

International Journal of Extension Education

Volume 9

December, 2013

—• PUBLISHED BY •—



International Society of Extension Education

Department of Extension Education, College of Agriculture, Nagpur - 440 001.
Maharashtra, India

E-mail : editor.injee@gmail.com, Web : www.inseeworld.com

International Journal of Extension Education

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Computer and Internet Usage Skills of Agricultural Science Lecturers of Tertiary Institutions in Benue State, Nigeria

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ABSTRACT

The study examined computer and Internet usage skills of agricultural science lecturers of tertiary institutions in Benue State, Nigeria. A structured questionnaire was used to collect data from 193 lecturers randomly selected from six tertiary institutions in the state and analyzed using frequency, percentage, mean scores and standard deviation. The result of the study showed that most of the respondents possessed general computer and Internet skills in most of the skills tested, including renaming files ($M = 1.24$); cutting/copying and pasting between applications ($M = 1.25$); minimizing, maximizing and resizing windows ($M = 1.26$); saving and arranging files in folders ($M = 1.28$); properly shutting down personal computer ($M = 1.37$); connecting to the Internet and using any Internet browser ($M = 1.30$); knowing how to use search engines like Google and Yahoo ($M = 1.33$) and creating and sending e-mails to other people ($M = 1.31$). However, certain skills, such as, using the disk clean-up tool ($M = 0.87$), running scandisk ($M = 0.93$), defragmentation of the hard drive ($M = 0.76$), knowing how to group contacts in email box ($M = 0.90$), knowing how to set up preferred default homepage ($M = 0.89$), subscribing and unsubscribing from email mailing list ($M = 0.89$), among other activities, were not well mastered by respondents. The study recommends the need for staff training and re-training to be built into staff development programmes to ensure that the knowledge of staff is constantly updated with relevant skills that are needed for effective teaching and learning.

Key words : Computer; Internet; Online usage skills; Agricultural science lecturers

The estimated number of Internet users' world-wide, as at June 2010, was about 1.96 billion people, out of the total estimated world population of 6.85 billion people (Internet World Stats, 2011). The Internet is the main driver of the information age and the knowledge society that is now the norm in advanced countries. The leading countries in Internet usage include: China, the United States of America (USA), Japan, India, Brazil, Germany, Russia, the United Kingdom (UK), France and Nigeria. The appropriate and effective use of the internet in the generation and communication of information has greatly speeded up the general development in advanced countries.

It is pertinent to note that the usage of the Internet vary, as people use Internet either for educational purposes, networking, and/or leisure. In more advanced countries of the world, the usage of Internet maybe more for information and education purposes. This is very much unlike the developing countries (e.g. Nigeria) where the usage may primarily tilt towards social networking and the likes. For example, Jagboro (2003) found that low level of Internet usage exist for teaching, learning and research in most Nigerian higher institutions. Also, a study by Aduwa-Ogiegbaen and Uwameiye (2009) in southern Nigeria discovered that agricultural science teachers were inexperienced in the use of the Internet. Similarly, Agbulu and Ademu (2010) also found that agricultural science teachers were not knowledgeable in the use of ICT for teaching. This could be attributed to limited/lack of possession of the operating skills associated with the use of the internet and computer or unawareness of the vast resources available in these devices.

For effective teaching and learning experience in this century, it is necessary that lecturers and teachers alike possess the relevant skills for operating the Internet, and constantly making use of these skills for their teaching and research purposes, as the Internet in particular, is a repository of useful academic information. Since it is very difficult, if not impossible, for tertiary institutions of learning to adequately meet the needs of their academic staff and students, in terms of providing them with all the appropriate and required books, journals, and other learning resources, it is imperative for lecturers to find ways of accessing Internet resources that are useful to their academic work. Bearing in mind the limited use of the internet and computer facilities as teaching and learning aids by agricultural science lecturers in many tertiary institutions found in the country, This study sought to assess Internet and computer usage skills of lecturers of agricultural science in tertiary institutions in Benue state. Specifically, the objectives of the study included to:

1. Ascertain the computer usage skills among lecturers
2. Ascertain internet resource usage of respondents
3. Identify factors that facilitate internet resources usage; and
4. Identify the major constraints associated with computer and internet resource use by lecturers

METHODOLOGY

This study covered tertiary institutions of learning in the state. Specifically, it targeted federal, state and private universities, colleges of agriculture and colleges of education in which agricultural science is taught. Thirty percent (30%) of the agricultural

science lecturers randomly selected from the different institutions constituted the sample for the study. In all, a total of one hundred and ninety three respondents were interviewed. The socio-economic and institutional characteristics of the respondents were summarized using frequency counts, percentages and mean statistic, while objectives 2 and 3 were analyzed using mean statistic and standard deviation.

RESULTS AND DISCUSSION

Institutional and socio-economic characteristics of respondents

Age : The result in Table 1 revealed that a greater proportion (33.7%) of the respondents were in the age bracket of 46 and 55 years, 31, 30.6 and 4.7 per cent of the respondents, were in the age brackets of 36-45 years, 25-35 years and above 55 years of age, respectively. The mean age of the respondents was 42 years, which indicated that most of the respondents were still in their active ages and so might be in a better position to carry out the duty of imparting knowledge to the students more effectively. This seemingly low percentage of young adults in the teaching of agricultural science possibly indicates aversion of youths to science courses and desire to be involved in more lucrative jobs than teaching. There is, therefore the need to entice youths into the teaching profession, by offering incentives to make the teaching job, comparatively better than oil, gas and

telecommunications jobs.

Sex : Result in Table 1 indicated that majority (82.4%) of the respondents were male, while 17.6 per cent were female. The result suggests that there may be more men in the system than women. According to Stads (2011) female scientists continue to be underrepresented in African agricultural research more so, women find it more difficult to find information online and therefore much less likely to use Internet resources (Bassi and Camble, 2011).

Academic attainment : Table 1 showed that a greater proportion (48.7%) of respondents possessed first degree or its equivalent, 25.9 per cent of respondents possessed masters' degree or its equivalent, 16.1 per cent had M.Phil while the remaining 9.3 per cent had Ph. D degree. The average years spent on formal education by respondents was 20 years. This indicates that majority of the agricultural institutions in the state were populated by middle level manpower staff, who may be facing many more challenges in the use of Internet facilities in executing their academic and research endeavours.

Years of work experience : The majority (62.0%) of the respondents had between 1 and 10 years of working experience; 25.7 per cent of respondents had 11-20 years; while 11.7 per cent of the respondents had 21-30 years. Only about 1 per cent had above 30 years of work experience. The average work experience was 10.3 years. The implication is that the respondents are

Table 1
Distribution of respondents' by socio-economic characteristics (in per cent)

Socio-economic characteristics	Frequency (n=193)	%	M
Age			
25-35	59	30.6	42
36-45	60	31.0	
46-55	65	33.7	
>55	09	04.7	
Sex			
Male	159	82.4	
Female	34	17.6	
Academic attainment			
HND/B. Tech./B. Agric./B. Sc	94	48.7	
M.Sc	50	25.9	
M.Phil	31	16.1	
Ph.D	18	09.3	
Years of work experience			
1-10	115	59.59	10.3
11-20	50	25.90	
21-30	24	12.44	
>30	04	02.07	
Years spent on formal education			
10-20	121	88.6	20
21-30	67	34.7	
>30	05	02.6	
Income (Salary)/month			
1000-100,000.00	31	16.06	N181,413.37
101,000-200,000.00	93	48.19	
201,000-300,000.00	48	24.87	
301,000-400,000.00	10	05.18	
401,000-500,000.00	07	03.63	
>500,000.00	04	02.07	

possibly young and growing on the job and may be more zealous in using Internet resources for teaching and research in order to be promoted in their careers. These findings are in line with the findings of Aduwa-Ogiegbean and Uwameiye (2006) who reported that lecturers with less than five years of work experience used the Internet more than other respondents with more experience. Possible reasons for this action may be that most of such lecturers are young and new on the job and are thus looking for ways to get information for their academic papers, which are critical to their promotions as well as using the Internet resources for their lectures. The predominance of less experienced workforce appears to be the hallmark of the academia, as Mulla (2011) also discovered in his study that only 10% of the faculty members had more than 25 years of experience in teaching.

Income/salary per month : Majority (48.2%) of the respondents earned between N101, 000 and N200, 000 (Nigerian Naira) per month. About 24.9, 16.1, 5.2 and 3.6 per cent of the respondents earned N201, 000 - N300,000; N10,000 - N100,000; N301,000 - N400,000; and N401,000 - N500,000, respectively. Only about 2.07 per cent of the respondents earned more than N500, 000 per month. The average income/salary was N181, 413.37.

Respondents' level of skillfulness in computer usage

Result in Table 2 showed the basic computer activities for which respondents' skillfulness were measured. Majority of respondents were skillful in most of the computer skills, including: using windows

explorer to manage file (M=1.03), downloading, installing and updating antivirus programs (M=1.04), switching between applications and using windows help (M=1.11), backing up work to flash drive and compact disc and creating shortcuts on the desk top (M=1.16), setting up screen savers (M=1.18), creating new directories/folders (M=1.22), renaming files (M=1.24), copying and pasting between applications (M=1.25) and saving files in personal and general directories (M=1.26). Other computer activities in which they possessed the necessary skills include moving and copying files (M=1.26), searching for files (M=1.26) and minimizing, maximizing and resizing windows (M=1.26), saving and arranging files in folders (M=1.28) and shutting down personal computer properly (M=1.37). The standard deviation of all the variables are all less than 1, indicating that their general skillfulness in computer usage did not vary much from the mean. The implication here is that majority of respondents are generally skillful in the use of computer; hence their ability to access and make use of Internet resources for teaching purposes will be enhanced. Bashorun, Isah, and Adisa (2011) asserted that academic staff in the University of Ilorin seemed to be equipped with fairly good computer skills that enabled them to search and utilize online resources from the Internet. On the whole, computer skills appear to be an important factor in the use or non use of online resources (Sujatha and Shivananda 2010; Okwilagwe and Ogbomo, 2011).

Table 2
Respondents' level of skillfulness in general computer usage

Computer skills	M	SD
Recovery of accidentally deleted files	1.09*	0.763
Saving files in personal and general directories	1.26*	0.705
Using Windows Explorer to manage files	1.03*	0.761
Creating new directories/folders	1.22*	0.766
Saving and arranging files in folders	1.28*	0.751
Moving and copying files	1.26*	0.765
Creating shortcuts on the desktop	1.16*	0.829
Renaming files	1.24*	0.789
Searching for files	1.26*	0.735
Using the disk clean-up tool	0.87	0.772
Running scandisk	0.93	0.791
Defragmentation of drive C (Hard disk)	0.76	0.778
Switching between applications	1.11*	0.742
Minimizing, maximizing and resizing windows	1.26*	0.768
Cutting/copying and pasting between applications	1.25*	0.761
Using Windows help	1.11*	0.766
Setting up screen savers	1.18*	0.794
Backing up work to flash drive and CD	1.16*	0.804
Downloading, installing and updating antivirus	1.04*	0.814
Properly shutting down PC	1.37*	0.736
Converting word documents to pdf documents	0.84	0.826

M - Mean, SD - Standard Deviation

Respondents' level of skillfulness in internet and online usage : The result in Table 3 indicate of that respondents were skillful in most Internet and online activities, including: knowing how to use search engines such as Google and yahoo (M=1.33); knowing how to find required and relevant information and creating and sending e-mails to other people (M=1.31, each); connecting to the Internet using any Internet browser and replying to, deleting and forwarding emails (M=1.30 each); knowing how to download documents from websites (M=1.28); using the Internet competently (M=1.27) and accessing e-mail box with ease (M=1.19). Other Internet activities in which they possessed adequate skills include attaching a word document or picture to an e-mail and sending as

mail box (M=0.90) and sorting e-mails (M=0.94). The implications of these findings are that most respondents are significantly skillful in most Internet and online activities. This means that they can easily access and utilize online resources that can help them in their teaching jobs. Okiki and Asiru (2011) reported that majority of the respondents in their study expressed high confidence in their search skills and the influence it had on their use of online resources. concerning those activities in which respondents were not skillful, Ansari and Zuberi (2010) posited that since there is a direct relationship between computer literacy and use of electronic resources, there is the need to develop Internet search skills by online resources users.

Table 3
Mean scores of respondents' level of skillfulness in internet and online usage

Internet and online activities skills	M	SD
Connecting to the Internet using any Internet browser	1.30*	0.722
Using the Internet competently	1.27*	0.744
Knowing how to find relevant information that may be required	1.31*	0.694
Knowing where to put a URL in the browser to find a particular webpage	1.14*	0.779
Knowing how to download a document from a website	1.28*	0.752
Knowing how to download, install and update software	1.04*	0.796
Knowing how to set up preferred default home page	0.89	0.781
Knowing how to use search engines like Google and Yahoo	1.33*	0.742
Knowing how to navigate website	1.16*	0.760
Creating and sending emails to other people	1.31*	0.742
Replying to, deleting or forwarding emails	1.30*	0.743
Adding contacts to contacts list	1.14*	0.788
Knowing how to group contacts in e-mail box	0.90	0.780
Attaching a word document or picture to an e-mail and sending as attachment	1.17*	0.822
Knowing how to sort e-mails	0.94	0.779
Saving e-mails to an outlook folder	0.79	0.767
Creating a new outlook folder	0.73	0.736
Subscribing to and unsubscribing from an email mailing list	0.89	0.785
Accessing e-mail box with ease	1.19*	0.779
E-mailing an image file as attachment	1.01*	0.804

M - Mean, SD - Standard Deviation

attachment (M=1.17); knowing how to navigate websites (M=1.16); knowing where to put universal resource locator (URL) in the browser to find a particular webpage and adding contacts to contacts list (M=1.14); Knowing how to download, install and update software (M=1.04) and e-mailing image files as attachments (M=1.01). However, activities in which respondents did not have any skills included: creating a new outlook folder (M=0.73); saving e-mails to an outlook folder (M=0.79); setting up preferred home page and subscribing and unsubscribing from e-mail mailing list (M=0.89, each); grouping contacts in e-

Internet resources usage by respondents :

Table 4 showed that 33.7 per cent of respondents accessed the Internet on a daily basis, 33.2 per cent had access to Internet every other day, 10.4 per cent had access to Internet twice a week, 7.9 per cent had access to Internet once a week, 6.3 per cent had access to Internet fortnightly. Only 4.1 per cent had access to Internet once a month, while 2.6 per cent had no access to Internet at all. Majority (88.6%) of respondents indicated that they used the Internet for academic research purposes. Other uses to which the Internet was put to by the respondents included: email (62.7%),

news (52.8%), social networking (28.5%), watching movies (15.0%) and playing games (11.4%). As regards to the types of connectivity to the Internet available to respondents, majority accessed their

use of Internet by lecturers was the need to carry out academic research. This is in consonance with the findings of Kumar and Kumar (2010) and Okiki and Asiru (2011)..

Table 4
Distribution of respondents by factors that facilitate internet usage

Variables	Frequency (N=193)	Percentage
Access to the Internet		
Yes	186	96.4
No	07	03.6
Frequency of access to the Internet		
Daily	69	33.7
Every other day	64	33.2
Twice a week	20	10.4
Once a week	15	07.9
Once every fortnight	12	6.3
Once a month	08	4.1
Not at all	05	2.6
Uses to which the Internet is employed		
Research	171	88.6
News	102	52.8
Games	22	11.4
Movies	29	15.0
Email	121	62.7
Social networking such as Facebook	55	28.5
Type of Internet connectivity that is available		
Campus-wide Internet system	75	38.9
Campus-wide intranet system	57	29.5
Private cyber cafes	126	65.3
Data plan from network providers such as MTN	01	0.5
Others, such as mobile phones/devices	09	4.7
Networks used in accessing the internet by lecturers		
MTN data plan	97	50.3
Airtel data plan	20	10.4
Etisalat data plan	46	23.8
Glo data plan	42	21.8
Multilinks data plan	15	7.8

Internet through use of private cyber cafes (65.3%). Other ways through which respondents accessed the Internet include use of campus-wide Internet systems (38.9%), use of campus-wide Internet systems (29.5%), use of mobile devices, such as handheld phones (4.7%) and the use of data plan from network providers such as MTN (0.5%). About half (50.3%) of the respondents that used data plan by network providers in accessing the Internet indicated that they use MTN data plans. Other networks used included: Etisalat data plans (23.8%), Globacom data plans (21.8%), Airtel data plans (10.4%) and Multilinks data plans (7.8%). The strongest factor that influenced the

Perceived constraints to use Internet : Table 5 showed factors considered to be constraints to access and use of the Internet by respondents. These include: unstable power supply ($M = 2.27$), high cost of access and usage of online resources ($M = 2.15$), non-subscription for relevant online resources by institutions ($M = 2.08$), slow connection to the Internet ($M = 2.04$), lack of sponsored training from institutions ($M = 2.0$), inadequate technical support ($M = 1.99$), lack of campus-wide Internet connectivity ($M = 1.92$), lack of access to the Internet ($M = 1.90$), lack of user-education on access and use of relevant online resources ($M = 1.87$) and lack of awareness of

availability of relevant online resources and lack of knowledge of use of computer (M = 1.80, each). Other constraints include non availability of ICT training centers to update ICT knowledge (M = 1.74), lack of interest (M= 1.69), too much time required for accessing and using online resources (M = 1.62), inability to learn the required computer skills (M = 1.60), too much information received from the Internet (M = 1.57), distraction from children (M = 1.45), fear of handling/touching a computer and fear of being laughed at by peers (M = 1.43, each) and poor eye sight (M = 1.42).

respondents had access to the Internet, mostly through the use of private cyber cafes and data plans from network providers. The constraints that were perceived to have influenced computer and the Internet usage included, among others, unstable power supply, high cost of access and usage of online resources, non-subscription for relevant online resources by institutions, slow connection to the internet and lack of sponsored training from institutions.

Recommendations : On the basis of discussion above following are the recommendations.

Table 5
Perceived constraints to access and use of online resources

Constraints	M	SD
Lack of access to the Internet	1.90*	0.82
Non-Subscription for relevant online resources by the institution	2.08*	0.80
High cost of access and usage of online resources	2.15*	0.81
Lack of awareness of relevant online resources	1.80*	0.81
Lack of knowledge of use of the computer	1.80*	0.91
Slow connection to the Internet	2.04*	0.81
Too much information received	1.57*	0.80
Lack of sponsored training from my institution	2.00*	0.90
Lack of a campus-wide Internet connectivity	1.92*	0.90
Lack of user education on access and use of relevant online resources	1.87*	0.80
Inadequate technical support	1.99*	0.80
Lack of interest/ Poor attitude towards acquiring ICT skills	1.69*	0.82
Poor eye sight	1.42*	0.70
Distraction from children	1.45*	1.10
Too much time required for accessing and using the resources	1.62*	0.78
Fear of handling/touching a computer	1.43*	0.75
Inability to learn the required computer skills	1.60*	0.82
Unstable power supply	2.27*	0.83
Fear of being laughed at by peers	1.43*	0.72
Non availability of ICT training centers to update ICT knowledge	1.74*	0.80
Unwillingness of some colleagues to teach others what they have acquired	1.57*	0.74
Lack of competence in Internet searching skills	1.68*	0.81
Financial problems	1.95*	0.83

M - Mean, SD - Standard Deviation

The implications of the result are that most respondents had similar constraints, as their standard deviations are not too far from the mean. Most studies concerning constraints to access and use of online resources in Nigeria show similar results as obtained in this present study, with some of the outstanding constraints being: incessant power supply and lack of user education (Bashorun, Isah and Adisa, 2011; Mulla, 2011; Chigbu and Dim, 2012; and Omeluzor, Madukoma, Bamidele, and Ogbuiyi 2012).

CONCLUSION

Results of the study revealed that majority of the respondents were generally skillful in computer, Internet and online activities. Majority of the

1. Staff training and re-training should be built into staff development programmes. This will ensure that the knowledge of staff is constantly updated with relevant skills that are needed in teaching and learning activities.
2. There is need for lecturers to upgrade themselves, through involvement in personal training programs that will enhance their computer, Internet and online usage skills, in order to be able to locate access and make more effective use of online resources for their academic and research activities.

Paper received on : August 09, 2013

Accepted on : September 29, 2013

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