Factors Affecting Skill of Teachers in the Agricultural University

K. T. Lahariya[1] and N. R. Koshti[2]

Abstract

Skill in teaching is the manifestation of the knowledge of a subject and the communication ability of a teacher. The skills possessed by a teacher are of utmost importance in transmitting knowledge to the students. Keeping this in view, the objectives of this study are to assess the skill possessed by teachers to impart instruction in the Agricultural University; and find out the relationship between selected socio-personal and psychological characteristics and skill of teachers.

Introduction

Education is the process of educating or being educated. To educate means, to provide schooling for, to train by formal instruction and supervised practice especially in a skill, trade or profession and to develop mentally or aesthetically, especially by instruction and through it influence human development resulting from a teaching process. The other aspect of education is the field of instruction that deals mainly with methods of teaching and learning (Katyal, 2004).

A teacher cannot produce competent students unless he or she possesses the skill to transmit knowledge to the students. Teachers must understand the concept of teaching and learning; hence the skill possessed by the teacher is of great importance to express the knowledge. Hence, it was felt imperative to identify the skill possessed by the teachers to impart instruction to undergraduate students in an agricultural university. The present research was therefore undertaken with the following specific objectives:

1) To assess the skill possessed by teachers in the Agricultural University.

2) To find out the relationship between selected socio-personal and psychological characteristics and the skill of the teachers in the Agricultural University.

[1] Chief Extension Education Officer, Directorate of Extension Education, Dr. Panjabrao Deshmukh Krishi Vidyapeeth, Akola (Maharashtra).

[2] Ph. D. Scholar, Department of Extension Education, Post Graduate Institute, Dr. Panjabrao Deshmukh Krishi Vidyapeeth, Akola (Maharashtra).

Methodology

The research was purposively conducted in Dr. Panjabrao Deshmukh Krishi Vidyapeeth, Akola and was confined to four colleges viz., College of Agriculture Akola, College of Agriculture, Nagpur, Shri. Shivaji College of Agriculture, Amravati and Anand Niketan College of Agriculture, Warora. The study was confined to the academic staff viz., Associate and Assistant Professors imparting instruction in agriculture in the undergraduate degree programme. A well-structured and pre-tested questionnaire was used for the study. The questionnaire was personally given to 176 teacher respondents who were actually engaged in teaching. Of these, 111 responses were received from respondent teachers and constituted the sample for the study. Exploratory and analytical research design of social research was used for the present research.

Skill is the ability of the teacher to express subject matter and technical proficiency effectively. (Lahariya, 2006). Skill is an important attribute for successful recital of teaching, overall teaching-learning effectiveness and competency development by the teacher.

Skill was one of the indicators of teaching competency scale, developed, standardized and used to measure the teaching competency of academic staff. The skill indicator consisting of 6 positive statements viz., possess communication skill, possess effective teaching skill, possess lesson plan preparation skill, possess student motivation skill, possess student evaluation skill, possess skill to use Audio Visual Aids had to be rated on a five-point response continuum namely, very much, much, fair, less and very less. The numerical scores assigned to these response categories were 5,4,3,2 and 1 respectively.

The skill score on this scale ranged from a minimum 6 to a maximum of 30. The skill score was calculated by summing up the scores obtained by respondents on all the items and considered as individual score. The scores obtained as per self rating of the respondent teacher on the entire five continuums for all the items were summed up and converted to skill index with the help of the formula given below:

$$\text{Skill Index} = \frac{\text{Obtained skill score}}{\text{Maximum obtainable skill score}} \times 100$$

The respondents were then grouped into four categories on the basis of Teaching Competency Indicators (TCI) index. These categories are Poor, Average, Above Average and Good with Index range being upto 25, 26 to 50, 51 to 75 and above 75 respectively.

The data obtained on the scale for knowledge indicator as per self rating was put forth for distribution and relational analysis to assess the knowledge of respondent teachers by applying suitable statistical tools viz. percentage, mean, standard deviation, correlation, path analysis, regression analysis etc..

Findings

1. Distribution Analysis

A skill possessed helps to express subject matter and technical proficiency effectively and hence the skill possessed by teachers to teach the subject efficiently was studied. The results pertaining to the skill of respondents is given in Table 1.

Table 1: Distribution of Respondents according to Level of their Skill

Sr. No.	Level of skill	Respondents	
		Number	Percentage
1	Poor	10	9.01
2	Average	11	9.91
3	Above average	74	66.67
4	Good	16	14.41
	Total	111	100.00
	Mean index = 60.93		SD = 11.21

It is observed from Table 1 that two thirds of the respondents (66.67%) expressed themselves to have above average level of skill in teaching. This was followed by 14.41 per cent of respondents who expressed good skill in teaching. Only 9.91 per cent and 9.01 per cent of respondents expressed average and poor skill level in teaching. Skill in teaching is mainly the manifestation of knowledge of the subject and communication ability of a teacher. Most of the teacher respondents did not exhibit high performance in teaching, which definitely is a matter of concern for any organization and has to be attended to on priority. The teaching skill is responsible for overall teaching and learning effectiveness.

Relational Analysis

The results pertaining to the correlation and path analysis of skill of the respondent academic staff are presented in Table 2.

Table -2 Path analysis of the correlates of skill of respondents

Sr. No	Correlates	Coefficient of correlation 'r'	Path coefficients		
			Direct effect	Total indirect effect	Maximum indirect effect through other variable
1	Age (X_1)	-0.0708	0.4584	-0.5292	0.0777(X_3)
2	Educational qualification (X_2)	0.0292	-0.0531	0.0824	0.0881(X_4)
3	Post held (X_3)	0.0530	0.2268	-0.1738	0.1569(X_1)
4	Total service experience (X_4)	-0.1220	-0.6181	0.4961	0.4313(X_1)
5	Teaching experience (X_5)	0.0002	0.1203	-0.1201	0.2557(X_1)
6	In service training. (X_6)	-0.0086	-0.1338	0.1252	0.0883(X_1)
7	Membership of periodicals (X_7)	0.2250*	0.1953	0.0297	0.0961(X_4)
8	Contribution in terms of publications (X_8)	0.1119	0.0097	0.1022	0.0645(X_3)
9	Work load (X_9)	-0.0068	-0.1200	0.1132	0.0652(X_3)
10	Availability of instructional aids and facilities (X_{10})	0.1844*	-0.0291	0.2135	0.0647(X_{16})
11	Teaching methods and use of aids (X_{11})	0.3091**	0.1271	0.1820	0.0749(X_4)
12	Job preference (X_{12})	0.2800**	0.1381	0.1419	0.0451(X_7)
13	Job Involvement (X_{13})	0.1941*	0.0471	0.1470	0.0944(X_4)
14	Achievement motivation (X_{14})	0.2456**	0.1673	0.0783	0.0418(X_{15})
15	Teaching attitude (X_{15})	0.2797**	0.1678	0.1119	0.0625(X_{16})
16	Job satisfaction (X_{16})	0.2959**	0.1704	0.1254	0.0628(X_4)

** Significant at 0.01 level of probability * Significant at 0.05 level of probability

The relational analysis in Table 2 indicates that, teaching methods and use of aids, job satisfaction, job preference, teaching attitude, achievement motivation, membership of periodicals, job involvement and availability of instructional aids and facilities were positively and significantly related with the skill of the respondents, where as educational qualification, post held, teaching experience and contribution in terms of publications were non-significantly related with the skill of the respondents. The age, total service experience, in-service training and

workload showed negative and non-significant relation with the skill of the respondents.

The skill goes hand-in-hand with teaching methods and use of aids, job satisfaction, job preference, teaching attitude, achievement motivation, membership of periodicals, job involvement and availability of instructional aids and facilities and hence these matter in determining their skill. In order to improve the skill, it is essential that associated personal and psychological factors be given exposure through training followed by proper evaluation, initiative at a superior level, organizational level as well as teacher's own level which is also imperative.

The direct and total indirect effect of set variables on the skill presented in Table 2 indicate that, age had a positive and maximum direct effect (0.4584) on skill, followed by post held (0.2268), membership of periodicals (0.1953), job satisfaction (0.1704), teaching attitude (0.1678), achievement motivation (0.1673), job preference (0.1381), teaching methods and use of aids (0.1271) and teaching experience (0.1203)

The total service experience (-0.6181), in-service training (-0.1338) and teaching workload (-0.1200) had maximum negative direct effect on skill. The effect of contribution in terms of publications, availability of instructional aids and facilities and job involvement was relatively negligible. Thus it could be inferred that respondents with higher age, membership of periodicals, job satisfaction, teaching attitude, achievement motivation, job preference, teaching methods and use of aids and teaching experience possessed higher skill.

It is observed from Table 2 that, total service experience exerted positive and maximum indirect effect (0.4961) on skill, followed by availability of instructional aids and facilities, teaching methods and use of aids, job involvement, job preference, job satisfaction, in-service training, work load, teaching attitude, educational qualification and achievement motivation which exerted substantial indirect effect on skill in descending order of magnitude. The indirect effect of age, post held and teaching experience was recognizable but negative. The indirect effect of variable membership of periodicals was negligible.

Further, it is observed that, age, total service experience, post held, membership of periodicals and job involvement had exerted maximum indirect effect on skill through age, post held and total service experience. Thus age had

not only produced maximum direct effect but also served as a vehicle for production of indirect effect on other variables of skill and emerged as an important determinant of skill.

The results pertaining to regression analysis of skill of the respondent academic staff is presented in Table -3.

Table 3: Regression analysis of skill of respondents

Sr. No	Characteristics	Partial regression coefficient 'b'	Standard error (SE) of 'b'	't' value
1	Age	0.1584	0.0927	1.7091
2	Educational qualification	-0.1264	0.2275	0.5555
3	Post held	1.7704	0.8049	2.1995*
4	Total service experience	-0.1832	0.0796	2.3005*
5	Teaching experience	0.0439	0.0408	1.0753
6	In-service training.	-0.2669	0.1929	1.3831
7	Membership of periodicals	0.3919	0.2069	1.8944
8	Contribution in terms of publications	0.0017	0.0196	0.0885
9	Work load	-0.0430	0.0362	1.1891
10	Availability of instructional aids and facilities	-0.0191	0.0699	0.2732
11	Teaching methods and use of aids	0.1040	0.0851	1.2220
12	Job preference	0.3652	0.2572	1.4199
13	Job Involvement	0.0245	0.0513	0.4775
14	Achievement motivation	0.1246	0.0756	1.6486
15	Teaching attitude	0.08821	0.05369	1.6429
16	Job satisfaction	0.03705	0.02362	1.5686

** Significant at 0.01 level of probability $R^2 = 0.3208$

* Significant at 0.05 level of probability F-value = 2.77

The results pertaining to the regression analysis presented in Table 3 indicate that, the effect of total service experience (t = 2.3005) and post held (t = 2.1995) was significant in explaining the variation in skill. This means that these two variables contributed significantly towards the variation in skill. The influence of various variables fitted in a regression equation accounted only 32.08 per cent variation in the possessed skill of the teacher respondents.

Conclusion

The distribution analysis concluded that, two thirds of the respondents (66.67%) expressed themselves to be having above average level of skill in teaching. Only 9.91 percent and 9.01 percent of respondents expressed average and poor skill levels in teaching respectively. Skill in teaching is mainly the manifestation of the knowledge of a subject and the communication ability of a teacher. Most of the teacher respondents did not exhibit high performance in teaching, which definitely is a matter of concern for any organization and needs to be attended to on priority.

The correlation analysis concluded that, teaching methods and use of aids, job satisfaction, job preference, teaching attitude, achievement motivation, membership of periodicals, job involvement and availability of instructional aids and facilities were positively and significantly related with the skill of the respondents. The path analysis concluded that age exerted positive and maximum direct effect on skill and also produced maximum indirect effect of other variables on skill, and was an important determinant of skill. Total service experience exerted positive and maximum indirect effect on skill of the respondents. The results pertaining to the regression analysis concluded that, total service experience ($t = 2.3005$) and post held ($t = 2.1995$) contributed significantly towards variation in skill of the respondents to the tune of 32.08 percent.

In order to improve skills it is essential that associated personal and psychological factors be given exposure through training, mentoring followed by proper evaluation. Initiative at superior's level, organizational level as well as the teacher's own level is also crucial because teaching skill is responsible for effectiveness of the overall teaching and learning process.

References

Katyal, J.C. (2004): Traditional and alternative system of education. . *Uni. News.* 42 (35): 69-70.

Lahariya K.T. (2006): Teaching competency of academic staff. Ph. D. Thesis (Unpub.), Dr. PDKV, Akola.

✡ ✡ ✡