



Career Aptitude Assessment of the Undergraduate Agricultural Students in Kerala Agricultural University

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Authors' contributions

This work was carried out in collaboration between both authors. Both authors read and approved the final manuscript.

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ABSTRACT

The study entitled 'Career aptitude assessment of the undergraduate agricultural students in Kerala Agricultural University' was undertaken with 120 undergraduate agricultural students of the three colleges under Kerala Agricultural University (KAU) during 2018-19. Ex post facto research design was used for conducting the study and sample of the study comprised of 120 third year and final year students i.e., 60 students from COA, Vellayani, 35 students from COH, Vellanikkara and 25 students from COAP, Padannakkad were selected based on proportionate random sampling method. The results of the study revealed that majority of the undergraduate agricultural students had medium to high mechanical reasoning, language usage capability and numerical ability. Almost 71.68 per cent of the undergraduate agricultural students had high verbal reasoning ability and majority (78%) of the students had medium to low word knowledge. It was also observed that majority (95%) of the undergraduate agricultural students had medium to high career aptitude. These results indicated that undergraduate agriculture students have the desired skills to succeed in plethora of jobs i.e., from low profile jobs to high profile administrative and management jobs. Further, Man – Whitney test had been undertaken to test the significant difference between career aptitude of male and female students. The results revealed that regardless of their gender the career aptitude of the male and female students remained same. From this study it is evident that

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undergraduate students of KAU are suitable for wide range of occupations / vocations / careers from farming to agribusiness, from clerical job to the high profile administrative jobs, from farmer to the management professional, from private jobs to the government job, from extension agent to the agricultural scientist and so on.

Keywords: Career aptitude assessment; Kerala Agricultural University; reasoning ability; students.

1. INTRODUCTION

Aptitude is a person's ability acquired or innate, to learn or develop knowledge or a skill in some specific area [1]. Career aptitude is simply defined as student's aptitude towards their career. Researches reveal that aptitudes crystalize quite early in life of an individual and we can know the aptitudes of the students at their school or college stage through their participation in various activities and through aptitude tests which psychologists and educational workers had developed. Now-a-days many students aspire to be civil servants, professors and in various high profile jobs but many of them fail wretchedly even during their initial years of studies. They lack the sufficient capabilities and skills to accomplish their goals. So if they could be spotted at the earlier stages of their preparation or before their entry into colleges or universities and advised to follow the other way, much time, money and effort would be saved. Aptitude assessment plays a very important role for a student while choosing a vocation or occupation and it may go long way and influence his/ her efficiency in the job [2]. If a person chooses an occupation which is appropriate for his or her aptitudes, they prove to be successful in their job which in turn has a great influence on their personality. If the individual proves to be inefficient in his/her job it has an adverse effect on their emotional and social life and it also results in wastage of time, money and labour to both employers and employees and ultimately to the society. Therefore there is a pressing need to address this problem in the current society through career aptitude assessment and thereby ensure right placement of personnel in right occupation. Considering the importance of this problem, Know your aptitude (KYA) test is conducted annually by central board of secondary education (CBSE) with the help of National council of educational research and training (NCERT) targeting 9 and 10 class students to make the students aware of their skills and strengths of their interest and also their limitations. KYA test also helps the students understand their areas of interest before making important career choices.

Since very few studies have been undertaken on the career aptitude assessment of undergraduate agricultural students, this study was taken up in Kerala Agricultural University.

2. MATERIALS AND METHODS

The present study was conducted in the three colleges under Kerala Agricultural University, Thrissur, Kerala i.e., College of Agriculture, Vellayani; College of Agriculture, Padannakkad and College of Horticulture, Vellanikara. These colleges were purposively selected for the study as the researcher hails from the same university and the research was conducted during the year 2018-19. The sample for the study was selected from the third and final year students of these three colleges. There are 200 students in College of Agriculture, Vellayani; 120 students in College of Horticulture, Vellanikara and 107 students in College of Agriculture, Padannakkad respectively in third year and final year. Out of these students, 60 students from COA, vellayani; 35 students from COH, Vellanikara and 25 students from COA, Padannakkad were selected for the study through proportionate random sampling method making the total number of 120 respondents. The Career aptitude of the students is measured by using scale developed by Knapp & Knapp [3], known as *Career ability placement survey* (CAPS) with suitable modifications under the guidance of experts for making the scale suitable for undergraduate agricultural students. The *Career Ability Placement Survey* (CAPS) is a comprehensive, multi-dimensional battery designed to measure vocationally relevant abilities. CAPS scores are interpreted in terms of examinees' abilities relative to others at the same educational level. Examinees learn which occupational areas are most suited to their present abilities and which areas might require a bit more training if examinees are interested in pursuing related occupations. Such surveys are in the form of questionnaires which have multiple questions with multiple choices as answers. Respondents have to answer the entire questionnaire so as to let the career agencies place them in a field of career. This survey consists of eight sub components viz.,

mechanical reasoning, spatial relations, verbal reasoning, numerical ability, language usage, word knowledge, Perceptual speed and accuracy, and manual speed and dexterity. Keeping in view, the academic background of the respondents and experts rating, only five subcomponents were taken for the investigation viz., Mechanical reasoning, language usage, numerical ability, verbal reasoning and word knowledge. Under each subcomponent, there were five questions and the respondent was asked to answer the questions within the time limit. For each correct response one score was given to the respondent and for the incorrect response and unattended questions zero score was given. The detailed scoring procedure is given in the Table 1. The sum of the scores of individual component will be the career aptitude scores of individual which indicates their level of career aptitude. After obtaining the data from the respondents frequency, percentage, range, mean and Man-Whitney test were used to interpret the data meaningfully.

3. RESULTS AND DISCUSSION

The results of the study is presented in two parts. First part reveals the individual component wise analysis of the performance of the students and the second part deals with the level of career aptitude of the students.

3.1 Individual Component Analysis

In this section, the results reveals the mechanical reasoning, language usage, numerical ability, verbal reasoning and word knowledge of the undergraduate agricultural students in Kerala Agricultural University.

3.1.1 Mechanical reasoning of the undergraduate agricultural students

Mechanical reasoning is the ability of a person in understanding the mechanical principles and devices and the laws of physics which is extremely important in various occupations in technology and science and in courses in industrial arts. The distribution of the undergraduate agricultural students of KAU based on their mechanical reasoning ability is presented in the Table 2. The overall distribution of the students based on their Mechanical reasoning shows that 53.33 per cent of the students had medium mechanical reasoning ability followed by 42.51 per cent of the students who were having high mechanical reasoning

ability. Whereas only 4.16 per cent of the students had less mechanical reasoning ability. The distribution pattern of the female students also follows the same pattern. Regarding male students, equal number of students (48.94%) were distributed in medium and high level categories of mechanical reasoning respectively. Negligible number of students were present in low mechanical reasoning category. This may be due to the reason that males are more acquainted with the mechanical principles.

From the above discussion, it is clear that majority of the students have the capacity to understand the mechanical concepts and hence are suitable for the jobs involving the use of mechanical principles and concepts. The above observations are in contradiction with the results of the study conducted by Sujatha [4] who observed majority of the students in faculty of agriculture were in low mechanical reasoning category.

3.1.2 Language Usage of the undergraduate agricultural students

Language usage capability is the important quality that is needed for the students in this competitive world to have an edge over others. This is useful in many of the jobs in which the agricultural graduates have to play a major role. The data related to the language usage capacity of the undergraduate agricultural students in KAU is presented in the Table 3.

From Table 3, we can observe that in case of overall distribution majority of the students (58.33%) were having medium language usage capacity followed by 33.33 and 8.34 per cent of the students had high and low language usage skills respectively. The similar pattern of distribution can be observed in the case of male and female students also.

From the above discussion, it can be inferred that majority of the students were having medium to high level of language usage skills which is a prerequisite for many of the jobs in service as well as private sector and hence the result obtained is desirable. Language competency which is an indirect implication of better communication skills makes them suitable for jobs related to service sector like management professionals, counsellors, agricultural extension worker etc., which is a very desirable trend. The results are on par with the results of the study conducted by Mankar and Chavan [2].

3.1.3 Numerical ability of the undergraduate agricultural students

This component measures the numerical ability of the students which is very important for the jobs handling the numerical data and dealing with money such as bank jobs, insurance companies etc. The data presented in the Table 4 shows the distribution of undergraduate agricultural students based on their numerical ability.

The data presented in Table 4 reveals that (47.51%) of the students in KAU were having medium level of numerical ability followed by 41.6 per cent of the students who had high level of numerical of ability and 10.83 per cent of the students who had low level numerical ability. Pertaining to the numerical ability of the male and female students the same trend is observed.

From the above discussion it can be concluded that majority of the students were having medium to high level of numerical ability which means that the agricultural graduates are also efficient in performing the numerical calculations effectively despite of their non-math background and are suitable for the jobs in banks etc. The above results are in line with the results of study conducted by Sujatha [4] and contradictory with Mankar and Chavan [2].

3.1.4 Verbal reasoning of the undergraduate agricultural students

Verbal Reasoning is the ability of a person and also the understanding capacity of the person using some concepts expressed in words. This ability is generally important for the jobs which requires oral and written communication skills, especially in those professional level occupations in Science, Business and Service involving high levels of responsibility and decision-making. The distribution of undergraduate agricultural students based on their verbal reasoning ability is presented clearly in Table 5. The careful analysis of the data presented in the Table 5 reveals that overall distribution of undergraduate agricultural students based on their verbal reasoning in which majority of the students (71.68%) were having high verbal reasoning ability followed by 19.14 per cent of the students who had medium verbal reasoning ability. Whereas only 9.18 per cent of the students were having low verbal reasoning ability. The same trend was also reflected in the verbal reasoning ability of the male and female students also.

From the above discussion, it can be concluded that majority of the students were having high verbal reasoning ability which is useful in many of the administrative jobs. Hence we can conclude that agricultural graduates can opt for the jobs involving administrative functions. Moreover, verbal reasoning is an important component in almost every competitive exam conducted in India. The observed result is an indication that a plethora of opportunities are open for agricultural graduates as they have the necessary skills and traits necessary for many kind of jobs. The findings above are contradictory with the results of the study conducted by Sujatha [4].

3.1.5 Word Knowledge of the undergraduate agricultural students

This component measures the knowledge of the students in their Vocabulary skills i.e., person's ability to understand the meanings of the words and also the ability to use the words precisely which is an extremely important skill required for the jobs that involves high level decision making and having high level of responsibility. The data presented in the table 6 shows the distribution of undergraduate agricultural students based on their word knowledge.

A perusal of the table 6 shows the overall distribution of the students based on their word knowledge in which 43.33 per cent of the students were having medium level of word knowledge followed by 35.83 per cent of the students who had low word knowledge and 20.84 per cent of the students who had high word knowledge. Similar trend of distribution of the students was observed in the case of male and female students also.

From the above discussion we can conclude that majority of the students were having medium word knowledge. Hence we can conclude that agricultural students when compared to other students may not have any edge in the case of word knowledge. The above results are in line with results of the study conducted by Sujatha [4,5,6].

3.2 Categorisation of the Under graduate Agricultural Students in KAU Based on their Level of Career Aptitude

The distribution of the undergraduate students in KAU based on their career aptitude is presented in the Table 7.

Table 1. Scoring procedure adopted for measuring the career aptitude of the students

S.No	Name of the test	No. of questions	Time allotted (Min)	Scoring procedure	Maximum score	Minimum score
A.	Mechanical reasoning	5	4	CR=1 IR& UA=0	5	0
B.	Language usage	5	4	CR=1 IR& UA=0	5	0
C.	Numerical ability	5	4	CR=1 IR& UA=0	5	0
D.	Verbal reasoning	5	4	CR=1 IR& UA=0	5	0
E.	Word knowledge	5	4	CR=1 IR& UA=0	5	0
Total		25	20		25	0

(CR= correct response, IR= Incorrect response, UA= Unattempted)

Table 2. Frequency and percentage distribution of respondents based on their Mechanical reasoning

Category	Overall (N=120)		Male (n= 47)		Female (n=73)	
	F	%	F	%	F	%
Low (0 to 1)	5	4.16	1	2.12	4	5.47
Medium (2 to 3)	64	53.33	23	48.94	41	56.2
High (4 to 5)	51	42.51	23	48.94	28	38.33
Total	120	100	47	100	73	100
Mean score	3.25		3.4		3.1	

Table 3. Frequency and percentage distribution of respondents based on their language usage

Category	Overall (N=120)		Male (n= 47)		Female (n=73)	
	F	%	F	%	F	%
Low (0 to 1)	10	8.34	5	10.64	5	6.84
Medium (2 to 3)	70	58.33	24	51.07	46	63.11
High (4 to 5)	40	33.33	18	38.29	22	30.05
Total	120	100	47	100	73	100
Mean score	3.02		3.06		3	

Table 4. Frequency and percentage distribution of respondents based on their numerical ability

Category	Overall (N=120)		Male (n= 47)		Female (n=73)	
	F	%	F	%	F	%
Low (0 to 1)	13	10.83	3	6.39	10	13.69
Medium (2 to 3)	57	47.51	24	51.06	33	45.22
High (4 to 5)	50	41.66	20	42.55	30	41.09
Total	120	100	47	100	73	100
Mean Score	3.17		3.27		3.06	

Table 5. Frequency and percentage distribution of respondents based on their verbal reasoning

Category	Overall (N=120)		Male (n= 47)		Female (n=73)	
	F	%	F	%	F	%
Low (0 to 1)	11	9.18	6	12.78	5	6.85
Medium (2 to 3)	23	19.14	10	21.27	13	17.8
High (4 to 5)	86	71.68	31	65.95	55	75.35
Total	120	100	47	100	73	100
Mean score	3.71		3.53		3.89	

Table 6. Frequency and percentage distribution of respondents based on their Word knowledge

Category	Overall (N=120)		Male (n= 47)		Female (n=73)	
	F	%	F	%	F	%
Low (0 to 1)	43	35.83	17	36.18	26	35.61
Medium (2 to 3)	52	43.33	23	48.93	29	39.74
High (4 to 5)	25	20.84	7	14.89	18	24.65
Total	120	100	47	100	73	100
Mean score	2.28		2.19		2.38	

Table 7. Categorisation of respondents based on their level of career aptitude

Category	Overall (N=120)		Male (n= 47)		Female (n=73)	
	F	%	F	%	F	%
Low (0 to 8)	6	5	1	2.12	5	6.84
Medium (9 to 16)	61	50.83	25	53.19	36	49.31
High (17 to 25)	53	44.17	21	44.69	32	43.85
Total	120	100	47	100	73	100
Mean score	15.45		15.46		15.45	
Man-Whitney statistics = -0.032 (p value) = 0.974						

The overall distribution of the students based on their career aptitude score reveals that half of the students (50.83%) were having medium level of career aptitude followed by 44.17 per cent of the students who had high level of career aptitude and only 5 per cent of the students were having low level of career aptitude. In the case of male and female students also similar pattern of distribution was observed.

The above results are similar to the results of the study conducted by Sonar and Patankar (2013). However the quoted study was based on mathematical aptitude of the students which is similar to Numerical ability, a subcomponent of the Career aptitude test.

To find the significant difference between career aptitude of the male and female students the investigator had done Man-Whitney test. The results of the test revealed that there was no significant difference among the career aptitude of the male and female students. It means irrespective of their gender students had the same career aptitude. The estimated P- value =0.974 is greater than 0.05 which indicates that there is no significant difference between the career aptitude of the male and female students at 1 per cent as well as 5 per cent level of significance. This observations are contradicting to the results of the study conducted by Sujatha [4] in which she observed that the career aptitude of the male and female students had differed.

3. CONCLUSION

From the study it can be concluded that majority of the students in KAU were having medium to high career aptitude which indicates that the students in this university are suitable for wide range of occupations / vocations / careers from farming to agribusiness, from clerical job to the high profile administrative jobs, from farmer to the management professional, from private jobs

to the government job, from extension agent to the agricultural scientist and so on.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

REFERENCES

1. Singh RS. A Study of teachers' effectiveness and its correlates at higher secondary stage in Eastern UP. Fourth Survey of Research in Education, Buch, MB. 1987;992.
2. Mankar J, Chavan D. Differential aptitude testing of youth. Int J Sci Res Publ. 2013;3(7):84-95.
3. Knapp LF, Knapp RR. CAPS Career Ability Placement Survey [On-line]; 2015. Available: <https://www.edits.Net/Products/Career-Guidance/Caps.html> [19 Jan 2018].
4. Sujata K. Influence of aptitude and personality profile on academic achievement of undergraduate students of UAS, Dharwad. M.Sc.(Ag) thesis, University of Agricultural Sciences, Dharwad. 2005;124.
5. Knapp L, Knapp R, Knapp-Lee L. Career Ability Placement Survey: Directions for administering and interpreting the CAPS [On-line]; 2003. Available: <https://www.edits.Net> [14 May 2018].
6. NCERT [National Council of Educational Research and Training]. KYA Test [On-line]. Available:<https://www.google.com/search?q=why+know+your+aptitude+test+as+introduced+by+cbse&oq=why+know+your+aptitude+test+was+introduced+by+cbse&aqs=chrome..69i57.23742j1j8&sourceid=chrome&ie=UTF-8>. [24 May 2019].

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