Usage of ICAR e-learning Portal Among Students of North East India: A Pilot Study

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ABSTRACT

The aim of this study was to analyze the usage of ICAR e-learning portal and other online resources among students of North east India. A well structured questionnaire was administered to 199 students and faculty of agriculture colleges. Source of accessing internet; time spent on internet; use of digital academic resources and its benefits; frequency of visiting portal *etc.* were studied. Suggestions were sought on improving the portal. Around 85 per cent of the respondents reported that access to internet improves learning and the contents were found useful by around 80 per cent of the respondents. Extent of use of the portal by the academic fraternity is poor as only 18.56 per cent of them downloaded any resource from the portal. Majority (51.71%) of the respondents suggested adding Power Point presentations and videos in support of the subject contents. Lack of strategic planning and vision was the major barrier in e-learning implementation as perceived by teachers. Development time of e-course contents was perceived as second important barrier. Lack of training in technological developments and support were also identified as constraints by the teachers.

Keywords: Barriers, digital resources, e-learning portal, internet, usage pattern

INTRODUCTION

e-Learning has started to make way into developing countries and is believed to have huge potential for governments struggling to meet a growing demand for education while facing an escalating shortage of teachers (UNESCO, 2006). e-Learning is seen as a tool for raising the number of students who have access to higher education, especially marginalized groups in rural areas, by being a cheaper and more flexible alternative (Dhanarajan, 2001; Patton, 2000; Potashnik and Capper, 1998). In many developing countries there is a lack of vital e-learning components such as computers, electricity and skills (Dhanarajan, 2001; Heeks, 2002; Rajesh, 2003); and the active, participative student that is required for interactive learning is also very rare in countries where the tradition is to teach in a more didactic manner (Eastmond, 2000; Evans, 2005; Sehrt, 2003). The information technology leads to development of e-learning websites. Taking advantage of these developments, the Education division of ICAR has taken initiatives and coordinating for refinement, updation, maintenance and sustenance of the e-learning courseware, contents developed for different disciplines in collaboration with agricultural universities/NDRI. Under Learning and Capacity Building program of NAIP, UG level interactive & multimedia e-Courseware contents in seven disciplines *viz.* Agricultural Science; Fisheries Science; Dairy Science; Veterinary and Animal Husbandry; Horticulture; Home Science and Agricultural Engineering have been developed in collaboration with SAUs and other organizations. The portal became operational in July 2013 and it provides services 24*7 allowing online access to all the teachers and students in the field of agricultural education. For remote area institutions/ faculty/ students, free download facility is provided for using the e-Courseware contents offline. It was envisaged that the portal would be useful in providing courseware, developed by experienced teachers and would cut across geographical barriers. However, several factors limit the usage of the portal. Levels of awareness among the academic fraternity, access to internet, lack of training etc. seem to limit its usage. In order to overcome this ICAR-IASRI organises awareness cum Online Demonstration Seminar on e-Learning Portal on Agricultural Education (e-KrishiShiksha) in various parts

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of the country involving students and faculty of agricultural colleges. One such seminar was also organised on 7th February 2015 at College of Fisheries, Agartala, Tripura. No systematic study report is available on use of internet and other digital resources by agricultural students. Baseline data on usage pattern of portal by the students of north east was also not available. So the present study was conceived to understand the level of awareness, level of usage, perceived benefits and also to identify the barriers in implementing e-learning in agricultural education.

METHODOLOGY

The present study was conducted in the month of February, 2015. During one day awareness cum Online Demonstration Seminar on e-Learning Portal on Agricultural Education (e-KrishiShiksha) for the students and teachers of agricultural and fisheries sciences at College of Fisheries (CAU), Agartala. A survey was conducted among 199 north-east students representing from Tripura, Manipur, Meghalaya, Arunachal Pradesh, Mizoram and Sikkim including 20 teachers. College of Fisheries (CAU), and College of Agriculture, Agartala, Tripura participated in the Seminar. Data was collected using pre-tested structured questionnaire given to the participants at the time of registration in the seminar. Filled in questionnaire was collected prior to the technical session. The statistical techniques including frequency distribution, weighted mean, were applied for analysing the primary data using SPSS-16 and MS Excel.

RESULTS AND DISCUSSION

Table 1: Internet usage pattern of the respondents
n=199

Item	Frequency	Percentage
Accessing source of Internet		
College computer	37	18.59
Own laptop	90	45.23
Smartphone	72	36.18
Daily time spent on Internet		
Less than one hour	60	30.15
One hour	45	22.61
Two hours	43	21.61
Three hours and more	51	25.63
Purposes for browsing internet*		
e-mail	41	18.98
Chat	54	25.00
Literature search for research	59	27.31
Remain updated with recent developments in the subject	62	28.70
Usage of digital sources for academic purpose		
CeRA	16	8.04
Google scholar	158	79.40
Web of Science	25	12.56

*Multiple responses

Internet usage pattern of the respondents

The presented in Table 1 showed the internet usage pattern of the respondents. It was found that most of the respondents (45.23 %) were accessing internet using their own laptop followed by smart phone (36.18 %). Only 18.59 per cent respondents were accessing internet through college computer. In case of amount of time spent on the internet in a day it was found that 30.15 per cent used internet less than one hour whereas, 25.63 per cent respondents reported using it for 3 hours and more in a day. Remaining 22.61 per cent and, 21.61 per cent used it one and two hours respectively. The purpose of using internet was to remain updated with recent developments in the subject (28.70 %), literature search for research (27.31 %) and Chat (25 %) as reported by the respondents. Only 18.98 per cent respondents were found using it for email. Google Scholar was the most widely used digital resource, as ported by 79.40 per cent respondents. Web of science (12.56 %) and Consortium for e-Resources in Agriculture (8.04 %) were the other frequently browsed sites. Google Scholar is preferred because of its ease of use and speed. However, those who use Web of Science feel more confident about the quality of their results.

Jali *et al.* (2014) reported in his study on medical sciences students of Rajasthan and found that 77.4 per cent had their own computer and access at home. Nearly 40.8 per cent of students use computer for general purpose, 28.5 per cent for entertainment and 22.8 per cent used for research purpose. Most of the students had internet knowledge (92.9 %) and they used it independently (79.1 %). Nearly 42.1 per cent used internet occasionally whereas, 34.4 per cent used regularly, 21.7 per cent rarely and 1.8 per cent don't use respectively. Internet was preferred for getting information (48.8 %) due to easy accessibility and recent updates. For dental purpose students used internet 2-3 times per week (45.3 %). Most (95.3 %) of the students responded to have computer based learning program in the curriculum. Lower levels of Internet use among agricultural sciences students could be ascribed to limited access and availability of Internet connection at the college/institution.

Table 2: Usage pattern of ICAR e-portal

Items	Frequency	Percentage
Awareness & utility of ICAR e-Courses*		
Awareness of e-Learning term	150	75.38
Awareness of ICAR e-Courses	101	50.75
Usefulness of contents	159	79.90
Improvement in learning	169	84.92
Source of information about ICAR e-Courses		
Friend	37	18.59
Teacher	103	51.76
Colleague	38	19.10
Others	21	10.55
Periodicity of visit to ICAR e-portal		
Weekly	83	41.71
Fortnightly	22	11.06
Monthly	57	28.64
Never	37	18.59

Download frequency of ICAR courseware

Once	12	6.03
Twice	10	5.03
Thrice	15	7.54
Never	162	81.41

Benefits of the courseware*

Uniform courseware available to students across the country	93	23.79
Reduce regional imbalances in student representation in JRF/SRF/ASRB	89	22.76
Continuous updation of courseware as per uniform syllabus	99	25.32
Enhanced quality of teaching and learning	110	28.13

Suggestions of the respondents to make this portal more vibrant*

Add Power Point presentations & videos	107	50.71
Virtual classroom	48	22.75
Ask the expert/remote teacher for interaction	56	26.54

*Multiple responses

Internet usage profile of the respondents

The Presented in Table 2 showed the usage pattern of ICAR e-KrishiSiksha by the respondents. Around 75 per cent respondents were aware about e-learning term whereas, only 50.75 per cent were aware about ICAR e-Courses. Highest majority (84.92 %) opined that it improves learning, and usefulness of its contents is reported by 79.90 per cent respondents. Teachers have emerged as major (51.76 %) source of information for students about ICAR e-Courses. About equal percentage of respondents reported that friends and colleague were information sources for e-portal. Around 42 per cent of the respondents visit the portal once a week and 28.64 per cent visits once in a month. About one fifth of the respondents had never visited to ICAR e-portal whereas, only 11.06 per cent paid visit to the portal on fortnightly basis. Perceived benefits of the portal in decreasing order of significance were enhanced quality of teaching and learning (28.13 %), continuous updation of courseware as per uniform syllabus (25.32 %), uniform courseware available to students across the country (23.79 %), and reduce regional imbalances in student representation in JRF/SRF/ASRB (22.76 %). In spite of the perceived utility of ICAR e-Courses in learning, 81.41 per cent respondents had never downloaded it. In order to make this portal more vibrant, majority (51.71 %) of the respondents suggested adding Power Point presentations & videos in support of the subject contents. Rest (26.54 %) had suggested adding features like asking the expert/remote teacher for interaction and virtual classroom (22.75 %).

Table 3: Barriers in E-learning implementation

n=20

Constraints	Strongly Agree	Agree	Disagree	Weighted Mean	Rank
Increased time commitment (workload) for academic staff	4	10	6	1.90	V
Development time	5	14	1	2.20	II
Delivery time	3	15	2	2.05	IV
Lack of extrinsic incentives/rewards	4	13	3	2.05	IV
Lack of strategic planning and vision	9	8	3	2.30	I
Lack of support	7	8	5	2.10	III
Lack of training in technological developments	6	10	4	2.10	III
Lack of support for pedagogical aspects of developments	2	12	6	1.80	V

Barriers in E-learning implementation

In organizations that failed to implement e-Learning, the failure almost always can be directly attributed to many factors. e-Learning system implementation is dependent on the level of availability of some influential factors like budgeting, infrastructure planning, human resource development and learners' skills and attitude towards the technology (Khan, 2005, 24; Uhomoibhi, 2006). The data presented in Table 3 reveals that the lack of strategic planning and vision which ranked I (WMS 2.30) was the major barrier in e-learning implementation as perceived by teachers. The implementation of e-learning in an official setting requires inclusive strategic planning. Changing the educational offering through technology requires utilizing effective implementation plans and strategies also reported by Danwa and Wenbin (2010). Development time for e-course contents was perceived as second important barrier and ranked II (WMS 2.20). Lack of training in technological developments and lack of support were identified as another constraint reported by the teachers' and ranked III (WMS 2.10). Delivery time and lack of extrinsic incentives/rewards were other barriers in e-learning implementation and both ranked IV (WMS 2.05) Intrinsic rewards including satisfaction and personal development may be generated via encouraging staff to translate their ideas with regards to e-learning into working practice (Newton 2003). Extrinsic incentives / rewards for example recognition of e-learning developments within teaching as a form of CPD, must be promoted at an organizational level. Increased time commitment (workload) for academic staff and lack of support for pedagogical aspects of developments ranked V (WMS 1.80). There may be various other reasons for organizations to stay away from e-Learning. But a proper analysis and the implementation of right strategies can nullify such barriers. A systematic process of planning, designing, development and evaluation may helps to lower down the barriers to successful implementation and creates such an online environment where learners can actively learn and obtain support (Khan 2005; Uhomoibhi, 2006).

It is evident that awareness and usage of ICAR e-learning portal among students of North east India is the high. Students need to be encouraged to use the downloaded resources for reference. It is equally important that faculty members too incentivize the students using online resources. This would necessitate designing appropriate evaluation system by the colleges.

CONCLUSION

Usage of the portal would witness an upsurge as it provides uniform course material and that too as per ICAR syllabus. Connectivity and infrastructure related issues need to be sorted out in order to motivate the students make use of online resources. The study elicited suggestions on improving the portal and also perceived constraints in implementing e-learning. This feedback would help the developer bringing in necessary improvements in the portal and enable it becomes a vital source for course materials. It recommends that policy framework with regard to planning, development, support and continuous evaluation of the portal is developed.

REFERENCES

Danwa F., and Wenbin H. 2010. "Research on Educational Technique Training Based on Teacher Professional Development". IEEE computer society. Second International Workshop on Education Technology and Computer Science, 2010, pp. 568-571.

Dhanarajan, G. 2001. Distance Education: Promise, Performance and Potential, Open Learning, 16, 1, 61-68. http://pdfserve.informaworld.com/106451_750426099_713688418.pdf

Eastmond, D. 2000. Realizing the Promise of Distance Education in Low Technology Countries, *Educational Technology Research and Development,* 48, 2, 100-111.

Evans, R. 2005. Explaining Low Learner Participation during Interactive Television Instruction in a Developing Country Context. PhD Dissertation, University of Pretoria, Pretoria, http://upetd.up.ac.za/thesis/submitted /etd-02282005-081708/unrestricted/00front.pdf.

Heeks, R. 2002. Information Systems and Developing Countries: Failure, Success and Local Improvisations, The Information Society, 18, 2, 101-112. http://pdfserve.informaworld.com/ 167133_750426099_713856778.pdf.

Jali, P.K., Singh S., Babaji .P, Chaurasia V.R., Somasundaram P., Lau H. 2014. Knowledge and attitude about computer and internet usage among dental students in Western Rajasthan, India. *J Int Soc Prevent Communit Dent,* 4:29-34.

Khan, B. 2005. Managing E-learning Strategies: Design, Delivery, Implementation and Evolution, Information Science Publishing.

Newton, R. 2003. Staff attitudes to the development and delivery of e-learning. *New Library World.* 104 (1193): 412-425

Patton, M.A. 2000. The Importance of Being Flexible with Assignment Deadlines, Higher Education in Europe, 25, 3, 417-423.

Potashnik, M. and Capper, J. 1998. Distance Education: Growth and Diversity, Finance & Development, 35, 1, 42-45 http://www.worldbank.org/fandd/english/pdfs /0398/0110398.pdf.

Rajesh, M. 2003. A Study of the Problems Associated with ICT Adaptability in Developing Countries in the Context of Distance Education. *The Turkish Online Journal of Distance Education,* 4 (2), http://tojde.anadolu .edu.tr/tojde10/articles/Rajesh.htm.

Sehrt, M. 2003. E-Learning in the Developing Countries - Digital Divide into Digital Opportunities, UN Chronicle Online, 4, 3, 45-xx. http://www.un.org/Pubs/ chronicle/2003/issue4/0403p 45.asp

Uhomoibhi, J.O. 2006. "Implementing e-learning in Northern Ireland: prospects and challenges". *Campus-Wide Information Systems,* 23 (1), 4-14.

UNESCO 2006. Teachers and Educational Quality: Monitoring Global Needs for 2015. http://www.uis. unesco.org/TEMPLATE/pdf/Teachers2006/TeachersRe port.pdf