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A Survey on Applications and Awareness about ICT

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Abstract– ***The main objective of this research paper is to study the applications of ICT tools in an educational institution and its development. This research discusses the overall awareness level about the ICT in the educational institution. There is a trend to use ICT tools in the learning–teaching process across the world. Information and communication is an important tool that can transfer the teacher-centered approach into a student-centered approach. The role of information and communication technologies in today's education is extremely significant. Today, there is an urgent need to accelerate the strategic use of ICT technology in order to enhance achievement, to keep the present tech-savvy generation of learners effectively engaged, to enable them to be on a par with learners globally. This paper discusses and analyses the new field like ICT4D (ICT for development), ICT4E (information and communication technology for education), and community informatics. A survey has been conducted among the "A" Grade colleges in Tamil Nadu to find out the ICT facilities and usage in educational institutions. The purpose of the research reported in this chapter was to find out the application of ICT tools for supporting learners. Even though many of college lecturers and students use many ICT tools in their teaching–learning the process, they have very limited knowledge about ICT4E and ICT4D and awareness levels are very low. In this chapter, we have discussed the usage of ICT tools in the education institution with emphasis on the Asian perspective.***

Key Words– ***Information and Communication Technology, ICT4E, ICT4D, ICT tools, Teaching-Learning, Community informatics, Education institution, etc.***

I. INTRODUCTION

ICT generally includes those technologies that are used for assessing, gathering, manipulating and disseminating information [1]. So many ICT tools and approaches are utilized in the educational industry for the learning and teaching process. They are multimedia, teleconferencing, video conferencing, Web conferencing, learning management system and mobile learning approach [2]. ICT4D is about utilizing IT tools to eradicate poverty, illiteracy and benefit the disadvantaged sectors of the community. ICT4D is a term referring to the application of ICT tools in development [3]. It is also useful to assist organizations involved in a development task. Its main aim is to develop the socio-economic conditions of society, particularly the disadvantaged. Community informatics is a new and developing field. It is about applying ICT tools to develop the personal, social, cultural and economic conditions of people [4]. The Central board of secondary education (India) urges schools according to the national policy of Information and Communication Technology (ICT) in school education, so study the application and research on the usage of digital instruction materials is an emerging new area in India [5].

II. REVIEW OF LITERATURE

Denby et al. have conducted research on ICT tools and its support for learning and teaching. Their findings reveal that there is a relationship between students' interest and ICT tools [6]. Their findings also reveal that ICT tools are used to enhance the interest and attitude of the learners. Rashid M. has discussed the various emerging technologies like CD-ROM, WWW, the Internet, teleconferencing, computers, satellites, interactive video, and email. According to his view, these are the current technologies incorporating into the teaching and learning environment. Jayasimman et al. have discussed electronic learning method as one of the most powerful learning methods. They have found that e-learning method students are very intelligent and very active than traditional students [7]. Senthil et al. have discussed the computer-based tools and its effectiveness on learning and teaching. His findings reveal that ICT tools are very useful and effective. His findings also reveal that ICT tools are used to provide the right information at the right time for the right people [8].

In today's rapidly changing globalization scenario and technological developments, radical changes in learning process and strategy is the need of the hour [9]. A classroom with digital visualization and explanations will save the lecturer's time of preparation and effort in communicating the subject matters 10]. The guess-visualization ability of learners differs widely due to their visual perception, background, community, heredity, visual skills, aesthetic ability, creativity, etc. Digital devices basically and primarily act as a lecturer's aid to stimulate the learner's interest. There is a wide variety of audio-visual aids a lecturer can use in the classroom. The chalkboard, PowerPoint, models, projectors, overhead projectors, tablets, short films are some of them. A visual aid has to be wisely chosen to suit the class most appropriately.

III. SCOPE OF THE STUDY

Digital Literacy

The new digital media technologies are instruments for innovation. The digital literacy is modern technology in the field of digital education. The introduction of digital media in education will encourage and motivate the students to explore new areas. In the current situation in India, the computer literacy level among the villagers is in a developing stage, whereas in the United States it is going beyond digital literacy. On 19th May 2011, the USA government has launched a website named www.DigitalLiteracy.gov- to give libraries, community colleges, schools and workforce training centers tools to teach computer and digital literacy skills. The concept of digital literacy is a very new concept and it's in a fast developing stage in India.

IV. SAMPLING

The opinion survey is conducted with various processes like designing the questionnaire, sample selection and pre-test the questionnaire. In this experiment, we have given a question with three parts. The first part was regarding the ICT tools usage availability. The second part was regarding their opinions about the ICT tools in the classroom environment. The third one was regarding their awareness level. Based on the outcome of these three parts of the Question, the usage of available ICT tools and students' opinions are found out. For the opinion test, a set of questions is submitted to the research experts. They have suggested different criteria to customize the questionnaires. Based on the criteria, 18 questions regarding ICT tools, facilities in their college and learning strategies have been selected for this study. A total of 120 students pursuing B.Sc. IT course in the "A" Grade colleges are selected for this experiment. The survey is conducted for 20 minutes, and the results are obtained and are analyzed statistically. The "A" grade colleges are selected randomly from the three different geographical areas. The colleges are selected from the village, city, and rural area. Based on the criteria, 20 questions regarding digital media awareness level, 3-D animation material, DVD software, facilities available in the college and teaching methodology have been selected for this study.

* I have collected the sample from the three different locations with same "A" grade affiliation under the UGC-recognized government university.
* All the respondents (100 %) are in the age group of 20 to 30 years.
* 82 % students are in the age group of 20 to 23 years.
* 10 % students are in the age group of 24 to 26 years.
* 8 % students are in the age group of 27 to 30 years.
* All the respondents (100 %) have studied formal education such as higher secondary and above.
* All the respondents are studying B.Sc. Visual communication

V. RESEARCH METHODOLOGY

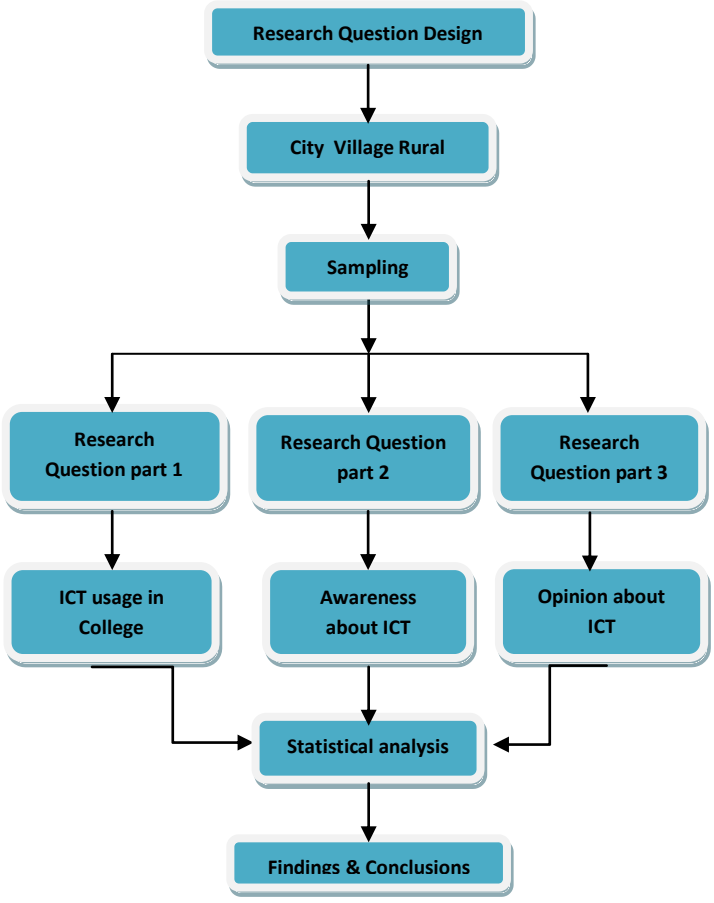

Figure 1: Research Methodology–ICT awareness

VI. LIMITATION OF THE STUDY

Further survey is required to investigate the quality of 3-D animation and ICT tools available in the colleges. ICT for education, information and communication development and community informatics are very new concepts to the village as well as rural areas. Many colleges are not willing to reveal their infrastructure and lab facilities to the researcher. Further research is needed to measure the overall ICT tool availability in "B" graded and "C" graded self-financing institutions. The awareness about digital literacy and digital media is very low in India. B.Sc. Visual communication students have digital media subjects in their final-year curriculum. But they have no basic idea about the digital medium. Very few colleges in Tamil Nadu have courses like B.Sc. visual communication. Distance education universities have the courses like B.Sc. multimedia and animation. But students' strength is very low. So it is difficult to collect the right samples. We have considered only B.Sc. visual communication learners. Further research is needed to select appropriate samples from the B.Sc. animation and B.Sc. multimedia students. We have conducted the research with careful procedures to get the good research results. Further research is needed in the field of 3-D virtual environment, simulation and mobile game programming.

VII. RESULTS AND DISCUSSIONS

Based on the geographical location, the colleges are classified into three types—city based, village-based and rural based. Graph 6.5 shows the percentage of students' awareness level. Graph 1 shows the graphical representation of the classification. The percentage of ICT awareness among the students is only 43, which is the lowest percentage. But the percentage of ICT tools availability in their colleges is 86 percentages. Graph 6.6 shows the percentage of ICT tools usage in their college

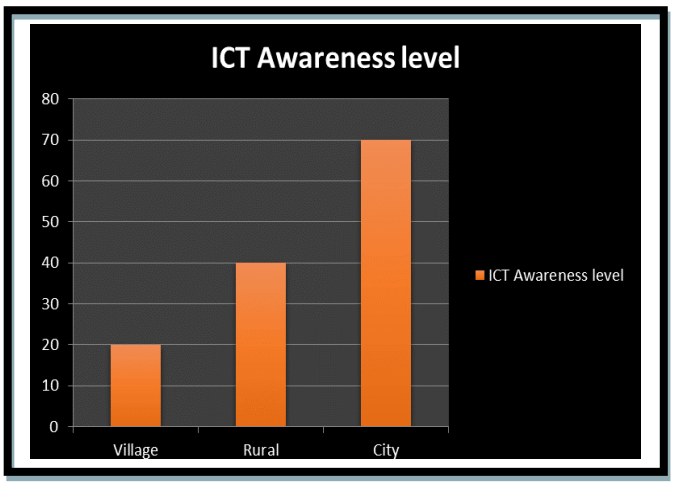

Figure 2: ICT Awareness Level

Figure 2 shows that ICT tool awareness is better among the city-based college students than rural- and village-based students

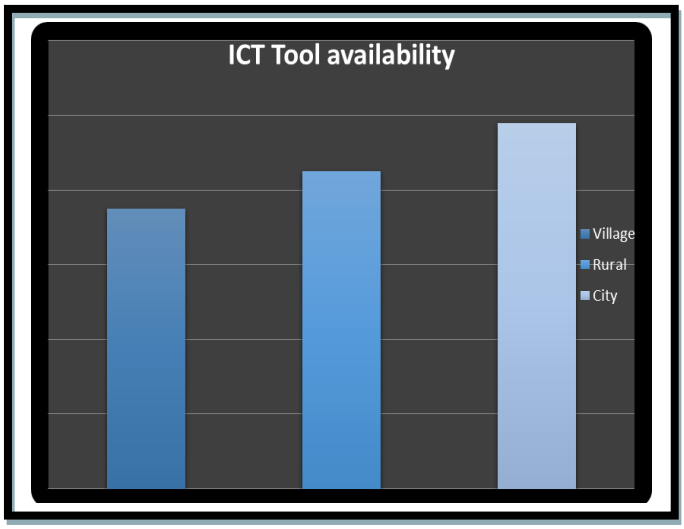

Figure 3 ICT tool availability

Figure 5.4 shows that ICT tool availability, which is better among the city-based college students than rural- and village-based students. ICT tools are very useful for e-learning and IT courses. For this purpose, the two criteria have been chosen

Table 1: Opinion of the students-ICT tools

S. No	Opinion	Number of Respondents	%
1.	Yes	110	92
2.	No	10	8
	Total	120	100

Table 1 shows that 92% of the respondents are fully agreed and only 8 % of the respondents disagree

VIII. CONCLUSION

In this chapter paper, a survey has been conducted to find the ICT awareness level, usage, and ICT tools availability in the learning environment. The students have been classified based on their ICT awareness levels. Colleges were categorized into three types by geography location. The relationships between geography and ICT awareness are explored clearly from the results. The findings reveal that the students who are studied in the city-based colleges have good ICT awareness level. From the results, it is found that the even though ICT tools are available in the learning environment the ICT awareness level is not up to the mark. To sum up, most of the "A" Grade colleges have better ICT tools in their environment. Students also had a good opinion about the ICT tools and its applications in their learning environment

REFERENCES

[1] Menon. B (2000), "In Emerging Communication Technologies and the society", Indian national science academy.

[2] B. Senthil Kumar and Dr. L. Arockiam (2011), "A Simplified Approach for IT Learning IJCTIS", International Journal of Computing Technology and Information Security Vol.1, No.2, pp.59-62, December 2011. ISSN: 2231-1998. www.ijctis.com

[3] B. Senthil Kumar and L. Jayasimman (2012), "A study on the User Interface Design for a Multimedia learning system with emphasis on 3D Animation" International Conference On Advances In Engineering, Science And Management (ICAESM -2012)- ISBN-978-81-909042-2-3, March 30, 31, 2012 IEEE- IEEE Xplore

[4] B. Senthil Kumar, Dr. L. Jayasimman and Dr. Nihsa Jebaseeli (2015), "Usage of Multimedia Technologies to Reduce Stress" , International Journal of Advanced Research in Computer Science and Software Engineering-Volume 5, Issue 4, 2015, ISSN-2277 128X, IJARCSSE

[5] LIANG Yu-bao et al, (2010), "How to improve the quality and effect of computer-aided instruction's application in classroom teaching in institutes of higher learning", IEEE-International workshop on education technology and computer science

[6] Teoh, B.S.P, et al, (2006), "Innovative teaching: Using multimedia to engage students in interactive learning in higher education" IEEE transactions, July

[7] Dr. L. Jayasimman, B. Senthil Kumar, and Dr. Nihsa Jebaseeli, (2015), "The impact of web technologies on effective learning", International Research Journal of Engineering Technology-Volume 2, Issue 2, May 2015, ISSN-2277 128X

[8] B. Senthil Kumar, Dr. L. Jayasimman and Dr. Nihsa Jebaseeli, (2015), "Animation and computer graphics for Effective Communication", International Research Journal of Engineering Technology-Volume 2, Issue 2, May 2015, ISSN-2277 128X,", IRJET

[9] Yu Zhang et al, (2010), "Teaching design and multimedia teaching resources development using information processing theory", IEEE-International conference on E-Health networking, digital ecosystems, and technologies

[10] Wenjun et al, (2011), "Reflection and recommendation for the teaching of English as a second language under multimedia networking environment" IEEE transactions

