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Awareness of ICT tools among students of agricultural universities

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Abstract

The role of Information and Communication Technology (ICT) in augmenting teaching-learning process in agricultural education is gaining importance in recent years. This conclusive research was taken up at three agricultural universities namely Birsa Agricultural University, Ranchi; Dr. Rajendra Prasad Central Agricultural University, Pusa, Samastipur and Bihar Agricultural University, Sabour, Bhagalpur. The objective of the study was to measure students' awareness of ICT tools and find out major sources of information and learning related to it. This was done through choosing a total of 90 students, where each university comprises of 30. A structured questionnaire was used for data collection and appropriate statistical tools were applied to analyse the data. Results of the study showed that friends and family was the most important variety source of awareness about ICT. Itinerant practicing among students. Most of the respondents were with moderate awareness toward selected ICT tools. Most ICT tools were found to be learned from Office/ Institution/ College and in the case of internet services and agricultural applications, friends as well as colleagues were also vital for learning. The study determines more exposure, training and institutional support to increase awareness and effective use of ICT tools among agricultural students.

Keywords: Agricultural education, ICT awareness, source of awareness, source of learning, agricultural students, ICT tools

Introduction

ICT has been a crucial part of agricultural education, research and extension since that time. The ever-evolving ICT has paved the way for speedy access to scientific information, online learning resources, digital libraries and communication tools which helps streamline teaching-learning processes in agricultural universities. Various ICT tools including internet/web-based services, agriculture applications, video conferencing, digital libraries and expert systems & geographical information system (GIS) have created new opportunity to access and disseminate agricultural knowledge.

Students of agriculture need timely information on new developments in the field of crop production, research, technological interventions, agricultural development programmes etc. ICT tools also serve as a good mechanism to get such information and supports the academic learning, preparing projects and research work. The other factor that largely influences on the success of ICT use, is the awareness level of users. The adoption and functionality of any technology innovation are built on a foundation of awareness.

To promote digital learning and wider accessibility to information resources, recently agricultural universities have made advancements in their ICT infrastructure.

Although many ICT tools are available for this study, students may differ in their levels of awareness of these technologies. Thus, determining the current level of awareness among youth is vital to assist in designing appropriate educational interventions and capacity-building programmes.

In view of these facts, the present study was conducted to assess the knowledge about ICT tools among students of selected agricultural colleges and to find out major source of awareness and learning regarding ICT tools.

Materials and Methods

The study was conducted in three purposively selected agricultural universities namely Birsa Agricultural University, Ranchi; Dr. Rajendra Prasad Central Agricultural University, Pusa, Samastipur; and Bihar Agricultural University, Sabour, Bhagalpur. Thirty students from each university were selected as respondents. Thus, the total sample size comprised 90 students.

The research design adopted for the present study was ex-post facto, since the phenomenon had already occurred. A structured and pre-tested questionnaire was used for collection of data. In addition to this, observation, interaction and group discussion techniques were also employed to supplement the information collected from the

respondents.

The ICT tools selected for the study were Internet/Web Services, Mobile Map Technology, Digital Storytelling, Radio/Community Radio, Video Conferencing, Teleconferencing, Digital Library, Expert System, Kiosks, Kisan Call Centre, Satellite Telecommunication (SATCOM), Interactive Multimedia Compact Disc (IMCD), Geographical Information System (GIS) and Agricultural Applications.

Awareness was operationalized as the extent to which the respondents were familiar with and had knowledge regarding the selected ICT tools. The respondents were asked to indicate their level of awareness regarding each ICT tool. The awareness level of respondents was categorized into low, medium and high categories on the basis of the total awareness score obtained. Frequency, percentage, mean score and weighted mean score were used for analysis and interpretation of data.

Information regarding source of awareness and source of learning of ICT tools was also collected from the respondents. Frequency, percentage, mean score and weighted mean score were used for analysis and interpretation of data. Ranking was assigned to different

ICT tools on the basis of weighted mean scores.

Results and Discussion

This part includes the source of awareness, awareness level of selected tools and source of learning by students of universities.

Source of awareness of ICT tools

The data presented in Table 1 revealed that the majority of students obtained awareness regarding ICT tools through friends and relatives (40.00%), followed by television (27.70%), print media (24.44%) and radio (4.40%). In BAU, Ranchi, 40.00 per cent of the students reported friends and relatives as their major source of awareness, while the corresponding figures were 36.60 per cent in Dr. RPCAU, Pusa and 43.30 per cent in BAU, Sabour.

The findings indicate that interpersonal sources played a dominant role in creating awareness regarding ICT tools among students. Students generally exchange information through peer groups and social interactions, making friends and relatives an important channel for dissemination of information related to ICT tools.

Table 1: Source of awareness of ICT tools among students

Sl. No.	Categories	Students						Total n=90
		BAU, Ranchi		Dr. PCAU, Pusa		BAU, Sabour		
		F	%	F	%	F	%	
1	Radio	2	6.6	1	3.33	1	3.33	4(4.4)
2	TV	9	30	8	26.6	8	26.6	25(27.7)
3	Print media	7	23.33	9	30	6	20	22(24.44)
4	Friends /Relatives	12	40	11	36.6	13	43.3	36(40)

Awareness level

Table-2 and Fig.1 depicts the awareness level of selected ICT tools of students of universities. Majority of students (46.66%) were having medium level of awareness followed by high awareness level (26.66%) and low awareness level (26.66%). In all the three universities, students were having medium level of awareness, i.e. 50 percent in BAU, Ranchi, 43.33 percent in case of Dr. RPCAU, Pusa and 46.66

percent in BAU, Sabour.

The probable reason for medium awareness level among students may be limited exposure to specialized ICT tools such as Mobile Map Technology, SATCOM, IMCD and GIS. Inadequate training opportunities and limited practical utilization of some advanced ICT tools may also have contributed to the observed awareness level.

Table 2: Awareness level of ICT tools among students

Sl. No.	Awareness categories of students	Students						Total N=90
		BAU Ranchi (n=30)		DRPCAU Pusa (n=30)		BAU Sabour (n=30)		
		F	%	F	%	F	%	
1	Low (<19)	8	(26.66)	9	(30)	7	(23.33)	24(26.66)
2	Medium (19-20)	15	(50)	13	(43.33)	14	(46.66)	42(46.66)
3	High (>20)	7	(23.33)	8	(26.66)	9	(30)	24(26.66)

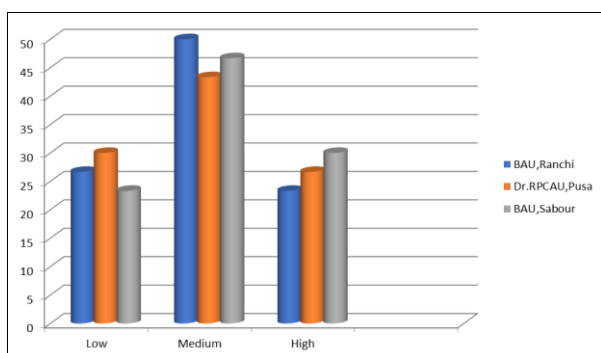


Fig 1: Awareness level of ICT tools by students of Agricultural Universities

Source of learning

This part highlights the source of learning of students (Table-2) of universities regarding the selected fourteen ICT tools like Internet or Web services, mobile map technology, Digital storytelling, community radio station, Video conferencing, Teleconferencing, Digital library, Expert system, Kiosks, Kisan call center, Satellite telecommunication (SATCOM), Interactive Multimedia Compact Disc (IMCD), Geographical information System (GIS), Agricultural Apps.

Six sources like self, office/Institution/college, through training, through summer or winter camp, cyber cafe and friends/ colleagues were taken for the study. Majority source

of learning was taken for explaining the results regarding the selected tools.

Table 3 depicts that majority of students were getting knowledge regarding internet through friends or colleagues (57.77%) followed by self (37.77%), office/Institution/college (27.77%) and cyber cafe (24.44%).

Regarding most of the tools major source of learning by students was through Office/Institution/college.ie. mobile map technology (44.44%), Digital storytelling (26.66%), community radio station (44.44%), Video conferencing

(61.11%), Teleconferencing (62.22%), Digital library (50%), Expert system (66.66%), Kiosks (57.77%), Kisan call center(50%), Satellite telecommunication (SATCOM) (61.11%), Interactive Multimedia Compact Disc (IMCD) (62.22%) and Geographical information System(GIS)(61.11).

For majority of students, the source of learning for agricultural apps was through friends or colleagues (50%), followed by self (33.33%) and through Office/Institution/college (22.22%).

Table 3: Source of learning of ICT tools among students

SI No	ICT tools	Source of learning					
		Self	Office/In-situation/ college	Through training	Through summer/winter camps	Cyber café	Through friends/colleagues
1	Internet/web services	34 (37.77)	25 (27.77)	10 (11.11)	-	22 (24.44)	52 (57.77)
2	Mobile Map technology	4 (4.44)	40 (44.44)	5 (5.55)	-	7 (7.77)	35 (38.88)
3	Digital story telling	20 (22.22)	24 (26.66)	11 (12.22)	2 (2.22)	3 (3.33)	22 (24.44)
4	community radio station	35 (38.88)	40 (44.44)	13 (14.44)	5 (5.55)	2 (2.22)	15 (16.66)
5	Video conferencing	22 (24.44)	55 (61.11)	7 (7.77)	7 (7.77)	-	30 (33.33)
6	Teleconferencing	15 (16.66)	56 (62.22)	6 (6.66)	5 (5.55)	-	45 (50)
7	Digital library	25 (27.77)	45 (50)	5 (5.55)	2 (2.22)	2 (2.22)	22 (24.44)
8	Expert system	5 (5.55)	60 (66.66)	9 (10)	7 (7.77)	5 (5.55)	40 (44.44)
9	Kiosks	6 (6.66)	52 (57.77)	9 (10)	8 (8.88)	9 (10)	30 (33.33)
10	Kisan call center	8 (8.88)	45 (50)	15 (16.66)	5 (5.55)	5 (5.55)	35 (38.88)
11	Satellite telecommunication (SATCOM)	10 (11.11)	55 (61.11)	7 (7.77)	7 (7.77)	4 (4.44)	17 (18.88)
12	Interactive Multimedia Compact Disc (IMCD)	12 (13.33)	56 (62.22)	5 (5.55)	8 (8.88)	5 (5.55)	20 (22.22)
13	Geographical information System (GIS)	12 (13.33)	55 (61.11)	9 (10)	9 (10)	4 (4.44)	24 (26.66)
14	Agricultural Apps	30 (33.33)	20 (22.22)	15 (16.66)	12 (13.33)	5 (5.55)	45 (50)

Note: 1. Figures in the parenthesis indicate percentage

2. Multiple responses are possible

Office/Institutions/colleges played major role for source of learning followed by friends and colleague. This might be due to availability of some of the selected tools in college/institute. Also, some ICT tools were required for research purposes and other education related activities. Friends or relatives are more social entities based upon personal relationship as human resources contain vast fund of experience. They are usually homogenous in nature. As for the concept of diffusion of any innovation homogenous group played a major role. So this might be the probable reason that friends or relatives played a major role for source of learning regarding ICT tools.

Conclusion

The study concluded that friends and relatives were the major source of awareness regarding ICT tools among students of agricultural universities. Nearly half of the respondents (46.66%) possessed a medium level of awareness regarding selected ICT tools. Office/Institution/College emerged as the major source of learning for most ICT tools, while friends and colleagues played a significant role in learning internet services and agricultural applications. Strengthening ICT-based training and exposure programmes may further enhance awareness and learning among agricultural students.

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