

## Internet User and Electronic Journals Perception: an Inservice Science Teacher Study

Prasart Nuangchalerm

Department of Curriculum and Instruction, Faculty of Education,  
Maharakham University, Maharakham 44000 THAILAND

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**Abstract:** The growth and diversity of electronic academic journals had been widely distributed. It can be made our beliefs that future electronic scholarly journals will be different from their print antecedents and that both will fill a different niche of user, and will be necessary for the growth of any field knowledge. This study aims to investigate internet user and electronic journals perception of inservice science teachers. Thirty eight of inservice science teachers were asked experiences of internet in use and electronic journals perception. All of them participated in the workshop on implication of ICT for science teaching during September 2009. The results showed that significant implications of internet use and future electronic journals were reported. They had significantly high acceptance of internet for academic purpose, and also possibly expected in electronic journals in terms of future scholarly referenced information.

**Key words:** electronic journals, user interaction, internet user, inservice science teacher, internet access, perception, searching skills

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### INTRODUCTION

The rapid growth of information and communication technology can be influenced age of knowledge-based society. Internet plays an important role to expand knowledge in many forms and ways of presentation. It is a great deal to discuss on regarding the role and relative importance of scholarly journal in terms of channels for bridging between published research and researcher<sup>[4]</sup>. The number of electronic scholarly journals is growing steadily, is a critical component of academic research and the generation of new knowledge<sup>[6]</sup>. It is important to know what other researchers in our discipline are doing so as to improve professional and academic efforts and to avoid duplicating theirs. Kling and Callahan<sup>[7]</sup> discussed different aspects of electronic journals as a means of scholarly communication. It can be referred in both advantages and disadvantages of e-journals and perception by academics. An electronic scholarly journal takes a rapid adoption of electronic resources in the academic environment by different usage patterns and preferences among different disciplines.

Science is a subject matter that is rapidly expanded because scientific knowledge has been produced by no boundary. Pedagogical knowledge in science need to be change and relevant to the paradigm of teaching science in the age of globalization, it can be considered that science teaching might want to have new instructional innovation. Also, science teachers are key element to promote science literacy for students, necessary skills to learn science, and inquiry-based

learning. As responsibility, they have to ensures explicitly seek new knowledge with many patterns of knowledge, scholarly journals, printed materials, and internet-based resources. With the exception of knowledge creation and expansion, science teachers should be communicate and publish their findings on educational research in the various patterns of science education, including internet-related fields. It being redirected teacher in response to the opportunities for digital archiving and online distribution offered by the internet<sup>[5]</sup>. This change can be influenced to the ways of learning resources access, online journals is become more significantly communication than those printed materials<sup>[1]</sup>.

The internet-based resources and e-journals have provided a new channel for science teachers to have experiences in terms of academic communication, exchange information in filed of studies, and research networking. One of the obstacles toward the publication of academic journals through this is low costs associated with printing and distribution. It is also easily to access, allow self-publication and management, universal communication, and economic alternative for the publication of academic journals<sup>[9]</sup>. The aim of this study is to investigate internet user and electronic journals perception of inservice science teachers. The results of these studies will be briefly answered with questionnaire survey studies, significant implications of internet use and future electronic journals were reported. Some issues that merit further investigation will be suggested.

## MATERIALS AND METHODS

The study was conducted during September 2009 from inservice science teacher, enrolled in workshop on implication of ICT for science teaching. Most of them had been taught science in Kalasin Educational Service Area 3. Thirty eight of participants were purposive sampled. Demographic background and internet experiences were collected and described in terms of descriptive report. Participant response criteria of demographic background in terms of gender, age ranges, education level, teaching experiences, research conducting experiences, and internet and electronic experiences. Demographic information of participant can be shown in Table 1.

**Table 1:** Demographic information of participants (n=33)

Gender	
Male	14 (42.42%)
Female	19 (57.58%)
Age	
20-29 yrs	3 (9.09 %)
30-39 yrs	14 (42.42%)
40-49 yrs	11 (33.33%)
More than 50 yrs.	5 (15.16%)
Education	
Bachelor degree	24 (72.72%)
Master degree	9 (27.28%)
Teaching experiences	
0-5 yrs	5 (15.16%)
6-10 yrs	4 (12.12%)
More than 10 yrs	24 (72.72%)
Research conducting experiences	
0-2 yrs	18 (54.54%)
3-5 yrs	7 (21.21%)
6-9 yrs	7 (21.21%)
10-13 yrs	0 (0.00%)
14-16 yrs	0 (0.00%)
More than 16 yrs	1 (3.04%)
Internet experiences	
0-2 yrs	4 (12.12%)
3-5 yrs	15 (45.45%)
6-9 yrs	10 (30.30%)
10-13 yrs	3 (9.09%)
14-16 yrs	1 (3.04%)

The gender distribution was almost evenly distributed 42.42% of female and 57.58% of male. Participant's age ranges was almost 42.42 % of 30-39 yrs, 33.33% of 40-49 yrs. Twenty four (72.73%) of inservice science teachers were almost graduated in bachelor degree and 9 (27.27%) graduated in master degree. Inservice science teachers had been experienced in teaching 72.73% of more than 10 years school science, but most of them were 54.54 % of research conducting experiences between 0-2 years, 3-5 yrs (21.21%) and 6-9 yrs (21.21%) as it happens. It seems to this study that inservice science teachers had instructional experiences than those they behave to be educational researcher. While respondents expressed their internet experiences were 3-5 yrs (45.45%), 6-9 yrs (30.30%), and 0-2 yrs (12.12%).

Participants were received questionnaire to generate their opinion based on internet and electronic journals experiences and of possibly interacting with information objects at various levels. They were asked criteria concerns internet-based learning and perception; internet experiences, academic purposeful experiences, and e-journal experiences. If they have ever been used, they have to raise problem of e-journal access and its result to access e-journals. Data were collected, transcribed, and examined for their comments in narrative report.

## RESULTS AND DISCUSSION

**Internet Experiences:** The internet experiences can be described in terms of frequency, time in use, place of use, and internet activities. Participants raised their experiences in a various behavior of internet user (See Table 2). This indicates that although the use of internet at different behavior, most of them meet cyberspace 54.54% of everyday and 33.33% of few a week. It is not surprisingly they invest and interact with inter 1-5 hrs (72.73%). Home and office are easily place to access internet, and a few case can access internet from school computer lab. When they were asked about activities during cyberspace travel, inservice science teachers spent many kind of activities i.e. search some information relevant to academic purpose or instructional preparation, e-mail, movies/music. Minor amount of respondents spent time for chat, game, and diary note.

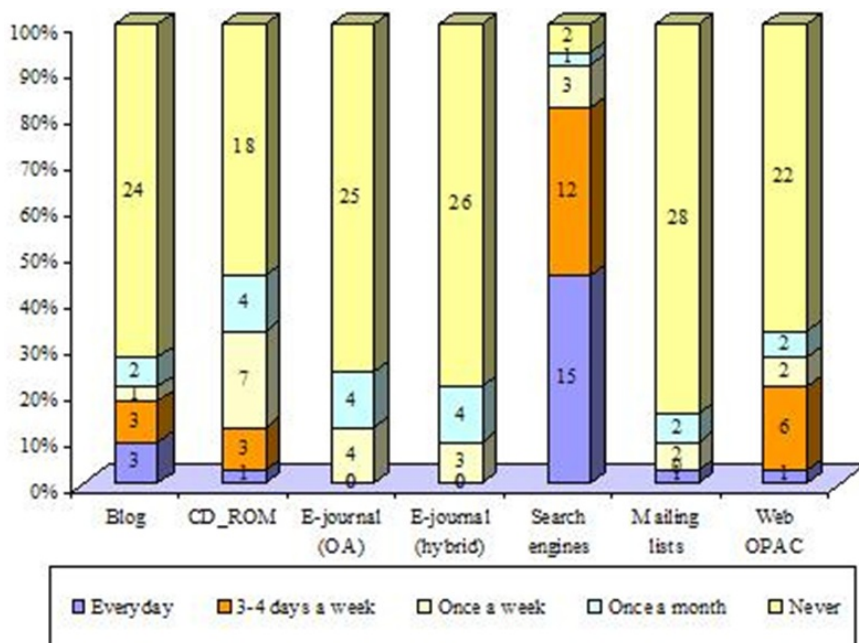
**Academic Purposeful Experiences:** The participants were asked their perception to use internet for academic purposeful experiences. They response differently behavioral based on frequency and source - blog/webboard, CD-ROM database, e-journals (open access & hybrid), search engines, mailing list/discussion group, and web OPAC. Data were descriptive report in such Figure 1.

Inservice science teachers spent time mostly for academic purpose in term of search engine i.e., Google and Yahoo. They provide amount ratio of everyday use for search engine. They said that Google is easily to access information and pay a safer time to take information around the world. It also supports any language, just bring keyword and throw it in to the box and then click on search button. Information that they need will be shown in shortly. It is not surprise that just only 2 of 33 never use search engines (Table 3).

The result indicates that inservice science teachers invest their time to use internet for academic purpose in other patterns such as blog/webboard, CD-ROM, e-journals, and web OPAC in small number. However, scholarly journal in terms of online publication is very important for distance learning. It is easily to access and payless than those printed journals. Also, new contribution of science education and educational research published in e-journals, but they have to know how it more reliable than those printed.

**Table 2:** Internet experiences of inservice science teachers

Frequency	Everyday	18
	Once a week	2
	Few a week	11
	Few a month	2
Time in use	Less than 1 hr	6
	1-5 hrs	24
	6-10 hrs	3
Place of use	Home	19
	Office	22
	School computer lab	2
Internet activities	Chat	5
	Diary note	5
	e-mail	20
	Game online	4
	Movies/music	12
	News	21
	Shopping	7
	Search information	33
	Upload/download	14



**Fig. 1:** Academic purposeful experiences of internet uses

**Table 3:** Ratio of internet experience for academic purpose

Source	Everyday	3-4 days a week	Once a week	Once a month	Never
Blog/Webboard	3 (9.09%)	3 (9.09%)	1(3.03%)	2(6.06%)	24(72.73%)
CD-ROM database	1(3.03%)	3 (9.09%)	7(21.21%)	4(12.12%)	18(54.55%)
E-journal (open access)	0(0.00%)	0(0.00%)	4(12.12%)	4(12.12%)	25(75.75%)
E-journal (hybrid)	0(0.00%)	0(0.00%)	3 (9.09%)	4(12.12%)	26(78.79%)
Google/Search engine	15(45.46%)	12(36.36%)	3 (9.09%)	1(3.03%)	2(6.06%)
Mailing list/discussion group	1(3.03%)	0(0.00%)	2(6.06%)	2(6.06%)	28(84.85%)
Web OPAC	1(3.03%)	6(18.18%)	2(6.06%)	2(6.06%)	22(66.67%)

**E-journals Experiences:** Fifteen teachers have been ever used e-journals, but frequency of information access through e-journals is very terrified. Eighteen teachers response that if they know method to serve e-journals experiences and have a chance to do so based on scholars’ supervision. Most of them agree to use e-journals for academic purpose because it helps them to take new knowledge and experiences of educational research or innovation of teaching science. They raised criteria why they didn’t use e-journal in different reasons.

“I never know about e-journals (36.59%)”, “I never know way to access e-journals and no one guide me to do like that (29.27%)”, “It is very difficult to access internet and sources of some information (14.63%)”, “I never know story about e-journals and no need to use (9.76%)”, “I think, I should read articles from printed journal because it is more comfortable than e-journals (7.31%)”, and “I think, I have some problem with physical reason of internet duration (2.44%)”.

E-journals experiences were as 15 experienced users, they provide level of opinions on e-journals interaction mostly at high level (Table 4).

**Problem of E-journal Access:** Inservice science teachers express their perception about problem of e-journal access, but frequency of information access through e-journals is very terrified. Most of them considered that e-journal is difficult to access in many cases for example; “I don’t know what the sources of e-journals located”, “I don’t know ways or methods to access e-journals”, “I am unfamiliar with information technology or data transferring”, “I am unfamiliar with reading e-journals on screen”, I think, it is a waste time to access and get information through internet”, “No one guide me to use e-journals for academic purposes”.

The result of searching scientific information by adopting e-journals can be explained that inservice science teachers found problem with English and some of e-journals incomplete or no responding their need. Some of them cannot consider e-journals make it more

reliable than those printed journals because it is not clear and seems to different in the process of peer reviewing (see Table 5 and Figure 2).

**Discussion:** There is a strong international trend in education to develop distance education using information and communication technology in order to provide high-quality education at the least possible cost and ways to access reliable information via online information<sup>[3]</sup>. This paper has presented results from a study on inservice science teacher perceived internet user and electronic perception. The data collected and analyzed from the study indicates a growing of internet-based resources for science teaching, and also e-journals should be concerned. The results indicate that internet-based resources and e-journals can be further enhanced through more effective information for science teaching. This perception can integrates to pedagogical strategies and way to do educational research, useful tools and features to support advanced interactions between users and the various information objects contained<sup>[8,10]</sup>.

The results showed that inservice science teachers access internet to adopt some information for teaching and learning process. They familiar to use search engines i.e. Google, Yahoo, just a few teachers use others learning resources. They spent most time for seeking information, e-mail response, e-news report, etc. They have a few experiences on academic purpose. But, technology offers a tool for teachers to achieve the objectives outlined in the instructional strategies and educational research. Teachers use online information literacy skills enables them to efficiently find, and effectively use, information of the Internet. It helps them keep up with rapidly changing scientific world. Inservice science teachers can adopt training and maximize the potential of the teaching and learning resources available online.

Inservice science teachers are not clearly ability to be able to interact directly with e-journals objects. They are also less attention and interact with information through internet-based learning. Most of

them familiar with search engine such as Google, Yahoo for accessing information, it may be reasonable and basic search information to science teachers. Inservice science teachers adopt search engine into science teaching because it's not need more complex or functional techniques to learn much more searching methods. However, some of them had problem to access internet and no one guide what internet-based learning importance. Also, e-journals are far away from those their perception and academic purposeful academic. Access to internet-based information and e-journals is increased number of scholarly journals. School should offer factor that help them to access e-journals and e-documents with a favorable option and more likely to be supported by subject specialists <sup>[1]</sup>.

Berge and Muilenburg<sup>[2]</sup> revealed that social interactions were second from the top in a list of the eight greatest barriers to online learning. It is the users' attitudes about online learning that good pedagogy and it is the best chance of affecting. It is likely that, after users take a positive online learning experience, they may willing to be more flexible in their attitudes about engaging in this enterprise. The process of inservice science teachers about online socialization is challenging in that a consistent and comprehensive definition. They will expose wealth data if they destroy wall of online phobia and open their chance to learn new things through online data. However, the result of the study maybe influenced by the purposeful sampling group, it may not be extrapolated to a larger population of inservice teachers.

**Table 4:** E-journal experienced users (n=15)

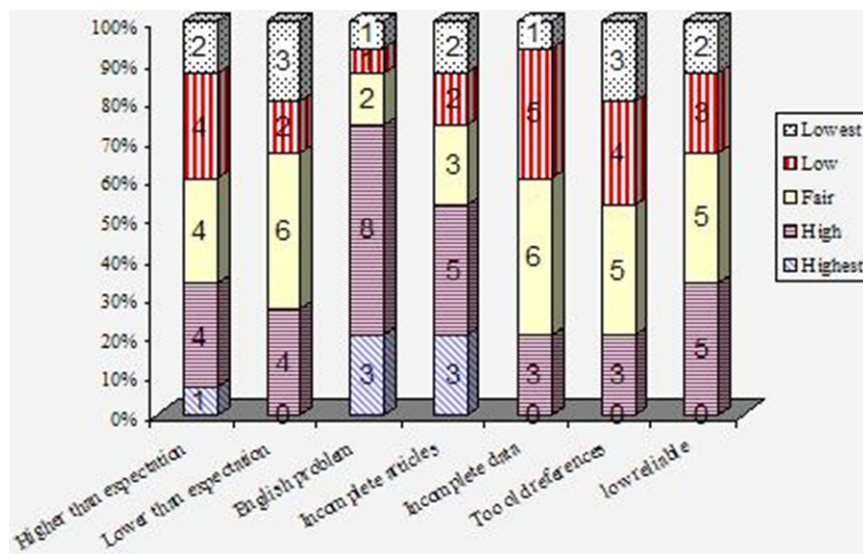
Item	Highest	High	Fair	Low	Lowest
1. I want to use e-journals more than those printed journals	1(6.67%)	9(60.00%)	4(26.66%)	0(0.00%)	1(6.67%)
2. I think, e-journals can be easily accessed, faster, and more effective than those printed journals	7(46.66%)	5(33.33%)	2(13.34%)	0(0.00%)	1(6.67%)
3. e-journals are fashion and more reliable	4(26.66%)	8(53.33%)	3(20.00%)	0(0.00%)	0(0.00%)
4. e-journals can be presently diversified than those printed journals	3(20.00%)	9(60.00%)	3(20.00%)	0(0.00%)	0(0.00%)
5. e-journals can make me safer and payless service charge	6(40.00%)	8(53.33%)	1(6.67%)	0(0.00%)	0(0.00%)
6. e-journals allow to access information at anytime	4(26.66%)	8(53.33%)	3(20.00%)	0(0.00%)	0(0.00%)
7. e-journals supported by unlimited organizational service for accessing information	4(26.66%)	6(40.00%)	4(26.66%)	1(6.67%)	0(0.00%)

**Table 5:** Result to access e-journals

Item	Highest	High	Fair	Low	Lowest
Higher than expectation	1(6.67%)	4(26.66%)	4(26.66%)	4(26.66%)	2 (13.34%)
Lower than expectation	0(0.00%)	4(26.66%)	6(40.00%)	2 (13.34%)	3(20.00%)
English problem	3(20.00%)	8(53.33%)	2 (13.34%)	1(6.67%)	1(6.67%)
Incomplete articles	3(20.00%)	5(33.32%)	3(20.00%)	2 (13.34%)	2 (13.34%)
Incomplete data	0(0.00%)	3(20.00%)	6(40.00%)	5(33.32%)	1(6.67%)
Too old references	0(0.00%)	3(20.00%)	5(33.32%)	4(26.66%)	3(20.00%)
low reliable	0(0.00%)	5(33.32%)	5(33.32%)	3(20.00%)	2(13.34%)

The pedagogical changes for science teachers have made in order to active learning environments require access to more resources. The internet is potentially elaborated new paradigm of learning. Teachers have to take steps inquiry-based learning environments and allow opportunity to construct their own knowledge<sup>[11]</sup>. Steps must be made to support teachers' efforts to refine their information seeking information, can

potentially foster a synergistic type of relationship where educators learn from each other. In conclusion, finding suggests that online information needs to be analyzed. Teachers acquired the necessary skills of using information technology, study material became available on the internet resources; and the administrative and organizational tools were placed in action.



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