EFFECTIVENESS OF MULTIMEDIA IN EDUCATIONAL SYSTEM

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ABSTRACT

Assessment of impact is generally regarded as an essential part of any project and is equally applicable to agricultural information and communication of new technologies. The effectiveness of multimedia of paddy cultivation in education system has been measured. There was a substantial net gain in knowledge for seedling rising of paddy crop of the students of selected agricultural diploma schools on viewing the multimedia. The results reflected that the knowledge level before viewing the multimedia was correlated with some of the personal characteristics of the students; while no such correlation was observed after viewing the multimedia. This it self express the effectiveness of the multimedia.

INTRODUCTION

The rural sector is confronted by a period of rapid change. Technological advances, corporate restructuring and altered community expectations are just some of the challenges faced. To help ensure success in these uncertain times, effective communications of useful technologies are essential for the farmers. Communication is the very essence of all institutions, basic to the society. The group, the community, the nation, even the cultivator exist only by virtue of good means of communication. For development of any sector of the society, use of new technologies is a primary factor and the communication media provides necessary tool for carrying the technologies up to the ultimate users.

In the 21st century, among all the means of mass communication multimedia is one of the most versatile audiovisual medium of communication (Brun, 2001). It is an ideal mean to convey information not only to the huge illiterate segment of the population on whom such an audiovisual medium would have profound impact, but also to the students in educational system. It conveys flavors of reality as it can produce an event with its sound and motions simultaneously with the actual occurrence. It has an added advantage to be demand driven as well as can be used at the convenience of the user.

1. To measure the knowledge level for seedling rising of paddy crop of the students of selected agricultural diploma schools.
2. To assess the change in the knowledge level before and after viewing the multimedia.
3. To find out the relationship between selected personal characteristics of the respondents with their knowledge level.

RESEARCH METHODOLOGY

The GAU run the course of agricultural diploma through 14 agricultural schools in Gujarat State. Out of these four schools

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i.e. Anand, Chharodi, Dahod and Vadodara are in Anand zone of GAU. Two schools of Anand zone of GAU; namely Vadodara and Anand were selected purposively for the purpose of this study since computer facility was available only at the two schools.

The students studying in the second year of diploma course, who have already studied the course of paddy crop during their educational syllabus, were selected. The total numbers of respondents selected from the two schools were 66.

To collect information regarding knowledge level of students regarding paddy seedling rising; an interview schedule was prepared in Gujarati. Questions and statements on every aspect under study were framed with maximum accuracy, clarity and objectivity.

The respondents were interviewed in the class room settings. The interview schedule was supplied to the respondents and sufficient time was given to fill it up. They were then allowed to view the seedling raising part of the multimedia CD on paddy. After six hours of viewing the CD, data for part II of the schedule was again retrieve to measure the level of knowledge after viewing the multimedia.

The scoring was done on the basis of the procedure prescribed by Jha & Singh (1970). One score was given to correct response, while zero score was given to incorrect answer. The data were analyzed by using mean, standard deviation, percent and paired 't' test. The co-efficient of correlation 'r' was used to find out the relationship of selected personal characteristics with the knowledge level of the respondents.

RESULTS AND DISCUSSION

LEVEL OF KNOWLEDGE

The level of knowledge of the respondents regarding seedling raising of paddy crop was measured twice, i.e. before viewing the multimedia and after six hours of viewing the multimedia. All the scores were taken in to consideration and on the basis of mean and standard deviation; the respondents were classified in to three groups of low, medium and high level of knowledge. The data in this regard are presented in Table 1.

It is obvious from the data that there was no respondent in high score group before viewing the multimedia. Almost 30 per cent possessed low level of knowledge, whereas the remaining possessed medium level of knowledge. While after viewing the multimedia, there was not a single student

Table 1: Distribution of respondents on the basis of knowledge level before and after viewing the multimedia

Level of knowledge	Before viewing		After viewing	
	No. of respondents	Percent	No. of respondents	Percent
Low (less than 5)	20	30.30	0	0.00
Medium (5 to 23)	46	69.70	40	60.60
High (24 to 40)	0	0.00	26	39.40
Total	**66**	**100.00**	**66**	**100.00**

Table 2: Distribution of respondents according to increase in knowledge due to exposure of multimedia

Increase in knowledge	No. of respondents	Per cent
Low (up to 27 per cent)	11	16.67
Medium (28 to 65 per cent)	43	65.15
High (above 65 per cent)	12	18.18
Total	**66**	**100.00**

having low level of knowledge whereas almost 40 per cent possessed high level of knowledge. This clearly indicates high impact of the multimedia in getting knowledge. The results are in line with those of Patel, 1996; that in class room teaching, the combination of different teaching methods has significant impact on gain in knowledge. Similar results were observed by Thakur, 1996 and Madan, 1996 even in non-class room settings.

Those respondents who had medium gain in knowledge by viewing the multimedia (28 to 65 per cent increase in knowledge) were 65 per cent. While almost 18 per cent respondents could gain more than 65 per cent in their level of knowledge by viewing the multimedia. The results are quite encouraging and one could conclude that the multimedia can play an important role in gaining knowledge.

Further, it was also tried to calculate the

Table 3: Extent of increase in knowledge due to exposure of multimedia

Time of Test	Level of knowledge
Pre-test i.e. knowledge level before viewing the multimedia	6.9091
Post test i.e. knowledge level after viewing the multimedia	22.2576
't' value	18.5563**

** Significant at 0.01 level of probability

GAIN IN KNOWLEDGE

To assess the gain in knowledge, the data of individual respondents for level of knowledge before and after viewing the multimedia were analyzed. Net increase in knowledge was calculated for each respondent. They were then classified as low, medium and high gain in knowledge. The data in this regards are presented in Table 2, which clearly indicated that only 17 per cent respondents had low gain in knowledge (increase in knowledge up to 27 per cent).

significance of difference in level of knowledge before and after viewing the multimedia by applying paired 't' test. The data in Table 3 clearly indicated that there is highly significant increase in the level of knowledge of the respondents as a result of viewing the multimedia.

RELATIONSHIP BETWEEN INDEPENDENT AND DEPENDENT VARIABLES

The correlation of the selected independent variables with knowledge level of the

Table 4: Relationship of independent variables with knowledge level of respondents before and after viewing the multimedia

Sr. No.	Independent variables	Correlation co-efficient (r)	
		Before viewing multimedia	After viewing multimedia
1	Age	- 0.13292	- 0.11258
2.	Caste	0.27764 *	0.14822
3.	Rural/Urban background	- 0.04873	- 0.09114
4.	Percentage in SSC examination	- 0.12298	0.02539
5.	Agriculture subjects in secondary school	0.05283	0.05878
6.	Type of family	0.24505 *	- 0.05201
7.	Participation in extra curriculum activities	0.19956	0.00952
8.	Land holding of the family	- 0.00211	0.20289
9.	Occupation of the father	- 0.14302	0.03901
10.	Farming experience	- 0.07212	0.07792
11.	Growing paddy crop at home	0.01898	- 0.08909
12.	Educational status of the family	- 0.10188	0.01550
13.	Reading habit	0.31177 *	0.02644

* Significant at 0.05 level of probability

respondents regarding seedling raising of paddy crop was measured for both the conditions i.e. before and after viewing the multimedia. In order to study the simple relationship between these independent and dependent variables, the zero order co-relation co-efficient was computed for each independent variable. The values of co-relation co-efficient (r) were then tested for their statistical significance.

It is apparent from the Table 4 that the coefficient of co-relation value of three independent variables (caste, type of family and reading habit) were found significantly correlated with the knowledge level of raising of seedling before viewing the multimedia. This shows that before viewing the multimedia, the caste, the type of family and reading habit influenced the level of knowledge.

Contrarily, none of the personal characteristics were found to be correlated with the level of knowledge of the respondents after viewing the multimedia. This implies that the multimedia viewing eliminates impact of personal characteristics of the respondents on their level of knowledge.

This pose for great opportunity for using multimedia in educational system so that the barriers like caste, type of family and even like reading habit can be eradicated and the knowledge of the students can be escalated by using multimedia in educational system.

CONCLUSION

It can be concluded that there was no respondent in high score group before

viewing the multimedia. While after viewing the multimedia, there was not a single student having low level of knowledge. Majority of students possessed medium level of knowledge regarding the paddy crop with special reference to seedling raising. Majority of the respondents had medium gain in knowledge by viewing the multimedia.

Variables like caste, family type and reading habit were positive correlation with knowledge level before viewing the multimedia. Contrarily, after viewing the multimedia, not a single independent variable was found to be correlated with knowledge level of the respondents.

It could be concluded that not only that the viewing of the multimedia has increased the level of knowledge of the students but also that it eliminates the impact of personal characteristics on knowledge gain, thus provides a common learning platform for all the students.

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