AWARENESS AND USE OF ELECTRONIC RESOURCES AT A UNIVERSITY CAMPUS IN GHANA

Viscount B. Buer

Senior Assistant Librarian, University of Education, Winneba, Ghana.
Email: *visbuer@gmail.com*

Abstract
This study looks into the use of electronic resources by the faculty members of College of Technology Education, Kumasi of the University of Education, Winneba, Ghana. Sixty-two copies of a questionnaire were sent to the entire faculty and 31 were returned which gave a response rate of 50%. The responses showed very low level of faculty awareness of the electronic resources. It was also found out that inadequate training in the use of the electronic resources was a major factor in the non-use of the electronic resources by the faculty. The paper then professes suggestions such as aggressive marketing of the resources and the need to train users to acquire skills to enhance their optimal utilization of the resources.

KEYWORDS: KNOWLEDGE, ELECTRONIC DATABASE, INTERNET, INFORMATION LITERACY, UNIVERSITY LIBRARIES.

Introduction
The use of CD ROMs in academic and research institutions in Ghana started in the early 1990s. This gradually led to the use of the Internet and its resources in the late 1990s when the academic and research institutions began to be hooked to the Internet. The use of the Internet and electronic resources in academic and research institutions in Ghana was given a further boost following the offer made by the International Network for the Availability of Scientific Publications (INASP) of full text electronic journals to these institutions through the Programme for the Enhancement of Research Information (PERI) project.

The *Anglo- American Cataloguing Rules 2 (AACR) 2 2005 Update* defines electronic resource as: "Material (data and/or program(s)) encoded for manipulation by a computerized device. This material may require the use of a peripheral directly connected to a computerized device (e.g., CD-ROM drive) or a connection to a computer network (e.g., the Internet)." From this definition any electronic resource such as music compact discs and video discs that do not lend themselves to the use of the computer cannot be considered electronic resources. It is against the backdrop of this definition that the use of electronic resources by the faculty would be investigated. For the purpose of this study, however, the definition of electronic resources is limited to only the use of electronic databases and the Internet.

The Library of the College of Technology of Education, Kumasi (COLTEK) of the University of Education, Winneba is hooked to the Internet and subscribes to the PERI database through the Consortium of Academic and Research Libraries in Ghana (CARLIGH) and enjoys over 17,000 online journal articles. COLTEK is one of the four campuses constituting the University of Education, Winneba. The others are the South Campus and the North Campus at Winneba in the Central region of Ghana, and the College of Agriculture Education, Mampong located at Mampong in the Ashanti region of Ghana. The University of Education, Winneba is a teacher training institution and its mission is to produce teachers for all levels of education and to carry out and disseminate research findings and be an active player in the formulation of educational policy and development. COLTEK, by default, therefore shares the mission of the University of Education, Winneba.

COLTEK comprises two faculties namely the Faculty of Vocational and Technical Education and the Faculty of Business Education. The Faculty of Vocational and Technical Education is made up of the departments of Information Technology Education, and Design and Technology Education respectively. The Faculty of Business Education, on the other hand, is constituted by the departments of Accounting Studies Education, Management Studies Education and the Interdisciplinary Studies. The COLTEK Library provides user education to all fresh students and other library users such as new faculty members and other staff of the College.

How the COLTEK Library makes its faculty aware of the existence of its electronic resources, whether the faculty members are able to use or require training to effectively use the resources effectively is not known. In order that the reasons for which the databases and other electronic resources were procured and made available are justified, members of the faculty ought to be aware of the resources and make use of them in their teaching, research and knowledge dissemination activities. This study therefore seeks to fill the void created by non-investigation of how the faculty members use the electronic resources at the College of Technology Education, Kumasi.

Aim of the Research

The research aims at exploring the familiarity and the level to which faculty members of the College of Technology Education, Kumasi of the University of Education, Winneba, Ghana, use and incorporate electronic resources into their work in the areas of teaching, research and knowledge dissemination.

Objectives of the Study.
The objectives of the study are to determine:
- the awareness of faculty members of COLTEK of electronic resources in the library;
- the degree to which faculty members incorporate the use of electronic resources into students' educational experience;
- the demographic characteristics of the faculty members in respect to use or non-use of the electronic resources;
- the challenges facing the faculty members' use of the electronic resources; and
- to make recommendations to facilitate the use of the electronic resources by faculty members.

Review of the Literature
Dillon and Hahn (2002) and Kidd (2002) identify faculty members and other professionals in the sciences, mathematics, and medicine to have been associated with the use of electronic resources early with sustainable interests. Lenares (1999) also in a study in the late 1990s finds out that 90% of physical science faculty members had used electronic journals at a point in time which contrasts sharply with 61% of other faculty users in Association of Research Libraries (ARL) institutions.

Mahe, Andrys, and Chartron (2000), however, find variations in the use of the electronic resources even in the sciences. Tomney and Burton (1998) also see members of the business school faculty to be academics who began using the electronic resources early. Palmer and Sandler (2003) identify economics faculty members to be the most predominant users of electronic journals. Finance and management information systems professionals and faculty were, however, rated to have known the existence of electronic journals more than others in the faculty of business (Speire, Palmer, Wren, and Hahn, 1999). Tomney and Burton (1998) observe that members of the faculties of history and education, have been rather sluggish in adopting the use of electronic journals.

Finholt and Brooks (1999), Majid and Abazova (1999), Monopoli and Nicholas, Georgiou, and Korfiati (2002) find gender differences in the use of electronic resources but Tenopir, Hitchcock, and Pillow (2003) fault the findings of these reports as not good enough to draw conclusions on because of the factors of paucity, non currency or idiosyncrasies that characterised them. Tenopir, Hitchcock, and Pillow (2003), however, acknowledge the existence of unevenness in the use of online resources as established by the Digital Library Federation/Council on Library and Information Resources/Outsell (DLF/CLIR/Outsell) DLF/CLIR/Outsell (Tier 1) between men and women which skewed in favour of women.

Sathe, Grady, and Guise (2002) consider age, rank or status as influential factors which create differences in the use of electronic journals by faculty members. This view is supported by Bar-llan, Peritz and Wolman (2005) who recognise persons associated with teaching and research that are young as most enthusiastic users of electronic journals. These findings, however, run counter to the conclusion of Tenopir, King, and Bush (2004) in their study of medical teaching and research staff of the University of Tennessee where age is found to be the dominant factor in the reading of printed articles or those in electronic format. However, Tenopir, Bush, Grayson, and Paulson (2005) conclude that age is a factor in astronomers, also scientists, use of electronic resources.

Hewitson (2000) establishes a correlation between faculty information technology skills and their use of electronic resources; faculty with IT skills are inclined to using the electronic resources whilst those without are likely to use printed library materials. Tenopir, Hitchcock, and Pillow (2003) intimate that the manner various disciplines conduct their work could be a factor in the use of electronic resources as illustrated in the work of Mahe, Andrys, and Chartron

(2000) where biologists are noted to depend on the print whilst earth scientists were yet to make benefits out of electronic resources. Mahe, Andrys, and Chartron (2000) further contend that the reluctance to use electronic resources could be ascribed to difficulty in using technology, lack of technology or low level of awareness of electronic resources. Dadzie (2005) ascribes the low use of electronic resources by both students and faculty of the Ashesi University College in Ghana to lack of marketing of the resources to the users. Adika (2003) in a study of the use of Internet by faculty members in Ghanaian universities concludes that the use of the resources was very low and attributes the low patronage of the resource to the respondents not having access to the Internet and their lack of information searching skills. It is generally known though that these electronic resources are not adequately used (Rehman & Ramzy, 2004).

Methodology
In the month of October 2008, a nineteen-item questionnaire was developed from the work of Weingart and Anderson (2000). The questionnaire elicited information from the faculty members of the College of Technology Education, Kumasi (COLTEK) of the University of Education, Winneba in Ghana about their awareness and use of the electronic resources available to them in the College. The electronic resources were listed and respondents were asked to indicate whether they were familiar or not familiar with each of them, their use of the resources, faculty encouragement of students use, and simplicity of use of the resources. Furthermore, respondents were asked if they knew they could access the resources outside the library.

The questionnaire, in part, sought to find out if respondents had taken part in any library instruction on the use of the resources and if they had, they were to indicate how they rated the quality of the instructions. The questionnaire also collected basic demographic information about the respondents as regards their age, department, and function. The last question gave respondents the opportunity to comment or state opinions that were not captured by the questionnaire.

In response to Bell's (1999) advice that "however pressed for time you are, do your best to give the questionnaire a trial run, even if you have to press-gang members of your family or friends". The questionnaire was pilot tested by the researcher with three faculty members before it was administered. Comments received from the pilot test led to the fine-tuning of the questionnaire to enable

respondents have little or no problems providing responses to it. It also helped to minimize problems of recording the data. Furthermore it gave an opportunity to assess the validity of the questions and the possible reliability of the data that were collected. On the average it took not more than fifteen minutes to complete the questionnaire.

Sixty-two copies of the questionnaire were distributed by the researcher to the faculty, both full-time and part-time, who totaled 62 using information obtained from the Human Resource Department of the College. Copies of the questionnaire were placed in their respective pigeon holes in their Common Room and those who did not have any were reached in their offices. After repeated reminders over twelve weeks, 31 copies of the questionnaire were returned representing 50% response rate.

Findings and Discussion
Characteristics of Respondents
A response from a question that sought to know the age of the respondents showed that 9 out of the 31 respondents were aged 41-50, six were aged 31-40 and 5 each were between 21-30 and 51-60 years respectively. There were no responses from six of the respondents. A study of their responses to the use of the electronic resources vis-à-vis their age did not show any correlation between them. This finding confirms the work of Bush, King and Tenopir (2004) which indicates that age is not a prime factor in people using print or electronic journals.

Twenty-three of the 31 respondents identified themselves as lecturers, one as a senior lecturer and seven did not answer the question. Six of the 31 respondents came from the Department of Management Studies Education, five each came from the Department of Design and Technology Education and the Department of Interdisciplinary Studies. Four of the 31 respondents were from the Department of Information Technology Education with two coming from the Department of Accounting Studies Education. There were no responses from nine of the 31 respondents on the question.

Database Awareness
Respondents were requested to indicate whether they knew of the availability in the Library of COLTEK of each database from a given number of databases stated. The responses are summarized in Table 1 below:

Distribution of Respondents' Awareness of Availability of Databases

Database	Aware		Unaware	
	No. of Respondents	%	No. of Respondents	%
Jstor	11	35.5	20	64.5
EBSCO	9	29.0	22	71.0
Emerald	17	54.8	14	45.2
Blackwell	11	35.5	20	
Oxford University Press	8	25.8	23	74.2
DATAD	3	9.7	28	90.3
CUDOS	7	22.6	24	77.4
AGORA	4	12.9	27	87.1
Gale	7	22.6	24	77.7
Bioone	8	25.8	23	74.2
Multilingual Matters	9	29.0	22	71.0
AJOL	9	29.0	22	71.0
Royal Society of Chemistry Journals	3	9.7	28	90.3
Institute of Physics Electronic Journals	4	12.9	27	87.1
Internet	12	38.7	19	61.3

Source: Field Survey, 2008

From Table 1, Emerald received the highest rating of 17 (54.8%) respondents being aware of its existence in the Library. This was followed by the Internet 12 (38.7%) while Jstor, and Blackwell each received 11(35.5%) ratings. On the other hand EBSCO, Multilingual Matters, and AJOL had nine respondents knowing of their availability in the Library (29.0%). Also OUP and Bioone had eight (25.8%) responses each. Gale was known by seven (22.6%) respondents and the Institute of Physics Electronic Journals was known by four respondents (12.9%). DATAD and the Royal Society of Chemistry Journals were least known as they scored three each for their awareness by respondents. All these

databases were marketed together to the clients of the Library by the Library through notices put in the pigeon holes of the lecturers, letters written to them by the Reference Librarian informing them of the availability of the resources and by word of mouth in the daily interactions of the Library staff with the users. Letters were also sent to the faculty members, to request the Library for one-on-one training when attempts to train them according to departments were virtually unsuccessful. It is therefore quite difficult to understand the very low ratings of awareness of these databases by some of the respondents. The explanation could be that faculty members were probably interested in only databases that were closely related to their subject areas and therefore showed little or no interest in the others.

Use of Databases
Respondents who were aware of the electronic resources were asked if they used any of them. Eight (40%) of them said yes they used them but 12 (60%) indicated they did not. A further question asked those who had replied they did not use them to give a reason from a given set of responses. An opportunity to state any other reasons that were not stated in the given responses was also created. A majority of eight (66.8%) of the 12 said they did not know how to access the resources, two (16.6%) said they did not know it was possible to use the electronic resources and another two (16.6%) said there were no electronic journals in their disciplines. Lack of searching skills by majority of the respondents was therefore the dominant factor that caused their non - use of the electronic resources. Lack of training on the use of the resources caused two not to use the resources and the non - existence of journals in their disciplines was also the reason for two not using the resources. An examination of the electronic resources, however, shows that they encompassed all the disciplines offered in the College but it is difficult to determine whether they actually met the needs of all the disciplines as could be determined by individual faculty members. The non-existence of journals, as intimated by the two faculty members, could as well mean the journals in their disciplines did not meet their individual needs.

A follow - up question asked respondents who had indicated they had no electronic journals in their fields of specialization whether they would access them if they were made available. In response they said yes they would. Those who said they used the resources were asked to rate the value of the resources in relation to their work in teaching and research. Seven out of the eight respondents rated resources they used as important with the one remaining respondent rating them as quite important.

Identified users of the resources were asked whether they influenced their students to use the resources. The responses showed that four out of the eight who responded to this particular question encouraged their students to use the resources, three did not and there was no response from one. When a further question that asked respondents to disclose the databases they influenced their students to use was put, all four respondents mentioned Emerald and Jstor. This was expected to motivate learners to use the resources but a study of the Library's usage statistics of these databases did not confirm that expectation. The Library's monthly report spanning 2005 to 2008 on the use of the electronic resources showed that the Emerald was used 114 times and Jstor 18 times by students whose population was a little over 3000 in 2008. Other databases namely EBSCO and Blackwell had been used 131 times whilst others had not been used at all by the students during the period. It must be said though that the statistics may not represent the actual usage of the resources by students as they could be accessed outside the Library where the Library had no way to track the usage. It is also most likely that unreliability of the Internet in terms of connectivity and bandwidth problems, the limited number of computers in the Library, power outages, and the way the records on usage were captured as mediated searches were not recorded could possibly account for the very low usage of the resources by students. The use of the other databases was no better.

The eighth question elicited responses from respondents that showed that 23 (74.2%) of them used only print journals, five (16.1%) used both print and electronic journals and three (9.7%) used only electronic resources. The responses show that majority of the respondents used only print journals. Lack of awareness of existence of the electronic journals, lack of access to computers, lack of information competence skills, and the ease with which print journals were accessed possibly accounted for the popularity of the use of the printed journals.

The eight (25.8%) respondents who said they used the electronic resources were further asked whether they did experience any difficulty in using them. Six (75%) out of the eight said yes they did and two (25%) said they did not. Non-possession of information competence skills by respondents could explain why majority of the respondents, six, had problems accessing the electronic resources.

The tenth question asked respondents if they had attended any training given by the COLTEK Library on how to use any of the databases. Nine (29%) out of the 31 respondents said 'yes' indicating they had attended training given by the Library; 19 (61 %) said 'no', indicating they had not, and three (10%) were unsure if they had. Clearly then, just a few of the respondents had training on how to use the resources. The databases that respondents had training on were mentioned as Emerald, Jstor, Blackwell, and EBSCO. It was observed that eight out of the nine who said they had training actually used the electronic resources whilst one did not. Additional factors such as lack of access to the Internet or inertia or inability to know that they need information, lack of mastery of the information searching skill taught them could explain the non- use by the one respondent who had training on how to use the resources but did not use them.

There was a follow-up question to respondents who had attended the training given by the Library regarding the adequacy of the training received. The responses are illustrated in Fig. 1. Four (45%) out of the nine respondents were of the view that the training was quite adequate; three (33%) rated the effectiveness of the workshop as adequate and two (22%) as inadequate.

Figure 1: Adequacy of Training Received

Source: Field survey, 2008

129
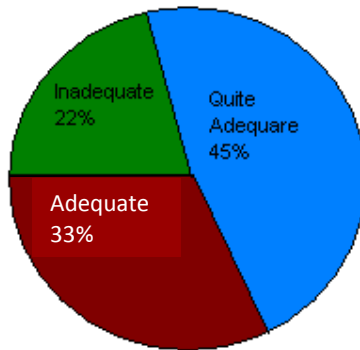
Remote Access to the Library's Electronic Resources
Thirteen (45%) out of the 31 respondents disclosed that they were aware the electronic resources could be accessed outside the Library, 14 (45 %) were not aware whilst four (13 %) were unsure when asked if they knew they could remotely access the Library's resources. The awareness that they could remotely access the Library's resources may be described as pedestrian as it fell below the average of 50%. A majority of 14 respondents stated they were not aware. In a response to an allied question for respondents who had indicated they were aware the resources could be accessed outside the Library, nine (69 %) out of the 13 respondents disclosed that they had actually accessed the resources and four (31%) mentioned they had not). Lack of access to computers and Internet connectivity could be the reason why they could not remotely access the resources.

Figure 2: Resources being Accessed Remotely by Respondents

Source: Field Survey, 2008

130
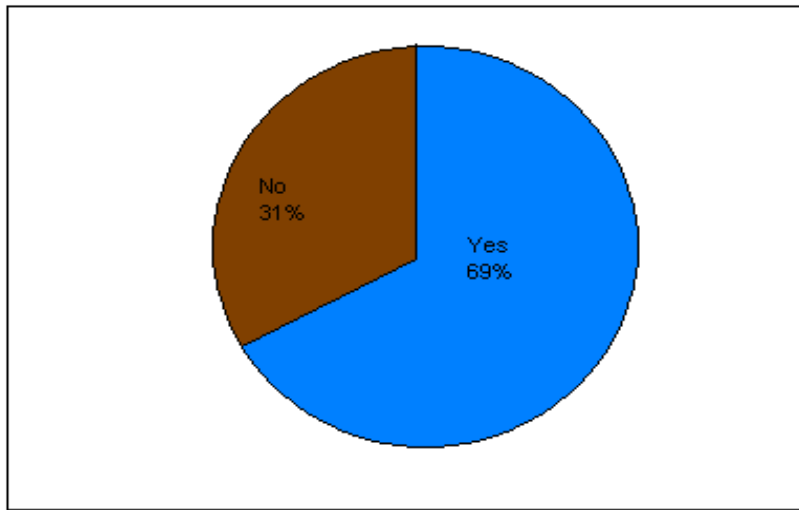
Suggestions of Respondents
The survey elicited comments from the respondents regarding the use of the electronic resources. Twenty–nine (93.5%) of the respondents suggested that training on the use of the resources should be provided to ensure they are effectively used. Such suggestions were vividly captured as in the following:

- "When are you going to organize workshops on the use of electronic resources for our campus?"
- "Provision of computers with Internet access facility during training/workshop to facilitate hands-on-skills."
- "It would be appreciated if an intensive workshop is organized for academic staff on how to access the databases."
- "Need to organize compulsory workshop for academic staff on these electronic resources."

Fifteen (43%) of the respondents called for aggressive marketing of the resources to make the clients of the Library aware of their availability and how important the resources would be to them. The need for more effective marketing of the resources was also underscored by a comment from one of the respondents thus "I have not received any notice or information pertaining to the University of Education, Winneba Library's electronic resources." Two suggested acquisition of more electronic journals across the various fields of learning in the college. One of the respondents said "I can't readily think of any now" whilst another provided no comment.

Conclusion
The study has given valuable information pertaining to how faculty members of COLTEK make use of the electronic resources of the Library. It was found out that majority of the faculty members were not aware of the availability of the electronic resources through the Library. Lack of electronic resources searching skills, borne out of majority of faculty members not receiving training or having inadequate training from the Library to use the resources in part, explained the low level of use of the resources. The low level of awareness and use of the resources by the faculty had a cascading effect on the students' use of the resources. This is because they might have incorporated the use of the electronic resources into their teaching curricula and thereby tacitly or explicitly

influenced students to use the electronic resources. The training provided by the Library for the faculty members to use the resources appeared not to be generally adequate for them to use the resources effectively.

Recommendations

The high number of faculty members who are unaware of the availability of the resources in the Library and the inadequate use or non- use of the resources presupposes that the Library would have to aggressively market its resources to its clients and give them the requisite training to be able to access the resources on their own. To achieve this, the College should provide each faculty with a computer in their offices so that they can access the resources from there instead of coming to the Library to queue with students for the limited number of workstations there.

The opportunity given to the respondents to make suggestions on how best the Library could help them elicited some useful information about their concerns. Although the concern expressed for the need to be trained to acquire information searching skills for instance has partly been addressed through a training workshop on information literacy and use of electronic resources using grants obtained from INASP in February 2010, there is, however, the need to periodically run training workshops for users especially new faculty members and fresh students to equip them with the relevant skills to enhance the use of these library resources. When other concerns such as the need to acquire resources that really reflect the individual courses taught by the faculty are addressed and the resources continuously marketed, it is likely to optimize full usage.

It would indeed be appropriate if similar researches to this one could be carried out on other campuses of the University of Education, Winneba so that a full view of the faculty members' awareness and use of the electronic resources could be ascertained.

References

Adika, G. (2003) Use of Internet among faculty members of universities in Ghana. **Library Review**, Vol. *52*, No.1, pp. 29-37.

Bar-IIan, J., Peritz, B. C., and Wolman, Y. (2003) A survey of the use of electronic databases and electronic journals accessed through the web by the academic staff of Israeli universities. **Journal of Academic Librarianship**, Vol. 29, pp.346-361.

Bell, J. (1998**) Doing Your Research project: A guide for first - time researchers in education and social science.** 3rd ed. Buckingham: Open University Press.

Dadzie, P.S. (2005) Electronic resources access and usage at Ashesi University College. **Campus wide Information Systems**, Vol. 22, No.5, pp.290-297.

Dillon, I. F. and Hahn, K. L. (2002) Are researchers ready for the electronic-only journal collection?: Results of a survey at the University of Maryland. **Portal: Libraries and the Academy,** Vol**.** 2, No. 3, pp. 375-390.

Hewitson, A. (2002) Use and awareness of electronic information services by academic staff at Leeds Metropolitan University- a qualitative study. **Journal of Librarianship and Information Science**, Vol.34, No.1, pp.43-52.

Kidd, T. (2002) Electronic journal usage statistics in practice. **Serials,** Vol**.** 15,No.1, pp.11-17.

Lenares, D. (1999) Faculty use of electronic journals at research institutions. Racing toward tomorrow. **In** H. A Thompson (Ed), **Proceedings of the 9th National Conference of the Association of college and Research Libraries**. Chicago, Ill.: Association of College and Research Libraries, pp. 329-334.

Mahe, A., Andrys, C. and Chartron, G. (2000) How French research scientists are making use of electronic journals: A case study conducted at Pierre et Marie Curie University and Denis Diderot University. **Journal of Information Science**, Vol. 26, No.5, pp.291- 302.

Majid, S. and Abazova, A. F. (1998) Computer literacy and use of electronic sources by academics: A case study of International Islamic University Malaysia. **Asian Libraries,** Vol.8, No.4, pp.100-111.

Monopoli, M., Nicholas, D., Georgiou, P., and Korfiati, M. (2002) A user-oriented evaluation of digital libraries: Case study: The electronic journals' services of the library and information service of the University of Patras, Greece. **Aslib Proceedings** Vol.54, No.2, pp.103-117.

Palmer, J.P., and Sandler, M. (2003) What do faculty want? **LibraryJournal**.www.libraryjournal.com/article/CA266432.html (Accessed October 14, 2009).

Sathe, N. A., Grady, J. L., and Guise, N. B. (2002) Print versus electronic journals: A primary investigation into the effect of journal format on research process. **Journal of the Medical Library Association,** Vol.90, No.2, pp.235-243.

Speier, C., Palmer, J.,Wren, D., and Hahn, S. (1999) Faculty Perceptions of electronic journals as scholarly communication: A question of prestige and legitimacy. **Journal of the American Society for Information Science,** Vol.50 6, pp.537-543.

Rehman, S. ur, & Ramzy, V. (2004) Awareness and use of electronic information resources at the health sciences centre of Kuwait University. **Library Review**, Vol. 53, No. 3, pp.150-156.

Tenopir, C., Bush, D.W., Boyce, P., Grayson, M., and Paulson, K. L.(2005) Relying on electronic journals: Reading patterns of astronomers**. Journal of the American Society for InformationScience**,Vol.56,No.8,pp.786-802. http://www3.interscience.wiley.com/journal/110436999/abstract?CRET RY=1&SRETRY=0 (Accessed October 15, 2009).

Tenopir, C., Hitchcock, B. and Pillow, A. (2003) Use and users of electronic library resources: An overview and analysis of recent research studies from http://www.clir.org/pubs/reports/pub120/sec1.html(October (Accessed October 13, 2009).

Tenopir, C., King, D. W., and Bush, A. (2004) Medical faculty's use of print and electronic journals: Changes over time and in comparison with scientists. **Medical Library Association,** April; Vol.92, No.2, 233–241 from http://www.ncbi.nlm.nih.gov/pmc/articles/PMC385305 (Accessed October 14, 2009)

Weingart, S. J. and Anderson, J. A. (2000) When questions are answers: Using a survey to achieve faculty awareness of the library's electronic resources. **College & Research Libraries***, Vol.61, N0.2, pp. 127-134.