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# Impact and Implications of ICT Changes in Krishnasamy College of Engineering & Technology, Cuddalore

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**ABSTRACT**

The magnetic word 'Information Technology Changes' has been chanted the globe and been incorporated in organizational, managerial, developmental and marketing sectors. The services rendered with the help of ICT are faster and more effective. Recent developments in the fields of communication and information technology are indeed revolutionary in nature. An attempt has been made in this study to identify the information literacy in the usage of Information Communication Tool at the Krishnsamy College of Engineering & Technology in Cuddalore District.

**Key words:** ICT Tools; Electronic resources; Krishnasamy Engineering College.

## INTRODUCTION

Engineering schools, particularly in the developed countries, have invested heavily in Information and Communication Technologies (ICT), not only to deliver education, but also to improve the quality of services that health professionals provide. Developing countries like India, where a scarcity of human resources in the engineering sector is a serious problem, can be a particular beneficiary of ICT education. Lack of educational institutions and qualified engineering educators, poor distribution of facilities and poor access to the latest educational infrastructure are some of the issues to be addressed to improve the quality of engineering education in developing countries. Advanced technology can address at least some of these problems.

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### *Literature Review*

Chandrashekhra and Mulla studied the usage pattern of electronic information resources among the engineering research community especially in Karnataka. They found that the research community seemed to move towards a greater international homogeneity. They discussed why developing countries like India were not fully utilizing the benefit of on-line electronic information resources[1]. Nagaraju, Ramesh and Vithal in their findings showed that in India, most of the future library and information professionals would work in a digital or hybrid library environment[2]. Varadharajan in his study says that a series of training courses on digital libraries could provide a good balance of topics covering the technological, technical, management and social issues[3]. Haneefa conducted a study that e-mail services have been used by large percentage of users. The study added that a good number of users were not satisfied with application of ICT in the libraries[4].

### *Krishnasamy College of Engineering and Technology*

The Krishnasamy College of Engineering & Technology was coined by Sri Krishnasamy

Reddiar Educational Trust in Cuddalore. It serves to the rural people not only technical education but also all fields of education under the founder, Dr. K. Rajendran M.S., FICS., FAIS. At present, the college has 6 departments and 1900 B.E/B.Tech., students, 350 post-graduate students and 200 employees. This college is affiliated with Anna University of Technology, Thiruchirappalli.

The Krishnasamy College of Engineering & Technology Library has a total collection of 40,000 volumes of books, 8000 back volumes of technical periodicals and technical reports. The library subscribes to over 200 technical periodicals, including 75 international. It has a digital library with 20 computers and online access to IEEE, IEE & ACM and its society publications though membership, and large number of full-text journals from various publishers. It also stacks nearly 2500 non-book materials which include CDs, DVDs and Audio/Video Cassettes. It also subscribes to the NPTEL Source for the students and faculties.

## OBJECTIVES

The present study is to investigate impact and implication of the state-of-the-art ICT at the library of Krishnasamy College of Engineering & Technology, Cuddalore. In addition, the study also aims to achieve the following objectives:

1. To explore the role of ICT in engineering education;
2. To assess the impact of electronic information resources;
3. To identify hindrance to the use of electronic information resources;
4. To examine students' attitudes towards use of ICT;
5. To suggest measures for improvement of existing ICT-based resources and services.

## METHODOLOGY

The study used a questionnaire spread over eight sections: (A) General profile of the respondent, (B) Attitude towards ICT, (C) Use of ICT, (D) ICT enabled teaching and research, (E) ICT training provision, (F) ICT skill of engineering students, (G) Access to engineering information on the Web, and (H) Constraints. To facilitate quantification and analysis of data, mainly close-ended questions were used along with checklists and rating scales. To capture a response and to have fewer missing responses, options such as "no opinion", "don't know", and "don't know about it" were also included. A random sample of 150 (25%) of 160 engineering students of Krishnasamy College of Engineering & Technology, Cuddalore, was selected and questionnaires were distributed among them. Of those, 128 (85.33%) questionnaires were returned completed.

## DATA ANALYSIS AND DISCUSSION

*Attitude of Engineering Students towards ICT*

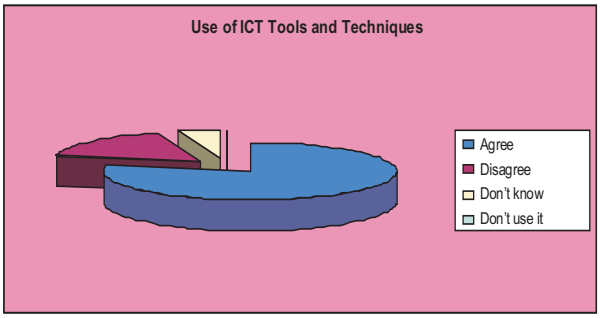
The survey found that a majority of respondents believed that ICT is essential for engineering education. In order to assess the attitude of engineering students towards ICT, they were asked whether they felt that engineering education would not be effective without ICT.

**Table 1: Effectiveness of Engineering Education and Research**

| Use of ICT tools and techniques | Frequency | Percent |
|---|---|---|
| Agree | 100 | 78.12% |
| Disagree | 22 | 17.18% |
| Don't Know | 6 | 4.68% |
| Don't use it | 0 | 0% |

Table 1 shows nearly the 80 percent of respondents agree that Engineering education will not be effective unless ICT tools and techniques are used in the educational process. It is evident from this data that the students realize that ICT tools and techniques should become a part of engineering education.

**Figure 1: Effectiveness of Engineering Education and Research**




*Need for ICT Enabled Library Facilities*

Students were asked to put forth their recommendations about ICT facilities.

**Table 2: ICT Facilities Recommended by Students**

| ICT facilities | Frequency | Percentage |
|---|---|---|
| Library website | 97 | 75.78 |
| E-resources | 81 | 63.28 |
| Networking with library and information systems | 79 | 61.72 |
| Automation of library | 76 | 59.57 |
| Digital library facilities | 61 | 47.65 |
| Local Area Network for library | 52 | 4.62 |

It is evident from Table 2 that three quarters of respondents recommended a library website for remote access to library resources and services. More than 60 percent recommended e-resources and an equal number recommended networking with other libraries and information system.

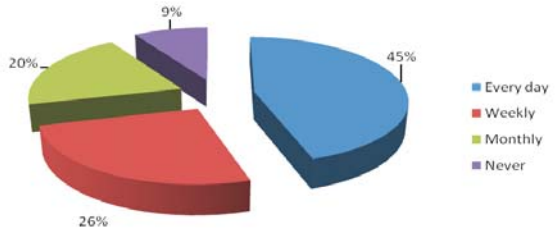
*Use of ICT*

**Table 3: Frequency of Computer Use**

| College | Every day | Weekly | Monthly | Never |
|---|---|---|---|---|
| Respondents | 45 | 26 | 20 | 9 |

Table 3 shows nearly half used a computer at least daily, with another quarter weekly and only about 20 percent using a computer monthly. The Nine percent never use a computer, which was quite discouraging. Although the students considered computers an integral part of engineering education, their overall use is infrequent.

**Figure 2: Frequency of computer use**




*Use of Internet*

More than 80 percent of respondents used the Internet. Table 4 summarizes the purpose and Frequency.

Most students used the Internet weekly to send and receive e-mail and chat with friends online. More than one quarter, however, used the Internet for accessing reading material recommended by their teachers.

*ICT Literacy of Engineering Students*

Surprisingly, there were still 3 (2.34%) engineering students who were not confident either in handling the mouse or the keyboard of a computer of the 128 students who responded to this survey, nearly all were at least "somewhat confident" about using the mouse and keyboard. About one-third of the students were not confident in using any word processing program. Nearly all were confident about web searching, and majorities were able to deal with computerized patient records.

*Constraints in Use of ICT*

More than half of respondents stated that application of ICT was not present in their course syllabus, with a nearly equal number who saw a lack of support from IT staff. Half

**Table 4: Purpose and Frequency of Internet Use**

| Purpose of using Internet | Daily | Weekly | Monthly | Occasionally | Never |
|---|---|---|---|---|---|
| Chat | 14 (10.94) | 42 (32.81) | 7 (5.47) | 26 (20.31) | 20 (15.62) |
| E-Mail | 11 (8.59) | 49 (38.28) | 17 (13.28) | 26 (20.31) | 6 (6.25) |
| Information for Patent | 9 (7.03) | 11 (8.59) | 12 (9.37) | 12 (9.37) | 47 (36.71) |
| Literature search | 7 (5.47) | 28 (21.87) | 9 (7.03) | 35 (27.34) | 25 (19.53) |
| Reading to Course work | 11 (8.59) | 19 (14.84) | 9 (3.03) | 30 (23.43) | 26 (20.31) |

**Table 5: Students' knowledge of computers and IT**

| ICT tools and applications | Not confident | Quite Confident | Confident | Very Confident |
|---|---|---|---|---|
| Computerized patient record | 52 (40.63%) | 16 (12.50%) | 22 (17.19%) | 16 (12.50%) |
| E-mail | 9 (7.03%) | 29 (22.66%) | 37 (28.91%) | 32 (25%) |
| Excel/other spread sheet | 51 (39.84%) | 19 (14.84%) | 21 (16.41%) | 17(13.28%) |
| Internet | 7 (5.47%) | 34 (26.56%) | 39 (30.47%) | 36 (28.13%) |
| Keyboard | 3 (2.34%) | 34 (26.56%) | 43 (33.59%) | 38 (29.69%) |
| Mouse | 3 (2.34%) | 26 (20.31%) | 43 (33.59%) | 47 (36.72%) |
| MS-Word | 42 (32.81%) | 22 (17.19%) | 27 (21.09%) | 26 (20.31%) |

**Table 6: Problems Accessing Electronic Information**

| Reasons | Frequency | Percent |
|---|---|---|
| E-Resources not available | 40 | 31.25% |
| ICT not present in syllabus | 72 | 56.25% |
| Inadequate number of PCs | 59 | 46.09% |
| Lack of support from IT staff | 71 | 55.46% |
| Lack of time | 64 | 50% |
| Inadequate computer network | 55 | 42.96% |
| Less computer lab | 60 | 46.87% |
| Internet connectivity Slow speed | 27 | 1.09% |

indicated lack of time, and a significant number also mentioned the lack of computer labs and a campus network, with a smaller number mentioning a lack of availability of e-resources in the library.

## RESULTS

*The following major findings were noted*

Nearly all respondents, i.e. 125 students (97.65 %) expressed the desire for a computer lab in their college. Ninety-nine (77.34%) students were of the opinion that ICT should be included in the undergraduate engineering syllabus; 69 (54%) students recommended that the engineering college library subscribe to e-resources for effective study and research; 100 (78.12%) students were of the opinion that engineering education will not be effective without ICT based study and teaching. A majority of students recommended that a library website be launched and the library should acquire electronic information resources.

## CONCLUSION

The study found that ICT can be a useful tool to address problems in engineering education, but the lack of technology and resources is still a serious limitation. The noteworthy point is that even after three decades, the inadequacy of qualified technical staff has stood in the way of users' satisfaction. The Engineering College library has not been able to use the services available at a national and international level. Another obvious finding is the absence of co-operation among the engineering libraries at national level, including the lack of even inter-library loan. Attention to these broad areas of weakness will go a long way towards improving the use of ICT in the library.

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