



ATTITUDE OF AGRICULTURE COLLEGE TEACHERS TOWARDS EDUCATIONAL TECHNOLOGY

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ABSTRACT

The present study was conducted at the Vasant Rao Naik Marathwada Krishi Vidyapeeth, Parbhani, Maharashtra state to know the attitude of agriculture college teachers towards educational technology. From the 6 campuses of the university 90 teachers were selected by proportionate random sampling and data was collected from them using standardized interview schedule developed for the study using personal interview method. The collected data were analyzed using appropriate statistical tools. The results of the study revealed 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 %). More than half (53.33 %) of the teachers not undergone any training related to educational technologies. The results of the study also revealed that majority (36.67 %) of teachers indicated favourable attitude towards educational technology. Further, it could be concluded that, modified chi-square test was used to test the significance of the statements. All the statements were found to be significant at 5 % and 1 % level. Most of the teachers experienced heavy work (58.88 %), lack of supervisory staff (53.33 %), lack of training in utilization of teaching aids (50.00 %) were the major constraints.

KEYWORDS: Attitude, Constraints, Education technology and Training.

INTRODUCTION

Educational technology involves a systematic way of designing, carrying out and evaluating the total process of learning, teaching and communication, employing a combination of human and non-human resources to bring about more effective instruction. It is this systems approach of educational technology, which is the heart of technology of education. It is high time we made use of educational technology in classrooms to improve the quality of teaching and student achievement. Educational technology raises the prestige of the teacher and institution at all levels of teaching. 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. Although technology is considered in positive terms, if one examines the attitude of teachers toward technology, the picture seems to be different. Critics point out the unnecessary fear cultivated by teachers about educational technology. The teachers have fear regarding the effect of educational technology on their role and responsibilities. They fear that they will be replaced by equipments. The ineffectiveness of teachers in operating equipments is the main cause for the resistance of teachers. Teachers fear that educational technology is a teacher replacer instead of teacher extender. They consider educational technology is as inhumane and unbeatable enemy. Educational technology has invaded the teacher's authority in the classroom. The agricultural universities have made significant contributions in the field of agricultural education, research and extension justifying the investment of public fund in them. They are serving as

pivotal heads of new knowledge, instruments for increasing agricultural production and transforming the rural life. Agricultural Universities do have concern for imparting quality education in agriculture and allied sectors to the graduates and post graduates with proper pre- service training in agriculture. 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 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 possess favorable attitudes towards educational technology. Besides, the review of related literature indicates a dearth of research in this area of study. So the present study was undertaken with objective to know the attitude of agriculture college teachers towards education technology.

METHODOLOGY

This study was conducted at the Vasant Rao Naik Marathwada Krishi Vidyapeeth, Parbhani, Maharashtra state. The Vasant Rao Naik Marathwada Krishi Vidyapeeth, Parbhani has 6 teaching campuses, one college in main campus and other five are in out of campuses. The respondents for this study included agricultural college teachers having at least 3 years' experience in teaching to

under-graduate and post-graduate students. A list of all the teachers of the six campuses was obtained from the Registrar office of the Vasantrao 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 and from the 6 campuses, 90 respondents were selected by proportionate random sampling. An interview schedule was drafted so as to collect the information in line with the objectives of the study. The schedule was developed in parts. In first part questions related to profile of the agriculture college teacher. The second part of schedule consisted of statements related to awareness and attitude of teachers towards educational technology and in the third part, questions pertaining to constraints perceived by teachers towards educational technology.

The final data were collected with the help of pretested interview schedule incorporating all the items on which information was required. The respondents were contacted in personally in their leisure time. The importance and

objectives clearly explained them and assured that the information would be used only for research purpose.

RESULTS & DISCUSSION

Information seeking pattern

It is evident to note from Table 1 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).

TABLE 1: 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 | - | - |

Training received on Educational technology

The evident from the Table 2 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) and Ravikanth (2007) who's reported that more than half of the teachers had attended training programmes.

TABLE 2: 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 3: Overall Attitude of teachers toward educational technology N=90

| Sl. No. | Category | Frequency | Percentage |
|---------|------------------------------|-----------|------------|
| 1. | Favorable (above 143) | 33 | 36.67 |
| 2. | Somewhat favorable (121-143) | 30 | 33.33 |
| 3. | Unfavorable (Up to 120) | 27 | 30.00 |

TABLE 4: Dimension wise Attitude of teachers toward educational technology

| Sl. No | Statements | Strongly agree | Agree | Neutral | Disagree | Strongly disagree | Chi- square values |
|--------|---|----------------|-------|---------|----------|-------------------|--------------------|
| 1. | Educational technology is an instrument for the development of education | 65.55 | 33.33 | - | 1.11 | - | 17.805** |
| 2. | Educational technology is an instrument for the effective learning and implementation of instructional techniques | 62.23 | 37.77 | - | - | - | 18.128** |
| 3. | It is discovery oriented | 34.46 | 58.88 | 5.55 | 1.11 | - | 23.348** |
| 4. | It is boon to the teachers | 43.33 | 52.22 | 2.22 | 2.22 | - | 41.302** |
| 5. | Technology plays a significant role in the present educational system | 62.22 | 37.77 | - | - | - | 21.704** |
| 6. | Technology calls for new approaches in the management of educational system | 48 | 48.88 | 1.11 | 1.11 | - | 22.957** |
| 7. | Technology calls for new techniques of learning | 46.66 | 53.33 | - | - | - | 24.328** |
| 8. | It increases users efficiency | 58.88 | 37.77 | 2.22 | 1.11 | - | 83.511** |
| 9. | It characterizes progressive human activities | 41.11 | 55.55 | 2.22 | 1.11 | - | 97.862** |
| 10. | Educational technology implies effective use of modern media | 50 | 46.66 | 3.33 | - | - | 63.062** |
| 11. | It uses various methods and materials for maximizing the learning outcomes | 42.22 | 54.44 | 3.33 | - | - | 46.575** |
| 12. | It makes changes in the teachers corps | 40 | 54.44 | 4.44 | 1.11 | - | 84.770** |
| 13. | Low cost equipment's and small for mate technologies would be more relevant and meaningful to the existing situations | 24.44 | 55.55 | 15.55 | 4.44 | - | 13.826* |
| 14. | Educational technology improves the efficiency of learning | 54.44 | 43.33 | 2.22 | - | - | 57.564** |
| 15. | Technological advancement leads to mass literacy | 42.22 | 52.22 | 5.55 | - | - | 34.003** |
| 16. | It is intended for comfortable education for all | 36.66 | 54.45 | 6.66 | 2.22 | - | 68.580** |
| 17. | Educational technology incorporates an element of immediate feedback in the teaching learning process | 33.33 | 53.34 | 11.11 | 2.22 | - | 42.018** |
| 18. | Educational technology enables the self-learning among learners | 37.77 | 55.55 | 4.44 | 2.22 | - | 44.291** |
| 19. | Educational technology reduces the self-learning among learners | 11.11 | 20 | 23.33 | 35.55 | 10 | 16.546* |
| 20. | Educational technology provides opportunities for the effective instructional designing | 43.33 | 55.55 | - | 1.11 | - | 26.583** |
| 21. | It brings teachers students and technical means together | 34.44 | 61.11 | 3.33 | - | 1.11 | 79.207** |
| 22. | It provides opportunities for the effective and combined utilization of human and non-human resources | 41.11 | 55.55 | 2.22 | 1.11 | - | 69.814** |
| 23. | It does not limit the development of instructional systems | 23.33 | 62.22 | 10 | 4.44 | - | 58.275** |
| 24. | It increases the attention of students in the class rooms | 47.77 | 47.77 | 2.22 | 1.11 | 1.11 | 104.5** |
| 25. | Technology has brought out communication revolution in the educational system | 40 | 54.44 | 2.22 | 3.33 | - | 61.929** |
| 26. | Educational technology provides scope for evaluating cost benefit analysis of learning materials | 34.44 | 56.66 | 5.55 | 3.33 | - | 58.521** |
| 27. | It diagnoses the learning difficulties | 26.66 | 58.88 | 10 | 4.44 | - | 34.976** |
| 28. | It communicates with different sub systems in a college system | 18.88 | 61.11 | 17.77 | 2.22 | - | 37.592** |
| 29. | It motivates the members of the learning systems | 37.77 | 54.44 | 5.55 | 2.22 | - | 116.5** |
| 30. | Educational technology prepares prospective teachers for an increasingly technology society | 28.88 | 65.55 | 3.33 | 2.22 | - | 36.840** |
| 31. | It reduces the role of teachers and students to that mechanical robots | 8.88 | 25.55 | 20 | 34.44 | 11.11 | 15.363* |

**Significant at 5% level, *Significant at 1% level

Attitude of teachers towards educational technology

It was manifested from results of the study Table 3 shows that majority (36.67 %) of teachers indicated favorable attitude towards educational technology followed by somewhat favorable (33.33 %) and Unfavorable (30.00 %) attitude.

Statement wise attitude of teachers towards education technology is presented in table 4. The results presented in table revealed that, more than half of the respondents strongly agreed for the attitude statements like educational technology is an instrument for the development of education (65.55 %), educational technology is an instrument for the effective learning and implementation of instructional techniques (62.23 %), technology plays a significant role in the present educational system (62.22), it increases users efficiency (58.88 %) and educational technology improves the efficiency of learning (54.44 %). More than half of them agreed for the attitude statements like it is discovery oriented, it is boon to the teachers, technology calls for new techniques of learning, it characterizes progressive human activities, it uses various methods and materials for maximizing the learning outcomes, it makes changes in the teachers corps, low cost equipment's and small for mate technologies would be more relevant and meaningful to the existing situations, technological advancement leads to mass literacy, it is intended for comfortable education for all, educational technology incorporates an element of immediate feedback in the teaching learning process, educational technology enables the self-learning among learners, educational technology provides opportunities for the effective instructional designing, it brings teachers students and technical means together, it provides opportunities for the effective and combined utilization of human and non-human resources, it does not limit the development of instructional systems, technology has brought out communication revolution in the educational system, educational technology

provides scope for evaluating cost benefit analysis of learning materials, it diagnosis the learning difficulties, it communicates with different sub systems in a college system, it motivates the members of the learning systems and educational technology prepares prospective teachers for an increasingly technology society.

The present study reveals that teachers in general have favorable attitude towards educational technology and also realized the importance of technology in the present day educational system. As technology is part of educative process, attempts are to be made to popularize the importance of electronic gadgets and the teachers should possess favorable attitude towards educational technology, it is worthwhile to strengthen and consolidate the existing attitude of teachers towards educational technology. This can do through several ways the teachers may be exposed to technological environments and to encourage the teachers to participate in seminar and training programmes in the area of educational technology. Similar findings were reported by Kiran (2004).

Constraints as perceived by agriculture college teachers towards educational technology

The evident from the Table 5 that, the most of the teachers reported that heavy work (58.88 %), lack of supervisory staff (53.33 %), lack of training in utilization of teaching aids (50.00 %), scarcity of funds/inadequate finance / lack supporting grants (42.22 %), lack of time (36.66 %), The other constraints of minor importance were no encouragement from institution (27.77 %), poor organizational arrangements (27.77 %), lack of lab facilities (25.55 %), lack of guidance (24.44 %) and non-availability of teaching aids (22.22 %). Similar findings were reported by Naika (1999) and Ravikanth (2007). From this, it could be inferred that the constraints were varied among teachers and they were related to administration, institutional and policy level.

TABLE 5: Constraints as perceived by agriculture college teachers towards educational technology N=90

| Sl. No. | Constraints | Frequency | % |
|---------|---|-----------|-------|
| 1. | Non-availability of teaching aids | 20 | 22.22 |
| 2. | Scarcity of funds/inadequate finance / lack supporting grants | 38 | 42.22 |
| 3. | Lack of training in utilization of teaching aids | 45 | 50.00 |
| 4. | Lack of lab facilities | 23 | 25.55 |
| 5. | Heavy work | 53 | 58.88 |
| 6. | Poor organizational arrangements | 25 | 27.77 |
| 7. | Lack of time | 33 | 36.66 |
| 8. | Lack of supervisory staff | 48 | 53.33 |
| 9. | No encouragement from institution | 25 | 27.77 |
| 10. | Lack of guidance | 22 | 24.44 |

*multiple responses obtained

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

It is conspicuous from Table 6 that, the independent variables namely Experience, knowledge on AV aids, extent use of ET, information seeking pattern, infrastructural

facilities and organizational climate were found to have a positive and significant relationship with the attitude of teachers on educational technology. Whereas the other variables viz., age, education, designation and training received on ET might have led to non-significant

relationship with attitude of teachers on educational technology.

From this it could be inferred that once the experience, knowledge on A.V aids, infrastructural facility and others

were good enough and teachers were expose to technology obviously might lead to form a favorable attitude towards educational technology. This finding is in confirmative with Kiran (2004).

TABLE 6: Relationship between profile of agriculture college teachers and their attitude towards educational technology

| Sl. No. | Independent variable | Correlation coefficient |
|---------|-----------------------------|-------------------------|
| 1. | Age | -0.028 NS |
| 2. | Education | 0.088 NS |
| 3. | Designation | 0.040 NS |
| 4. | Experience | 0.208* |
| 5. | Knowledge on A.V. aids | 0.519** |
| 6. | Extent use of ET | 0.224* |
| 7. | Information seeking pattern | 0.225* |
| 8. | Infrastructural facilities | 0.277** |
| 9. | Training received on ET | -0.074 NS |
| 10. | Organizational climate | 0.325** |

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

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

A cursory look at Table 7 shows, the multiple regression analysis which depicts that, the independent variables namely age, education, education, designation, experience, knowledge on AV aids, extent use of ET, information seeking pattern, infrastructural faculties and training received on ET and organizational climate accounted for 40.20 per cent of total variation in the dependent variable attitude. It indicates that much of attitude explained by the

selected variables. The variable knowledge on AV aids had exhibited significant impact on attitude of teachers towards educational technology.

Other variables, age, education, education, extent use of ET, infrastructural faculties, and organizational climate were found to be statistically non-significant while, designation, experience, information seeking pattern, training received on ET contributed negatively non-significant. The similar results were also reported by Ravikanth (2007).

TABLE 7: Multiple regression analysis of independent variables contributing to the attitude of teachers towards educational technology

| Sl. No. | Independent variable | B | S. Eb | 't' value |
|---------|-----------------------------|--------|-------|-----------|
| 1. | Age | 0.258 | 0.195 | 1.320 NS |
| 2. | Education | 2.336 | 2.342 | 0.997 NS |
| 3. | Designation | -0.460 | 1.403 | -0.328 NS |
| 4. | Experience | -2.823 | 1.697 | -1.664 NS |
| 5. | Knowledge on A.V. aids | 1.223 | .255 | 4.790** |
| 6. | Extent use of ET | 0.313 | 0.178 | 1.754 NS |
| 7. | Information seeking pattern | -0.723 | 0.408 | -1.773NS |
| 8. | Infrastructural facilities | 0.192 | 0.196 | 0.979 NS |
| 9. | Training received on ET | -0.794 | 0.574 | -1.383 NS |
| 10. | Organizational climate | 0.751 | 0.465 | 1.614 NS |

R² = 0.402, F = 4.766, ** Significant at 1 % level NS = non-significant

CONCLUSION

It can be concluded from the results of the study that, majority teachers consulted sources frequently, were in the order of prepare and use fresh notes every time, reference books and internet. More than half of the teachers not undergone any training related to educational technologies. The results of the study also revealed that majority of teachers indicated favorable attitude towards educational technology. Heavy work, lack of supervisory staff and lack of training in utilization of teaching aids were the major

constraints experienced by the teachers. This indicates the fact that the teachers are willing to accept new innovations, new methods and techniques in education in order to obtain the objectives of education. Vasantrao Naik Marathwada Krishi Vidyapeeth, Parbhani. Maharashtra should provide needed facilities to make the teaching learning process more effective, taking the advantage of teachers' favourable attitude towards educational technology. The constraints experienced by the teachers can be solved by recruiting a new teachers or sparing services of teacher from research

and extension field. 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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