

## Awareness, Access and Purpose of using Information and Communication Technologies (ICTs) by the Students of CCS Haryana Agricultural University, Hisar

**Anil Kumar Malik<sup>1</sup>, A.K. Godara<sup>2</sup> and V.P.S. Yadav<sup>3</sup>**

1.SRF, Farmer FIRST Project, DEE, 2.Prof. (Ext. Edu.), Deptt. of Ext.Edu., CCSHAU, Hisar

3. Principal Extension Specialist (Ext. Edu.) & Sr.Coordinator, KVK, Faridabad

*Corresponding author e-mail : malikanil100@gmail.com*

*Paper Received on March 08, 2021, Accepted on April 04, 20, 2021 and Published Online on April 12, 2021*

### ABSTRACT

*The emergence of ICT has primarily changed the practices of not only business and governance but education as well. While the world is moving rapidly towards digitalization, the role of ICT in education has become increasingly important. A study was carried to determine the awareness, access and purpose of using ICTs by the students of CCS Haryana Agricultural University, Hisar. Empirical data were collected personally from 200 students through a structured interview schedule and analyzed with the help of appropriate statistical tools by using 26 version Statistical Package for Social Sciences (SPSS). The findings of the study revealed that majority of the students (92.50%) were aware about ICT and online agricultural educational portals. All the students had access to mobile phone followed by mobile camera, copier (xerox), etc. Moreover, most of the students used ICT tools/ services for browsing social networking sites and entertainment purpose compared to academic and research purpose. Study also revealed that age, education, medium of schooling, schooling, family education, scientism, job preference, annual expenditure, mass media exposure, information seeking behavior and risk orientation exhibited positive and significant correlation at 0.05 level of probability with their purpose of using ICT tools/services.*

**Key words:** Awareness; Access; Information and Communication Technologies (ICTs);

Information played a significant role in all societies since the dawn of civilization. However, in recent years its increase in volume and accuracy as well as greater access, have notably elevated its importance in all aspects of social life. The world community has recognized the revolutionary nature of information society. The world is undergoing Information and Communication Technology (ICT) revolution, a revolution that has vast socio-economic implications for the developed and developing countries (*Khan et al., 2015*).

ICT stands for information and communication technologies. It includes the web, wireless network, cell phones and other communications medium. In the past few decades ICTs have provided to society with colossal array of a new communication capabilities. People can communicate in real time with others in different

countries using technologies such as instant messaging, voice over IP and video conferencing, social networking websites like Face book, V-Chat, WhatsApp and Instagram, etc. that allow users from all over the globe to remain in contact and communicate on a regular basis. Since 1990, many countries have been encouraging the utilization of ICT in education, particularly to expand access to and improve the quality of education. In the current era, ICTs have been taught as potentially powerful enabling tools for educational change and reform. Different ICT tools when used appropriately are said to help expand access to education, raise educational quality, strengthen the relevance of education to the increasingly digital workplace, helps making teaching and learning into an engaging, active process connected to real life (*Malik and Godara, 2020*). However, integration of ICT into educational systems

varies from the simple use of technology to assist instruction (e.g., power point presentations) to the delivery of whole courses or programs using ICT (e.g., MOOCs). Although, students' ICTs ownership, access, competencies and extent and nature of use also play a critical role in integrating ICTs in their education. E-learning has grown as an educational tool over the years. It has made educators to exert a lot of efforts to help the learners to get interactive content that is full of multimedia as it has been proven that it has a significant effect on the process of learning (El-Seoud *et al.*, 2014). Now-a-days students are using E-resources e.g. Scopus, Elsevier, CeRa, OPACs, etc. to retrieve information regarding research, publishing papers, assignments, presentations, seminars and to update their knowledge. The use of e-learning for educational purposes has several advantages over traditional learning for all higher education stakeholders. Major advantages include, but are not limited to, facilitating distance and mobile education, overcoming shortages of skilled and experienced instructors, enhancing learning outcomes, increasing access to a wide range of educational resources, facilitating student-centred learning, enhancing and improving communication between students and instructors and among students and taking account of individual differences. Major e-learning initiatives started by various organizations include NPTEL (National Programme on Technology Enhanced Learning), e-Gyankosh, e-PG pathshala, Sakshat, Flexilearn and so on. Therefore, educational systems have a great deal to offer in pointing the way for increasing the awareness, access and use of ICTs among students for learning purposes. Therefore, keeping in view the fact and importance of ICT in higher education, the study was carried out to determine the awareness, access and purpose of using ICTs by the students of CCSHAU, Hisar.

## METHODOLOGY

The present study was conducted in Colleges of Agriculture, Agricultural Engineering & Technology, and Indira Chakravarty College of Home Sciences of CCS Haryana Agricultural University, Hisar, Haryana. Under-Graduate (Pre-final & Final year) and Post-Graduate (M.Sc. & Ph.D.) students of the respective colleges registered during the session of 2017-18 were selected as the sample of the study. There were 994

students registered in U.G. (162 Pre-final year and 178 final year) and P.G. programme (363 M.Sc. and 291 Ph.D.) from these three colleges. Out of them, 200 students were selected through proportionate random sampling. Empirical data were collected through personal interview technique with the help of well-structured and pre-tested interview schedule and analyzed using Statistical Package for Social Sciences (SPSS). Appropriate statistical techniques like frequency, percentage, mean and rank order were used in the study. Correlation and regression analysis were computed for drawing the inferences based on statistical results obtained from statistics analysis. The extent of association was calculated by using Karl Pearsons' coefficient of correlation formula:

$$r = \frac{N\sum XY - (\sum X)(\sum Y)}{[\sum X^2 - (\sum X)^2][\sum Y^2 - (\sum Y)^2]^{1/2}}$$

Where,

N= Number of observations

$\sum XY$ = Sum of product of x and y

$\sum X$  = Summation of entries of I<sup>st</sup> variable

$\sum Y$  = Summation of entries of II<sup>nd</sup> variable

$\sum X^2$  = Sum of square value of each entry of I<sup>st</sup> variable

$\sum Y^2$  = Sum of square value of each entry of II<sup>nd</sup> variable

Significance of observed correlation coefficient was tested by using:

$$t_{cal.} = \frac{r}{\sqrt{1-r^2}} \sqrt{n-2} \sim t_{N-2}$$

if  $\frac{1}{2}t_{cal.} > \frac{1}{2}t_{\alpha}$  to then observed coefficient of correlation was significant at 1% or 5% value of t for N-2 d.f.

## RESULTS AND DISCUSSION

Results of the study are presented and discussed under broad headings as students' awareness about ICT and online agricultural portals, accessibility, purpose of using ICT services/tools and relationship between respondents' personality trait with their purpose of using ICT services/tools.

*Students' awareness about ICT and online agricultural educational portals* : The present study revealed that 92.50 per cent of the total respondents were aware about ICT (rank I) and remaining 07.50 per cent were not aware about it (rank II). But when compared between UG and PG respondents, data revealed that PG respondents had more awareness (96.94%) than that of UG respondents (84.05%). Higher

awareness in students about ICT should be associated with the fact that ICT is a relatively new term that has provided society with a vast array of new communication capabilities.

Data regarding awareness about online agricultural portals indicated that majority of the respondents were aware about their university (CCSHAU) educational portal with a highest percentage score of 96.50 (rank I) followed by ICAR (83.50%), UGC (48.50%), IARI (46.50%), NFL (42.00%), AGROPEDIA (35.50%), FCI (31.50%), IGNOU (31.00%), IFFCO (29.50%), NABARD (25.50%), KRIBHCO (23.00%), KRISHINET (20.00%), APEDA (17.00%), INDIAAGRISTAT (11.50%) and FERTILIZER INDIA (04.50%) with ranks II, III, IV, V, VI, VII, VIII, IX, X, XI, XII, XIII, XIV AND XV, respectively. When further analyzed, data revealed that 97.70 per cent of the PG respondents were aware about their university (CCSHAU) educational portal, which was more than that of UG respondents (94.20%). This showed that most of the students were aware about the online agricultural educational portal, as these portals provide global access to a variety of e-books, articles, journals, research papers, online courses, and other educational resources on a single touch. These findings were partially supported by the reports of *Khandave et al. (2020)* and *Thulasi (2016)* who both reported that online student portal will be very useful for students to get updated to latest information and to communicate with worldwide learners.

*Accessibility of ICT services/ tools* : It is evident from Table 2 that all the respondents had access to mobile phone ranked I with highest weighted mean score (WMS) 2.00, followed by mobile camera, copier (Xerox), cable/dish TV, internet, computer, e-mail, Wi-Fi, printer, scanner, LCD projector, broadband, professional camera and video software's ranked II, III, IV, V, VI, VII, VIII, IX, X, XI, XII, XIII and XIV with WMS 1.91, 1.85, 1.81, 1.77, 1.75, 1.57, 1.53, 1.01, 0.93, 0.81, 0.36, 0.28 and 0.16, respectively. This trend might be due to the fact that these ICT tools/services were easily accessible at university library and cyber cafés. The ICT tools/services with low accessibility were broadband, professional camera and video software's. Access to different ICT tools/services within the university is an important component when implementing their use into the classroom. Hence, without adequate access to various types of technology viz.; computers, internet,

**Table 1. Students' awareness about ICT and online agricultural educational portals (N=200)**

| Particulars      | Students' Awareness    |                          |                               | Rank |
|------------------|------------------------|--------------------------|-------------------------------|------|
|                  | UG<br>(n=69)<br>No.(%) | PG<br>(n=131)<br>No. (%) | Overall<br>(N=200)<br>No. (%) |      |
| ICT              |                        |                          |                               |      |
| Yes              | 58(84.05)              | 127(96.94)               | 185(92.50)                    | I    |
| No               | 11(15.94)              | 04(03.06)                | 15(07.50)                     | II   |
| List of portals  |                        |                          |                               |      |
| India Agristat   | 07 (10.60)             | 16(12.21)                | 23(11.50)                     | XIV  |
| ICAR             | 41(59.42)              | 126(96.18)               | 167(83.50)                    | II   |
| IARI             | 31(44.92)              | 62(47.32)                | 93(46.50)                     | IV   |
| IFFCO            | 20(28.98)              | 39(29.77)                | 59(29.50)                     | IX   |
| KRIBHCO          | 18(26.08)              | 28(21.37)                | 46(23.00)                     | XI   |
| FCI              | 21(30.43)              | 42(32.06)                | 63(31.50)                     | VII  |
| NABARD           | 14(20.28)              | 37(28.24)                | 51(25.50)                     | X    |
| Fertilizer India | 02(02.89)              | 07(05.34)                | 09(04.50)                     | XV   |
| UGC              | 21(30.43)              | 76(58.01)                | 97(48.50)                     | III  |
| KRISHINET        | 13(18.84)              | 27(20.61)                | 40(20.00)                     | XII  |
| APEDA            | 11(15.94)              | 23(17.55)                | 34(17.00)                     | XIII |
| IGNOU            | 23(33.33)              | 39(29.77)                | 62(31.00)                     | VII  |
| NFL              | 31(44.92)              | 53(40.45)                | 84(42.00)                     | V    |
| AGROPEDIA        | 32(46.37)              | 39(29.77)                | 71(35.50)                     | IV   |
| CCSHAU Portal    | 65(94.20)              | 128(97.70)               | 193(96.50)                    | I    |

Data are based on multiple responses

**Table 2. Accessibility of ICT tools/services (N=200)**

| ICT tools/ Services | Total score | WMS  | Rank |
|---------------------|-------------|------|------|
| Computer            | 351         | 1.75 | VI   |
| Internet            | 355         | 1.77 | V    |
| E-mail              | 315         | 1.57 | VII  |
| Printer             | 201         | 1.01 | IX   |
| Scanner             | 187         | 0.93 | X    |
| Mobile phone        | 400         | 2.00 | VIII |
| Wi-Fi               | 307         | 1.53 | IX   |
| Cable/Dish TV       | 363         | 1.81 | IV   |
| Copier (Xerox)      | 370         | 1.85 | III  |
| Mobile camera       | 383         | 1.91 | II   |
| Broadband           | 73          | 0.36 | XII  |
| Professional camera | 57          | 0.28 | XIII |
| Video softwares     | 32          | 0.16 | XIV  |
| LCD Projector       | 162         | 0.81 | XI   |

*Note: Scale: 0= Not accessible, 1= Occasionally accessible, 2= Easily accessible.*

technology experts, etc. teachers are unable to provide ICT-enriched lessons to their students. Meanwhile, university should make provision for access to ICT facilities within the college environment to guarantee

ease of locating and accessing them by the students (Oriogu et al., 2014).

*Purpose of using ICT services/tools* : Examination of data presented in Table 3 showed that majority of the students used ICT tools/services for browsing social networking sites purpose ranked I with highest weighted mean score (WMS) 1.76. This was followed by entertainment, downloading, research purpose, Google maps, send and receive e-mail, career opportunities, academic purpose, online shopping, agricultural purpose, news update and for other purposes ranked II, III, IV, V, VI, VII, VIII, IX, X, XI and XII with WMS 1.66, 1.45, 1.29, 1.24, 1.15, 1.09, 0.86, 0.76, 0.70, 0.63 and 0.43, respectively. This showed that most of the students used ICT tools/ services for browsing social networking sites and entertainment purpose compared to academic and research purpose. Now-a-days' social networking sites are one of main factors which affects academic performance of students, as excessive use of these sites affects several social activities of individuals such as occupational and professional activities, interpersonal relationships and health leading to disruption of their life (Azizi et al., 2019). Therefore, it is imperative that the university administration take interventional steps to help college students, who are dependent on these social networking sites and through trainings, seminars, exhibitions, workshops, etc., inform them about the negative and harmful consequences of addiction to social networking sites.

**Table 3. Purpose of using ICT services/tools (N= 200)**

| Items                           | Total score | WMS   | Rank |
|---------------------------------|-------------|-------|------|
| Academic purpose                | 173         | 0.86  | VIII |
| Google maps                     | 249         | 1.24  | V    |
| Online shopping                 | 153         | 0.76F | IX   |
| Agricultural purpose            | 140         | 0.70  | X    |
| Career opportunities            | 219         | 1.09  | VII  |
| Send and receive e-mail         | 231         | 1.15  | VI   |
| Downloading songs, videos, etc. | 290         | 1.45  | III  |
| Browsing social network sites   | 353         | 1.76  | I    |
| Research purpose                | 259         | 1.29  | IV   |
| News update                     | 126         | 0.63  | XI   |
| Entertainment                   | 332         | 1.66  | II   |
| Others                          | 86          | 0.43  | XII  |

Note: Scale: 0= Never, 1=Occasionally, 2= Frequently.

*Relationship between respondents' personality traits with their purpose of using ICT tools/services* : It was observed (Table 4) that personality traits like age (r = 0.199), education (r = 0.514), medium of schooling

(r = 0.291), schooling (r = 0.223), family education (r = 0.231), scientism (r = 0.351), job preference (0.259), annual expenditure (0.189), mass media exposure (r = 0.417), information seeking behavior (r = 0.441) and risk orientation (r = 0.459) exhibited positive and significant correlation at 0.05 level of probability with their purpose of using ICT tools/services, whereas all the remaining factors such as sex (r=-0.061) and parental income (r=0.121) did not show any significant association. While in case of the partial regression coefficient (b value), it was revealed that one unit change in age, education, medium of schooling, schooling, family education, scientism, mass media exposure, information seeking behavior and risk orientation will result in a corresponding change of 2.274, 4.673, 2.198, 3.268, 2.192, 3.224, 2.093, 4.300 and 3.248 unit in the purpose of using ICT tools/ services, respectively. These findings were partially supported by the reports of Murali and Venkataramaiah (2018) who reported that the select independent variables viz., information seeking behavior, scientific orientation, education status, knowledge about websites had significant and positive relationship with exposure to agricultural websites. Similarly, Mishra et al. (2020) reported that age, training, internet use and ICT skills had significant relationship with the utilization pattern of e-resources at 5 per cent level of significance.

Further, it was revealed that all the 13 independent variables jointly contributed to 74.65 per cent ( $R^2 = 0.7465$ ) variation in dependent variable and remaining 25.35 per cent variation was due to extraneous variables.

**Table 4. Relationship between respondents' personality traits with their purpose of using ICT tools (N=200)**

| Personality traits           | 'r' value           | 'b' value | 't' value            |
|------------------------------|---------------------|-----------|----------------------|
| Age                          | 0.199*              | 3.260     | 2.274*               |
| Sex                          | -0.06 <sup>NS</sup> | -0.263    | -0.775 <sup>NS</sup> |
| Education                    | 0.541*              | 2.964     | 4.673*               |
| Medium of schooling          | 0.291*              | 0.058     | 2.198*               |
| Schooling                    | 0.223*              | 0.229     | 3.268*               |
| Parental income              | 0.121 <sup>NS</sup> | 0.433     | 2.109 <sup>NS</sup>  |
| Family education             | 0.231*              | 0.242     | 2.192*               |
| Scientism                    | 0.351*              | 0.518     | 3.224*               |
| Job preference               | 0.259*              | 0.189     | 0.673 <sup>NS</sup>  |
| Annual expenditure           | 0.139 <sup>NS</sup> | 0.079     | 0.778 <sup>NS</sup>  |
| Mass media exposure          | 0.417*              | 0.398     | 2.093*               |
| Information seeking behavior | 0.441*              | 2.022     | 4.300*               |
| Risk orientation             | 0.459*              | 1.698     | 3.248*               |

Note: \* Significant at p= 0.05 level, NS= Non- Significant  $R^2=0.7465$

## CONCLUSION

Now-a-days, ICTs are being used in very creative and effective way in education. Apart from making the learning and teaching more interesting, the ICTs offer opportunity to the teacher and taught to gain information, which not only make learning attractive and interesting, but also increase retention on part of listener. The results of the study indicated that majority of the students were aware about ICT and online agricultural educational portals. All the students had access to mobile phone followed by mobile camera, copier (xerox), etc., but access to some of selected ICT tools/ services is limited within the university. Most of the students used ICT tools/ services for browsing social networking sites and entertainment purpose compared to academic and research purpose. Therefore, it is imperative that the

university administration take interventional steps to help college students, who are dependent on these social networking sites and through trainings, seminars, exhibitions, workshops, etc., inform them about the negative and harmful consequences of addiction to social networking sites. Teachers should take advantage of students' extensive use and experience of specific ICT tools such as mobile phones with internet facilities and social networking sites i.e. Whats App, YouTube, Instagram, etc. in their personal and social lives by formally integrating these ICTs in students' learning, particularly given the increasing evidence of the pedagogical value of these technologies and their positive influence on learning. Meanwhile, university should also make provision for access to ICT facilities within the college environment to accessing them by the students.

## REFERENCES

- Azizi, S.M., Soroush, A. and Khatony, A. (2019). The relationship between social networking addiction and academic performance in Iranian students of medical sciences: a cross-sectional study. *BMC Psych.*, **28** (7): 1-8.
- Khandave, S. and Shaik, M. S. R. (2020). Knowledge and awareness of PG Students of CoA, Pune about information technology tools. *Indian Res. J. of Ext. Edu.*, **20** (4): 75-77.
- Malik, A.K. and Godara, A.K. (2020). Information and Communication Technologies (ICTs) use by the students of CCSHAU, Hisar. *Indian Res. J. of Ext. Edu.*, **20** (4):14-19.
- Mishra, S., Sharma, F.L., Bhimawat, B.S. and Vyas, L. (2020). Utilization pattern of e-resources among the postgraduate scholars. *Indian Res. J. of Ext. Edu.*, **20** (4): 28-33.
- Murali, G. V. and Venkataramaiah, P. (2018). Relationship between profile characteristics of students with their exposure to agricultural websites. *Indian Psych. Rev.*, **70** 2): 91-94.
- Oriogu, C.D., Ogbuiyi, S.U. and Ogbuiyi, D.C. (2014). Availability and accessibility of ICT in the provision of information resources to undergraduate students in Babcock University Library. *Res.on Hum. and Soc. Sci.*, **4** (14): 29-34.
- Thulasi, K.N.P. (2016). Online student portal - a learning portal for every student. *Inter.J. of Eng. Dev. and Res.*, **4** (3): 319-321.

