Trends in Biosciences 10(17), Print : ISSN 0974-8431, 3070-3074, 2017

Effectiveness of Content of Self Learning Material in Agriculture

S.S. MANE[1], N.J.THOKE[2] AND A.J. SHIVGAJE[3]

[1]*School of Agricultural Sciences YCMOU Nashik, Maharashtra*
[2]*Krishi Vigyan Kendra YCMOU Nashik, Maharashtra*
[3]*Mahatma Phule Krishi Vidyapeeth Rahuri Dist. Ahmednagar Maharashtra*
email : ssm2328@gmail.com

ABSTRACT

The study was undertaken to measure the effectiveness of content of self learning material developed by YCMOU, Nashik' for the course 'Foundation in Agricultural Sciences'. Three agricultural study centers viz Krishi Vigyan Kendra, YCMOU, Nashik, College of Agriculture, Babhulgaon, Tal. Yeola Dist. Nashik and College of Horticulture, Malegaon Dist. Nashik were selected. 20 respondents i.e. students who has either passed or failed in the course 'Foundation in Agricultural Sciences' were selected from each center. Thus comprising 60 sample size for the study. The profile characteristics of the respondents were studied and it was found that majority of the respondents were male, middle aged, educated up to HSC before admission to course 'Foundation in Agricultural Sciences', passed in first class, farming as main occupation, spent more than one hour time for study in single sitting, occasionally preserving books and medium utility perception. The majority (68.33 percent) respondents had opined that the effectiveness of the content of self learning material developed by YCMOU, Nashik' for the course 'Foundation in Agricultural Sciences' is medium followed by high and low category. The correlation analysis showed that the independent variables viz educational qualification, academic performance, occupation, study time and utility perception were found positively significant with effectiveness of content. Regression coefficient for occupation was significant at 0.01 whereas for utility perception at 0.05 level of probability. The value of coefficient of multiple regression (R^2) was 0.701.

Key words *Effectiveness of content, self learning material*

The various courses are runned by the School of Agricultural Sciences since last 26 years, majority of the pass out students are adopting farming as their occupation, employment in private and govt. sector and self employment like establishment of Krishi Seva Kendra, Nursery etc. which proves the quality of study material. However the suitability of these books (in terms of content analysis) prepared for various courses is not yet studied and hence it was planned to carryout qualitative measurement of self learning material in terms of content analysis to check its effectiveness from student's perspective. Among the 11 academic programs offered by the School of Agricultural Sciences, the program namely 'Foundation in Agricultural Sciences' was selected for this study being it is basic course to be completed by students of both B.Sc. (Agri.) and B.Sc. (Hort.) The present research was undertaken with following different objectives.

1. To study profile characteristics of the respondent students who have completed the course, 'Foundation in Agricultural Sciences'.
2. To measure the effectiveness of content of self learning material developed by YCMOU, Nashik' for the course 'Foundation in Agricultural Sciences'.
3. To ascertain the relationship between effectiveness of content of self learning material developed for the course 'Foundation in Agricultural Sciences' and profile characteristics the students.

MATERIALS AND METHODS

Location of the research area: The present investigation was conducted in Nashik district. All three Agricultural Education Centres located in Nashik district, i.e. Krishi Vigyan Kendra, YCMOU, Nashik, College of Agriculture, Babhulgaon, Tal. Yeola and M. S. College of Horticulture, Malegaon were selected for collection of data.

Research Design: Ex-post facto research design was used for conducting this investigation. According to kerlinger (1964), ex-post facto research design is systematic empirical enquiry in which the scientist does not have the direct control of influencing the variables because their manifestations have already occurred. Hence design would be considered appropriate for the study.

Sample size and its distribution: The students who admitted for the course 'Foundation in Agricultural Sciences' in the academic year 2015-16 at selected three centres from Nashik district constitutes the population. These students were considered for study because the students who admitted for the course earlier than academic year 2015-16 may not be able to give proper responses as expected by the researcher. Among this population 20 students from each centre were selected randomly as a sample. Thus 60 students were included in the sample for this study.

Designing of interview schedule and Collection of data: An Interview schedule was developed for the purpose of data collection from the intended respondents. The data were collected from the respondents both by face to face contact at study centres as well as by post. Before collection of data, an interview schedule was pre tested with the help of respondents from study centres which were not selected for the study.

RESULTS AND DISCUSSION

Profile Characteristics of the respondents

The data regarding profile characteristics of the student respondents, who have completed the course

Table 1. Distribution of respondents according to their Profile Characteristics

Profile Characteristics	Description of Profile Characteristics	No. of respondents	Percentage
Age	Young (Up to 19.384)	06	10.00
	Middle (19.385 to 29.182)	46	76.67
	Old (29.183 and above)	08	13.33
Sex	Male	49	81.67
	Female	11	18.33
Educational Qualification	Up to HSC	25	41.67
	Graduation	14	23.33
	Post graduation	21	35.00
Academic Performance	O grade (First class with distinction)	07	11.67
	A^+ (First class with Honor)	21	35.00
	A (First class)	19	31.67
	B^+ (Higher second class)	11	18.33
	B (Second class)	01	01.67
	C (Pass class)	01	01.66
Occupation	Farming	37	61.67
	Business	06	10.00
	Service	17	28.33
Study time	Half an hour	10	16.67
	One hour	19	31.66
	More than one hour	31	51.67
Preservation of books	Always preserve books	27	45.00
	Occasionally	32	53.33
	Never	01	01.67
Utility perception	Low (Up to 15.667)	07	11.67
	Medium (15.668 to 22.633)	40	60.66
	High (22.634 and above)	13	21.67

'Foundation in Agricultural Sciences,' were collected by the researcher with the help of specially designed interview schedule and the observations regarding these characteristics are presented as under.

Age

Age denotes the chronologically completed years by the respondent students. Respondents were categorized into three categories on the basis of mean ± SD.

It was found that most of the respondents (76.67 percent) were middle aged followed by old (13.33 per cent) while the percentage of young respondents was merely 10.00 percent. It is therefore inferred that, the majority of the respondents were from middle age category.

Sex

It denotes the gender of the respondents. Gender influence the content effectiveness of the self learning material may be due to different level of understanding, educational background, attitude etc.

It was observed that male respondents were 81.67 per cent while female respondents were 18.33 percent.

Educational Qualification:

Educational qualification is the formal education completed by the respondents. The students who have completed HSC either pass or fail or successfully completed Certificate program in Mali training can be admitted for the course 'Foundation in Agricultural Sciences'. The students

Table 2. Distribution of respondents according Effectiveness of Content

Sr. No.	Content effectiveness	No. of respondents	Percentage
1	Low (Up to 64.15)	09	15.00
2	Medium (64.16 to 83.99)	41	68.33
3	High (84.00 and above)	10	16.67

Table 3. Correlation between Independent variables and Effectiveness of content (Y)

Sr. No.	Independent variables	Correlation coefficient (r) with Effectiveness of content
1	Age (X_1)	(-)0.063^{NS}
2	Sex (X_2)	0.205^{NS}
3	Educational Qualification(X3)	0.575**
4	Academic performance(X_4)	0.662**
5	Occupation(X_5)	0.784**
6	Study time(X_6)	0.440**
7	Preservation of books(X_7)	0.055^{NS}
8	Utility perception(X_8)	0.429**

** Significant at 1 percent, NS. Non significant

actually admitted to the course 'Foundation in Agricultural Sciences' may have different qualifications like BA, MA etc.

Majority (41.67 percent) of the respondents had completed HSC before admission to the course 'Foundation in Agricultural Sciences' whereas more than one third (35.00 percent) had completed graduation followed by 23.33 percent of the respondents had completed post graduation.

Academic performance

It denotes the academic result obtained by the student respondents for the course 'Foundation in Agricultural Sciences'. The academic performance was categorized as per the grades they have obtained.

Regarding academic performance, it was revealed that majority of the students (35.00 percent) had passed the course 'Foundation in Agricultural Sciences' with 'A^{+}' grade i.e. first class with honor while 31.67 percent of the respondents had passed with 'A' grade. It was further observed that 18.33 percent of the respondents passed with 'B^{+}' grade followed by 11.67 percent in 'O' grade i.e. first class with distinction. Negligible percent (01.66) of the respondents were passed in the course 'Foundation in Agricultural Sciences' with 'B' as well as 'C' grade. Looking to this data of academic performance of the student respondents, it can be said that the performance of these students is quite better.

Occupation

It denotes the occupation of the respondents which is categorized as Farming, Business, and Service. It was found that majority of the respondents (61.67 percent)were engaged in farming as their occupation followed by 28.33 percent in business category and very few of them (10.00 percent) had engaged in service as their occupation.

Study time

It denotes time spent by the respondents for study in single sitting. It was seen that, nearly half of the respondents (51.67 percent) spent more than one hour for study in a single sitting followed by one hour time spent in study by (31.66 percent) nearly one third respondents whereas 16.67 percent of them spent half an hour in single sitting.

Preservation of books

It is habit of respondent student to preserve books of the course which has been completed for future reference. It was found that more than half (53.33 percent) respondents preserve the books occasionally followed by 45.00 percent of them always preserves the books while only one respondent (01.67 percent) found that never preserving books.

Utility perception

It is the personal interpretation of the respondents about the usefulness of self learning material for the course 'Foundation in Agricultural Sciences'. The responses were categorized as more useful, useful and less useful.

As far as Utility perception is concerned it was observed that majority of the respondents (60.66 percent) were found in medium category followed by high (21.67

Table 4. Regression coefficients of Independent variables

Sr. No.	Independent variables	Regression coefficient	Standard error	't' values
	Intercept	45.864		
1	Age (X_1)	(-)0.1951	0.1687	(-)1.16
2	Sex (X_2)	(-)0.403	2.092	(-)0.19
3	Educational Qualification(X3)	(-)0.511	1.456	(-)0.35
4	Academic performance(X_4)	1,736	1.025	1.69
5	Occupation(X_5)	6.606**	1.765	3.74
6	Study time(X_6)	1.266	1.224	1.03
7	Preservation of books(X_7)	0.867	1.537	0.56
8	Utility perception(X_8)	0.5749*	0.2412	2.38
	R^2	70.1		

* Significant at 5 percent, ** Significant at 1 percent, NS. Non significant

percent) and low (11.67 percent) level of utility perception of the books of the course 'Foundation in Agricultural Sciences' provided by YCMOU.

Measurement of the effectiveness of content of self learning material developed by SAS, YCMOU, Nashik for the course 'Foundation in Agricultural Sciences'.

The measurement of effectiveness of the content of self learning material for the course 'Foundation in Agricultural Sciences' was the main objective of this study. It refers to the responses of the readers towards presentation and format of content including layout, designs, color combinations etc that are believed to be the matters of personal likes and dislikes of the readers. The responses about the content effectiveness of the self learning material developed for the course 'Foundation in Agricultural Sciences' were obtained from the selected respondent students who have completed that course. It was measured using the 100 point scale developed by Kolte (2006) with some modifications.

It was revealed that majority of the respondents (68.33 percent) perceived that the self learning material medium followed by nearly equal percent (16.67 percent) high and (15.00 percent) low effectiveness of content. It is, therefore, can be stated that the effectiveness of content of the self learning material developed for the course 'Foundation in Agricultural Sciences' is very good.

Relationship between Effectiveness of content of Self learning material for the course

'Foundation in Agricultural Sciences' and profile characteristics the respondent students.

For studying the relationship between independent and dependent variable, statistical tools like correlation and regression analysis was performed and the results of it is described as under.

Correlation between Independent and Dependent variable

Association between the independent variables namely age, sex, educational qualification, academic performance, occupation, study time, preservation of books and utility perception of the respondents with the dependent variable i.e. effectiveness of content of self learning material developed for the course, 'Foundation in Agricultural Sciences' was tested by computing correlation coefficient (r). The findings are given below.

Age and Effectiveness of content: It was observed that the relationship between age and effectiveness of content was statistically non-significant hence the hypothesis stating there exists relationship between age and effectiveness of content is rejected. The younger students may think that the content of the course, 'Foundation in Agricultural Sciences' is more effective, useful and relevant to their career in service. Moreover, young generation is more eager to adopt new technologies.

Sex and Effectiveness of content: It was noticed that the relationship between sex and effectiveness of content was statistically non-significant hence the hypothesis stating there exists relationship between sex and effectiveness of

Educational qualification and Effectiveness of content: The relationship between educational qualification and effectiveness of content was found statistically significant at 1 percent level of significance. Hence the hypothesis stating there exists relationship between educational qualification and effectiveness of content is accepted.

It is obvious that the educated person can better judge the effectiveness of content of any learning material. Education stimulates the scientific thinking, positive attitude towards technological innovations and its application.

Academic performance and effectiveness of content: The association between academic performance and effectiveness of content was found statistically significant at 1 percent level of significance. Hence the hypothesis stating there exists relationship between academic performance and effectiveness of content is accepted. Academic performance is directly related with the study of reference material and knowledge gain. This might develop positive attitude towards technology, its application and positive development.

Occupation and effectiveness of content: The relationship between occupation of the respondents and effectiveness of content was found statistically significant at 1 percent level of significance. Hence the hypothesis stating there exists relationship between occupation and effectiveness of content is accepted. Majority of the respondents had farming as their main occupation and the course content of 'Foundation in Agricultural Sciences' is more relevant to the farming hence such relationship might be observed.

Study time and effectiveness of content: The association between study time and effectiveness of content was found statistically significant at 1 percent level of significance. Hence the hypothesis stating there exists relationship between study time and effectiveness of content is accepted.

The time spent by the student respondents for study in a single sitting was studied and it was noticed that majority of the respondents spent time more than one hour for study in a single sitting. Hence the relationship found significant as like relationship between academic performance and effectiveness of content.

Preservation of Books and effectiveness of content: It was noticed that the relationship between preservation of books and effectiveness of content was statistically non-significant hence the hypothesis stating there exists relationship between preservation of books and effectiveness of content is rejected.

As the proportion of respondents is less who always preserves books and majority of them occasionally preserves books after completion of the course, this habit not influenced on effectiveness of content.

Utility perception and effectiveness of content: The relationship between utility perception of the respondents and effectiveness of content was found statistically significant at 1 percent level of significance. Hence the hypothesis stating there exists relationship between utility perception and effectiveness of content is accepted.

Utility always increases the effectiveness of course

content as utility is directly related with need. Utility perception is being important part of effectiveness of content of self learning material developed for the course 'Foundation in Agricultural Sciences', the positive and significant relationship observed between them.

Multiple Regression Analysis

Multiple regression analysis was carried out to know the extent of contribution of selected independent variables in the effectiveness of content of the self learning material developed for the course 'Foundation in Agricultural Sciences'. The effectiveness of content has been expressed as a function of age, sex, educational qualification, academic performance, occupation, study time, preservation of books and utility perception.

Estimated coefficient of regression for effectiveness of content, their standard error 't' values and coefficient of multiple determination (R^2) are given in Table 4.

It was found that regression coefficient for occupation was significant at 0.01 level of probability while for utility perception, it was significant at 0.05 level of probability. The value of coefficient of multiple determination (R^2) was 0.701 which indicated that the eight independent variables selected for study had jointly explained 70.10 percent variation in the effectiveness of content of the self learning material developed for the course 'Foundation in Agricultural Sciences'.

CONCLUSION

On the basis of results obtained during this study it can be concluded that the self learning material developed by YCMOU, Nashik for the course 'Foundation in Agricultural Sciences' is very effective, useful and suitable for the students. Majority of the respondent students (more than 80 percent) opined that the self learning material is effective and having utility in real life situation because the course content is based on basic aspects of agriculture which is directly concerned with farming occupation as well as job work of agriculture department or Grampanchayat where the most of the respondents working.

LITERATURE CITED

Kishore Kumar, N. 2013. Critical analysis of farm advertisements through print and electronic media in Andhra Pradesh. Ph. D. Thesis (Unpub.) A.N.G. Rangaswami Agri. Uni. Hyderabad.

Kolte, Harsha 2006. Content analysis of Shri Sugi farm periodical. Ph.D. Thesis (Unpub.)

Mahatma Phule Krishi Vidyapeeth, Rahuri

Raveena H, Hanumanaikar 2009. A study on reading habits, preference pattern and satisfaction level of Kannada farm readers. Ph.D. Thesis (Unpub.) University of Agril. Sciences, Dharwad (Karnataka)

Web site of YCMOU, Nashik: www.ycmou.digitaluniversity.ac

Received on 28-04-2017 *Accepted on 05-05-2017*