Use of Internet and ICT Competency among the Teachers of University of Horticultural Sciences, Bagalkot, Karnataka State, India

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Abstract

This study is conducted to assess the use of Internet, purpose of use, level of satisfaction with interent based resources and ICT competency among the Teachers of University of Horticultural Sciences, Karnaka State, India. Online questionnaire were designed using Survey Monky free application software. Questionnaire was sent to the email IDs of the 220 teachers, who are working in university and affiliated colleges in the month of March, 2015. 108 (49.09%) teachers are responded to the online questionnaire. Responses were collected in the month of May, 2015. Findings of the study indicate that majority of the teachers use computer daily and M S Word is most used office application among them.

Keywords

ICT competency; teachers; University Horticultural Sciences; Bagalkot; India, Internet and Computer

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INTRODUCTION

Information and communication technology (ICT) is defined as a 'diverse set of technological tools and resources used to create, store and disseminate information (Cuban, 2001). ICT has strong impact over the almost all fields of the human endure, teaching profession is also not exception. Advent of computer and related technology changed the way of communication and access to plenty of information in less time and comfortable format. Among the ICTs, the internet has been a single major force of change in higher education. Since 1991, and especially with the use of the www browser in 1993, the internet has gradually become the main vehicle of scholarly communication(Al-Ansari , 2006). The importance of teachers' computer literacy and competency is discussed in a number of studies (Atkins and Vasu, 2000; Cunningham, 2000; Johnson, 2002; Rakes and Casey, 2000; Shin and Son, 2007). Role of teachers in Higher Education includes teaching, research and extension. To effectively carry out these, one need to be ICT literate as it facilitate effective communication and transfer of knowledge between and among the learned. Bessenyei *et al*., (2010) stated that in this era of information, Teachers need a set of up-to-date competencies as well as an appropriate attitude to ICT-supported teaching for several reasons, such as reaching a high level efficiency in their daily preparatory and administrative work, guiding their pupils in using ICT as standard facilitating tool in working life and in the "information society"; and for designing up-to-date, attractive and effective IT-based lessons to their pupils. UNESCO's Framework emphasizes that it is not enough for teachers to have ICT competencies and be able to teach them to their students. Teachers need to be able to help the students become collaborative, problem-solving, creative learners through using ICT so they will be eff ective citizens and members of the workforce(UNESCO, 2011).
Therefore, considering vital role of the ICT competency and Interent in the educational system, it is neccesry to know the Interent and ICT competency of the teachers. Hence, this study is conducted to assess the use of Internet, purpose of use, level of satisfaction with interent based resources and ICT competency among the Teachers of University of Horticultural Sciences, Karnaka State, India.

REVIEW OF LITERATURE

Igomu & Solomon, (2014) study revealed that the competency level of Federal Unity Colleges teachers is low and majority of Federal Unity Colleges teachers cannot utilize ICT in teaching their subjects. Most teachers have personal computers/laptops but have little or no competence in the usage of ICT. Similar study conducted by Bingcang (2006) reveals that: (1) there is a difference between Humanities and Science teachers in terms of ICT Competency, and (2) there is no significant difference between rural and urban campuses in terms of ICT Competency.

Andoh-Buabeng & Totimeh (2012) correlation analysis revealed high positive correlation between teachers' computer skills, computer experience and computer access ($r = .59$, $p < .001$; $r = .65$, $p < .001$).

Bakr (2011) study aims at investigating Egyptian teachers' attitudes towards computers in terms of gender and years of teaching experience. Attitudes of a sample of 118 public school teachers, 53 (45%) male and 65 (55%) female, were assessed using 'The Attitude Towards Computer Instrument' (ATCI), developed by Shaft et al (2004), which is a Likert type instrument with three factors of affective, cognitive, and behavioral. Findings showed that the Egyptian public school teachers' attitudes towards computers are positive. There were no significant differences in terms of gender and teaching experience.

Bukaliya & Mubika (2011) study examined the ICT competences of rural and urban day secondary school teachers in Chegutu District, Mashonaland West Region. One hundred and twenty out of 320 secondary school teachers participated in the study by providing data which was sought through the use of questionnaires and a competence practical test. Majority of the respondents were not able to use the basic software in computers for lesson delivery. Further indications are that teachers lack the necessary skills and knowledge of computer. Son et al. examined the current level of computer literacy of a group of Indonesian teachers of English as a foreign language (EFL) and investigated factors affecting their use of computers in classrooms. teachers in the study indicated that their self- evaluation of basic computing skills are generally high but their frequency of using computer applications is limited to few types of applications such as word processing.

Similarly Kumar and Parmar, (2014) conducted a study to assess the use of Internet by the research scholars and faculty members of Kurukshetra University Kurukshetra in the disciplines of Science. The responses were gathered from 205 users (90 Teachers and 115 Research Scholars). The findings of the survey reveal that 74.63% of the respondents were always use the Internet daily, 4.87% were used it sometimes. Only less than 14.63% respondents were always using the Internet once in a week and also 5.85% twice in a week. In Science 87.80% respondents were always use the internet for research works, 12.19% used it sometimes. Majority of them 73.17% education and 58.53% entertainment purpose use the internet their always and 36.58% sometimes.

METHODOLOGY

Based on the literature review of the Internet use and ICT competency, online questionnaire were designed using SurveyMonky free application software, the questionnaire were tested by distributing among the few teachers and based on feedback, same were redesigned. The link of the questionnaire were sent to the email IDs of the 220 teachers who are working university and affiliated colleges in the month of March, 2015. 108 (49.09%) teachers are responded to the online questionnaire. Responses were collected in the month of May, 2015 and analysis and interpretation for the data were made and findings of the study were discussed.

OBJECTIVES OF THE STUDY

The main of objectives of the study are:

1 To know gender, age, designation, frequency of use of computer and its applications by the teachers;
2 To determine frequency of use of internet, purpose and satisfaction with Internet resources; and
3 To find out level of awareness with ICT tools and Internet aspects (37 aspects), collect opinion of teachers on need of training program on use of ICT; and give suggestion based on the findings of the study.

RESULTS AND DISCUSSION

University of Horticultural Sciences, Bagalkote is a new Public university exclusively dedicated to the study and research of Horticultural sciences established by the Government of Karnataka at Bagalkote. The University offers B. Sc., M Sc., and Ph. D. in Horticulture. University has 08 constituent colleges and 20 Research stations located at different places of Karnataka State, India. Total of 220 teachers are working in the University. The questionnaire was designed using Survey Monkey application, the link were sent to the e-mail of the

teachers in the month of March 2015. 108 teachers were responded to the questionnaire. Main purpose this study was to assess the computer skills and use of internet by the teachers of University of Horticultural Sciences, Bagalkot.

Table 1 : Gender, Age and Designation of the teachers

Gender of the Teachers	Frequency and Percentage
Female	14(12.96%)
Male	94(87.04%)
Age of the Teachers	
25 to 34	32(29.63%)
35 to 44	60(55.56%)
45 to 54	8(7.41%)
above 55	8(7.41%)
Designation of the teachers	
Assistant Professor	64(59.26%)
Associate Professor	36(33.33%)
Professor	8(7.41%)
Total	**108**

Table 1 depicts that, out of 108 teachers, 94(87.04%) are male and only 14(12.96%) female teachers who are responded the online questionnaire. 60(55.56%) are the between the age group of 35-40 years, 32(29.63%) are belonging to 25-34 years age group and only 16(14.82%) teachers are above age of 45 years. Majority of the teachers under the study are blow the age of 45 years. 64 (59.26%) teachers are Assistant professor, 36(33.33%) teachers described them as Associate Professor and only 8(7.41%) teachers are professor under the study. form the table 1 it's clear that majority of the teachers under the study are male, between the age of 25-45 years and their designation is Assistant professor.

Table 2: Use of computer and its applications

Frequency of use of computer	Frequency and Percentage
Daily	92.59% 100
Once a Two days	7.41% 8
Weekly	0
Monthly	0
Rarely	0
Frequency of use of Application	
MS Word	88.89% 96
MS Excel	0
MS Power point	11.11% 12
MS Access	0
Total	**108**

Table 2 shows that out of 108, 100 (92.59%) teachers use computer on daily basis while only 8(7.41%) teachers indicated that they use computers once in two days. The question was asked about use of office application, 96(88.89%) teachers replied that they use MS Word most frequently followed by MS Power Point 12(11.11%). So form the table 2 its clear that majority of the teachers use computer daily and M S Word is most used office application.

Table 3: Use of internet, purpose and satisfaction with Internet resources

Frequency of use of Internet	Frequency and Percentage
Daily	94.44% 102
Once a two days	5.56% 6
Weekly	0
Monthly	0
rarely	0
Purpose of use of Internet	
Prepare for classroom teaching	74.07% 80
Write a paper for Journal	29.62% 32
To write a project	40.74% 44
To read articles related to my subject	85.18% 92
Personal purpose	55.55% 60
Level of satisfaction with resources available on Internet	
Fully satisfied	37.04% 40
Partially satisfied	55.56% 60
Not Satisfied	7.40% 8
Total	**108**

Table 3 depicts that among 108 teachers, 102 (94.44%) teachers use Internet on daily basis and only 6 have responded that they use Internet once in two days. The teachers were asked the purpose of use of internet. 92(85.18%) teachers use Internet to read articles related to their specialized subject, 80(74.07%) teachers use to prepare for classroom teaching, 60(55.55%) teachers use Internet for personal work, 44(40.74%) teachers for to write article and 32(29.62%) teachers use it for write article. 60(55.56% teachers are partially satisfied with resources they get over Internet and only 40(3.04%) teachers are satisfied with resources

available on the Internet. So from the table 3 its confirm that majority of the teachers use internet for reading articles , preparing for classroom teaching and personal work and only some portion of the teachers use Internet for writing article and project proposal. The majority of the teachers are partially satisfied with information resources available over internet.

Table 4 Level of awareness with ICT tools and Internet aspects

Level of awareness with following Aspects	**Not aware–**	**Partially aware and need training–**	**I am aware**	**I am fully aware**	**Total**	**Weighted Average**	Rank
Locate and run a programme (software application)	22.22% 24	29.63% 32	29.63% 32	18.52% 20	108	2.44	29
Use CD-ROM-based software)	26.92% 28	23.08% 24	23.08% 24	26.92% 28	104	2.50	28
Organise your electronic files into folders	12.50% 12	4.17% 4	25.00% 24	58.33% 56	96	3.29	11
Move files between drives (e.g. From “Resources” to usbstick)	7.69% 8	3.85% 4	26.92% 28	61.54% 64	104	3.42	6
Search for files on the computer system	0.00% 0	0.00% 0	40.74% 44	59.26% 64	108	3.59	3
Print to a selected printer other than the default.	0.00% 0	3.70% 4	40.74% 44	55.56% 60	108	3.52	4
Connect up the computer and accessories (e.g. Speakers)	3.70% 4	14.81% 16	44.44% 48	37.04% 40	108	3.15	13
Use a scanner for copying images	0.00% 0	19.23% 20	30.77% 32	50.00% 52	104	3.31	10
Use a digital camera for capturing images	3.85% 4	11.54% 12	26.92% 28	57.69% 60	104	3.38	7
Transferring photographs from camera to the computer.	3.70% 4	18.52% 20	14.81% 16	62.96% 68	108	3.37	8
Aware of computer security, copyright and the law	25.93% 28	29.63% 32	33.33% 36	11.11% 12	108	2.30	31
Use simple editing e.g. Bold, italics, centring, font size etc	0.00% 0	0.00% 0	18.52% 20	81.48% 88	108	3.81	1
Use a spellchecker	3.70% 4	7.41% 8	29.63% 32	59.26% 64	108	3.44	5
Import text and images into a word processed document	7.41% 8	18.52% 20	29.63% 32	44.44% 48	108	3.11	14
Lay out text and images	7.41% 8	14.81% 16	44.44% 48	33.33% 36	108	3.04	16
Use headers and footers	0.00% 0	11.11% 12	55.56% 60	33.33% 36	108	3.22	
Use the drawing tools to create shapes and Autoshapes	3.70% 4	22.22% 24	37.04% 24	37.04% 40	92	3.07	15
Save a document in various file formats e.g. PDF / HTML	7.41% 8	22.22% 24	48.15% 52	22.22% 24	108	2.85	18
Create active hyperlinks within a document.	12.00% 12	36.00% 36	32.00% 32	20.00% 20	100	2.60	26

Auto filling series (e.g. Dates, list numbers)	11.54% 12	19.23% 20	42.31% 44	26.92% 28	104	2.85	18
Sort data	19.23% 20	23.08% 24	34.62% 36	23.08% 24	104	2.62	25
Input formulae	15.38% 16	26.92% 28	46.15% 48	11.54% 12	108	2.54	27
Produce charts and graphs for data analysis	14.81% 16	22.22% 24	44.44% 48	18.52% 20	108	2.67	23
Password protect a spreadsheet, word document and Power point document.	11.11% 12	29.63% 32	33.33% 36	25.93% 28	108	2.74	20
Add clipart to slides	15.38% 16	15.38% 16	50.00% 52	19.23% 20	104	2.73	21
Modify colours of text, lines and spaces on a slide	0.00% 0	14.81% 16	40.74% 44	44.44% 48	108	3.30	9
Introduce animation onto slides	11.11% 12	22.22% 24	40.74% 44	25.93% 28	108	2.81	19
Modify transition between slides	11.11% 12	33.33% 36	29.63% 32	25.93% 28	108	2.70	22
Edit a master slide	25.93% 28	25.93% 28	25.93% 28	22.22% 24	108	2.44	29
Incorporate a data chart or graph	18.52% 20	25.93% 28	29.63% 32	25.93% 28	108	2.63	24
Access an Internet site via its website address	7.41% 8	11.11% 12	44.44% 48	37.04% 40	108	3.11	14
Use search engines to find information	7.41% 8	18.52% 20	40.74% 44	33.33% 36	108	3.00	17
Use logical operators (e.g. + “”)when searching for information	30.77% 32	34.62% 36	19.23% 20	15.38% 16	104	2.19	32
Use bookmarks / favorites for marking sites	25.93% 28	29.63% 32	29.63% 32	14.81% 16	108	2.33	30
Download files from the internet	0.00% 0	15.38% 16	46.15% 48	38.46% 40	104	3.23	12
Save text and images from web pages	3.70% 4	18.52% 20	37.04% 40	40.74% 44	108	3.15	13
Attach files to outgoing e-mails	0.00% 0	0.00% 0	37.04% 40	62.96% 68	108	3.63	2

To assess the awareness of teachers about ICT tools and Internet aspects, 37 aspects were listed in the online questionnaire as per the Likart Scale 4 point. The parameters used for the assessment are “I am fully aware”, “I am aware”, “partially aware and need training”, and “Not aware”.

Table 4 indicate that majority of the teachers are stated that they are fully aware with following aspects use of computer, Internet and ICT tools. The aspects as per their rank are listed below.

1. Use simple editing e.g. Bold, italics, centring, font size etc
2. Attach files to outgoing e-mails
3. Search for files on the computer system
4. Print to a selected printer other than the default.
5. Use a spellchecker
6. Move files between drives (e.g. From “Resources” to usbstick)
7. Use a digital camera for capturing images
8. Transferring photographs from camera to the computer.
9. Modify colours of text, lines and spaces on a slide
10. Use a scanner for copying images
11. Organise your electronic files into folders

12. Download files from the internet
13. Save text and images from web pages
14. Access an Internet site via its website address and Import text and images into a word processed document
15. Use the drawing tools to create shapes and Autoshapes
16. Lay out text and images
17. Use search engines to find information
18. Auto filling series (e.g. Dates, list numbers)
19. Introduce animation onto slides
20. Password protects a spreadsheet, word document and Power point document.
21. Add clipart to slides
22. Modify transition between slides
23. Produce charts and graphs for data analysis
24. Incorporate a data chart or graph
25. Sort data and
26. Create active hyperlinks within a document.

Table 4 shows that majority teachers or reasonable portion of the teachers are stated that they are either partially aware and need training or not aware with following aspects of use of computer, Internet and ICT tools. The aspects as per their rank are listed below:

1. Use logical operators (e.g. + "") when searching for information
2. Aware of computer security, copyright and the law
3. Use bookmarks / favorites for marking sites
4. Locate and run a programme (software application)
5. Use CD-ROM-based software
6. Edit a master slide and
7. Input formulae

Table 5 Need of training program on use of ICT

Need training programme on use of computer and Internet	**Responses and Percentage**
Disagree	14.81% 16
Partially Agree	44.44% 48
Agree	7.41% 8
Strongly agree	33.33% 36
Total	**108**

Table 5 reveals that 44(40.74%) teachers opined that they need training on use of computers and Internet, followed by 48(44.44%) teachers are partially agree. Only16 (14.81%) teachers are stated that they are not needed any training on use of computer and Internet.

Conclusion

Findings of the study indicate that majority of the teachers under the study are male, between the age of 25-45 years and their designation is Assistant professor. Most of the teachers use computer daily and M S Word is most used office application among them. Majority of the teachers use internet for reading articles, preparing for classroom teaching and personal work and only some portion of the teachers use Internet for writing article and project proposal. The majority of the teachers are partially satisfied with information resources available over internet.While searching the internet based resources or any other electronic resources, the use of logical operators (such as + "") play very important for retrieval of relevant sources of information. The findings of the study indicate that majority of the teachers are not aware of use of these logical operators. It might be hindering the use of internet resources among the teachers. 21st century is known as information era where awareness of computer security, copyright and the law are very vital, one should aware of it. The study also indicate that majority of the teachers are not aware of copyright law.

Due to advancement Internet technology, every organization is communicating through their website, it's very difficult to remember all the websites URL which are useful. Bookmarks or favorites option is solution for this problem and also avoids the retyping the URL again and again. One can use this option to easily remember the computer to URL for the next use of the website. The study finding shows that majority of the teachers are not aware of the use of Bookmark or favorites option.Due to the revolution in the software industries, now days, many more products in form of software developed to perform several task with the help of computer as it known for accuracy and speed. For example, software package for statistical analysis which is very useful for the researchers. The findings of the study show that majority of the teachers are not fully aware of Locate and run a programme (software application) other than office application software and use of CD-ROM based software.

M S Excel is very useful application for the calculations purpose; the teachers also need to know calculation work for fulfilling the teaching and research responsibilities at Universities. But majority of the teachers expressed that they do not know how to input formulae.Hence, there is urgent need of

training progreme on use of ICT and Internet for the teachers of University Horticultural Sciences, Bagalkot, Karnataka State, India.

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