# Is the Knowledge Society Information Literate: a case from Faculty of Applied Sciences (FAS), South Eastern University of Sri Lanka (SEUSL)

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## ABSTRACT:

Creation and deployment of knowledge is vital for the present undergraduates as they are living in an information age. Adequate knowledge about Information literacy skills and the perceptions of the undergraduates are important for developing an Information Literacy programme in order to create them as lifelong learners. The purpose of this study is to identify the level of IL competencies of the undergraduate students of FAS, assuming that they are coming from a knowledge society. Questionnaire was used as research instrument and administered to 44 students of FAS and 41 returned the filled questionnaires at a response rate of 93%. The finding of this study indicates that though they are coming from knowledge society they are lack of Information Literacy Competency skills. On the other hand students perceived themselves as good in Library skills and research skills. This study recommends that it is important to teach information Literacy as credit bearing course unit to FAS students and the course should be designed according to the level of the students.

Key Words*: Knowledge Society, Literacy, Information*

*Literacy, Information Literacy Assessment*

## 1. INTRODUCTION

Information and knowledge are most integrated terminologies applicable to knowledge society. These two play crucial role in learning. Lifelong learning is facilitated through Information Literacy skills. ALA (1989) defined that information literate person is someone who is able to recognize when information is needed, knows what information is needed to address a given problem or issue. And beyond that he has the ability to locate, evaluate and use effectively the needed information (ACRL, 2000). Though there are debates and arguments on the definition of the term Information Literacy (IL) the ultimate outcome of all those definition falls on creating lifelong learners and critical thinkers.

Knowledge society is a new strategic position of our society where the social and economic perspective is concentrated on the exploitation of emerging technologies, and well ˉdefined knowledge and learning infra structures are the main vehicles for the implementation of knowledge and learning strategies. The final milestone is a society with access to knowledge and learning for everyone. Lytras, D.M.(2005) Considering this final milestone of a knowledge society (access to knowledge and learning) it cannot be achieved without the application of information literacy skills. The so called knowledge society who makes our undergraduate population today should posses the competencies to access, use, create and communicate information properly as a component of the knowledge society whose ultimate target is knowledge creation and deployment.

## 2. SEUSL AND INFORMATION LITERACY

Faculty of Applied Science is located at a separate campus from the main campus of South Eastern University of Sri Lanka (SEUSL). Though a series of workshops have been carried out to SEUSL undergraduates on IL the FAS students are not taught any systematic programme or any credit bearing course on IL. The freshmen of 2010/2011 were taught a 12 hours programme on IL throughout their intensive course. However, the author of this paper is in-charge for the FAS library has an intension to introduce IL as credit bearing course unit to the FAS students. In order to evaluate the IL skills of FAS students a preliminary test was carried out to the selected sample of students in all three academic years. The test included 2-4 questions on basic ideas about information sources, library website and OPAC. Search strategies, citing information, plagiarism and evaluation of information.

## 3. SIGNIFICANCE OF THE STUDY

Libraries and digital information resources can play a critical role in the education of todayˇs students. Though the present day students have technology, it is questionable that to which extent they are aware that how to use technology and digital information in ways appropriate to the academic works. It should be explored by librarians and they should teach information literacy, especially how to access digital information, important policy issues, and intellectual property rights. Oblinger and Oblinger (2005) says that Net Genres typically lack information literacy skills and their critical thinking skills are often weak. So, it is important to consider how to improve their Information literacy and critical thinking skills.

The universal mission of any university is to turn the society for new knowledge and for the dissemination and preservation

of knowledge. Information literacy is considered as not just a necessity, but a basic human rights that promotes social inclusion in all nations. Report of Alexandria Meeting In Oblinger et.al (2006). They urged governments and intergovernmental organizations to pursue policies and programs to promote information literacy and lifelong learning, as they are essential for the development of the information society. The extent of the basic knowledge and skills of the students should be explored to design a course on information Literacy. Contents of the IL course will be based not only on the knowledge and expertise of the professionals but also the extent of the skills and knowledge of the learners.

## 4.  STATEMENT OF THE PROBLEM

Research problem of this study is focused on how students coming from knowledge society acquire and use information to accomplish their learning and research activities. It is important to identify their perceptions and self confidence toward their research skills. This preliminary evaluation will assist library professionals to design a valuable IL programme and assessment tool. The following research questions were investigated through this study.

- How well do the undergraduates understand and use different information sources.
- To what extent the students use the library web page and OPAC.
- How proficient are the undergraduates at searching and evaluating information
- To what extent the students are able to identify the basic elements of bibliographic citation.
- What is the level of self confidence of the students towards their research skills and library skills.

## 5.  OBJECTIVES

The aim of this study is to explore the information literacy competency level of undergraduate students, of  FAS, SEUSL who are known as knowledge society. Specifically, to identify the skills and knowledge of the students on information sources, citations, plagiarism, searching information through library web page, OPAC, and other search engines. In addition this study identifies the perception of the students towards their ability.

## 6.  LITERATURE REVIEW

### 6.1  Literacy Vs. Information Literacy

Literacy level of the civilians was encountered as important criteria to evaluate a nationˇs development basis on education. According to Encyclopedia of Americana (1996) Literacy is

defined as `able to read and write . Sri Lanka is proud of the literacy level of its citizens. A person is literate when one can both read and write with understanding a short simple statement on his/her everyday life (National Literacy policies, Sri Lanka) According to this report total literacy rate is 98% in 2010. It is expected to increase by 100% in 2015. According to UNICEF-Sri Lanka report the literacy rate of Sri Lankan youth during 2004-2008; male is 97% and female is 99%.The age level of this youth group is 15-24. However how many of them are information literate?

Concept of literate practices such as reading and writing is now expanding. Literacy is defined now as `the flexible and sustainable mastery of a repertoire of practices, associated with the texts of traditional (:oldˇ) and new communication technologies (:newˇ) via spoken, print and multimedia. Luke and Freebody, 2000, p.9 In Scharber (2009)p.177). Here :oldˇ is considered as the traditional text (print based) whilst :newˇ is meant the electronic text, whether they are print-based, sound based, visual based or a combination.  So today literacy is no longer an end point to be achieved but rather a process of continuously learning how to be literate. The individuals of the knowledge society should be literate in both :oldˇ and :newˇ ways.

Information Literacy is the term first introduced by Paul Zurkowski, president of the information Industry Association (IIA). He described information literate individuals as people `trained in the application of information resources to their work (Patricia, 1999). She further described that people who have learned techniques and skills for utilizing the wide range of Information tools as well as primary sources in molding information solutions to their problems. After that many more definitions have been describing the concept of Information Literacy and information literate persons.

Information literate person is one who has learnt how to learn. Brown et al (2003) in Holliday W.(2004) suggest that students are often over confident because they equate their technology savvy with information literacy.

IL is most closely associated with studentsˇ knowledge base and thinking skills. Members of the Indiana University Library Assessment Planning Committee regard information literacy as the application of critical thinking to an information problem.

Universities abroad are seeking students with IL skills. The following statement clearly expresses this view.

> `Universities seek to attract students by accommodating their self-perception as learners who acquire information by developing their own questions, systematically evaluating sources, and selecting evidence to support their answers . (Howard, 2006 In Bamesk et al (2007).

But in case of Sri Lanka we do not teach IL to the secondary school level and thus we are unable to expect those skills when they enter into universities. However to prepare them as life long learners it is the foremost duty of educationists to enhance the students˘skills on IL.

IL, Information Fluency, Information Competency all terms are describes similar concepts. IL includes, visual literacy and Media literacy. Information Fluency emphasizes stronger technology and critical thinking skills. Information competency means integration of library literacy, computer literacy, media literacy, technological literacy, ethics, critical thinking and communication skills.Lorenzo and Dziban (2006) In Feiertag J.and Berge, Z.L.(2008).

Senewiratne, W. (2007) says that modern society is said to be highly information dependent and almost all social activities nowadays are information, knowledge and learning oriented. Information society is a term used for a society in which the creation, distribution and manipulation of information has become the most significant economic and cultural activity. Her study revealed that though higher language literacy rate is observed in Sri Lanka, IL skills of the people are poor. She has recommended a community information literacy model for rural Sri Lanka.

## 6.2 ICT Literacy

Patricia (1999) says Information Literacy is a keystone for twenty-first century learning.

The present undergraduate society faces challenges in sorting valid and quality information from misinformation. So, this students must blend skills in finding information, using information and think critically. They have to create knowledge. Hence IL skills should be developed to enhance knowledge creation.

However IL has many dabating definitions and replaced by many terminologies the newly emerged definitions have to be analysed and adopted in order to suite the current social phenomena. IL is defined as

> ` ICT profiency is the ability to use digital technology, communication tools, and/ or networks appropriately to solve information problems in order to function in an information society. This includes the ability to use technology as a tool to research, organize, evaluate and communicate information and the possession of a fundamental understanding of the ethical /legal issues surrounding the access and use of information˳. Oblinger D. ed (2006)

Considering this definition; technology is just a tool.ICT proficiency is not just using computers and surfing the internet but rather it is the proper use of technology to solve properly an information problem considering all ethical and legal issues. Today˘s knowledge society challenges students with over abundant of information with quality is dubious, the solution cannot be limited to improving technology. Instead, there is an increasingly urgent need for students to have stronger IL skills and apply those skills in the context of technology.

Students came from knowledge Society are considered as fluent in IT. IT is a tool and if they use it properly it can be an asset. If it is not used properly it can become an obstacle to achieving its intended purpose, so the matter then understands of how to discern good information from bad and how it all fits in perspective.

International ICT literate panel defined that ICT literacy is more than technology literacy. ICT literacy includes IL and digital environment (Katz, I.R.2007). Rockman (2004) indicated that students do not use technology effectively when they conduct research or communicate. It is noted in many researches that students today more technology savvy but lack information savvy.

## 6.3 Knowledge Society

Twenty first century is characterized by rapid social, economical and technical change.  According to Drucker (2001) ..˳ the next society will be knowledge society where knowledge will be its key resources and knowledge workers will be the dominant group in its workforce˳. Kalam, A.P.J. (2002) noted that in the twenty first century, a new society is emerging where knowledge is the primary production resource intend of capital and labour. According to him :the ability to create and maintain the knowledge is the key factor in the prosperity of this society˘. He further explains that how a nation qualifies as a knowledge society effectively is judged through its knowledge creation and deployment.

Knowledge society is defined as `.. a society which is well informed and knows how to use information for the betterment of that society. Todd 2001 in Senewiratne, W. (2004)

Knowledge society is characterized by communities of informed, active, healthy people with low levels of unemployment and crime and high levels of achievements and life satisfaction.  In addition the following characteristics are identified by Chintakindi, S. (2003).

Characteristics of knowledge society;

- It is based on the net work economy
- Technological convergence
- High quality of education
- Rising wages
- Highest productivity and growth increasingly attributable to IT sector.

- Everything that can be digitized.
- Knowledge is widely dispersed and needs to be accessed through social network.

Knowledge society facilitates interpersonal discussion. Knowledge society encourages sharing ideas, experience and solution. Information society is one of the components of the knowledge society. In the information age knowledge is a basic social need.

Knowledge is the basis for designating the modern source as a knowledge society. In brief many scholars expects that knowledge society will bring informed citizens in the future. The present society should be organized to maximize the creation and use of knowledge.

Knowledge creation and knowledge deployment of an individual is mainly depending on his ability to create and use information. Indirectly these two activities are influenced by IL skills of persons.

The world bank report distinguishes two types of knowledge, those are knowledge attribute leading to information problems and knowledge about technology, Mohammed S.(2003). He characterized the knowledge society as mentioned below.

- Open and timely access to information and knowledge
- Capacity to absorb and interpret information
- Avenues and opportunities to use knowledge for informed decision making and for transformation to higher quality of lives.

Knowledge based society is a society that apply knowledge. IL should be one of the key talents of the knowledge society.

## 6.4 IL Assessment

Ivantskaya (2006) has attempted to assess the IL level of health information consumers by using a 56 items online assessment tool called Research Readiness Self Assessment (RRSA). He found that while the majority of the students think that their research skills are good or excellent, many of them are unable to conduct advanced information searches, judge trustworthiness of health related websites and articles and differentiate between various information sources.

Ferguson, J.E(2005). carried out an online survey organized by IL Task force of Mary Land University Baltimore Country for incoming Biology students. The survey resulted that majority of students have some understanding of IL skills, however, a significant number were not familiar with important concepts, such as search techniques, identifying print citations, how to determine bias or quality of sources and correct citation behavior when using research or copyrighted works. Assessment based on ACRL˅s IL competency standard for

higher education was carried out as a national effort. Questions covered on definition, access, evaluation, management, integration, create and communication. Sixty three high schools, community colleges, and four year colleges and universities participated. This study resulted poor ICT literacy performances.

Today˅s learners of universities or present undergraduate population are born after 1982 and characterized as Net generation or Millennial. They are called as :the google˅ and : :Nexters˅. They are technological savvy and use computers and internet effortlessly. But in many researches carried out on this generation suggest that these students have poor academic research skills and frequently don˅t see anything wrong and have the habits of copying other people˅s work. This indicates that though they are already known about digital sources of information and effective internet users they are lack of some highlighted skills and knowledge on fair use of information, copyright issues etc.

## 7. RESEARCH DESIGN

Survey method was used to obtain information from undergraduate students. Quantitative and qualitative approach to data collection and analysis was used. The research instrument is a questionnaire which includes multiple choice questions and a very few open ended question. Questionnaire covers questions on various IL skills such as access to information through web, OPAC, citation and identification of scholarly sources, Organizing materials, plagiarism and search strategies etc. All multiple choice questions include a response :not sure˅ in order to avoid the students to respond by guessing. Questions were linked to ACRL˅s IL competency standard for Higher Education. The questionnaire was administered to the undergraduate students of FAS, SEUSL. Population of this study was consisted of 220 students of FAS, SEUSL and a random sample of 20% (n=44) were drawn. Stratified random proportionate sampling technique was used to select sample. Descriptive statistics of SPSS package was mainly used to analyze the data. 41 questionnaires were returned at a response rate of 93%.

Once the questionnaire was prepared it was tested for quality and clarity through a pilot study with the help of some faculty members of FAS, SEUSL. After refining only it was administered to student sample.

## 8. RESULTS AND DISCUSSION

Results were analyzed under six main areas of information literacy. Considering the demography of respondents 87.2% (n=34) of respondents˅ age group fall between 22-23 years and the rest goes under 24-25 and gender wise 59% (n=23 ) female students and the rest are male students. Majority respondents (38.5%) are freshers whilst 33.3% of them are second years and 28.2% are from third years.

## 8.1 OPAC, Library Web and Library Usage

In a typical seven days week, time spent for library research (in person or electronically) is noted by the respondents in Table 1.

Table 1: Time spent for Library research in a week

| Description | Freq. | Percent | Valid Percent | Cum. Percent |
|---|---|---|---|---|
| None | 7 | 17.9 | 17.9 | 17.9 |
| 1-4 | 18 | 46.2 | 46.2 | 64.1 |
| 5-10 | 9 | 23.1 | 23.1 | 87.2 |
| 11-20 | 3 | 7.7 | 7.7 | 94.9 |
| More | 2 | 5.1 | 5.1 | 100.0 |
| Total | 39 | 100.0 | 100.0 | |

46.2% (n=18) respondents use 1-4 hours per week for library research whilst 17.9% (n=7) do not use library. It is observed that a few students (7.7%, n=3) use 11-20 hours and more (5.1%, n=2) for library research. To locate books owned by SEUSL library 33.3% (n=13) respondents only use OPAC and 38.5% has mentioned :not sure, whilst the others have responded for google (17.9%, n= ). Very few students are known about library web page. To get a list of e-journals available at SEUSL libraryonly 10.3% (n=4) responded have marked for the correct path to :access online journals˘ whilst 71.8% (n= ) of them are :not sure˘ and the others have identified the wrong path. This result shows that majority of the respondents do not use library web pages.

## 8.2 Information Sources

Regarding information sources 4 questions were asked. 69.2% (n=29) respondents are aware that Google is a search engine and 7.7% (n=3) responded as a :research database. At the same time 61.5% (24) responded believe that web is the most current and accurate source of information for every topic whilst 15.4% (n=6) are not sure.

43.6% (n=17) are aware about what is an abstract and 20.5% (n=80 are not sure whilst some others have marked for wrong answers. Another question was asked to get scholarly information the most appropriate source they use for. 71.8% (n=28) responded websites and only 15.4% (n=6) responded for :journal. The others marked for magazines, newspapers and

even for :not sure˘. These students mainly rely on search engines and internet rather than journals. In addition only 23.1% ( n=9) have known that scholarly publications are books and journals whilst 20.5% (n=8)responded websites, magazines and not sure. This indicates that respondents have no clarity regarding different types of information sources.

## 8.3 Citations and Referencing Style

Two bibliographical citations were given to the students to recognize the source first and to identify the element of citation. Citation of a journal article was recognized only by 23.1% (n=9) and the same percentage of students are :not sure˘, whilst 38.6% (n=15) responded as :book˘. And for the second question the volume and issue number of an article was recognized only by 17.9% (n=7) respondents whilst 43.6% (n=17) students are :not sure˘ and the rest has marked for wrong information. Another question was asked what are Harvard and MLA style referring to? Only 17.9% (n=7) responded correctly that both of these are :formats for documenting the sources used for a paper whilst 51.3 %(n=20) are not sure and the rest have given wrong responses as classification system and article indexes. It is resulted that these students are lack of understanding about citations and referencing.

## 8.4 Search Methods and strategies

A question on Boolean operators was asked. 33.3% (n=13) students are capable of applying Boolean operators whilst 30.8% (n=12) are not sure and the rest were unable to apply the exact operator for a particular search. The students were asked a question that :if you find a very good article on your topic, what is the most efficient source for finding related articles. Only 28.2% (n=11) responded :Bibliography from the article˘.30.85% has mentioned that library catalogue and the rest has noted other databases. This result indicates that these students are lack of search methods and application of search strategies.

## 8.5 Plagiarism and Evaluation of Information

To evaluate the knowledge of the students on plagiarism a question was asked how you call for the failure to give credit to your sources of information. 51.3% (n=20) responded (n=12) for, not sure, whilst only 10.3% (n=4)responded for :plagiarism and 16.4% (n=6) identified it as :copyright˘. It is resulted that they are unaware of plagiarism.

To investigate the students˘ ability to evaluate information the students were asked to mark the unwanted one. The result has been tabulated in table 2.

Table 2: Unwanted Criteria for Evaluating information

| Description | Freq. | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|
| the timeliness of the information | 4 | 10.3 | 10.3 | 10.3 |
| the credentials of the author | 16 | 41.0 | 41.0 | 51.3 |
| the length of the information source | 3 | 7.7 | 7.7 | 59.0 |
| the accuracy of the information | 4 | 10.3 | 10.3 | 69.2 |
| not sure | 12 | 30.8 | 30.8 | 100.0 |
| Total | 39 | 100.0 | 100.0 | |

This result indicates that they are very weak in evaluating information they retrieve.

## 8.6  Library Anxiety:

At last an open ended question was asked to briefly explain the experience of searching information in the university library considering their confusion, uncertainty, anxiety at the beginning of the research. Majority of the students were did not respond to this question whilst a few of them have responded. A student has written that : I don˘t know about the library catalogue. I searched for a book all over the library. It was a very difficult experience. I couldn˘t find the book. At last I asked the receptionist at the library service counter. She simply helped me to get the book˙.

Another student noted that ˋI don˘t know how to find a book in the library. I asked help from one of the senior and got the book I want. Again I have the problem to locate the information that I want in the book. I hesitate to ask again and finally I asked and she guided me to get the information from the book.˘

These two experiences of the students indicate that they don˘t know about the catalogue and even after getting the book she struggled to locate the relevant pages. The second student might not have experience in reading books during his/her advance level or she might have anxiety and that hinders her in referring the pages.

## 8.9  Self Perception of Respondents

Even the students were lack of IL skills on the above topic just to identify their level of self confidence three question were asked about their research skill, library use skill, their value of information, copy right and fair use. 61.5% (n=240 respondents have self confident that they can solve an information problem at their own whilst 35.9% (n=14) respondents are unable. Responses for their research skill and library use skills have been mentioned in table 3.

Table 3: The research skill and library use skill of the respondents

| Description | Very good | good | Unable to decide | Poor | Very poor | Total |
|---|---|---|---|---|---|---|
| Library use skill | 2 (5.1%) | 25(64.1%) | 7 (17.9%) | 3 (7.7%) | 2 (5.1%) | 41 (100%) |
| Research skill | 5 (12.8%) | 21(53.8%) | 4(10.3%) | 4(10.3%) | 3 (7.7%) | 41 (100%) |

Majority of the students are responded for very positive in the above two aspects (very good & good).They have self confident in their research skill & library use skill. In addition they are aware that all the information available from internet is not free of charge. Majority of them 51.35 (n=20) are unaware of copy right and fir use of information.

## 9.   CONCLUSION

The evaluation of undergraduate students of FAS, SEUSL have proven that they are lack of the IL skills. They are very weak on the baseline knowledge about library web pages, OPAC and information sources, referencing and citation styles and evaluation aspects.  Though they perceived themselves as good and very good skilled personal for research and library use, a very good Information literacy programme is crucial and it should be made compulsory to these students in order to create the components of knowledge society as informed citizens.

## 10. RECOMMENDATION

A properly designed information Literacy course should be designed and taught to FAS students in order to create them as

lifelong learners. They have to play prominent role in the knowledge society as knowledge creators. The curricula should possess each and every aspect of Information Literacy performance indicators as these students are very poor in baseline information on the topic. This programme should not only develop the research and information skills of the students but also avoiding library anxiety.

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