residence. The data were further analysed to know the attitude of the respondents towards different aspects of research according to their personal characteristics. It was found that majority of the teachers held "highly favourable" attitude towards guiding research. More than 50 per cent of the teachers from the Colleges of Home Science, teachers of 20-30 years of age, unmarried teachers, lady teachers and Assistant Professor status were found to possess "highly favourable" attitude towards disseminating research.

Significant differences were found in the different aspects of attitude towards research of teachers due to their University, College, academic qualifications, sex and teaching experience (Table 3).

It may be stated that the sample of the study was represented by 19 agricultural universities which are located in different parts of the country, some universities were established in sixties and many in seventies and some in eighties. The teachers had favourable attitude towards guiding research yet showed significant differences. Older teachers from older universities may place teaching experience as a criteria for being able to guide research. On the other hand, the younger teachers in the newly established universities may place a higher emphasis on research degree in qualifying for being a research guide. This may explain the significant difference in attitude towards guiding research.

The attitude of the teachers with regard to different aspects were significantly correlated with their academic qualification and professional status.

Different aspects of attitudes i.e. at

Table 3. Significant Differences in the Different Aspects of Research Attitudes of Teachers According to their Characteristics.

Sr. No.	Characteristics	Attitudes	df.	Chi-square value
1.	University	Attitudes toward guiding research	85	64.90*
2.	College	Attitudes toward conducting reserach	30	49.18*
3.	Academic Qualifications	Attitudes toward disseminating research	12	22.70*
4.	Sex	Attitudes toward guiding research	5	13.24*
5.	Teaching experience	Attitudes toward importance of research	20	35.22*

* Significant at 5% level

titude towards importance of research, conducting, guiding and disseminating research were found to be interrelated at significant levels.

3. Research output of Teachers

The findings revealed that the teachers differed significantly in their research output due to their college academic qualification and sex with respect to research guided and examined. Since the strength of teachers and students varied in each college, the difference may be attributed to this factor. It is also true that Ph.D. teachers are better qualified for guiding and examining research than a teacher who is just M.Sc. having a higher professional status.

It was further found that age, professional status and teaching experience, the teachers were positively related to research output (Table 4). Again this production of research was in the form of dissertations guided and examined. All the three variables age, professional status and teaching experience may be inter-related i.e. higher the age, higher the teaching experience and higher the professional status. The findings were in line with those

of Gatson (1970) and Stalling and Singhal (1970).

On the other hand, place of residence was negatively correlated with the research production indicating that lesser was the distance between the place of work and place of residences, more was the research produced. This implies that the teachers staying on the campus were producing more research than those staying away from the campus.

The largest portion of research produced was in the form of research papers published and least was the dissertation examined at M.Sc. level. The literature was produced maximum in the form of informal teaching materials i.e. writing popular articles etc. Number of cyclostyled notes given the highest rank.

4. Inter-Relationship Among Problems, Attitude and Output Related to Research

The correlation tests revealed that more was the research produced and dissertation guided and examined by the teachers, more were their problems with respect to lack of laboratory chemicals and

Table 4. Significant Correlations among Research Output of Teachers and their Personal Characteristics.

Sr. No.	Characteristics	Aspect of Res. Output	'r' Value
1.	Age	Dissertations guided and examined	0.11*
2.	Professional Status	Dissertations guided and examined	0.12*
3.	Teaching experience	Dissertations guided and examined	0.15**
4.	Place of Residence	Research produced	0.10*

* Significant at 5% level with df. 333

** Significant at 1% level with df. 333.

Table 5. Significant Correlations among Problems in doing Research and Aspects of Research Output.

Sr. No.	Aspects of Research Output	Lack of Laboratory chemicals		Lack of transportation	
		'r' value	df.	'r' value	df.
1.	Research Produced	0.10*	333	0.12*	333
2.	Dissertation guided and examined.	0.13**	333	0.10*	333

* Significant at 5% level

** Significant at 1% level

lack of transportation facilities. It is assumed that the teachers who are conducting research are found to face such problems as compared to teachers who are not doing any research (Table 5). It is beyond the reach of the teachers to overcome these problems to enhance their research output. The authorities should try to lesser these problems by providing funds, reducing formalities in the purchase of chemicals from the market. Similarly vehicle needs to be provided alongwith the funds for repair and fuel.

The attitude of the teachers were found not to be significantly related to production of research. Though, teachers held favourable attitude, it did not result in more research output. It maybe that their attitude were not strong enough to result in more research production. The findings were supported by Wicker (1973) who found that attitudes were independent of behaviour.

RECOMMENDATIONS AND SUGGESTIONS

1. On the basis of the findings, it is suggested that the academic work of the department should be evenly distributed among the teachers of the department. Un-necessary paper work should be taken away from the teachers which may result

in more research.

2. Provision of part time teacher may be provided to different departments so that the teaching load may be reduced wherever required to help the teacher to conduct research.

3. Provision of more funds and decentralisation of power may also be introduced to lesser the intensity of problems.

4. Incentives and recognition may be provided to the teachers doing research.

5. The attitude of the teachers should be strengthened to a degree which may result in more production of research.

6. Researches conducted by the teachers, research scholars and post-graduate students should be published and disseminated by the Directorate of Reserach and the persons involved in it as well.

7. Departmental library, if provided, will also help to the teachers to conduct research and produce literature.

8. Teachers should be motivated to improve their professional qualification and also for attending the Research Methodology - short term courses organized by different institutions.

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