



AWARENESS OF AGRICULTURE COLLEGE TEACHERS TOWARDS EDUCATIONAL TECHNOLOGY

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ABSTRACT

The present study was conducted in Vasantrya Naik Marathwada Krishi Vidyapeeth, Parbhani, Maharashtra state. Ninety Agricultural college teachers having at least 3 years' experience in teaching to under-graduate and post-graduate students from 6 teaching campuses were selected for the study using proportionate random sampling. The data was collected personally from the respondents using standardized interview schedule developed for the study. The collected data were analyzed using appropriate statistical tools. The results of the study revealed that, majority (81.12 %) of the teachers belonged to middle age group while 77.77 per cent of the teachers had doctoral degree as their educational qualification, 66.66 per cent of teachers were assistant professors and half of the teachers had 11 years and above of experience in services. Further it could be concluded that 40 per cent of the teachers have high level of knowledge on Audio-visual aids, while 38.89 per cent were belongs to less use of educational technology. Large majorities (88.88 %) of teachers prepares and use fresh notes every time. As far as infrastructural facility is concerned majority (62.23 %) of the teachers indicated that availability of lecture halls were highly adequate. More than half (53.33 %) of teachers were not attended training related to educational technology. Majority (42.22 %) of the teachers were moderately aware about educational technology. In case of awareness about different aspects of educational technology for instructional materials, majority (36.67 %) of teachers were 'moderately aware'. Distribution of teachers on instructional devices was found that, majority (36.67 %) of the teachers were 'less aware'.

KEYWORDS: Awareness, Education technology, Organizational climate and Training.

INTRODUCTION

Educational technology is the effective use of technological tools in learning. As a concept, it concerns an array of tools, such as media, machines and networking hardware, as well as considering theoretical perspectives for their effective application. Educational technology includes numerous types of media that deliver text, audio, images, animation, and streaming video, and includes technology applications and processes such as audio or video tape, satellite TV, CD-ROM, and computer-based learning, as well as local intranet/extranet and web-based learning. Information and communication systems, whether free-standing or based on either local networks or the internet in networked learning, underlie many e-learning processes. In the fast changing scientific and technological world, one cannot remain blind, ignoring altogether the changes and the strategies in the teaching-learning process. A sense of awareness is needed among the teachers about the importance of educational technology in the instructional system. The report of Indian Education Commission (1964-65) remarks that, "the destiny of India is being shaped in the class rooms". Therefore, the onerous responsibility lies on the teachers to make the future architect of the country more effective and efficient to meet the future scientific and technological challenges. This goal is to be achieved through effective,

instructional delivery by the teachers. As technology ensures more effectiveness and efficiency in instructional system and serves as an indispensable tool at the hands of the teacher, there exists a need to develop better attitudes among the teachers toward educational technology.

As technology is relatively new term in education, no wonder it may be resisted by some teachers, in this competitive world. The entry of students in professional courses of study is largely determined by the teaching undertaken at graduate and post-graduate level. The teachers are compelled to plan their instructional design in such a way, to ensure maximum success and impart efficient knowledge and skill to the students for over all development. So that they can influence, strengthen and serve the country. Therefore, the teachers must have awareness and knowledge regarding the educational technologies. Besides, the review of related literature indicates a dearth of research in this area of study. So the present study was undertaken with an objective to know the awareness of Agriculture College of teachers regarding various educational technologies.

METHODOLOGY

The present study was conducted at the Vasantrya Naik Marathwada Krishi Vidyapeeth, Parbhani, Maharashtra state. The Vasantrya Naik Marathwada Krishi Vidyapeeth,

Parbhani has 6 teaching campuses, one college in main campus and other five are in out of campuses. Namely, College of Agriculture Latur, College of Agriculture Ambajogai, College of Agriculture Osmanabad, College of Agriculture Gulegaon, College of Agriculture Badnapur. The respondents for this study included

agricultural college teachers having at least 3 years' experience in teaching to under-graduate and post-graduate students. From the following 6 campuses 90 respondents were selected by proportionate random sampling.

Number of teachers selected for the study		
Sl. No.	College	No. of teachers who respond at the time of survey
1.	College of Agriculture, Parbhani	44
2.	College of Agriculture, Latur	20
3.	College of Agriculture, Ambajogai	8
4.	College of Agriculture, Osmanabad	8
5.	College of Agriculture, Gulegaon	5
6.	College of Agriculture, Badnapur	5
Total		90

A list of all the teachers of the six campuses was obtained from the Registrar office of the Vasantrya Naik Marathwada Krishi Vidyapeeth, Parbhani. All the teachers of the six campuses who were available at the time of

investigation were considered as respondents for the study. By using complete enumeration method. The details of sample are presented in table 1.

TABLE 1: Distribution of the teachers according to their age n= 90

Sl. No.	Category	Frequency	Percentage
1.	Young age (Up to 35 years)	08	8.88
2.	Middle age (36-55 years)	73	81.12
3.	Old age (Above 55 years)	09	10.00
Education			
1.	Master's degree	30	33.33
2.	Doctorate degree	60	77.77
Designation			
1.	Assistant professor	60	66.66
2.	Associate professor	22	24.44
3.	Professor	1	1.11
4.	Head of the department	7	7.79
Experience			
1.	Up to 5 years	10	11.12
2.	6 – 10 years	35	38.88
3.	11 years and above	45	50.00
Knowledge level on AV aids			
1.	Low (Up to 29)	32	35.56
2.	Medium (30-38)	22	24.44
3.	High (above 38)	36	40.00

Profile characteristics of Teachers

Age

It is revealed from Table 3 that majority (81.12 %) of the teachers belonged to middle age group followed by old (10.00 %) and young age (8.88 %) group. This might be due to the fact selection of respondent teachers who had at least 3 years of teaching experience for investigation from all 6 agricultural colleges. Similar results reported by Vijayabhinandan (2003) and Kiran (2004) that majority of teachers belonged to middle age category.

Education

As it could be observed from Table 4 that, more than three fourth (77.77 %) of the teachers had doctoral degrees and one third (33.33 %) teachers had master's degree as their

educational qualification. This is possibly due to the fact that selection of teachers and also most of the teachers who joined with master's degree at the entry were may be pursuing their doctoral degree as in service. This finding is contrary to Naika (1999) where more than two third (70.00 %) of the teachers had master's degree as their qualification and in the line with Vijayabhinandan (2003).

Designation

It could be observed from Table 5 that, two third (66.66 %) of the teachers were Assistant Professor followed by Associate Professor (24.44 %) and Head of the Department (7.79 %). This might be due to the fact that majority of Assistant Professors are in teaching activities. The others Associate Professors, Professors and Head of

the Department have to perform other responsibilities too. So the interviewer got easy responses from Assistant Professors. The results was contradictory to Kiran (2004) who reported that majority of the teachers were Assistant Professors followed by Associate Professors and Professors.

Experience

It was revealed from Table 6 that, fifty per cent of the teachers had 11 years and above of experience followed by 6-10 years' experience (38.88 %) and who had up to 5 years' experience (11.12 %). The reason behind it may be, no recruitment since 2009 even research, extension personnel has to teach under graduate due to lack staff in teaching. Similar results were reported by Reddy (2002).

TABLE 2: Distribution of teachers according to their overall extent use of educational technology N= 90

Sl. No.	Category	Frequency	Percentage
1.	Less use (Up to 56)	35	38.89
2.	Moderate use (57-70)	25	27.78
3.	Most use (above 70)	30	33.33

TABLE 3: Distribution of teachers according to their information seeking pattern N= 90

Sl. No.	Sources	Frequently		Occasionally		Never	
		Freq.	Per.	Freq.	Per.	Freq.	Per.
1.	Prepare and use fresh notes every time	80	88.88	10	11.12	-	-
2.	Use senior notes	03	3.33	56	62.22	31	34.45
3.	Use old notes	03	3.33	53	58.89	34	37.78
4.	Consult peers	10	11.11	66	73.33	14	15.56
5.	Consult seniors	21	23.33	60	66.67	09	10.00
6.	From reference books	75	83.33	15	16.77	-	-
7.	Seminar/Workshop proceedings	32	35.56	56	62.22	02	2.22
8.	Journals	42	46.67	47	52.22	01	1.11
9.	Magazines	24	26.67	63	70.00	03	3.33
10.	Status reports	08	8.88	68	75.55	14	15.57
11.	Internet	71	78.88	19	21.12	-	-

Knowledge on Audio-Visual aids

It is evident from the Table 7 that two fifth (40.00 %) of the teachers had high level of knowledge on the audio-visual aids followed by low (35.56 %) and medium (24.44 %) category. As we know this is the world of ICT and everyone in this world is well acquainted with the information tools. Hence teachers must know these tools to disseminate his knowledge among the students.

Extent use of educational technology

A cursory look at table 8 in the results explains that less than two fifth (38.89 %) of teachers reported less use of educational technology followed by most (33.33 %) and moderately (27.78%). This might due to lack of training to use of educational technology and also technology based instruction requires more time. This result is contrary to Naika (1999).

Information seeking pattern

It is evident to note from Table 9 that, majority teachers consulted sources frequently, were in the order of prepare and use fresh notes every time (88.88 %), reference books (83.33 %), internet (78.88 %). Occasionally consulted sources were status reports (75.55 %), consults peers (73.33 %), magazines (70.00 %), and consults seniors (66.67 %), use senior notes (62.22 %), use old notes (58.89 %). Possibly this might be due to study habits of teachers besides, college environment.

Further, quite a good percentage of teachers expressed that they never consulted the below sources like use old notes (37.78 %), use senior notes (34.45 %) and status reports (15.57 %). In that order from this, it could be inferred that there seems to be divided opinion of teachers on sources they consulted and their wasted preferences might have influenced this finding. Similar finding were reported by

Naika (1999) and this results in line with Ravikanth (2007).

Infrastructural facilities

It was evident from the Table 10 that slightly less than two third (62.23 %) of the teachers indicated that availability of lecture halls were highly adequate followed by availability tables / desks, chair in class room (56.67 %), chalk boards (55.56 %), LCD (55.56 %) and electrical supply (52.22 %) to class room. Less than half (48.89 %) of the teachers who opinioned that the screen for projection in class room and availability of UPS (36.67 %) were highly adequate. Whereas 47.78 per cent and 37.78 per cent teachers were indicated library and lending and availability of slide projector in class room were adequate in their colleges. Added to this, less than two fifth (36.67 %) of the teachers opinioned that Television/ VCD/ DVD and availability of OHP in class room (37.7 %) were somewhat adequate and not at all adequate, respectively. This might be due to these are out dated technology and requires lot of time prepare to use such technology.

Training received on Educational technology

The evident from the Table 11 that, more than half (53.33 %) of the teachers not undergone any training related to educational technologies. Less than one third of the teachers attended training sponsored by ICAR (30.00 %) and from SAU's (10.00 %) was attended. This might be due to heavy work load and poor encouragement from the respective college heads or less information about the training programme of teaching related technology. One more reason that such trainings are not organized frequently. These findings are contrary to Kiran (2004) who reported that more than half of the teachers attended training programmes.

TABLE 4: Distribution of teachers related to availability of infrastructural facilities

Sl. No.	Facilities	Highly adequate		Adequate		Somewhat adequate		Not at all adequate	
		F	%	F	%	F	%	F	%
1.	Availability of lecture halls	56	62.23	30	33.33	04	4.44	-	-
2.	Availability of tables/desks, chair in classroom	51	56.67	35	38.89	04	4.44	-	-
3.	Availability of chalk boards	50	55.56	39	43.33	01	1.11	-	-
4.	Screen for projection in class room	44	48.89	42	46.67	04	4.44	-	-
5.	Electrical supply to class room	47	52.22	34	37.78	09	10.00	-	-
6.	Availability of UPS	33	36.67	30	33.33	17	18.89	10	11.11
7.	Library and lending	34	37.78	43	47.78	13	14.44	-	-
8.	Availability of slide projector in class room	21	23.33	34	37.78	12	13.33	23	25.56
9.	Availability of OHP in class room	13	14.44	18	20.00	25	27.78	34	37.78
10.	Availability of LCD	50	55.56	35	38.89	02	2.22	03	3.33
11.	Television/ VCD/DVD	11	12.22	22	24.44	33	36.67	24	26.67

(F – Frequency, % - Percentage)

TABLE 5: Training under gone by teachers N=90

Sl. No.	Institution	Frequency	Percentage
1.	ICAR *	27	30.00
2.	SAU'S	09	10.00
3.	State Government	3	4.44
4.	Others	3	2.23
5.	Not attended	48	53.33

*multiple responses obtained

TABLE 6: Perception of teachers on organization climate N= 90

Sr. No.	Category	Frequency	Percentage
1.	Low (Up to 14)	29	32.22
2.	Medium (15-19)	25	27.78
3.	High (above 19)	36	40.00

TABLE 7: Overall awareness of educational technology among teachers N=90

Sr. No	Category	Frequency	Percentage
1.	Highly aware (above 132)	24	26.67
2.	Moderately aware (100-132)	38	42.22
3.	Less aware (Up to 99)	28	31.11

TABLE 8: Awareness of educational technology on different aspects among teachers

Aspects	Categories	Frequency	Percentage
Instruction Materials	Highly aware	31	34.44
	Moderately aware	33	36.67
	Less aware	26	28.89
Instructional Devices	Highly aware	32	35.55
	Moderately aware	25	27.78
	Less aware	33	36.67
Instructional Methods	Highly aware	22	24.45
	Moderately aware	52	57.78
	Less aware	16	17.77

TABLE 9: Relationship between profile of agriculture college teachers and their awareness towards educational technology

Sl. No.	Independent variable	Correlation coefficient
1.	Age	0.027 NS
2.	Education	0.231 *
3.	Designation	0.086 NS
4.	Experience	0.000 NS
5.	Knowledge on A.V. aids	0.176 NS
6.	Extent use of ET	0.282**
7.	Information seeking pattern	0.288**
8.	Infrastructural facilities	0.146 NS
9.	Training received on ET	0.148 NS
10.	Organizational climate	0.129 NS

NS = non-significant, **Significant at 1% level

TABLE 10: Multiple regression analysis of independent variables contributing to the awareness of teachers towards educational technology

Sl. No.	Independent variable	B	S.Eb	't' value
1.	Age	0.577	0.307	1.882 NS
2.	Education	-5.115	3.679	-1.390 NS
3.	Designation	1.200	2.204	0.544 NS
4.	Experience	-3.812	2.665	-1.430 NS
5.	Knowledge on A.V. aids	0.891	0.401	2.221*
6.	Extent use of ET	0.488	0.280	1.741 NS
7.	Information seeking pattern	1.412	0.640	2.205*
8.	Infrastructural facilities	-0.046	0.309	-0.150 NS
9.	Training received on ET	1.509	0.902	1.673 NS
10.	Organizational climate	-1.103	0.731	-1.509 NS

$R^2 = 0.294$, $F = 2.960$

*significant at 5 % level, ** significant at 1 % level, NS = non-significant

Organizational climate

As noted from the results of Table 6 that, two fifth (40.00 %) of the teachers shows high opinion on organizational climate followed by low (32.22 %) and medium (27.78 %) opinion about organizational climate. This might be due to well organized things, clearly defined roles, friendliness, mutual trust and inter personnel relations existing among between the respondents in the organization.

Awareness of teachers towards educational technology

The overall awareness of teachers on educational technology is noted from the table 7 that, more than two fifth (42.22 %) of the teachers were moderately aware followed by those who were less aware (31.11 %) and highly aware (26.67 %) of educational technology. The awareness of teachers on different aspects of educational technology can be clearly noted from the results in Table 8 in the case of awareness, about instructional materials less than two fifth (36.67 %) of teachers were moderately aware of educational technology followed by those were highly aware (34.44 %) and less aware (28.89 %).

Distribution of teachers on the basis of awareness about instructional devices revealed that less than two third (36.67 %) of the teachers are less aware followed by those highly aware (35.55 %) and moderately (27.78 %).

As far as instructional methods was concerned less than three fifth (57.78 %) of the teachers were moderately aware followed by highly aware (24.45 %) and less aware (17.77). Most of the respondents found in moderately aware category regarding educational technology, different aspect of educational technology and instructional methods. This might be due to a very few of them had attended training regarding educational technology. Than two third teacher less aware of instructional devices. The reason behind it might be moderate infrastructural facilities and training regarding operating of such devices. Similar results were reported by Ravikanth (2007) who reported that majority of the teachers was moderately aware of instructional material and methods and highly aware of instructional devices.

Relationship between profile of agriculture college teachers and their awareness and attitude towards educational technology

A perusal of data in Table 9 vividly presents the fact that, the independent variables namely education, extent use of educational technology and information seeking pattern were positively and significantly related with the awareness of teachers towards educational technology. The other variables viz., age, designation, knowledge on AV aids, infrastructural facility, and training received on ET and organizational climate had shown non-significant relationship with the awareness of teachers towards educational technology. This indicated that these variables were not playing role in awareness of teachers towards educational technology. This finding is contrary to that of Naika (1999).

Multiple regression analysis of awareness and attitude of teachers towards educational technology

Regression analysis provides estimated values of dependent variables from the independent variables. It evaluates the proportion of variance in the dependent variable that has been accounted by the regression equation. In general, greater the value of R^2 better is the fit and more useful regression equation of predicative device from the results. It was revealed that table 10 the selected independent variables explained the variation in awareness of teachers towards educational technology to the extent of 29.40 per cent, which indicates that much of the awareness explained by the selected variables. Independent variables like knowledge on A.V aids and information seeking pattern contributed significantly as compared to other independent variables. Amongst the other independent variables namely education, experience, infrastructural facility and organizational climate exhibited negative and non-significant contribution.

The independent variables like age, designation, extent use of ET and training received on ET were found to be positively non-significant contribution in variation of awareness of teachers.

CONCLUSION

Based on the results of the study it can be concluded that, majority of the teachers belonged to medium awareness

category. Hence, in order to explore the potential of educational technology, it would be necessary to enhance the awareness among its intended users. Only then we can think of its use for achieving excellence in education and solving the problems of changing educational scenario. In order to create awareness among teachers, courses must be designed and offered to train and educate them in different areas of educational technology managerial and financial supports to institutions, along with training and education of teachers in this field. The extent of use of instructional methods and aids by teachers was found to be less than the adequate. The teachers should go beyond and use of combination of methods in order to make the teaching more effective and efficient. Hence there is necessity to train the train the teachers in modern educational technology further combination of methods teachers used in their teaching could be another area to take up some studies in the years to come. Trainings regarding handling of new teaching aid should be organized by universities to develop an interest of teacher in using such teaching aids.

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