CHAPTER – III

COLLEGE LIBRARIES – INFLUENCE OF INFORMATION TECHNOLOGY
3.1 College Education:

As an institution of higher studies, the college imparts Post-Secondary / Higher Secondary education. It offers a four-year course after Secondary (School) Examination and a three-year course after Higher Secondary examination, both leading to Bachelor’s Degree in India. Certain other colleges also impart Postgraduate education leading to a Master’s Degree. In India, there is a system of instituting affiliated colleges, besides the university college. These colleges play a vital role in the university educational system. During the Sixth Plan period, the UGC formulated a policy for development of undergraduate and post-graduate education in colleges, with a view to improving the quality of higher education. This improvement largely depended upon the adequacy of college libraries.

A college is an institution of higher education where an individual sharpens his intellect. The College education opens to its student’s new vistas of knowledge and inculcates in them a sense of purpose. It enables the students to contribute to the welfare of their fellow beings. Colleges are primarily teaching institutions and this is reflected in their approach to the educational process.

3.2 Objectives of Collegiate Education:

A college is an institution of higher learning. all the ideals of higher education, e.g., humanism, tolerance, reason, adventure of ideas, truth, etc. apply to it. Higher learning/education broadly has been following functions:

1) Seeking and cultivating new knowledge
2) Inculcation of leadership qualities and development of mental powers
3) Training in all useful faculties and profession
4) Promotion of equality and social justice
5) Fostering a sense of nationalism and internationalism
6) Greater socialization and participation
7) Developing the capacity of the individual for interpretation and critical evaluation.

Therefore, collegiate education is not just a matter of (text-oriented) teaching-learning alone involving teachers and the taught. The system has many other inputs to strengthen and makes wholesome the teaching-learning activity. More than teaching, the emphasis is on learning. The process aims at helping the student acquire the capacity for self-independent learning.

Despite the enormous growth and expansion, there has been practically no qualitative development in higher education. Excellence and relevance have become rare things. In every respect the system of higher education has proved ineffective and less relevant to the changing needs of the present day. It has been greatly unproductive.

3.3 Functions of Collegiate Education

Self-learning and acquisition of knowledge requires a shift from teacher-centred education to student-centred education. Among other things, the library must be given the utmost importance, so as to make it a part of the system of teaching-learning. In the age, a proactive and fully integrated system of library services should form the core of the education process. The library as the resource centre or the tool for learning has to support the following educational objectives:
1) To participate in instructional planning
2) To regularly acquire, manage and develop library collections
3) To attempt proper interpretation of knowledge, human needs and values, etc.
4) To provide bibliographic and information services and also bibliographic instruction
5) To collaborate with the faculty in developing suitable teaching techniques and application of education technology by preparing necessary kits and packages
6) To help students supplement and complement their class room learning through guidance.

3.4 National Assessment and Accreditation Council Conditions for College Libraries:

Teaching-learning process is being transformed through computerization. The UGC is also insisting on qualitative education by standardizing the system in India. Therefore there is a need to adopt consortia-based subscription of journals in collegiate education.

The libraries attached to government colleges are functioning with greater challenges and responsibilities. The present day college libraries are functioning under open access environment which is providing modern services like reference, Internet, and reprography etc. Nowadays, most of the colleges are equipped with computers. Still the software selections are not yet identified and implemented by the Government. Moreover, there is no uniform pattern of software selection for college libraries. The NAAC expects the following activities for the automation.
1) Acquisition
2) Cataloguing
3) Serials
4) Stock verification

The National Assessment and Accreditation Council (NAAC), while assessing colleges, have identified the libraries as the focal point of educational institution. The college libraries should serve for the benefit of student community. The major role is expected from the libraries. Even though the libraries were recognized while allotting budgets, the rest of the operational activities have to be taken care of for meeting the challenges so as to satisfy the stipulations of the Council. Now there is a need for developing the college libraries on a priority basis.\(^4\)

3.5 Committees, commissions and their Recommendations:

The important recommendations of S.R. Ranganathan Committee for college libraries were as follows:

1) The entire finance for the library of a college should be provided the commission and concerned state government together. The commission and state Government should decide from time to time the proportion in which their respective grants to college library should determined. The should not ordinarily withdraw or reduce the grant to a college library even if the state government fails to provide the corresponding matching grant.

2) The college library fund should maintained and operated in a separate library account
3) The college authorities should provide a panel of experts on different subjects to help librarians make final selection of books and other reading materials.

4) Measures should be taken to promote reading habit among students. Reference librarians should be appointed to help the students with sympathy and understanding in selection of the reading materials.

5) Each college should encourage the formation of books shop within its campus through cooperative efforts or in any other manner.

6) The books having no permanent value may be weeded out once in five years.

7) Books worn out by use beyond repairs may be weeded out once a year.

8) The professional staff of a college library should appoint in the following grades:
   a) In a large with an annual book grant of not less than Rs.20,000, the scale of pay for the librarian should be in grade 2 (Readers’ scale) with qualifications appropriate to it.
   b) In a small college with an annual book grant of less than Rs.20,000, the pay-scale for the librarian should be in grade 3 (Lecturers’ scale) with the qualification appropriate to it.
   c) The staff in a college library should be in the grades 3, 4 and 5 (Lectures’ and Assistant Lecturers’) or grades 4 and 5 as the case may be.
   d) A person already in service in a college library without possessing the prescribed qualifications for the post may be placed in the grade just below the one recommended for the post to which he is assigned. As and when the person leaves
service, his post should be brought in conformity with the qualifications and scales prescribed for it.

9) The standards prescribed for the library buildings, fittings and furniture by Indian standards institution should be followed by all the college libraries.

10) Any proposal for new library building, fittings and furniture or the extension the building should be examined and approved by an expert appointed by the UGC.

Another education commission (Kothari Commission) was appointed by the government of India in July 1964, which laid emphasis on the academic libraries. The commission felt that no new college should be opened without adequate provision for its library in terms of building, furniture, staff, books and journals. It also stated that the foreign exchange required by the college libraries should be provided separately by the UGC. Further, it felt that provision should be made in the college libraries to extend reference service to the undergraduate students also.

During the plan periods, the college libraries have made significant progress. They have received comparatively more funds to meet their expenditure on books, Journals and staff and building.5

3.6 U.G.C and College Libraries:

U.G.C. Grant

1. The entire library finance of a university or a college library should be provided by the commission and the State Government.

2. The Commission and the State Government should decide from time to time the proportion in which their respective grants to a university or a college library should be determined.
3. The Commission and the State Government should have an understanding between them that each will actually pay its own share of the library grant.

4. The Commission should not ordinarily withdraw or lower its grant to a university or a college library because the State Government fails to provide the corresponding matching grant.

5. The library grant in any year should be based on the statistical data of the preceding year.

Library fund

6. The library fund of a university or a college should be maintained and operated as a separate library account.

7. Scholarly treatises, research materials, and particularly back volumes of learned periodicals take a long time in searching and procuring. Therefore, the provision for the revival of unspent balance in the next year’s budget is quite essential.

8. Spread the utilization of the grant received from the Commission for reading and kindred materials as uniformly as possible over the entire period of 17 months allowed for purchase;

9. Avoid hastening to spend the grant somehow on the purchase of whatever is available for immediate delivery without fully satisfying itself about the actual or anticipated demand of the reading materials purchased;

10. Complete all the administrative and technical work on the reading materials and release them for use by readers as expeditiously as possible, say within less than one month of their receipt in the library.

11. Allocate the total book fund equitably over all the disciplines pursued by the patent body, subject to the availability of worthwhile reading and kindred
materials in the different disciplines and the special extraordinary needs, if any, of particular disciplines;

12. Avoid duplication of learned periodicals and reference books;

13. Purchase a reasonable number of copies of books of the textbook standard;

14. Distribute the share of the total book-fund of each discipline, equitably on current learned periodicals, their back-volumes, reference books, advanced treatises, and textbooks.

15. It is desirable and economical for the selection of current learned periodicals and their back volumes to be coordinated among the libraries of a locality or a region, so as to minimize duplication and maximize the number of distinct periodicals available in the region, in order that the book-fund of each institution may go the longest way.

**Book Selection and Book Purchase:**

16. The acquisition of reading materials for the libraries should be regulated as follows:

17. The authority concerned may lay down the policy according to which book-selection should be regulated;

18. The authority concerned should provide a panel of experts in different subjects to help the librarian in making the final selection of reading and kindred materials;

19. Resulting in the ultimate lapse of budget allotment for books or for its diversion at the last minute to less important books because of their being available on the spot;

20. In view of the increasing cost of foreign books, it is desirable for the Commission to promote publication of cheap Indian editions of foreign books
in wide demand in the universities and colleges or their import in sheets and being bound in India.

21. Appoint an Expert Committee for each subject to make a book selection list of reference books and advanced treatises, likely to be needed by many universities and colleges;

**Promotion of Reading Habit:**

22. The most potent method of developing in the students a book sense and the desire to own, enjoy, and read worthwhile books is the adoption of a teaching technique which minimizes telling facts or giving ready made opinion but rouses curiosity in the students by posing the pros and cons of a problem, and encouraging the students to seek from books and periodicals the information and the knowledge necessary to satisfy the curiosity and generally inspire the students to seek enjoyment in reading good books.

23. Safe – guarded open access and provision of ample reference service should be provided by each university and college library;

24. Reading circles may be formed on various topics from time to time and they may be given facilities to meet in the library.

**Weeding Out and Loss of Books:**

25. Generally speaking, pedestrian books (for example text-books and other books without permanent value) may be weeded out once in five years.

26. Books worn out by use beyond repair may be weeded out once in a year;

27. Reference books, which are quite out of date and whose later editions are available in the market, may be weeded out once in five years or ten years according to their nature.
28. The librarian and his staff should devote their full time to the work of the library and should not be burdened with part-time teaching work; nor should the teachers in the Department of Library Science be burdened with the work of the library.

**Library Buildings, Fittings, and Furniture:**

29. The standards for the Library Building, Fittings and Furniture, established by the Indian Standards Institution and extracted in chapters N and O, should be followed by all the university and college libraries.⁶

**3.7 College Libraries – An Overview:**

Academic libraries throughout the world are at crossroads and India is not an exception to it. New challenges and opportunities are emerging due to information explosion, shrinking budgets, rising costs of information resources and ever increasing expectations of academic community. The academic libraries in India are characterized by inadequate resources—information, manpower, financial and physical facilities including infrastructure facilities for the use of electronic publications such as computers—hardware, software and human ware. Most of the academic libraries do not have adequate information resources to support the academic and research programmes of their institutions. The size of the library collection ranges between few hundreds to few lakhs. The collections are also not balanced. A few college libraries have excellent collections, whereas many libraries have very poor collections. Most of these academic libraries do not have any definite weeding out policy for their collections. Therefore many libraries have space problems. The staff working in academic libraries is inadequate both in terms of quantity and quality. The
libraries have failed to recruit the right type of personnel with the right type of knowledge skills and techniques and most of them are not suited to work in electronic information and networking environment. Perhaps another biggest problem facing academic libraries is money. Added to this is the rising inflation rates and shrinking budgets have hindered the development of academic libraries in India in general, and development, organization and provision of services in particular. Most of the libraries are organized along the traditional lines lack basic infrastructural facilities to provide services in the context of electronic information era. A majority of libraries have not automated their activities, as they are handicapped to switch over to computerization and modernization because of lack of infrastructural facilities – computer hardware and software and human ware including telecommunication facility. Much emphasis has been given to inter link and integrate the activities of academic libraries at the national level through Inflibnet. But still there is a long way to achieve the objectives for which it has been setup. Hence, the academic libraries in India have to consider the possibilities of making use of the existing networks in India including Internet. The Internet connects thousands of computers and computer networks worldwide, thereby providing access to wealth of information at the global level and provides opportunities for exploiting the electronic information.

The collections of academic libraries in India have been developed along traditional lines where the print media predominates. The electronic publications are not found in many of the academic libraries especially in school and college libraries except few institutions of higher learning only CD-ROM databases are available in libraries. The academic libraries in
India need to adapt themselves to the changes in new formats to provide better opportunities for transfer and access to information.7

3.8 College Library Concept:

The college library is a place that collects, stocks, processes, organizes, disseminates and distributes information knowledge recorded in print / non-print media. The college library acquires reading materials on all disciplines taught in the college and other literature which is required by the users to fulfill their information needs. The college library thus assumes an important role in the process to college education. A good college library not only serves the student community but also meets all educational and research needs of the teaching community. A modern college must have a well-planned and functional library so that it becomes an intellectual hub of the institution both for students and teachers ⁸

3.9 Purpose of College Library:

The library is used for the following purpose:

1. To support the formal and informal education by providing the required reading materials to the users;
2. To support the research by providing access to existing knowledge and information essential for research;
3. To support the cultural activities by preserving the cultural heritage of the human race as represented by printed and non-printed media;
4. For dissemination of knowledge and information, the users need information to equip themselves better for fulfilling their academic pursuits. It is the library which collects information, organizes and disseminates it to the user:
5. The library is used in spiritual and ideological realms as it provides reading materials for inspiration in the form of religious, spiritual and book of permanent value; and

6. The library is used in recreation and leisure as it provides reading materials for light reading i.e. magazines and books (novels) etc.¹²

**3.10 Objectives of College Library:** Being the most important adjunct of the college, the library aims at the realization of the objectives and programmes of the college. It strives to transform itself into a working force for generation curiosity and eagerness among the readers and thus help them make use of the available reading material. The objective of the college library is to supplement the instructions imparted in the class. It aims to serve not only the undergraduate teaching but to function as an independent teaching agency, encouraging and promoting the use of books in ways beyond those suggested or required by the class room.⁹

The main objectives of a college library are mentioned below:

1. To provide resources necessary for research in fields of special interest to the college.

2. To aid the teachers in keeping abreast of developments in their field

3. To provide library facilities and services necessary for the success of all formal programmes of instructions.

4. To open the door to the wide world of books which encourage reading for pleasure, self-discovery, personal growth and for the gain of knowledge.

5. To help the teachers and taught in their instruction work.

6. To help in cultivating reading habits amongst teachers and students.
7. To help in conversation and dissemination of knowledge.
8. To maximize accessibility of materials to users.
9. To maximize exposure of users to the materials.
10. To acquire useful reading material to meet the needs of the users.
11. To arrange the reading material for smooth running of all formal programmes.
12. To inform the authorities about the achievements and literary output.
13. To establish an instruction centre in the library and render advisory services to the teachers and students.
14. To create atmosphere to bring the readers and reading material together and to encourage reading and making the intellectual curiosity more acute and strong.
15. Service oriented approach should be followed which involve the following:
   a) Needs of users
   b) Provision of alternative ways for meeting the demands.
   c) Supply of information from any source which may not be available in the library.

3.11 Functions of the College Library: To fulfill its objectives, the college library functions basically to assist and support the study and teaching in the college. It helps to meet the reading needs and requirements of the students as well as the teachers of the college in pursuit of their knowledge. Occasionally, research is also conducted in the college, mostly by teachers. The college library provides the needed reading materials and documents for research as well. The difference in the functioning of a college and a university library
however is that while the former lays emphasis on the acquisition and dissemination of knowledge at the under-graduate and post-graduate levels, the latter also caters, besides the overall needs, the needs of research work and helps students and scholars to this end.

W.M Randall and F.L Goodrich state that to meet the educational objectives of the college, its library performs the following functions:

1) Makes available to the students books and allied reading material relevant to the courses offered in the college;
2) Makes available the books and documents required by faculty members in preparation of their instructional courses;
3) Provides supplementary books and reading material to help study and teaching at the college;
4) Provides comprehensive selection of authoritative books and documents needed by the faculty members to pursue their research programmes;
5) Promotes the proper use of the reading material available in the stock; and
6) Trains the students in making use of the library properly and derive full advantage out of it, integrating the library with the educational courses.

D.L Smith and E. O. Baxter have also enumerated the functions of college libraries in similar terms as under:

1. To acquire and provide text and standard reference books to the students, necessary for preparation of their examinations;
2. To train college students in the use of the library material and to encourage them to enrich their knowledge and outlook in a wider perspective through general and wider readings;

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3. To help and assist the faculty members of the college in preparation of their instructional courses and in keeping them abreast of the current knowledge and concepts in different areas of study; and

4. To assist the teaching staff in the pursuit of higher studies and research and support them with relevant literature and information on the subject.¹¹

3.12 College Libraries – Influence of Information Technology

The information technology revolutionized the methods of recording knowledge, keeping records, indexing documents information and communicative knowledge. This new technologies compete not only with traditional technologies but also with one another. Further the new technologies can choose to attempt to emulate existing means of functioning or to offer a completely new means of operation.

Technologies, however, that goes beyond the emulation of traditional approaches offer some of the most existing prospectus and most difficult challenges.

Application of information technology gives rise to application of computers and telecommunications for traditional operations in a library system. Therefore, this study examines following concepts relating to application of information technology.

1. Automation and Library automation
2. On-line access
3. Network, Library networks and types of networks
4. Information systems and networks: Current scenario
Therefore this study will be of much useful to plan library automation and networking for college libraries in our country. So as to modernize the library services for their users.

3.12.1 College Libraries in Electronic Environment:

Technology has dominated all the spheres of human activity and the libraries are not an exception to this. New storage media have appeared after the invention of printing like microforms, magnetic tapes; compact discs etc., which have found their place in modern libraries which are playing an important role in storage and dissemination of information. Since the mid eighties, developments in computer technology have established a new platform for the use of information technologies for libraries and information services. These developments include: high performance, cost effective microcomputers, cheap personal computers, low cost local area networks, wide area networks, and high density distribution media (CD-ROMs).

The concept of library network has also gained momentum in India with NICNET, ERNET, DESINET, SIRNET, BTISNET, CALIBNET, DELNET, BOMBNET, MALIBNET, HYDLINET, ADINET and the BL-NET which is under proposal. Internet is also accessible in India. Sources like electronic journals, preprints, numerical and graphical data, software, and campus wide information systems, databases, library catalogues, educational materials, company profiles, patents, and standards, information on societies, institutions, and associations are available on Internet. Much of these are of retrieval purpose. Other resources on Internet can be classified as user net, gopher, WWW, WAIS etc.,
Perhaps one of the most important developments in recent years is
electronic publishing. There is a steady growth in the number of electronic
publications. The products of electronic publishing are mostly reference
materials and secondary sources such as abstracting and indexing sources,
and primary periodicals, such as full text electronic journals.

The availability of information in the electronic media has created
opportunity for global access to information. The existing human powers in
the college libraries lack the professional skills. They need to be given
intensive in-house training and hands on assignments. Further, the range of
skills to handle information in the electronic environment is changing
rapidly. These factors have to be recognized and needs to be linked to a
proper plan of professional human resource development.  

3.12.2 College Libraries in the Electronic Media:

The challenges ahead of academic libraries in India to make best use
of electronic media in order to meet the needs and requirements of clienteles
are many. Whether to own electronic publications or to develop
infrastructural facilities to have access to information without owning the
publications is an important issue to be decided by the libraries. The obvious
challenge for academic libraries in India is the problem of integrating
traditional forms with electronic resources as they have developed mostly
along traditional lines where the print media predominates. Another
challenge is the cost factor involved in developing and providing access to
electronic sources. The electronic sources are no doubt expensive but
economical in space have other advantages. Added to the cost of purchasing
of electronic publications, libraries have to spend money for providing
access to electronic sources through the communication networks. Another
problem with the electronic media is the lack of ownership (only access) of resources to claim funds from the concerned authorities. These are not always adequately bibliographically controlled. Some times they are not easily locatable and reviewed. They are fluid, interactive and change frequently and most often are not owned by any library. The concept of evaluation in order to assess the relevance of information available in electronic format is another major challenge as it requires a different approach altogether from that of print media. More than collection development, it is the provision of access, which has gained significance now in the context of electronic information era and networking environment. The nature and characteristics, the different types and varieties of electronic publications, also pose challenges for professionals in India for their organization and maintenance in libraries.

Another major challenge faced by academic libraries is regarding education and training of its professionals: i) create computer culture, ii) using a computer to print on paper, iii) handling, developing, organizing and distribution of electronic versions of print on paper publications and publications existing only in electronic form, iv) use of computer conferences to facilitate collaborative authorship, v) producing new textual presentations and devising new types of publications by employing movement, sound and other capabilities of electronic media.

There is also a challenge to educate and train the end users in using the tools and services, retrieval tools, browsers, bookmarks, notepad facilities, copy and paste facilities, on-line help, tutorial modes, glossaries and dictionaries, back-track facilities and navigation tools, as they are used to conventional books during all these years.
3.12.3 Electronic Library:

E-Library was structured in 1993 to address the key areas for academic library service development with a view that was largely vindicated by subsequent developments.

The major strands of work were:

a. Electronic document and article delivery
b. Electronic journals
c. On-demand publishing
d. Access to network resources
e. Training and awareness.

1) A marked shift in the relationship between students and universities, arising partly because of the introduction of fees – already common almost everywhere else in the world – and partly because uncertainties in the job market have made students more aware of the need to obtain good qualifications. For libraries this change in relationship could be highly significant as students, seeing themselves as paying customers, demand services delivered to high standards and will not be put off with second best.

2) Encouragement for institutions to explore the use of ICTs in learning and teaching more vigorously, including distance learning. The ways in which such learning can be supported by libraries remain under-researched and underdeveloped.

3) An insistence that teachers in higher education should be qualified to teach, which should include their having a clearer understanding of pedagogical issues and a commitment to excellence in delivering learning. This may well trickle through to academic library staff – if they are able to accept the challenge.
4) Yet more emphasis on quality assurance of learning, teaching and research. For some years UK university libraries have been subject to external assessment as part of subject-based teaching quality-assurance processes and it is to be expected that this will continue. Importantly the context of such assessment is evidence of the contribution that the library makes to learning rather than an abstract assessment against, for example, library collection or service standards.

5) New publication and scholarly communication scenarios, such as e-print archives, which may bypass the library.

6) ever more intensive use of digital resources, but with less obvious (i.e. both more hidden and less crucial) roles for libraries in delivering these resources

7) Increasingly heterogeneous student populations, including many mature students who are demanding of library services in ways that students progressing direct from school have not been

8) Continuing high demand form students for traditional resources, ie books

9) Modes of study, including ICT-based and distance learning, with which libraries have had little involvement in the past.

10) ever-reducing levels of resourcing, particularly in staffing, leading to enormous pressures on individual staff and a severe challenge to management.\textsuperscript{15}

3.12.4 Electronic Resources:

Electronic resources obviously offer the best solution to the problems associated with paper textbooks described above. Many authors and publishers now supplement their textbooks with a web site providing
additional information and resources. Many of these resources go unused, however.

Electronic books have been promoted as having great potential to replace paper books; indeed, the interest in them has prompted this special issue. However, all of the hype has not yet to widespread adoption of electronic books. One reason for this could be that marketing of most electronic books has focused on reducing the cost of books or on the increased portability of being able to carry several books around. However, the reductions in cost have not been seen, and most people do not encounter there to carry large numbers of books around with them.

Textbooks are perhaps one area where electronic books have the most potential. Students do in fact need to carry several books around with them, and the high price of textbooks has been the subject of congressional investigation in the United States. However, Attempts to use electronic book technology in the classroom have met with limited success. It is our belief that these electronic books have failed as textbooks because they do not address the fundamental problems with paper textbooks described in the introduction. Instead, they have focused in replicating the paper textbook experience as much a possible. Since students and faculty find textbooks increasingly irrelevant, it is not surprising that electronic versions of the same model have failed. In order for electronic textbooks to be widely accepted, they must be designed with a goal of transforming the way students interact with a textbook to significantly enhance student learning. Of course, it would be ideal if they simultaneously reduced cost and increased portability.

We have designed and implemented an electronic textbook application we call the e-Text Reader to address these shortcomings of using other
electronic books as textbooks. In the next section, we describe how the features of the e-Text Reader facilitate changing the way that students interact with their textbook. Next we summarize student reactions to using our electronic textbook in the classroom. We then outline ways that using the e-Text Reader can transform activities to focus them more on increasing student learning. We conclude by describing how an electronic textbook can facilitate gathering data about how and when students read that would be difficult to obtain in other circumstances.

**Student reactions to the electronic resources:**

We have used the e-Text Reader in two offerings of our Introduction to Computer Science course. The first one offering was during the fall of 2003 and was taught by the author. The second offering was during the spring of 2004 and was taught by another member of the Hope College computer science faculty. This course is a breadth-oriented overview of the field of computer science, including topics such as binary data representation, simple computer architecture concepts, operating systems and networks. The course also offers an introduction to computers programming techniques. The audience consists mainly of students taking the course to meet general education requirements; of the 38 students enrolled in these two sections, only two of them continued on to take further courses in the computer science curriculum.

We surveyed student reactions to the electronic textbook using an online survey instrument. The survey consisted of 37 questions grouped into the following categories:

1. Quality of the textbook (independent of its electronic nature);
2. Types of use;
3. Ease of use;
4. Usefulness of features;
5. Time spent reading;
6. Intrinsic goal information (how students evaluated their motivation to learn course material).

Responses to the survey were not anonymous, in order to facilitate correlating responses with student performance in the classroom. Fifteen of the 18n students in the fall offering of the course completed of the survey, while 18 of 20 students from the spring responded.

**Faculty reactions to the electronic resources:**

Faculty reactions to the e-Text Reader have been mostly positive. At the time of this writing, three members of the Hope College computer science department have used the e-Text Reader, with one of these courses is currently in progress.

Instructors have appreciated the ability to annotate the text with their own material. Both instructors who taught the Introduction to Computer Science course did not find that the use of the e-Text Reader led to an increased level of engagement with the text by the students. However, we have used what we learned during these offerings to significantly modify the teaching approach. These modifications were based on the techniques described in the section entitled “Changing How the Textbook is Used in the Classroom“ and have allowed that approach to be applied in an on-going course, Programming Language Design and Implementation. This course’s instructor assessment of the usefulness of the e-Text Reader in facilitating class discussion and increasing the students level of engagement with the course material has initially been much more positive.16
3.12.5 E-Learning:

E-learning is that form of learning which uses a network for delivery, interaction or facilitation. It is also known as‘distributed learning, ‘distance learning’, ‘technology-enabled learning and online training. E-learning can be classified in synchronous or asynchronous mode. In a synchronous mode, which is instructional and the students are connected through a chat room. On the other hand asynchronous e-learning is that where a student can have an access to pre-packaged training, based on his requirement and convenience.

Components of E-learning:

E-learning is comprised of the following elements.

Content delivery methods: The contents of traditional learning system are mostly based on text. But in the case of e-learning, audio or video materials may accompany texts. Their by e-learning allows the content to be adjusted and supplied according to the level or progress of the individual learner. It also supports simulations as a way of testing skills in performing some activities that would be other-wise difficult to do in real life, such as the handling of hazardous materials given below are three methods of second-generation e-learning processes.

Live broadcasting: It is like live television broadcasting. Unlike, television broadcasting, e-learning can be a two-way system that allows participants to take-tests, ask questions, or respond to questionnaires. This is frequently used for seminars and other events.
Video-on demand (VOD): This technology is being introduced via Cable Television (CATV) systems. A large numbers of learners can have access to the video content. As with live broadcasting, it can function as a two-way system.

Interactive communications: Interactive e-learning systems take advantage of the two-way capabilities of the technology. There are two approaches: distance education and community approach.

With the distance education approach, the instructor and learners in separate locations interact by using shared files like a blackboard. The instructor can also interact with the learners through text messaging systems, or via audio and video communications.

On the other hand, with the community approach, the instructor becomes the focal point of a virtual class, and it is also possible to hold discussions with experts on specific themes.

Advantages of E-learning:

Lower costs: Since learning takes place online, it eliminates many of the expenses of face-to-face training. It leverages new power and value from an organization’s investment in laptops and other hardware/software. When blended with face-to face ‘live’ training, it helps to get the most out of every sales representative’s valuable lime.

Time savings: With e-learning, sale forces they sell their products and services. Sales representatives can have access to the material, whenever they need it. And with e-learning, new hires pick up speed more quickly--making sales calls, closing deals, and generating revenue--
Flexibility: E-learning is an extremely adaptable technology that can be used to cover everything from sales fundamentals to specific product launches. Different delivery modes which self-paced, interactive, or live learning can match the varied training needs within a sales force. No matter what the content or delivery mode, individuals can learn at their convenience, integrating training into their schedule. Individuals are also able to learn at their own pace.

Faster response: E-learning makes new knowledge and skills available immediately, and reduces the learning time required to master even the most complicated topics. E-learning helps sales forces share strategies and best practices on an ongoing basis—responding to changing conditions.

Greater effectiveness: Advanced e-learning technology provides a high degree of interactivity that ensures results. E-learning is an effective way of training a wide range of individuals, since it can be tailored to meet the needs of individual learners. Studies show that people retain significantly more information via e-learning vis-à-vis traditional training.

Better morale: Through live virtual classrooms, chats and collaborative exercises, e-learning helps organizations bring decentralized sales groups together—during training and on an ongoing basis. An added bonus is that sales groups recognize that e-learning represents an organization’s commitment to helping each individual succeed. As a result, it helps keep morale, efficiency, and employee retention as high as possible.

Greater competitiveness: In an era when knowledge is power, e-learning helps sales forces achieve an advantage over competitors. E-learning enables
a sales force to move faster than the competition, maximizing each opportunity. It provides the information and expertise necessary to develop closer customer relationships. It also helps sales representatives close business faster, generating more revenues.\textsuperscript{17}

3.13 Consortium in College Libraries:

Forming consortium is a solution to many problems of college libraries. The main objective of the consortium is to provide access to information at a nominal cost and save time.

Consortium activities start from the automation and electronic services. Computerized and automated libraries can participate in the consortia so as to increase the relevance of digital information. Networking infrastructure with Internet connection is required for resource sharing among the participating libraries of consortia. Sharing resources leads to minimizing the costs of expenditure by individual library and results in greater economy.

If one library is selected for pooling the resources, the other participating libraries will also be benefited in consortia.

Advantages:

1. Access to collections by the college library users
2. Streamlining the Inter Library Loan
3. Effective collection development
4. Access to print and electronic resources of wide range databases
5. Utilization of rare collections
6. Preparation of Union Catalogues
7. Provision of bibliographies
8. Avoid duplication in technical work and collection
9. Marketing of information services and resources

Consortium acts as a platform for cooperation of library services among the college libraries. It will also provide value added services and resources to library users.

Requirements for the Consortium:

1. Computerization of College libraries
2. Networking infrastructure and Internet connection
3. Agreement to establish funding source for the consortia
4. Establish a sound-funding source for the consortia. Where in members of the consortia are the funding source
5. Organizational structure of consortia with a central office and dedicated staff
6. Participating libraries of consortia should be compatible to achieve maximum benefits
7. Hardware and software selections of all the participating libraries should be compatible
8. Security arrangements should be made allowing the participating libraries for accessing the resources
9. Mutual understanding among the participating libraries
10. Proper planning, organization and administration
11. Human resources

Present day consortia are metamorphosed through several forms; such as inter library loan or library cooperation or resource sharing from, time immemorial, with an aim to provide better services to their user community. Its roots can be traced to 200BC when Alexandria Library shared its resources with Pergamon Library. According to Kraus, there existed library
co-operation among monastery libraries in the 13th century. There were exchanges of agreements among the universities of Lund, Abo and Greifswald as early as 1740. The first library cooperation activity in India is reported to be the Catalogue of Manuscripts compiled by Whitney Stokes in 1868.

The development of formal library consortia occurred during 1960's with the induction of automating processes into libraries in the US. For many libraries, joining the consortia was the only way through which they integrated library systems could make possible. These consortia were specifically formed to acquire library automation products for the members, which was the biggest impetus for the current consortia movement.19

3.13.1 Consortium initiatives for College Library:

a) INFLIBNET Initiatives

Information and Library Network (INFLIBNET), under the grants of UGC has provided access to many e-resources to a number of universities and institutions. ERNET India, scientific society under the Ministry of Communications and Information Technology, in partnership with the University Grants Commission is setting up UGC-Infonet. Under this programme it is proposed to use information and communication Technology (ICT) and Internet to transform learning environment from a mono-dimensional one to a multi-dimensional one. UGC-Infonet will be a boon to the higher education systems in several ways:

1. UGC-Infonet will become a vehicle for distance learning to facilitate spread of quality education all over the country.

2. UGC-Infonet will be a tool to distribute education material and journals to the remotest of areas.

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3. UGC-Infonet will be a resource for researchers and scholars for tapping the most up-to-date information.

4. UGC-Infonet will form a medium for collaboration among teachers and students, not only within the country but also all over the world.

5. UGC-Infonet will be an Intranet for University Automation.

6. UGC-Infonet will encompass the entire University System for the most efficient utilization of precious network resources.

7. UGC-Infonet will establish a channel for Globalisation of Education and facilitate the universities in marketing their services and developments.

E-Journals/databases Access through UGC-infonet at present:

American Chemical Society – 31 full text journals from beginning; Royal Society of Chemistry – 23 journals + 6 databases from 1997 onwards; Institute of physics – 36 journals from beginning; Cambridge University Press – 36 journals from beginning; Nature journal; Biological Abstracts – from 1969 onwards; Project Muse – 222 journals from 5 years back files; wiley Interscience – 450 journals; American Institute of Physics; American Physical Society.

In process: Science Online; Annual Review; JSTOR Archival Collection (mainly on social sciences, humanities); Library Science Journals around 386. Many other resources are also under consideration to make better impact and will be communicated as and when they are available.  

UGC Infonet:
The University Grants Commission has launched a mega project ‘UGC Infonet’ (information network), for interlinking electronically, 294 Universities and academic institutions in the country directly under the preview of UGC, with a view to achieve maximum efficiency through
internet enabled teaching, learning and governance. The UGC-Infonet will be overlaid on ERNET infrastructure in such a manner, so as to provide an assured quality of service and optimum utilization of bandwidth resources. The network will be run and managed by ERNET India. The UGC and ERNET India have signed the necessary MOU for this purpose. Implementation and operation of UGC-Infonet will be coordinated and facilitated by INFLIBENT, an autonomous Inter-University Center of the University Grants Commission of India.

**Salient Features of the UGC Infonet:**

A Network for Indian Universities harnesses ICTs and Internet to transform learning environment from a mono-dimensional one. UGC Infonet as an Intranet for University Automation encompasses the entire University Systems for efficient utilization of network resources. UGC Infonet would be a boon to the higher education system in several ways:

1) Scaleable Architecture to extend the network from Universities to affiliated Colleges.

2) Nation-wide Terrestrial Backbone using Fiber Optic links

3) Integrated Satellite WAN supporting broadband and SCPCV SAT technology

4) Comprehensive Network Management Systems for overall monitoring of the network

5) Linkage with Academic and Research Networks all over the world.

6) Data security and virus protection using firewalls and Intrusion Detection Systems

7) Dedicated Data Center for Web hosting, e-journals and Mail Boxes.

8) Mirror sites spread all over the country for Content Hosting.
9) Broadband Multimedia and Video Channels for Distance Learning.
10) Tools to be distribute educational material and journals to the remotest areas.
11) Resources for researches and scholars for tapping the up-to-date information.
12) UGC-Infonet will encompass the entire University Systems for most efficient utilization of precious network resources.
13) The UGC-Infonet will establish a channel for Globalization of Education and facilitate the Universities in marketing their services and developments.

UGC is also exploring the possibilities of alliances with publishers for adapting a consortia-based approach for e-subscription of journals. These journals will be available over UGC-Infonet to all the Universities. Much of the new research publications are also available on the net as free ware, thereby, making quality information accessible to a wider academic scholar base spread across the country, at an affordable price. Consequently, this will bring a qualitative change in the UGC-Universities interaction. The huge and multifaceted Indian Education System would achieve greatest efficiency through the e-governance of UGC.21

3.14 User Education Programmes for College Library:

a) User Orientation

User orientation is of two kinds-individual orientation, and group orientation. Individual orientation means teaching library use in personal capacity. This does not seem to be feasible in college libraries where students have same kind of needs. However, special and public libraries have different kind of readers as they differ in age, sex, occupation and
intellect. They do not have any fixed schedule to visit a library. Individual help is necessary when the need of users is different. The library staff should take them around the library, explaining its arrangements, location of reference tools, back volumes of periodicals, Xeroxing facility, library facility, library catalogue and stacks. The librarian should take interest to find out the user’s topic, and show him the collection relevant to his research so that the user knows the source of necessary reading material. A library should distribute mimeographed/printed sheets about the abbreviations used in the catalogue, punctuation marks, and specimen of a catalogue entry, a brief checklist of basic reference tools and a list of current periodicals. This will give the reader a sense of involvement and satisfaction.

Group orientation involves those users whose interests are common. In colleges and universities, users are grouped subject wise, and their class teachers accompany them to the library. This exercise is meant for freshers who have just entered the academic institution. The librarians are often asked to give a lecture on library use followed by a detour of the library. The initiation to the library brings everlasting impression on the students. Sometimes teachers also make a special request to the librarian to give a lecture to the students about book collection with emphasis on particular subject.22

Prof CG Vishwananthan has suggested that orientation programme should cover the following topics:
1. Subject bibliography, publisher’s catalogues, reviewing periodicals, book selection sources and aids.
2. Acquisition policy in relation to the academic programme, both in terms of quality level standards, and quantity, faculty co-operation with the librarian in this task;
3. Classification, cataloguing, indexing, reading lists, book displays;
4. Quick system of charging and discharging books to readers;
5. Open and free access to books on leading shelves and browsing;
6. Convenient working hours of the library.
7. Reference and information services;
8. Reference material and their characteristics;
9. Documenting, abstracting and translating services for advanced scholars, research workers and faculty.

Purpose of Orientation Programme:

The purpose of Orientation Programme is to enable the university and college librarian to help the user to locate the required reading material and to make them aware of the reference books kept in the library. Thus, in order to save the time of the users to increase their efficiency in handling the information to minimize library abuses. So there is a need for user education programme for any college and university library.23

Design of User Orientation Programme

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<tr>
<th>U.G.Level</th>
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<tr>
<td>Administrative Information</td>
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<td>Service Information</td>
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<tr>
<td>Document finding Procedure</td>
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<td>Variety of Collection</td>
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<td>Information about different sections</td>
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There are known and hidden objectives. The known objectives are the following:

1. A general orientation to library facilities and resources.
2. Teaching of basic skills and strategies.
3. Use of basic reference tools in each discipline.

The hidden objectives seem to equip the students at college level to meet the demands of higher learning or scholarship.

User education has brought the dignity to our profession, and it should be exploited fully. In fact librarianship never had a prestige as a profession. We have yet to earn it. Recognition was given to individuals and not to the whole profession by the academic society.

Rajagopalan elaborates on the following objectives now encompassed by it:

1. To facilitate recognition on the part of users of their own information needs as well as formulation of those needs.
2. To bridge the gap, if any, between information services and potential users.
3. To offer instruction in the effective and efficient use of library and information services.
4. To enable users to acquire skills for effective application in information retrieval.
5. To help in the assessment of library and information services in so far as use is made of them.24

b) User Instruction Programme:

The aim of the User Instruction Programme should be to initiate and develop the basic research skills and strategies for searching information. It should be able to bridge the gap between the user and his information source.
in our changing environment of present day libraries and information centres. The time has come to rethink and orient ourselves for a suitable user instruction programme. Information professional must organize such programme on a regular basis to transform the visitor to potential user and there on to a habitual skilled user. It is more appropriate to quote a Chinese proverb in this context, which speaks volumes about the need and importance of UIP:

"Give a man a fish
He will have a meal
Teach him how to fish
He will eat all his life".

Similarly, we can reinterpret it in the context of UIP as:

Give a user a piece of information/document
He will use it once
Teach him the skills to search
He will use library and information centers for the rest of his life.25

c) Library initiation:

Library initiation for students should be compulsory, only then they can understand the purpose of the library. Colleges should have a special programme of freshman's initiation which helps him in the choice of reading materials. A reference librarian can independently render good reference service with the help of reference collection. Due to lack of proper professional staff in college libraries, they are unable to provide reference service.
Arrangement of the books on the shelves entirely depends upon two aspects-(1) classification scheme used, and, (2) the efficiency of library attendants to rearrange the books on the shelf. The user should be informed about the arrangement of the collection and its retrieval with help of the library catalogue.26

3.15 Information Services in College Libraries in the Age of Information Technology:

Information Service Section of a library primarily aims at providing effective and efficient information services on library documents, databases and other information resources available over the network and Internet. This service may be achieved using several methods like providing desktop access to information resources, making available the information databases (like bibliographic, full text) over the network, email services, Current Awareness Services, Selective Dissemination of Information services, Online Public Access Catalogue (OPAC) etc.

Current Awareness Service (CAS):

The Current Awareness Service of a library keeps its patrons updated with the latest collections. CAS is very much required where there is a continuous need of current affairs and developments by the users. The greater the need, the greater is the requirement of the CAS. It is a direct link between users and the communicator through communication system or devices. The system or device is called CAS. CAS involves time lag. There is no fixed time limit. Information should reach the user as soon as possible.
Selective Dissemination of Information (SDI):

Information dissemination applications are gaining increasing popularity due to dramatic improvements in communication bandwidth and ubiquity. The sheer volume of data available, necessitates the use of selective approaches to dissemination in order to avoid overwhelming the users with unnecessary information. SDI is an information retrieval technique that enables the users to receive relevant information automatically, on a regular basis through profiles that reflect their information needs.

E-mail Based Information Delivery:

Email, nowadays, is a highly efficient, high speed and instant method for information exchange. Email could be applied in the correspondence related to acquisition, circulation, reference, documentation, reservation intimations, reminders, current awareness service, SDI inter and intra library communication and administrative services etc. Visualizing the advantages of E-mail, library and information services should harness it as an information exchange tool.27

Internet Services:

Electronic Mail: It is the most used service of the Internet. The messages can be sent to a single person or to a group of persons separately at the same time through this facility. Its speed is high and charges are low in comparison to postal service; owing to which, it enables one to be in touch with the rest of the world in the most economical and efficient way. E-mail programs allow us to save, print or reply the messages and also to attach word processing documents, graphics of video images with our reply.
List Servers: This is a discussion group created to share ideas and knowledge on a particular subject. The discussion groups are created and monitored by one with an interest in that subject and are open to anyone. One can join the list simply by sending an e-mail request to the list. The program automatically reads the e-mail message and extracts your address and adds this to the circulation list. The message sent to a list is copied and then forwarded to every subscriber of the list. The first message tells you that you have successfully subscribed to the list.

Usenet/News Groups: Unlike the list servers, the newsgroup servers provide access to thousands of topic-based discussion group services that are open to everyone. The newsreader software allows one to post an article to any group to be read. A comment to a message can be added to the thread of the article and one can find answer to a specific question.

File Transfer Protocol: This is a mechanism that allows placing and retrieving of files over the Internet. It allows downloading of software, product up-gradation and other things. FTP servers also supply a small amount of text information. With the 'help' command one gets online help to know more about any doubts.

Telnet: This is used to denote the networking over the telephone. It is a simple programme created by the National Center for Super Computing Applications (NCSA) that uses transmission control protocol/internet protocol or TCP/IP to provide connection with another computer. By using the telnet, you can contact a host machine by typing host name of IP member and can transfer files, from the TCP/IP host to your own computer and can access databases.
**Gopher:** The Gopher was created by the Microcomputer workstation, center of University of Minnesota to find information on the Internet in a user-friendly way. It is a menu driven program that allows you to click with information servers or 'Gopher holes' on the Internet to retrieve the information including text, sound and images.

**World Wide Web:** The web is a large system of servers and combines many of the Internet applications, which offers all kinds of information to anyone on the net. This is a series of interconnected documents stored on computer sites. If you use your computer and a software program called browser to visit a site on the web, the screen displays a document called a home page. The home page gives the name of the organization or individual sponsoring the website and displays a slot of highlighted words, buttons or pictures. It is the text and graphical screen display that welcomes the user and explains the organization that has established the page. Information using client/server architecture, graphical user interfaces (GUI) and a hypertext language enable dynamic links to other documents.  

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3.16 References


