

Executive Summary of the UGC Sponsored Minor
Research Project

Title of the Project

“A Study on the Effective use of ICT for Education and
Learning Purpose in Various Schools and Colleges of
Secunderabad and Hyderabad”

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PRINCIPAL INVESTIGATOR

Dr. B. Indira MCA, Ph.D.

Assistant Professor,

Department of MCA,

CBIT(A), Gandipet, Hyderabad

Introduction

Education is considered as the most important driving force for fostering economic and social development in both the developed and developing countries. In this context, ICTs are considered to be a key factor in achieving sustainable development through an effective education system. ICTs have the built-in potential to innovate, accelerate, enrich and motivate teachers and students in active learning process. It is hence necessary and important to ascertain various means and methods to ensure that good quality education is easily accessible and affordable to all, in a cost-effective manner, with the use of latest technology and various online resources that are available. India with a billion-plus population of which a high proportion is found to be youth and there is thus a large potential for growth in its formal education system. The demand for imparting quality education in developing countries like India has been increasing quite phenomenally. In order to address to this ever increasing need the current research topic entitled “A Study on the Effective use of ICT for Education and Learning Purpose in Various Schools and Colleges of Secunderabad and Hyderabad” was chosen for the purpose of the study.

Objectives of the Study

- i. To identify the availability of ICT based resources in the schools and colleges of Hyderabad and Secunderabad.
- ii. To examine the level of awareness and use of ICT based resources by the students and teachers of the schools and colleges covered in this study.
- iii. To explore the means and methods to enhance the quality and relevance of existing educational structures from being put to proper and effective use.
- iv. To compare the overall performance of students/ teachers involved in ICT based learning Vs traditional learning.
- v. To suggest suitable measures for further improvement in teaching through the use of ICT and other on-line resources.
- vi. To examine the ways and means to promote innovation and opportunities for lifelong learning to one and all.

Methodology

There are in all 1000 colleges approximately in Hyderabad and Secunderabad which include private, government, aided, engineering, medical and agricultural and other colleges. Besides there are a total of 2,200 schools approximately, which include government, private, corporate and International schools in Hyderabad and Secunderabad. Among them a 2 percent sample institutions each were chosen randomly for the purpose of the study and approximately 4 respondents were chosen from each Institution.

Primary data was collected using structured questionnaire from students and teachers of various schools and colleges surveyed from twin cities. A total of 270 respondents in all have taken part in this survey. The survey was conducted both online as well as offline. The students were involved to collect the required information and the questionnaire was administered personally.

The information so gathered were put to Descriptive, Bivariate and Multivariate analysis as can be seen in this survey. Analysis of variance is a tool used in Statistics that splits an observed aggregate variability found inside a data set into two parts. Anova test allows comparison of more than two groups at the same time. In Multivariate, Factor analysis is applied. Factor analysis is a data reduction tool. KMO (Kaiser-Meyer-Olkin) measure of sampling adequacy is also calculated. KMO is a Statistic measure which tells whether we have sufficient items for each factor. The main objective of using Factor analysis is to determine the minimum number of common factors from the observed variables. Exploratory factor analysis was used for this purpose. Varimax Rotation Technique was applied to simplify the factors structure and to increase the interpretability of the factor solutions.

Major Findings

A total of 270 sample respondents took part in the survey among the various schools and colleges of Hyderabad that were surveyed. Among which 173 respondents were students and the remaining 97 are teachers. The results were presented in 2 parts, one section earmarked for students and another for teachers.

Students

Of the 173 student respondents, 55.50 percent are male, 44.50 percent are female. Most of the students 93.60 percent are found to be having access to Internet and computers. But of these only 90.80 percent are seen to be browsing the net, followed by usage of power point presentations with 82.10 percent. 75.00 percent of the students are observed to be viewing video classes on line. Among the Institutions surveyed only 68.80 percent have stated that they are providing Wi-Fi facility and only 64.70 percent of them were using digital boards. It is observed that there is no significant difference between the mode of access, using digital boards, power point, video classes, Wi-Fi facility for students of various schools and colleges in Hyderabad. Further it is also noted that ICT based learning is better compared to traditional form of learning, because it is easier to learn and understand and one can proceed to learn at their own pace provided all the ICT tools are integrated into the teaching and learning system.

Teachers

In the teachers group, it is observed that female (57.70 percent) teachers are more compared to male (42.30 percent) teachers. The type of the institutions in which the survey was conducted consists of 48.50 percent private, 27.80 percent Government and 23.70 percent aided. Coming to the aspect of educational qualifications of the sample respondents 36.00 percent are Ph.D. holders, 53.60 percent are Postgraduates, and 9.30 percent are undergraduates and other 1.0 percent are with B.Ed. 20.50 percent of teacher respondents are having more than 15 years of experience, 49.50 percent are having 10-15 years and 30.00 percent are having less than 10 years of working experience. Of the institutions surveyed only 49.50 percent of the Institutions were found to be having all ICT tools namely laptops, tablets, Wi-Fi etc. Among the institutes surveyed only 53.60 percent of the institutions are observed to be having ICT enabled library facility. Most of the teachers 95.90 percent were using computers in their teaching process, only 47.40 percent of the teachers were seen to be using digital boards, 92.80 percent of the teachers use power point presentations, 74.20 percent of them watch you tube, 88.70 percent of the institutions covered were having Wi-Fi access, 79.40 percent of the teachers browse their content requirements from Internet.

Among the institutions surveyed 56.70 percent of the institutions have computerized admission processes, 52.60 percent of the institutes are using ICT tools in administrative procedures, whereas 58.80 percent of them are using computers in managing their accounts.

Of the schools and colleges covered in this study 64.90 percent are using ICT tools in their teaching methodology, while 60.80 percent of the institutes use these tools in learning and teaching process. But the use of ICT tools is very less i.e., 48.5 percent only in examination and evaluation purpose. The analytical part of the study has been carried out using simple percentage comparison and statistical tools like ANOVA, factor analysis and regression analysis.

In summary, the availability of ICT based revolution in schools and colleges surveyed for the study are exhibiting almost a uniform pattern in Hyderabad and Secunderabad. There is no significant difference being observed between the teachers of schools and colleges in respect of using ICTs for teaching and learning purposes. There is however some significant difference in administration process regarding admissions in these schools and colleges, because in some of the institutions the payment of fees is online, in some of the institutions the payment mode is still offline. Very few institutions are seen to be providing both online and offline facilities with respect to payment process. There is also some evidence of significant difference in evaluation process in case of various schools and colleges surveyed, this may be because of online and offline test and evaluation procedures. The reason ascribed being the system is not completely automated as few Institutions are yet to adopt these ICT tools in all processes. These institutions are still at transition stage as far as to the use of ICTs are concerned.

Conclusion

ICTs are known to be playing a vital role in all aspects of life. The role of ICT in education is becoming more and more important and this importance will continue to grow and is bound to expand in our country as with any other country. Therefore, integration of ICT in education can vastly improve the quality, efficiency and effectiveness of education at all levels and is expandable to any numbers of users who are desirous of seeking knowledge at ease and convenience. ICTs thus offer a big potential and support for lifelong learning to all groups of students including those students requiring special needs. Hence speech synthesis and speech recognition can be implemented exclusively as an enhancement in ICT for the sole of benefit of physically challenged people apart from deriving the common benefits of ICT usage to the regular stream of learners.