

Perception of Students and Teachers towards Reforms on Agricultural Education Teaching and Learning

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Authors' contributions

This work was carried out in collaboration among all authors. Author Nupur Biswas designed the study, performed the statistical analysis, wrote the protocol and wrote the first draft of the manuscript. Authors KG and Nirupam Biswas managed the analyses of the study. Author Nirupam Biswas managed the literature searches. All authors read and approved the final manuscript.

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ABSTRACT

This paper is based on the study titled 'Perception of Agriculture students and teachers towards reforms on agricultural education. The study was conducted at Banaras Hindu University in the Department of Extension Education, Institute of Agricultural Sciences. In this paper, the perception of teachers and students towards agricultural education has been studied. A sum of 775 students and teachers were considered which included 356 students of M. Sc. (Ag.), 292 Ph.D. scholars and 127 teachers from the Institute of Agricultural Sciences, BHU. 20 per cent from each category of population were selected randomly making the sample size of 156 as the respondents. The data was collected by the survey method. Both students and teachers (100 per cent) agreed that information related to higher education abroad to be provided in India to keep our education system

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aware of the developments abroad. It was found that 100 per cent of teachers in comparison to students (97.67 per cent) agreed that teachers should listen to their students with an open mind. Other findings are promotion of quality research and culture among students should be encouraged, learners should be aware towards farmers and their situation by farm visits, avoidance of spoon-feeding of teaching is necessary and many more. The study reveals more interesting reforms for agricultural education described in this original research article.

Keywords: Reforms; agricultural education; perceptions; dimensions; higher education.

1. INTRODUCTION

The earliest agriculture college was established at Saidapet (near to present-day Chennai city) in 1877 [1]. It was followed by setting up of the first Veterinary College in undivided India at Lahore (now in Pakistan) in 1882. At the beginning of the 20th century, an agricultural research institute, each at Pusa in Darbhanga district (now Samastipur) of Bihar (subsequently named Imperial and now Indian Agricultural Research Institute) and Coimbatore in the present-day Tamil Nadu were established in 1905. Agricultural Colleges were also established at Kanpur, Lyallpur (now in Pakistan) and Nagpur in 1906, at Poona in 1907 and Sabour in 1908. In the beginning of 1905, there was an initiation of the graduate-level programs by the agricultural research institutes, followed by a two-year postgraduate diploma, also known as 'IARI Associateship' was initiated at the Imperial Agricultural Research Institute, Pusa in 1923. In the early 1930s, postgraduate programs leading to M.Sc. and Ph.D. degrees in agriculture were started. In 1940s agricultural engineering degree courses were started in Allahabad Agricultural Institute (now a deemed university). In 1966, Accreditation Board was established and National Agriculture Council was replaced. In 2014, Rajendra state agricultural university of Bihar was changed into central agricultural university. In 2015, the National Centre for Integrated Research was established at Motihari in Bihar [1]. In 2016, National Institute of Veterinary Epidemiology and Disease Informatics (NIVEDI), a unit of ICAR was established at Bengaluru to study the changing pattern of emerging and re-emerging animal diseases [2]. The 13th Agricultural Science Congress, 2017 at the University of Agricultural Sciences (UAS), Bengaluru in collaboration with local ICAR Institutes was held for the development and encouragement of higher agricultural education [3]. With this background, agricultural education must be following a path of advancements.

1.1 Terms Used in the Paper for Discussion

1.1.1 Perception

According to Lindsay and Norman [4], perception is closely related to attitude. Perception is the process by which organisms interpret and organize sensations to produce a meaningful experience of the world.

1.1.2 Reform

The term reform refers to make changes in (something, especially an institution or practice) in order to improve it. Reforms, those bring about meaningful and lasting changes in higher education are hard to implement. They demand leadership, time, financial resources, and persistence. Reforms on this scale are not one-dimensional. They must often encompass policy and strategy formulation, stakeholder cooperation and involvement, governance changes, increased university autonomy, curriculum updating, pedagogical capacity building, increased practical work by students, and stronger links to rural communities [5]. In this paper, the terms have been conceptualized as the feelings, suggestions, and inputs for change in higher agricultural education.

1.1.3 Factors of reforms

Yonggong and Jingzun [6] discussed about the factors which led to the reforms are of the following two types:

1.1.3.1 External factors

1. The labour market required a higher level of qualifications and needed integrated skills for resolving the problems existent in the day-to-day management and technical servicing.
2. The governmental initiatives were undertaken to improve the efficiency of investment in education and to reduce financial pressure.

1.1.3.2 Internal factors

1. The need to increase teaching and research capacities by re-arranging the relevant faculties and allocating and utilizing more efficiently the human resources in teaching and research.
2. The desire to improve financial investment efficiency by increasing both the number of students and improving efficiency in education.

1.2 Objective

The objective of the paper is to make people aware of different reforms perceived by the students and teachers in agricultural education. The main purpose is to aware the stakeholders about reforms in agricultural education perceived by the students and teachers of agricultural colleges in India.

2. RESEARCH METHODOLOGY

The study was conducted at the Department of Extension Education in Institute of Agricultural Sciences of Banaras Hindu University in Varanasi, Uttar Pradesh. Altogether, 775 respondents were selected including 356 students of M. Sc. (Ag.), 292 students of Ph.D. along with 127 teachers in the academic session of 2016-17 which were taken as the sample of the study. The teachers and students were selected by the proportionate random sampling technique with 20 per cent allocation from each category. The sample size which was obtained by the addition of these respondents was 156 (129 students and 27 teachers). Statistical methods such as frequency and percentage were used for the meaningful analysis of the collected data.

3. RESULTS AND DISCUSSION

On the basis of the literature survey, consultation with the agricultural experts and findings of the study, the different dimensions of reforms on agricultural education are explained below:

3.1 Perception Related to Teachers/ Teaching in Agricultural Education

All educational process depends upon the environment, the teacher, the skill of the teacher and the way he/she teaches and communicates with the students. For this aspect, the researcher

prepared ten statements and asked the students and teachers to express their opinions in terms of agree and disagree. The statements were 'interest in teaching,' 'no biasness for students,' 'open-mindedness of teachers,' 'proper guidance by teachers,' 'need-based curriculum given by teachers,' 'engagement in teaching as well as research,' 'avoidance of spoon-feeding by the teachers,' 'promotion of quality research and culture,' 'scope of agriculture to students' and 'information related to higher education abroad.'

Table 1 indicates that the majority (100%) of students as well as teachers agreed that information related to higher education abroad should be given to the students. However, a hundred per cent of teachers in comparison to students (97.67%) agreed that open-mindedness of the teachers towards students is necessary. Similarly, Haider and Jalal [7] found 25.32 per cent of student's perception towards teacher's democratic or student centred attitude for giving freedom to the students to put their opinions and views regarding the subject and 28.57 per cent students agreed that teacher should be a good listener who listen student's problems patiently. Near about equal percentage (96%) of students as well as teachers agreed that the promotion of quality research and culture among the students by the teachers should be carried out. Hansen and Calvert [8] showed similar results regarding promotion of research and culture among under graduate students by engaging them in online courses, workshops, and conferences which promoted them to take a keen interest in research. Whereas, 96.90 per cent of students in comparison to teachers (92.59%) agreed towards proper guidance of teachers towards students' research is necessary for research work. Similarly, Karim and Karim [9] explained that around 96 per cent teachers and students are thinking that better performance of students in class room is possible if proper guidance is provided and generally guide or counsellor will indicate the weaker sections of student and elaborate the various ways to accelerate the learning attitude by resolving complexities related to subjects. Nearly equal percentage (96%) of students as well as teachers said that teachers should not show any biasness for any particular section of students. Similarly, Haider and Jalal [7] found that about 12 per cent students perceived that the teacher should be unbiased as they did not take things at heart, treat class with same eyes, treat boys and

girls equally, and did not differentiate between sections of the same class. There was a similar percentage of agreement by students (96.30%) and teachers (95.35%) that persons interested in teaching should join as a teacher and scope of agriculture should be explained at the beginning of the U.G. classes. However, 89.92 per cent of students in comparison to teachers (81.48%) agreed that avoidance of spoon-feeding of teaching is necessary. Whereas, a lesser percentage of students (84.50%) in comparison to teachers (92.59%) agreed towards a need-based curriculum which is compatible with the local and national requirements should be taught by teachers to students. There was the least percentage (Less than 50%) of agreement from students as well as teachers towards the necessity of engagement of teachers in teaching as well as research activities. This might be due to the reason that teachers as experts may devote their full time and energy towards only one task that is either teaching or research work so as to facilitate more developments in a particular field of work. Dayagbil, et al. [10] observed that very few teachers had engaged in research activities; many professors did not conduct research beyond their thesis or dissertation and those who conducted research were mostly not practicing teachers.

3.2 Perception Related to Learners/ Learning in Agricultural Education

Any education system is not complete without learners. So, for the promotion of higher agricultural education among students, a provision of creation of awareness towards the new dimensions of the higher agricultural education system in India for the learners is an important requirement. It would help to promote higher agricultural education among the students. Thus, to examine the opinions of the respondents, four statements related to the learner's dimension were prepared. Students and teachers were asked to give their opinion in terms of agree and disagree. The statements were 'awareness about the farmers and their situation,' 'division of U.G. and P.G. classes into batches,' 'scholarship facilities for all meritorious students' and 'computer and internet facilities.'

Table 2 indicates that the majority (88.37%) of students in comparison to teachers (62.96%) agreed that learners of agricultural sciences should be aware of the farmer and their situation by farm visits. According to Oakley and Garforth [11], farm visits can familiarize the extension agent with the farmer and his family, enable him to give specific advice or information to the

Table 1. Distribution of respondents according to their perception towards reforms on agricultural education in terms of teachers/teaching dimension

S. No.	Statements	Agreement of students		Agreement of teachers	
		F	%	F	%
A.	Teachers/ Teaching dimension				
1.	Information related to higher education abroad is to be provided in agricultural education.	129	100.00	27	100.00
2.	Teachers are required to listen to students with open-mindedness.	126	97.67	27	100.00
3.	Promotion of quality research and culture among students.	125	96.90	26	96.30
4.	Proper guidance of teachers for students' research.	125	96.90	25	92.59
5.	There should be no biasness for students by teachers.	124	96.12	26	96.30
6.	Persons interested in teaching are required to join as teachers.	123	95.35	26	96.30
7.	The scope of agriculture is to be explained at the beginning of the U.G. class.	123	95.35	26	96.30
8.	Avoidance of spoon-feeding of teaching (only giving notes is not to be practiced).	116	89.92	22	81.48
9.	The need-based curriculum is to be compatible with the local and national requirements.	109	84.50	25	92.59
10.	Engagement of teachers in teaching as well as research activities.	46	35.66	10	37.04

Table 2. Distribution of respondents according to their perception towards reforms on agricultural education in terms of learners/learning dimension

S. No.	Statements	Students agree		Teachers agree	
		F	%	F	%
B.	Learners/Learning dimension				
1.	Awareness about the farmers and their situation by farm visits.	114	88.37	17	62.96
2.	Provision of computer and Internet facilities to the students in the campus.	91	70.54	17	62.96
3.	Division of U.G. and P.G. classes into small batches for proper interaction.	88	68.22	17	62.96
4.	Scholarship facility for all meritorious U.G., P.G. and Ph.D. students.	88	68.22	17	62.96

farmer, build up the agent's knowledge of the area, and of the kinds of problems which farmers face, permit him to explain a new recommended practice or follow up and observe results to date, arouse general interest among the farmers and stimulate their involvement in extension activities, etc. About 70 per cent of students in comparison to teachers (62.96%) agreed that there should be computer and Internet facilities in the campus. Njoroge and Orodho [12] explained a similar result that e-learning facilities should be provided which created a positive perception of students towards agricultural education. Near about a similar percentage of agreement by students (68.22%) and teachers (62.96%) was got for division of U.G. and P.G. classes into small batches for proper interaction is necessary. Sellers [13] opined that small class sizes benefit students because they have more opportunities to ask questions, contribute to discussions and get to know their professors as well as classmates. And also, a similar percentage of agreement by students (68.22%) and teachers (62.96%) was found for provision of scholarship facility for all meritorious students of U.G., P.G. and Ph.D. so as to promote education and also to motivate the hard-workers to continue the good work in the form of some respectful titles and cash rewards.

4. CONCLUSION

According to Darko, et al. [14], the major challenges facing the teaching and learning of agricultural science include frequent use of lecture method in teaching, large class size and poor remuneration of teachers. Others include inadequate teaching and learning materials and their availability, difficulty in planning field trips as well as laziness and truancy on the part of teachers. So, periodic reforms in the education system are must to make people more competent in the contemporary situations of a country.

From the above findings, it may be concluded that majority of students and teachers were having highly positive perception towards the reforms regarding agricultural education in the terms of information related to higher education abroad, promotion of quality research and culture among students, learners should be aware towards farmers and their situation by farm visits, availability of computer and internet facilities in the campus whereas there was medium perception towards need-based curriculum compatible to local and national requirements, scholarship facilities to only meritorious U.G., P.G. and Ph.D. students, etc. It is interesting to note that a very low percentage of agreement from both of the respondent groups towards engagement of teachers in teaching as well as research activities was found. Therefore, 13 out of 14 statements of reforms regarding agricultural education got more than 50 per cent to 100 per cent approval from the respondents which infers that reforms in the education system is highly needed to make the education system more contributing in the development of a country.

CONSENT

As per international standard or university standard, respondents' written consent has been collected and preserved by the author(s).

COMPETING INTERESTS

Authors have declared that no competing interests exist.

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