



KNOWLEDGE LEVEL OF AGRICULTURE GRADUATES WITH REGARDS TO VARIOUS COURSES

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ABSTRACT:

The study revealed that of total, 115 (57.5 per cent) graduates were found from high knowledge level, 71 (35.5 per cent) could be observed under moderate knowledge level. Remaining 14 (7.0 per cent) of the graduates have low level of knowledge regarding various courses.

Agriculture graduates 58 (66.7 per cent) of PCA, 23 (47.9 per cent) RCA and 34 (52.6 per cent) ACA graduates were found from high level of knowledge. At the same time, 21 (24.1 per cent), 21 (43.7 per cent) and 29 (44.6 per cent) PCA, RCA and ACA graduates possessed moderate level of knowledge. However, 2 (3.1 per cent), 4 (8.4 per cent) and 8 (9.2 per cent) of ACA, RCA and PCA graduates possessed low level of knowledge.

KEYWORDS: Knowledge Level, Agriculture Graduates

INTRODUCTION

In its narrow sense, school instruction is called education. In this process, the elders of society strive to attain predetermined aims during a specified time by providing pre-structured knowledge to children through set methods of teaching. The purpose is to achieve mental development of children entering school. To make of narrow meaning of education more clear, the following opinions of some other educationists are given.

- The culture which each generation purposefully gives to those who are to be its successors, in order to qualify them for at least keeping up, and if possible for raising the level of improvement which has been attained- John Stuart Mill
- In narrow sense, education may be taken to mean any consciously directed effort to develop and cultivate our powers- S. S. Mackenzie
- Education is a process in which and by which knowledge, character and behaviour of the young are shaped and molded- Prof. Drever
- The influence of the environment of the individual with a view to producing a permanent change in his habits of behaviour, or thought and attitude- G. H. Thompson

Education, in the narrower sense, is regarded as equivalent to instruction. It consists of the “specific influences” consciously designed in a school or in a College or in an institution to bring in the development and growth of the child. The word school includes the whole machinery of education from Kindergarten to the University. The education of the child begins with his admission in the school and ends with his departure from the University. The amount of education received by the child is measured in terms of degrees and diplomas awarded to him. The school represents formal education as it imparts education directly and systematically. There is deliberate effort on the part of the educator to inculcate certain habits, skills, attitudes or influences in the learner, which are considered to be essential and useful to him. According to John Dewey “The school exists to provide a special environment for the formative period of human life. School is a consciously designed institution, the sole concern of which is to educate the child. This special environment is essential to explain our complex society and civilization”.

In its wider sense, education is the total development of the personality. Education consists of all those experiences, which affect the individual from birth till death. Thus, education is that process by which an individual freely develops his self according to his nature in a free and uncontrolled environment. In this way, education is a lifelong process of growth environment.

- In the wider sense, it is a process that goes on throughout life, and is promoted by almost every experience in life- S. S. Mackenzie

- By education, I mean the all-round drawing out of the best in child and man's body, mind and Soul- M. K. Gandhi
- Education in its widest sense includes all the influences, which at upon an individual during his passage from cradle to the grave- Dumvile
- Education, in its broadest sense, is the means of the social continuity- John Dewey
- Education in the wider sense is a life-long process. It begins with the birth of a child and ends with his death. It is a continuous process. Continuity is the law of life. Education is not limited to the classroom only; it is also not limited to a particular period of life. Education is a lifelong process and goes on from birth to death. Throughout life one goes on learning to adjust oneself to the changing patterns of life. Change it's the fundamental law of human existence. Life is a continuous process of growth and development and so education is also a continuous process. **(Satish Kumar and Sajjad Ahmad)**

Need and importance of education

"Plants are shaped by cultivation and humans by education" Education, as you are aware, is vital to the human resources development and empowerment in the stages of growth of a nation. In any education system, education encompassing Agriculture, Management, Engineering, Medicines etc., plays a major role in imparting knowledge, values, and developing skills and, in the process, increase the growth and productivity of the nation. On the need for education, I wish to quote our Father of the Nation, Mahatma Gandhi, who once said that education not only moulds the new generation, but reflects a society's fundamental assumptions about itself and the individuals which compose it. The famous philosopher Einstein while discussing the need for education has projected the following fundamentals:

- To educate the individual as a free individual, to understand and use critical thinking skills.
- To educate the individual as a part of society, virtually all our knowledge, our clothes, our food is produced by others in our society, thus, we owe society and have responsibility to contribute back to society.
- Through education, knowledge must continually be renewed by ceaseless effort, if it is not to be lost. It resembles a statute of marble which stands in the desert and is continually threatened with burial by the shifting sand. The hands of service must ever be at work, in order that the marble continue to lastingly shine in the sun.

Rarely, studies in this direction so far have been conducted. With this background, the present study entitled "A study on Scenario and Roadmap ahead of Indian Agricultural Education" was conducted with the specific objective to find out the knowledge level of the Agriculture graduates with regards to various courses.

RESEARCH METHODOLOGY

The study was conducted in the state of Rajasthan, Maharashtra and Gujarat which were purposively selected SAUs. Maharana Pratap University of Agriculture and Technology, Udaipur (Rajasthan), Anand Agricultural University, Anand (Gujarat) and Vasantnao Naik Marathwada Krishi Vidyapeeth, Parbhani (Maharashtra) were purposively chosen. From so selected three Universities, only three colleges of Agriculture with highest intake (one from each of the SAUs) were purposively selected, these were Rajasthan College of Agriculture (RCA), MPUAT, Udaipur, College of Agriculture, VNMKV, Parbhani (Maharashtra) and B.A. College of Agriculture, AAU, Anand (Gujarat).

All those Agriculture students who were registered for the final year were purposively selected. From Colleges a list of students studying in final year B.Sc. (Ag) was prepared. The exact total registered students (B.Sc. (Ag) final year is being given below. Students undergoing their final year were treated as Agriculture graduates.

Total No. of students registered in final year among purposively selected Colleges

S.No	SAUs	College	Total
1	MPUAT, Udaipur	Rajasthan College of Agriculture, Udaipur (RCA)	108
2	VNMKV, Parbhani	College of Agriculture, Parbhani(PCA)	197
3	AAU, Anand	B.A. College of Agriculture, Anand(ACA)	147
Total			452

According to the data from above table altogether 452 Agriculture students constituted the population from which samples of 200 were selected. Proportionate sample of the strata was drawn through random sampling technique. Total sizes of sample of 200 Agriculture graduates were interviewed. The personal interview technique was adopted for the collection of data. The interview was conducted in english, hindi and marathi language. The interview technique was preferred over other techniques. Interview provided a situation where face-to-face discussion could take place and the interviewer found an opportunity to motivate the respondents to react and establish rapport with them who in turn could feel free to give answers. Attention was given to the convenience of the Agriculture graduates regarding clear understanding of the questions.

The data gathered were transferred in the tally sheets and were processed, classified, tabulated and analyzed for statistical treatment in the light of objectives of the study. Percentage, Mean score, Mean per cent score, Spearman's Rank Correlation stastical tools were used.

RESULTS AND DISCUSSION

The results and their interpretation are being presented under the following heads:

1. KNOWLEDGE LEVEL OF THE AGRICULTURE GRADUATES WITH REGARDS TO VARIOUS COURSES

Knowledge is a body of understood information possessed by an individual; it is one of the important components of action behavior and, plays an important role. Bloom *et al.* (1955), considered in depth knowledge as “those behaviors and test situations which emphasize the remembering either by recognition or recall of ideas, material or phenomenon”, “To measure the knowledge graduates about various courses.” The level of knowledge possessed by the graduates with regards to various courses are presented in the Table 1.

Table 1: Knowledge level about various courses

n=200

S. No	Knowledge level	Colleges			Total (f)
		PCA (f)	RCA (f)	ACA (f)	
1	Low (Upto 33.33)	8(57.1) *9.2	4(28.6) *8.4	2(14.3) *3.1	14(7.0)
2	Moderate (33.33 - 66.66)	21(29.6) *24.1	21(29.6) *43.7	29(40.8) *44.6	71(35.5)
3	High (66.66 and above)	58(50.4) *66.7	23(20.0) *47.9	34(29.6) *52.6	115(57.5)
	Total	87(100)	48(100)	65(100)	200(100)

*denotes percentage to columns, figures in the parentheses show percentage of rows

1.1 Distribution of Agriculture graduates according to their knowledge level of about various courses under study.

To have overview of the graduates regarding their level of knowledge about various courses, they were classified into three groups' viz., high (22.22 to 33.33), moderate (33.33 to 66.66) and low (66.66 & above) levels of knowledge. These groups were formed on the basis of arbitrary method.

Data in Table 1 revealed that of total, 115 (57.5 per cent) graduates were found from high knowledge level, 71 (35.5 per cent) could be observed under moderate knowledge level. Remaining 14 (7.0 per cent) of the graduates have low level of knowledge regarding various courses.

Table 1 further speaks that 58 (66.7 per cent) of PCA, 23 (47.9 per cent) RCA and 34 (52.6 per cent) ACA graduates were found from high level of knowledge. At the same time, 21 (24.1 per cent), 21 (43.7 per cent) and 29 (44.6 per cent) PCA, RCA and ACA graduates possessed moderate level of knowledge. However, 2 (3.1 per cent), 4(8.4 per cent) and 8 (9.2 per cent) of ACA, RCA and PCA graduates possessed low level of knowledge.

Thus, it could be concluded from the table that majority of the Agriculture graduates had high knowledge about various courses. It may be due to availability of competent teaching faculty, rich library, availability of all educational facilities at PCA, RCA & ACA Colleges and graduates interest in Agriculture. It is recommended that for those Agriculture graduates in moderate to low knowledge level still there is scope for teaching faculty to bring the graduates to high knowledge or Agriculture graduates are warned to upgrade their knowledge level so that they can cope up with the competition in an efficient and effective way. The present findings of the study are supported by the findings of Mankar *et al.* (2009) and Lalita Arora *et al.* (2012).

1.2 Knowledge level of the agriculture graduates about various courses

Knowledge of the Agriculture graduates was also assessed of various courses. The results have been presented under the following Table 2.

The data presented in the Table 2 indicate that Agriculture graduates of PCA, RCA and ACA possessed maximum knowledge about “Which part of roots absorbs water and minerals?” with MPS 85.7, “Through which pollination inbred lines are maintained?” MPS 83.9, “In which type of plants, Emasculation of flower is necessary for hybridization”, MPS 82.3, “What is the average pH of normal milk?” MPS 81.8 and “What is the phosphorus percentage in single superphosphate?” with MPS 81.2. These aspects were ranked 1st, 2nd, 3rd, 4th and 5th respectively.

Table 2: Knowledge of the Agriculture graduates regarding various courses

n=200

S.No	Knowledge items	Colleges						Total	
		PCA		RCA		ACA		MPS	Rank
		MPS	Rank	MPS	Rank	MPS	Rank		
1	What is the full form of ATMA?	75.9	9	83.3	2	76.9	8	78.7	6.5
2	What is the formula for calculating intelligence quotient?	69.0	15	56.3	17	66.2	19	63.8	19
3	What is the phosphorus percentage in single superphosphate?	86.2	3	66.7	10	90.8	1	81.2	5
4	What is the temperature requirement for proper grain filling in wheat?	65.5	18	68.8	9	66.2	19	66.8	13
5	What is deficit financing?	62.1	20	54.2	19	73.8	12	63.4	20
6	Which international bank is financing to NATP project in India?	69.0	15	66.7	10	76.9	8	70.9	11
7	What is the average pH of normal milk?	87.4	1.5	75.0	5	83.1	4	81.8	4
8	Which part of ruminants' stomach resembles true stomach?	66.7	17	54.2	19	70.8	15	63.9	18
9	What is the recommended seed rate for growing one hectare of chilli?	75.9	9	60.4	15	72.3	13	69.5	12
10	Which fruit is botanically called as "Hesperidium"?	59.8	21	52.1	23	69.2	16	60.4	23
11	Through which pollination inbred lines are maintained?	81.6	4.5	79.2	3	90.8	1	83.9	2
12	In which type of plants, Emasculation of flower is necessary for hybridization?	80.5	6	77.1	4	89.2	3	82.3	3
13	Give the full form of DIP.	73.6	13	54.2	19	64.6	21	64.1	17
14	Who is the fathers' of insect physiology?	48.3	24	41.7	24	50.8	24	46.9	24
15	Give the location of NIPHM.	71.3	14	54.2	19	56.9	23	60.8	22
16	Who is the first Indian scientist who collected and identified fungi in India?	64.4	19	56.3	17	67.7	18	62.8	21
17	Which fungicide is used against downy mildew?	74.7	11	58.3	16	64.6	21	65.9	14
18	In which season the soil pH increases?	57.5	23	70.8	8	69.2	16	65.8	15
19	Which part of cotton plant is used for tissue test?	58.6	22	62.5	13	72.3	13	64.5	16
20	What is soil genesis?	81.6	4.5	72.9	7	81.5	5	78.7	6.5
21	Which part of roots absorbs water and minerals?	87.4	1.5	89.6	1	80.0	6	85.7	1
22	Which process is also known as glycolate pathway?	74.7	11	66.7	10	75.4	11	72.3	10
23	Which state has largest area under drip irrigation?	79.3	7	75.0	5	76.9	8	77.1	8

24	What is rainwater harvesting?	78.2	8	62.5	13	78.5	7	73.1	9
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MPS = Mean Per cent Score

'r' values PAC- RCA = 0.683**, RCA- ACA = 0.728** & PCA- ACA= 0.727**.

** Significant at 1 per cent level of significance.

Further analysis of the table 2 show that Agriculture graduates had higher knowledge about "What is the full form of ATMA? ", "What is soil genesis? ", "Which state has largest area under drip irrigation? ", "What is rainwater harvesting?", "Which process is also known as glycolate pathway? ", "Which international bank is financing to NATP project in India? ", "What is the recommended seed rate for growing one hectare of chilli? ", "What is the temperature requirement for proper grain filling in wheat? ", "Which fungicide is used against downy mildew? ", "In which season the soil pH increases? ", "Which part of cotton plant is used for tissue test? ", "Give the full form of DIP ", "Which part of ruminants' stomach resembles true stomach? ", "What is the formula for calculating intelligence quotient?", "What is deficit financing? ", "Who is the first Indian scientist who collected and identified fungi in India? ", "Give the location of NIPHM", "Which fruit is botanically called as "*Hesperidium*"? ", and "Who is the fathers' of insect physiology? ", The mean per cent scores of these aspects were 78.7, 78.7, 77.1, 73.1, 72.3, 70.9, 69.5, 66.8, 65.9, 65.8, 64.5, 64.1, 63.9, 63.8, 63.4, 62.8 60.8, 60.4 and 46.9 respectively, among the Agriculture graduates.

A further glance of the data in the Table 2 indicates that Agriculture graduates possessed maximum knowledge about "Which part of roots absorbs water and minerals?" With MPS 87.4, 89.6 and 80.0 had ranked first by the graduates of PCA, ACA and RCA.

Further a deep glance at the data presented in Table 2 indicate that knowledge Agriculture level of graduates regarding full form of ATMA obtained 9th in case of PCA (MPS 75.9), 2nd rank by RCA (MPS 83.3) and 8th rank by ACA (MPS 78.7) among graduates, What is the formula for calculating intelligence quotient obtained 15,17 and 19th rank by PCA, ACA and RCA graduates with 69.0, 56.3 and 66.2 respectively, What is the phosphorus percentage in single superphosphate with MPS 86.2, 66.7 and 90.8 ranked 3, 10 and 1st, What is the temperature requirement for proper grain filling in wheat with MPS 65.5, 68.8 & 66.2 and ranked 18, 9 & 19, What is deficit financing with MPS 62.1, 54.2 & 73.8 ranked 20, 19 & 12, Which international bank is financing to NATP project in India with MPS 69.0, 66.7 & 76.9 ranked 15, 10 & 8, What is the average pH of normal milk with MPS 87.4, 75.0 & 83.1 ranked 1.5, 5 & 4 , Which part of ruminants' stomach resembles true stomach? With MPS 66.7, 54.2 & 70.8 ranked 17, 19 & 15, what is the recommended seed rate for growing one hectare of chilli? With MPS 75.9, 60.4 & 72.3 ranked 9, 15 & 13, Which fruit is botanically called as "*Hesperidium*"? with MPS 59.8, 52.1 & 69.2 ranked 21, 23 & 16, Through which pollination inbred lines are maintained? With MPS 81.6, 79.2 & 90.8 ranked 4.5, 3 & 1, In which type of plants, Emasculation of flower is necessary for hybridization? With MPS 80.5, 77.1 & 89.2 ranked 6, 4 & 3, Give the full form of DIP With MPS 73.6, 54.2 & 64.6 ranked 13, 19 & 21, Who is the fathers' of insect physiology? With MPS 48.3, 41.7 & 50.8 ranked 24 by PCA, ACA and RCA graduates, give the location of NIPHM with MPS 71.3, 54.2 & 56.9 ranked 14, 19 & 23, Who is the first Indian scientist who collected and identified With MPS 64.4, 56.3 & 67.7 ranked 19, 17 & 18, which fungicide is used against downy mildew? With MPS 74.7, 58.3 & 64.6 ranked 11, 16 & 21, In which season the soil pH increases? With MPS 57.5, 70.8 & 69.2 ranked 23, 8 & 16, which part of cotton plant is used for tissue test? With MPS 58.6, 62.5 & 72.3 ranked 22, 13 & 13, what is soil genesis? With MPS 81.6, 72.9 & 81.5 ranked 4.5, 7 & 5, which part of roots absorbs water and minerals? With MPS 87.4, 89.6 & 80.0 ranked 1.5, 1 & 6, which process is also known as glycolate pathway? With MPS 74.7, 66.7 & 75.4 ranked 11, 10 & 11, which state has largest area under drip irrigation? With MPS 79.3, 75.0 & 76.9 ranked 7, 5 & 8 and what is rainwater harvesting? With MPS 78.2, 62.5 & 78.5 ranked 8, 13 & 7 respectively by the graduates of PCA, ACA and RCA.

The rank order co-relation coefficient was calculated between the ranks assigned by PCA, RCA & ACA Agriculture graduates to the Knowledge regarding various courses. The pair of categories of Agriculture Colleges were formulated these were PAC- RCA, RCA- ACA and PCA- ACA. The calculated value of rank order co-relation coefficient of these pairs was 0.683, 0.728 and 0.727 respectively.

Further, table 2 clearly shows that the calculated value of rank order correlation (r_s) 0.683, 0.728 and 0.727 was found to be statistically significant at 1 per cent level of significance. The significance of 'r_s' was also tested by 't' test, and it was observed that calculated 't' value was higher than its tabulated value at 1 per cent level of significance. This led to the conclusion that there was a significant correlation between the ranks assigned by three categories of graduates to the sub-aspects of Knowledge regarding various courses, though there was difference in magnitude of mean per cent scores among the groups.

SUMMARY AND CONCLUSIONS.

Of total, 115 (57.5 per cent) graduates were found from high knowledge level, 71 (35.5 per cent) could be observed under moderate knowledge level. Remaining 14 (7.0 per cent) of the graduates have low level of knowledge regarding various courses.

Agriculture graduates 58 (66.7 per cent) of PCA, 23 (47.9 per cent) RCA and 34 (52.6 per cent) ACA graduates were found from high level of knowledge. At the same time, 21 (24.1 per cent), 21(43.7 per cent) and 29 (44.6 per cent) PCA, RCA and ACA graduates possessed moderate level of knowledge. However, 2 (3.1 per cent), 4(8.4 per cent) and 8 (9.2 per cent) of ACA, RCA and PCA graduates possessed low level of knowledge.

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