Impact of Soft Computing Techniques for Quality Management in Higher Education

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Abstract-- **Today education scenario use of computer and computer based software techniques are increasing day by day. Use of computer and soft computing techniques has influenced a revolution in the Quality Management of higher education system over the past few decades. This research study reveals the coherent view of the impact of soft computing techniques for quality management in higher education system in India based on survey conducted in various universities. The research paper aims to provide an overview of the importance of soft computing techniques for quality management in higher education system.**

Keywords:Higher Education, Software, Soft Computing Techniques, Quality Management.

I.INTRODUCTION

The computer based software techniques has a deep impact on education. Computer education forms a part of the school, college and university curriculum. it is important for every individual to have the basic knowledge of computers. The advantages of computers in education include an efficient storage and rendition of information, quick information processing and very importantly the saving of paper. Also, the information processed by computer has more accuracy as compare to human work. In today education scenario, computers are used from primary classes to higher classes to made the education work more accurately and efficiently, but it has wider impact in the higher education as compared to primary and middle classes. However, in professional courses like Engineering, Management, Pharmacy, Computer Applications the use of soft computing techniques and internet is increasing day by day. This research study reveals the impact of soft computing techniques to impart the quality education in higher education and how software based techniques are helpful for the quality management in higher education organizations.

II.IMPORTANCE OF COMPUTER IN HIGHER EDUCATION

Computer teaching plays a key role in the modern systems of education.

Students find it easier to refer to the Internet than searching for information in fat reference books. The process of learning has gone beyond learning from prescribed textbooks. Today, aspirers can satiate their thirst for knowledge by means of the Internet. It is easier to store information on computers than maintaining hand-written notes. Today, online education has revolutionized the education organizations. With the use of computer technology and internet the dream of distance learning has made the reality. Now, Education is no more limited to classrooms. It has reached far and wide. Physically distant locations have come close to each other only due to computer networking. Computers facilitate an efficient storage and effective presentation of information. Presentation software like PowerPoint and animation software like Flash and others can be of great help to the teachers while delivering information. Computers can turn out being a brilliant aid in teaching. Computers facilitate an audio-visual representation of information, thus making the process of learning interactive and interesting. Computer-aided teaching adds a fun element to education. Internet can play an important role in education. As it is an enormous information base, it can be harnessed for the retrieval of information on a wide variety of subjects. The Internet can be used to refer to information on various subjects to be taught to the students.

Moreover, computers facilitate an electronic format for storage of information, thereby saving paper. Homework and test assignments submitted as soft copies save paper. Electronically erasable memory devices can be used

repeatedly. They offer arobust storage of data and reliable data retrieval. The computer technology thus eases the process of learning.A life without computers would seem almost unimaginable for many. The importance of computers is evident today and havingthe perfect know-how of computers can only propel one's career in the right direction. Today, computers are a part of almost everyindustry. They are no more limited to the software industry. They are widely used in networking, information access, data storageand the processing of information. So why not introduce computers early in education? Introducing computers early in educationlays the foundation of most of the major competitive careers. Computers play a significant role in one's personal and professional life.

I. ROLE OF COMPUTER FOR QUALITY MANAGEMENT

The term quality management has a specific meaning within many business sectors. This specific definition, which does not aim to assure 'good quality' by the more general definition, but rather to ensure that an organization or product is consistent, can be considered to have four main components: quality planning, quality control, quality assurance and quality improvement. Quality management is focused not only on product/service quality, but also the means to achieve it. Quality management therefore uses quality assurance and control of processes as well as products to achieve more consistent quality [1].

Figure-1: Quality Management System overview

In higher education, the role of internet is increasing day by day. Use of Personnel Computer in Higher education has traditionally utilized face-to-face delivery and paper-based distance learning. However, recent developments in computer Engineering and soft computing techniques have enabled a move towards online provisions. As such, there is an increasing use of virtual learning environments. These virtual learning environments are commonly designed to enhance student learning by encouraging discussion, feedback and establishing online tasks.

Computers have changed the way we work, be it any profession. Therefore, it is only but natural the role of computers in education has been given a lot of prominence in the recent years. Computers play a vital role in every field. They aid industrial processes; they find applications in medicine; they are the heart of the software industry; they play a vital role in education. The uses of computers in education are manifold. Here, we shall discuss the important facets of the role of computers in education.

II. METHODOLOGY ADOPTED

This research study is based on survey conducted in various primary and secondary schools, colleges and universities in India to find the impact of computer and software based technique in higher education and how these techniques are helpful for quality management in education system. The survey is based on questionnaire made by expert committee of lovely professional university. A pilot study was conducted to test the reliability and validity of questionnaire.

III. RESULT AND DISCUSSION

On the basis of survey conducted in various primary schools, Secondary Schools, Colleges and Universities, the following results has been found:

TABLE-1:IMPACT OF COMPUTERS FOR QUALITY MANAGEMENT IN PRIMARY SCHOOLS

Sr. No.	Comments of Students	Percentage
1	Computer is used for entertainment only	70%
2	Computer is used for internet only	8 %
3	Computer is used for internet as well as entertainment	17%
4	Computer is used for study	0.5%
5	Computer is used for online sharing of knowledge	4.5 %

Table-1 shows that in primary schools 70% students use computers for entertainment only. Only 0.5% students are using computer for study.

TABLE-II: IMPACT OF COMPUTERS FOR QUALITY MANAGEMENT IN SECONDARY SCHOOLS

Sr. No.	Comments of students	Percentage
1	Computer is used for entertainment only	15%
2	Computer is used for internet only	25%
3	Computer is used for internet as well as entertainment	40%
4	Computer is used for study	10%
5	Computer is used for online sharing of knowledge	10%

Table-II shows that in Secondary schools 15% students use computers for entertainment only. Only 10% students are using computer for study.

TABLE-III: IMPACT OF COMPUTERS FOR QUALITY MANAGEMENT IN COLLEGES

Sr. No.	Comments of Students	Percentage
1	Computer is used for entertainment only	18%
2	Computer is used for internet only	10%
3	Computer is used for internet as well as entertainment	12%
4	Computer is used for study	22%
5	Computer is used for online sharing of knowledge	38%

Table-III shows that in colleges18% students use computers for entertainment only. Only 12% students are using computer for study and 38% students are using computers for online sharing of knowledge.

TABLE-IV: IMPACT OF COMPUTERS FOR QUALITY MANAGEMENT IN UNIVERSITIES

Sr. No.	Comments of students	Percentage
1	Computer is used for entertainment only	19%
2	Computer is used for internet only	21%
3	Computer is used for internet as well as entertainment	30%
4	Computer is used for study	20%
5	Computer is used for online sharing of knowledge	10%

Table-IV shows that in universities 19% students use computers for entertainment only. Only 20% students are using computer for study and 10% students are using computers for online sharing of knowledge.

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CONCLUSION

The result formulated by the use of questionnaire and survey report reveals that the impact of computer and computer based software techniques in higher education system has more impact on study and knowledge sharing rather than entertainment.Thus, we can say that in India, the role of computer based software techniques are helpful for the quality management as well as quality improvement of higher education system.

FUTURE WORK

The research work can be extended to improve the Quality of Higher Education in various universities by selecting various important constraints.

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