

## **Digital Literacy Awareness among Arts and Science College Students in Tiruvallur District: A Study**

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**Abstract:** *The Impact of electronic environment influenced all sectors of social and economic life; it required imparting training to the user community of academics to retrieve right information at right time. The present study was undertaken in the Tiruvallur District of Tamil Nadu to understand the digital competency of Arts and Science Students with special reference to three colleges. Information was gathered the level of use of digital resources and the proficiency in the using digital information. The questionnaires were distributed among a sample of 300 Arts and Science Students selected at random from three colleges in and Tiruvallur District, of which 224 questionnaires were selected for further Statistical information.*

**Keywords:** *Digital Literacy, Arts and Science Students, Computer Knowledge, information Literacy.*

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### **1. INTRODUCTION**

Digital Literacy has led to great increases in information that can be conveniently and quickly accessed and facilitates the collaboration and sharing of computer knowledge. With other forms of digital literacy, we are also seeing an increasing on digital modes of communication. Word processing is now the standard for writing and there has been a global up come of e-mail and usage of URL. Students must develop knowledge about how to use ICT Technology to construct meaning, but most importantly in ways that are appropriate to their needs. Computer is very important because they are applied in almost all the fields in the Modern Era.

They are used in one to one Communication, Banking, Businesses, medical science, education, media, sports, weather prediction and in our daily lives activities like entertainment. Computers have provided an entirely new medium for literacy. Information and communication Technology have introduced a new society where people can share information freely, anywhere, at anytime, across the World. Internet has become clear the skills required are not merely how to use computers or how to get information, but rather how to solve problems and how to create values with the help of other through information networks.

### **2. DIGITAL LITERACY**

Digital literacy is the Combination of the two terms – Digital and Literacy. Digital Information is a symbolic representation of data, and literacy refers to the ability to ready for knowledge, write coherently, and think critically about the written world. Digital literacy researchers explore a wide variety of topics, digital technologies.

Research also encompasses a variety of hardware platforms, such as computer hardware, cell phones and other mobile devices and software or applications, including web search or Internet applications more broadly. Literacy means the ability to read and write. The term “Information

Literacy” is to refer to set of skills required to identify information sources, access information, evaluate it, and use it effectively, efficiently, and ethically.

Digital Information is becoming essential to almost every aspect of modern life which means that there is a need as never before, for learners and teachers who are information literate in a digital context. User community require digital information literacy, and a skill to use computers and the Internet for many aspects of academic and research which resulting them with digital information capability in a knowledge based society. So called digital literacy is nothing but the information literacy.

Digital literacy is the ability to locate, organize, understand, evaluate, and analyze information using digital technology. It involves a working knowledge of current high technology, and an understanding of how it can be used. Digitally literate people can communicate and work more efficiently, especially with those who possess the same knowledge and skills. Research around digital literacy is concerned with wider aspects associated with learning how to effectively find, use, summarize, evaluate, create, and communicate information while using digital technologies, not just being literate at using a computer.

### **3. IMPORTANCE OF DIGITAL LITERACY**

The Information Communication Technology is an emerging field widely used by user community in academic institutions for improving their skills in their area of interest and to acquire information effectively. The aim of this study is to ascertain how digital resources are effectively utilized and the influence of internet in their academic efficiency. Digital Literacy is as important a right for children today as reading and writing skills were at the inception of the Education Act in 1850. Whereas writing and reading have been the cornerstones of literacy since modern education began, increasingly, digital technologies are superseding the manual process of writing, and reading is increasingly an activity carried out using digital facilities rather than paper resources. At the current time it seems inevitable that the usage and reliance on digital technologies will continue to grow.

While reading books and paper resources and manual writing remain fundamentally important, this current period in time may well represent a pivotal point in the march towards digital domination.

Digital literacy is a key to teaching in order to provide the skills, knowledge and understanding for young people to enter the workplace, further education and higher education. Increasingly, digital literacy is becoming the primary form of information transfer and communication, taking over from letters, phone calls and even face to face interaction. Business transactions without face to face contact would have been rare twenty years ago. Digital literacy involves using emerging Technologies to communicate meaningfully across technology, language social, cultural and intellectual barriers.

A variety of devices, platforms and web standards need to be incorporated into the educational experience to ensure pupils are fully literate in digital technology. Digital literacy covers: (1) Understanding the impact of new technologies on society, (2) Understanding and being able to manage digital identities appropriately and (3) Being able to locate, organize, understand, evaluate, analyze and present digital information. Digital Literacy encompasses computer hardware, software, the internet, cell phone, PDAs and other digital devices. Digital literacy is so closely connected to the traditional association of literacy and democratic rights as well as to more specific notions of e-government.

### **4. OBJECTIVES OF THE STUDY**

The study was conducted with the following objectives:

- To know the digital competence of Arts and Science college Students.
- To identify the importance of digital literacy
- To access the amount and familiarity in the use of digital resources
- To find the purpose and utilization of digital resources

- To identify the difficulties encountered by the user while using digital resources
- To access how the internet influenced their academic efficiency
- To identify the specific problems militating against using digital resources by the students.

## **5. REVIEW OF LITERATURE**

A review of the literature was undertaken for the final recommendations for this report by the Minnesota Learning Commons Digital Literacy workgroup. The group is chaired by Mary Ann Van Cura, Library Development & Continuing Education Coordinator for the state of Minnesota. The group has a website link off the Minnesota Learning Commons website with resources. The Digital Literacy Workgroup site identified literature from a variety of resources, which resulted in a rich definition of digital literacy and a solid literature review that was condensed and summarized for the purpose of this report.

A computer literacy study was completed in 2003 as a collaborative project by the Australian Council for Educational Research (ACER), the National Institute for Educational Policy Research (NIER) of Japan, the Tokyo Institute of Technology, and the Educational Testing Service (ETS) in the United States. The purpose of the study was to determine the feasibility of developing and delivering a performance based assessment regarding information and communication technology literacy (ICT) (Lennon, Kirsch, Von Davier, Wagner and Yamamoto, 2003). The ICT expert panel's 2003 report resulted in standards for a variety of digital and information literacy assessment tools.

The National ICT Literacy Panel was formed by the National Forum on Information Literacy and the council conducted numerous studies on information and communication technology literacy skills. The ETS iSkills assessment arose from these studies. The ETS iSkills Assessment was studied and a recommended minimum score was determined in a study conducted by Tannenbaum and Katz in 2008. The tool evaluated knowledge of technology and critical thinking skills used in a technological manner. The iSkills™ assessment determines proficiency in the following areas:

- Define. Formulate a research statement to facilitate the search for information.
- Access. Find and retrieve information from a variety of sources.
- Evaluate. Judge the usefulness and sufficiency of information for a specific purpose.
- Manage. Organize information for later retrieval.
- Integrate. Summarize or otherwise synthesize information from a variety of sources.
- Create. Generate or adapt online information to express and support a point.
- Communicate. Adapt information for an audience or for delivery via a different medium (e.g., email, presentation software, word documents, and spreadsheets)(Macklin, 2007).

In 2005, North Hennepin Community College Computer Application Faculty presented a study on computer literacy that pertains to the Metro area. The North Hennepin Community College Report defined in this report developed the following table to illustrate the literacy skill set they summarized in their study. The North Hennepin Report is used and referred to with permission from Kay Scow and Anna Kniebel, faculty in the Business Department.

This newly emerging concept of "digital literacy" may be utilized as a measure of the quality of learners' work in digital environments, and provide scholars and developers with a more effective means of communication in designing better user-oriented environments. The present paper proposes a holistic, refined conceptual framework for digital literacy, which includes photo-visual literacy; reproduction literacy; branching literacy; information literacy; and socio-emotional literacy. Eshet, Y. (2004). Digital Literacy: A Conceptual Framework for Survival Skills in the Digital era. *Journal of Educational Multimedia and Hypermedia*, 13(1), 93-106. Norfolk, VA: AACE. The concepts of 'information literacy' and 'digital literacy' are described, and reviewed, by way of a literature survey and analysis. Related concepts, including computer literacy, library

literacy, network literacy, Internet literacy and hyper-literacy are also discussed, and their relationships elucidated. After a general introduction, the paper begins with the basic concept of 'literacy', which is then expanded to include newer forms of literacy, more suitable for complex information environments. David Bawden, (2001) "Information and digital literacies: a review of concepts", Journal of Documentation, Vol. 57 Iss: 2, pp.218 – 259, MCB UP Ltd Article: Information and digital literacy: a review of concepts.

## 6. TOPICS & OUTCOMES OF DIGITAL (COMPUTER) LITERACY

Digital (Computer) Literacy Topic	Digital (Computer) Literacy Outcomes
Computer knowledge and security	Basic knowledge of hardware, networks and security, virus information, memory, storage, audio formats, legal and health issues around computers and copyright knowledge
Word Processing	Using a word processing application to create, format and finish a document, report, paper, multi-page report; using features such as tables, pictures and images within a document; importing objects Spreadsheet Developing, formatting and using a spreadsheet; standard mathematical and logical operations using basic formulas and functions; importing objects, creating graphs and charts.
Presentation	Creating, formatting and preparing ; creating a variety of presentations for different target audiences; using graphics, charts and various slide-show effects.
Operating Systems	Using the computer and managing files: how, why and where computers store files; how to use operating systems and the desktop environment; managing and organizing files and directories/folders; simple editing tools; and print management facilities Windows
Internet and Information retrieval	Knowledge of web browsers, URLs, internet service providers, bookmarks/favorites, using search engines, assessing credibility of information, security, cookies and firewalls
Email	Proficiency in using internet based email and email applications
Database Management	Designing and planning a simple database; retrieving information; using query, select and sort tools; creating and modifying reports
Web Page	Producing and editing a webpage that contains graphics and uploading it to a web server.

## 7. RESEARCH DESIGN

The present study was undertaken in the Tiruvallur District of Tamil Nadu to understand the digital competency of Arts and Science College Students with special reference to three colleges. The literature study provided valuable insight into the identification of aspects of digital literacy. Using a preliminary literature review as a base, the investigator generated survey questions. The questions probed Arts and Science Student current use of and attitudes toward various digital resources.

Major input for the study was obtained through survey Method. Information was gathered regarding, the level of use of digital resources and the proficiency in using digital information. The questionnaires were distributed among a sample of 300 Arts & Science students selected at random from three colleges in Tiruvallur District, of which 158 questionnaires were selected for further statistical treatment.

**8. DATA ANALYSIS AND FINDING**

The Responses obtained from the Arts and Science College Students are presented in the following Table percentage method has been used for analyzing the responses.

**Table1. Questionnaires Distribution and Received of Arts & Science Students**

Gender (Sex)	Questionnaires Distributed	Questionnaires Received
Male	115 (38.33%)	83 (72.17%)
Female	185 (61.66%)	144 (77.83%)
Total	300 (100%)	226 (75.33%)

A total of 300 questionnaires were distributed to the Arts and Science Students of three colleges in Tiruvallur District, out of 300 only 227 questionnaires were returned back from the students of which 83 from the male students and 144 from the female students. Here the response rate is 75.66 percent.

**Table2. Level (Proficiency) of Digital/Computer Literacy**

Gender (Sex)	Beginners	Average	Expert	Total
Male	11 (13.25)	49 (59.03)	23 (27.71)	83 (100%)
Female	32 (22.22)	83 (57.63)	29 (20.13)	144 (100%)
Total	43 (18.94)	132 (58.15)	52 (22.90)	227 (100%)

The above table furnishes the details of the data regarding the level of computer proficiency/Level of Arts and Science Students. Majority of the Male students 59.03 and about half of the female students 57.63 are average in computer literacy level. This is mainly because male students have more access to computers than female students from different places like Net Centers and Net café etc.

**Table3. Frequency of Computer Use**

Gender (Sex)	Daily	Weekly	Monthly	Total
Male	49 (59.03)	23 (27.71)	11 (13.25)	83 (100%)
Female	38 (26.39)	90 (62.50)	16 (11.11)	144 (100%)
Total	87 (38.32)	113 (49.77)	27 (11.89)	227 (100%)

Table 3 describes the frequency of computer usage by the Arts and Science College Students. Majority of the Male students 59.03% spend daily on computer while majority of the Female Students 62.50 usage of computer only weekly.

**Table4. Place of Access of Computer**

Gender (Sex)	Home	Institution	Library	Net Centers	Total
Male	29 (34.94)	36 (43.37)	03 (3.61)	15 (18.07)	83 (100%)
Female	55 (38.19)	52 (36.11)	20 (13.88)	17 (11.80)	144 (100%)
Total	84 (37.00)	88 (38.76)	23 (10.13)	32 (14.09)	227 (100%)

The table above furnished the results of the Arts and Science Students preference of place of access to computers. The response shows that a good number of male arts and science Students 43.37% usage computer from College and a good number of female arts and science students 38.10% have computers access from home. Only a very few male and female arts and science students usage computers at Net Centers and Library.

**Table5.** Knowledge of usage of different digital/computer Tools

Gender (Sex)	CD ROM	Pen Drive	Scanner	Printer
Male	62 (74.69)	41 (39.40)	31 (37.35)	18 (21.69)
Female	71 (49.30)	73 (50.69)	14 (09.72)	26 (18.05)
Total	133 (58.59%)	114 (50.22%)	45 (19.82%)	44 (30.55%)

The Knowledge of usage of the different digital/computer based equipment for Arts and Science students is depicted in the table 5. Majority of Females 49.30% and Male 74.69% arts and science students know to use CD ROM. Compared to male, a large majority of female arts and science students 50.69% know to use Pen drive.

**Table6.** Knowledge to usage various digital resource

Gender (Sex)	Visual/Images Materials	Audio	Internet Accessing	e-Mail	Social Media	Online Games
Male	71 (85.54)	76 (91.57)	65 (78.31)	42 (50.60)	59 (71.08)	36 (43.37)
Female	108 (75.00)	105 (72.91)	97 (67.36)	70 (48.61)	80 (55.55)	58 (40.27)
Total	179 (78.85%)	181 (79.73%)	162 (71.36%)	112 (49.34%)	139 (61.23%)	94 (41.40%)

The usage of various digital resources by the arts and science students are studied in order to understand their literacy towards digital resources. A large majority of male arts and science students 85.54% and female arts and science students 75.00% make usage of visual/images materials. 91.57% of male arts and science students and majority of female above students 72.91% make use of audio materials. Majority of male students and female students make usage of internet, e-Mail, multimedia and others.

**Table7.** Sources of Computer Knowledge

Gender (Sex)	Self-learning	Pvt. Computer Institution	College	Others	Total
Male	39 (46.99)	19 (22.89)	11 (13.35)	14 (16.87)	83 (100%)
Female	19 (13.19)	31 (21.52)	82 (56.94)	12 (8.33)	144 (100%)
Total	58 (25.55%)	50 (22.02%)	93 (40.97%)	26 (11.45%)	227 (100%)

The above table 7, it is observed that both genders of the arts and science students obtained computer knowledge from different source. A good number of make arts and science students (46.99%) obtained computer knowledge through self learning where as majority of female arts and science students 56.94% obtained computer knowledge from college. About half of arts and science students 40.97% obtained computer knowledge from colleges. Colleges are providing compulsory computer knowledge nowadays.

## 9. RESULTS AND SUGGESTION

Analysis of the data collected from arts and science students revealed that they are digitally literate. Majority of the above students are average in computer literacy level. Majority of male students spend daily on computers and majority of the female students usage computer weekly. Majority of students can usage MS-Word among various offices software. Excel is more used by female students whereas power point is used more by male undergraduate students. 91.57% of male students and majority of female students make use of audio materials. Majority of arts and science students make use of internet, search engines, e-mail, multimedia and simulations / animations.

More number of male arts and science students obtained computer knowledge through self-learning whereas majority of female students obtained computer knowledge from colleges. About half of undergraduate students obtained computer knowledge from colleges. About half of male students are very confident in using digital resources and tools and majority of female students are confident in using digital resources and tools. Only a very few male and female students are not at all confident in using digital resources and tools.

Large Majority of male and female graduate students can create a document in computer. It is also seen that large majority of male and female under graduate students can copy and edit a document using computer. A large majority of male and female students can draw pictures in computer. Significant low usage was reported on certain digital resources. This situation might be as a result of lack of awareness about the digital resources. It is obvious that proper training is needed to efficient use of digital resources. Some suggestions to increase the usage level of digital resources: (1) To provide good infrastructure facility. (2) More organized training programmes on digital literacy. (3) Library should take initiatives to subscribe free digital resources.

### 10. CONCLUSION

This paper discus with the study of the usage of Digital resources in arts and science college students of Tiruvallur District students. Digital literacy is those capabilities that mean an individual is fit for living, learning and working in a digital society, It is about being being able to make use of technologies to participate in and contribute to modern social, cultural, political and economic life. There is an unprecedented requirement for people of all ages to have digital literacy skills for a wide variety of reasons, including employability, to reach full potential in school and for active engagement in digital world at all ages, at the end, some of the suggestions to increase to awareness among the user community by providing effective digital literacy programmes.

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