An Experimental Investigation on ICT related avenues penetration among Rural College Students in Kanchipuram Town

J.Sujatha
Assistant Professor, Department of Computer Application
Arulmigu Meeankshi Amman College of Engineering
Vadamavandal, Namandi Post
Thiruvanamalai District-604410,Tamilnadu

Dr.N.R.Anatha Narayanan
Associate Professor
Department of Computer Science and Application
Sri Chandrasekhrendra Saraswathi Viswa Mahavidyalaya,
SCSVMV University
Enathur, Kanchipuram, Tamilnadu

Abstract

The study on ICT related avenues penetration among the rural college students in college located near Kanchipuram,Thiruvannamalai District,Tamilnadu, India involved in an experimental design by considering the ICT avenues like internet, mobile and social media. The study focused the aspects like ICT support for academic, general awareness, competency development for students who are studying in rural college background. The design of the study covered the students belong to engineering and computer application course related background. There were 75 students belong to the different branches of engineering courses and computer application both from graduation and post-graduation level chosen as sample unit for the study. The selected respondents were given exposure of learning and observing through the internet, mobile and social media sources about their academic, general awareness and competency for career related zones continuously for the selected period of time. The outcome of their learning was measured through scoring system by conducting written test. The results of score before exposure and after exposure were measured for its mean and standard deviation, in addition to that through the application of paired T-test, the existence of significant was tested for the penetration of ICT avenues on their learning and understanding process.

Key Words

Information and Communication Technology(ICT), experimental design, penetration, paired T-test

Problem Statement

The use of ICT related avenues like internet, mobile, social media and so on have become indispensable tools in day to day. The usage of ICT for the purpose of academic and social learning among present day youngsters have become inevitable. The preference of youngsters preferably higher learning students belonging to professional and application courses are high in terms of learning, skill development, career enrichment and competitive examinations preparation. But at the same time, it is necessary to probe the penetration effectiveness of ICT related avenues in the academic and social learning process of college students. Especially precious amount of researches are required to understand the penetration effectiveness of ICT avenues like internet, mobile and social media among the college students in rural colleges with special reference to engineering and computer application courses through experimental basis.

Research Question

The research was attempted to address the penetration of effectiveness of ICT related avenues like internet, mobile and social media among the students in rural colleges through experimental basis by measuring their merit score before and after the exposure of ICT related avenues in their learning and understanding process.

Purpose of the Study

The purpose of the study is to learn the background of rural college students in the selected study area. It also try to measure the time spent for learning through ICT avenues by rural college students and the utilization of ICT related avenues for their education, general awareness and competency development purpose. The research also aim to probe the effectiveness on the penetration of ICT related avenues on the students learning process.

Research Method

The research was carried out at one engineering college located in the rural background at Kanchipuram Town among the students belonging to available engineering branches and computer science and application course. The research sample of 75 were selected on the basis of judgmental basis and underwent for experiment research. Before to conduct experiment of exposing to ICT related avenues like internet, mobile and social media, their knowledge level in terms of academic, general awareness and competency aspects were measured through constructive score test. The test comprised questions with multiple choice answer. After the test, the sample was exposed to ICT related avenues like internet, mobile and social media for the period of two months. After exposure, the post test was conducted among them in the avenues like academic, general awareness and skill competency for career purpose with the test question comprised multiple answer. The outcome of two scores during pre and post test were verified for its existence of significance on the penetration effectiveness of ICT related avenues among rural college students through paired t-test with the help of SPSS 17.0 software version.

Findings

The result of present study shows the students effectiveness of performance differ significantly with and without ICT related avenues for their academic, career and social learning purposes. It also shows that the mean score achieved by students while learning through ICT related avenues is greater than before to learn through the exposure of ICT.

Conclusion

The present study focused to contribute the role and penetration effectiveness of ICT related avenues related to academic, career development and social learning among the college students those who are pursuing their courses in rural background. The result might further help the teaching community for the effective utilization on digital developments both in formal and informal learning of students in higher education.

1.1. Introduction

Information is the essential tool in the day to day life of human beings. The need of information in every part of life demands the support of storage and retrievals. Changes in the modern day life system, helps the sourcing, managing and retrieval of information with the help of various instruments. The innovations happen in the field of instrument generation towards the enhancement of information life, brings modern and updated mechanism that helps to generate and deliver information to the end users with the fraction of million speeds. But the competition prevails in the market, makes the creators of information sources to fetch modern and speedy version of information related technologies. The source and method of sharing informations with the help of modern equipments with the blend of traditional concepts are known as information and communication technology, shortly abbreviated as "ICT". The information and communication technology has become the pivotal communication system in every human life in the world. But the preference of using information and communication technology differs among the individuals based on their awareness, interest, capability and technical knowhow. But the recent day scenario and the revolution of communication and technology has made a tremendous impact among the users irrespective of their place of location, occupation on interest and background of socio economic profile. The recent surveys conducted towards the understanding about the utilization of information and communication technologies inclines that the various medias of communication and technology has been preferred by the user ends based on their occupational background, age, gender, income and so on. It is also evident that the utilization of information and communication technology has been augmented among the users both in urban and rural areas. The surprising facts reveal that the rural communities overwhelmed with the utilization and application of information technology.n the recent decades we have been witnesses of a rapid growth in the field of information and communication technologies (ICT) development. New technologies have been infiltrating all parts of everyday life, changing and modifying the ways people communicate, work, spend their leisure time and also study. The generation of young people who have been surrounded by digital devices since their early childhood is generally considered to differ from the preceding generations in terms of their learning styles preferences, attitudes and approaches to learning requiring from teachers and responsible decision-makers in education to adapt the current educational system to suit their needs and preferences.

The present day generation students at colleges and universities and the academic world are faced with the problem how to educate these students who are believed to be so different from the preceding generations. It is asserted that they learn better from discovery and experiments, prefer work in teams, favour audio-visual sources, are capable of multitasking, depend on ICT use and are always connected with others via ICT (Oblinger& Oblinger,2005)[1]. Weaknesses of digital natives affecting the process of learning include short-time

concentration, lack of self-reflection, frequent uncritical attitude to the quality of sources and insufficient skills in evaluating information available online (Mason &Rennie, 2008; Oblinger&Oblinger, 2005)[2].

Research studies have found that possessing positive attitudes toward ICT impacts computer usage. According to Teo (2008)[3], students' positive attitudes toward computer technology have a direct positive influence on their innovative use of ICT. Woodrow (1991, p. 165)[4] points out awareness of student attitudes towards computers is a critical criterion in the evaluation of computercourses and the development of computerbased curricula.Although, many researchers conducted studies on students' perceptions, they concentrated on a few number of students (Conole, de Laat, Dillon & Darby, 2008; Tang & Austin, 2009; Keller &Cernerud, 2002; McLachlan, Craig, Coldwell, 2010)[5]. It is obvious that conducting a new research involving a large number of students who represent different gender groups and schools to identify perceptions and ICT usage is important to deal with the gap. Research findings from students' perceptions and ICT usage may have important implications for administrators, departments, students, and employers and may enhance educational delivery to students, students' learning experience in secondary school, and students' application of knowledge and skills in the real world of work. Therefore, we reason that it is necessary to investigate students' perceptions and ICT usage in education.

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2.Mason, R. . & Rennie, F. (2008)."*E-learning and Social Networking Handbook: Resources for Higher Educations"*. New York: Routledge.

3.Teo, T. (2008)." *Assessing the computer a ttitudes of students: An Asian perspective*". Journal of Computers in Human Behaviour , 24, 1634-1642.

4.Woodrow, J. E. (1991). "*A comparison of four computer attitude scales*". Journal of Educational Computing Research . 7(2): 165-187.

5.Coldwell, J., Craig, A., & Goold, A. (2006). "*Student perspectives of online learning*" . Edinburgh: ALT-C.

1.2. Theoretical and literature background

Ridzuan and Kuek (2003)[6] had analyzed students' attitudes toward the use of the internet for learning at the University of Malaysia Sarawak. Their study has revealed that in general, students there had positive attitudes towards learning through using the internet. These students had the basic skills in using internet and perceived

the learning environment in the university conducive to the use of the internet as a learning tool. Rajeev Kumar and AmritpalKaur (2006)[7] studied the use of internet by teachers and students in India's three States viz. Punjab, Haryana, and Himachal Pradesh. A questionnaire was distributed among 1980 teachers aand students of all the

engineering colleges of three states of India under study. Rüzgar (2005)[8] studied the purpose of

the internet use and learning via internet. Among Turkish college students. It was concluded that

the internet has become an integral part of college life and its usage is almost 100 percent among students. Biradar and others (2006)[9] conducted a study on internet usage by the student and faculty members in Kuvempu University. Results of the study indicated that 42.1 % students use internet twice a week and 31.25% faculties use it every day. The majority of students as well as faculty staff use internet for study and teaching purpose. It may also be used to replace the traditional classroom lectures or supplement traditional teaching methods. Plus, internet usage enables students to communicate with other students abroad and thus share each other's ideas, knowledge, experiences and culture Furthermore, Ozad (2010, s: 24555)[10] explored the use of the internet in tertiary media education. It was suggested that in addition to using the internet as a source of information, students majored in communication and media should also use it as a tool of communication.Internet is basically a communication network through which people can affect masses and create new trends and it also make people to share news and information easily. Across the World no other communication vehicle or technology has spread among people as fast as internet did; just as number of radio users has become 50 million in USA after 38 years passed. On the other hand, this has got only 5 years for internet. (IPSOS, KMG Internet)

6.Universiti Malaysia Sarawak Annual Report (1995). Kota Samarahan, Sarawak : UNIM

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10.Ozad, B. E. (2010). "*The use of the Internet in Media Education*". The Turkish Online Journal of Educational Technology, 9(2), pp. 245-255

1.3. Reason to choose the study unit

Kanchipuram District is one among the fast growing industrialization cluster in the state of Tamilnadu. It is also found that Kanchipuram District is enriching its knowledge source of destination in the state of Tamilnadu by adding more number of higher educational institutions in its cluster. It is also observed that the entry of reasonably number of colleges with the background of professional, arts and science, medical colleges have given the eye opener for rural students to acquire the knowledge of higher education. But in addition to that the higher education aspirants from the rural background of Kanchipuram District especially in and around Kanchipuram Town also acquaintance with the utilization of information and communication technology and also well structured with information resources. The engineering colleges especially located in rural surroundings in Kanchipuram Town equipped with needy infrastructure and ICT learning centers for the teaching learning process for engineering and other professional courses. Because of increasing amount of engineering colleges in rural locations of Kanchipuram town also invoke an opportunity for poor and economically weaker section students belong to both urban and rural backgrounds to pursue their professional courses. In this aspect, the present research paper was attempted to experimentally investigate the penetration of ICT related avenues in the learning aspects among students in rural colleges.

1.4. Problem Background of the Study

Information and Communication Technology (ICT) and its related avenues like internet, mobile, social media network and so on are used in different fields in present day world. The usage of ICT in the field of education especially on knowledge sharing, information management, skill development and teaching learning process are increasing on constant phase. The student community at higher education level, feel comfortable of use and learn to ICT since it helps them to learn at any time and provision of information is also quick and comprehensive. The usage of ICT on academic and skill development purpose reshaped the culture of learning and understanding among the students community in higher education sector. But at the same time, it is necessary to learn about the penetration effectiveness of ICT related avenues among the students community at higher education sector towards their better performance, comfortable learning and skill enrichment. It is also necessary to know about the penetration of ICT usages via through net, mobile and social media by college students on heterogeneous basis like both urban and rural background. It is understood the usage volume ICT among the rural college students for their academic and skill enhancement is comparatively less with urban based college students. In order to understand the issue and know about the penetration effectiveness of ICT learning on academic, skill and social learning especially on class room performance, career planning and

competency development, an experimental design was adopted where in which rural college students belong to engineering and computer application backgrounds were taken as sampling unit.

1.5. Research Questions

The following research questions were addressed through this study

1. To understand the background profile of rural college students in the selected study location
2. To learn the purpose and preference of using ICT related avenues among the rural college students .
3. To know the sources, frequency and volume of usage of ICT related avenues by rural college students.
4. To understand the type of ICT avenues used for academic, competency and career purpose by rural college students
5. To test the existence of significance of difference among the rural college students in terms of learning without and with ICT avenues.

1.6. Research Method

The present study adopted both descriptive and experimental research design. The descriptive design was employed to study the profile background of rural college students, purpose and preference of using ICT, sources, frequencies of using ICT related avenues and type of ICT avenues used with its areas and purposes. The experimental design was employed in order to understand the existence of significant difference of learning without and with ICT avenues and also the penetration effectiveness in terms of learning by rural college students for their academic, career and skill development aspects. The sample unit for the study was taken from the rural college students with engineering and computer application background. The sample size for the study was restricted to 75 and which were selected on judgmental basis. The respondents selected for the study were undergone for pre test and post test of learning without and with ICT avenues. The study group was labeled as test group which comprised of student belong to the engineering disciplines like mechanical, electronics and communication, electrical and electronics and post graduate computer application. The students from 1 to iv year were chosen for the study. The selected students were given ample time to prepare for pre-test in the aspects of academic, skill enhancement and career related aspects through books, journals, magazines and manuals. Once the preparation was completed all the samples underwent for written test (or) merit test. The test paper comprised questions with multiple choice answers. The total number of questions used for present merit test was 150. The sessions like academic, career oriented and general knowledge and as well as skill competency enrichment were covered with 50 questions each. The students were given one mark for each right answer and without negative marks for wrong answers. The time duration of 2 hours were given for them to respond for the answer. The same sample group was given further time for one month to learn their academic,

general, career and skill aspects through ICT avenues like internet, mobile net, applications and social media. The same avenues like academic, career and skill were taken for their learning and understanding purpose. The learning process through ICT avenues were continuously monitored by giving minimum two hours time in a day by allotting special hours. Once the stipulated period was reached again the samples underwent for merit test with 150 questions in the same sessions with different version of questions along with multiple answers. The test result was also measured. The mean difference between pre and post test was observed. By framing the hypothesis that the mean difference of test scores do not significantly differ among the rural college students without and with using ICT related avenues for their learning and understanding of academic, career enhancement and skill enrichment. In order to test the hypothesis, paired t-test was employed through SPSS version 17.0.

1.7. Result and Discussion

The table depicted below describes the respondents demographic background along with their preference of using ICT avenues, frequency of usage along with purpose. The demographic background covers age, gender, course background, studying branch and year of study. The question related to ICT related avenues focus on preference of using ICT, frequency of usage per day, purpose of using ICT revenues in general as well as with respect to internet, mobile and social media.

Table 1.0

Sl.No	Attribute	Category	Number of Respondents	Percentage to Total
1	Age	More than 23	19	25.3
		21-22	44	58.7
		Less than 21	12	16.0
2	Gender	Male	40	53.3
		Female	35	46.7
3	Course Background	Engineering	50	66.7

		Computer Application	25	33.3
4	Studying Branch	Mechanical	20	26.7
		Electronics and Communication	21	28.0
		Electrical and Electronics	10	13.3
		Master of Computer Application	24	32.0
5	Year of Study	First	20	26.7
		Second Year	23	30.7
		Third Year	21	28.0
		Fourth Year	11	14.7
5	Preference of Using ICT	Yes	75	100
		No	-	0
6	Frequency of Using ICT/Per day	Less than 5 hours	21	28.0
		6 to 9 hours	27	36.0
		More than 9 hours	27	36.0
7	Major Avenue of ICT used	Internet	15	20.0
		Mobile	20	26.7
		Social Media	20	26.7
		All the above	20	26.7
8	Purpose of Using ICT	Academic	9	12.0
		Downloading	11	14.7
		News and Information	9	12.0
		Chatting and Interaction	10	13.3
		Career and Employment Opportunity	10	13.3
		Mail Transaction	11	14.7
		Contact Development	5	6.7
		All the above	10	13.3
9	Purpose of Using Internet	Academic	9	12.0
		Downloading	9	12.0
		News and Information	9	12.0
		Chatting and Interaction	7	9.3
		Career and Employment Opportunity	9	12.0
		Mail Transaction	11	14.7
		Contact Development	6	8.0
		All the above	15	20.0
10	Purpose of Using Mobile	Academic	7	9.3
		Downloading	7	9.3
		News and Information	6	8.0

		Chatting and Interaction	8	10.7
		Career and Employment Opportunity	12	16.0
		Mail Transaction	14	18.7
		Contact Development	6	8.0
		All the above	15	20.0
11	Purpose of Using Social Media	Academic	6	8.0
		Downloading	6	8.0
		News and Information	6	8.0
		Chatting and Interaction	6	8.0
		Career and Employment Opportunity	12	16.0
		Mail Transaction	13	17.3
		Contact Development	7	9.3
		All the above	19	25.3

Source: Primary Data collected from the respondents through questionnaire

From the Table 1 0 it is understood that 58.7 percent of respondents are in the age group of 21 to 22. In terms of gender background, 53.3 percent are male compare to 46.7 percent of female. The course background of respondents shows that 66.7 percent are from engineering background and 33.3 percent from computer application background. In terms of engineering background, 28 percent from electronics and communication engineering and 26.7 percent from mechanical background, where as in computer application it is around 32 percent. For this study purpose, 30.7 percent respondents were taken from second year background both from engineering and computer application and 28 percent from year three. The table expresses that the respondents selected for the study prefer to use ICT related avenues for their academic, career management and skill enhancement. Regarding the frequency of using ICT related avenues per day altogether 72 percent use between 6 and above 9 hours per day.from the table it is inferred that the major avenues of ICT used by respondents, 26.7 percent use all aspects like internet, mobile and social media. The purpose of using ICT related avenues, from the table it is learnt that 14.7 percent use ICT related avenues for downloading and mail transaction and 13.3 percent use for all the purpose like academic, chatting, contact management, mail transaction, and entertainment and so on. In terms of specific reason for using internet, mobile , it is depicted from the table that 20 percent use for all the purpose, where as 25.3 percent use social media for all the purpose like academic, chatting, mail transaction, career, contact and so on.

Table 2.0

Classification of Respondents Response based on branch and Year of study related Demographic and purpose of using ICT related avenues

Attributes	Branch of Study	Year

Sl.No	Bases of Classification	Category	Mech	ECE	EEE	MCA	First	Second	Third	Fourth
1	Age	More than 23	5	4	3	7	1	0	7	11
			(6.7)	(5.3)	(4.0)	(9.3)	(1.3)	(.0)	(9.3)	(14.7)
		21-22	10	12	6	16	7	23	14	0
			(13.3)	(16.0)	(8.0)	(21.3)	(9.3)	(30.7)	(18.7)	(.0)
		Less than 21	5	5	1	1	12	0	0	0
			(6.7)	(6.7)	(1.3)	(1.3)	(16.0)	(.0)	(.0)	(.0)
2	Gender	Male	16	12	2	10	10	10	12	8
			(21.3)	(16.0)	(2.7)	(13.3)	(13.3)	(13.3)	(16.0)	(10.7)
		Female	4	9	8	14	10	13	9	3
			(5.3)	(12.0)	(10.7)	(18.7)	(13.3)	(17.3)	(12.0)	(4.0)
3	Course Background	Engineering	20	20	10	0	12	15	12	11
			(26.7)	(26.7)	(13.3)	(.0)	(16.0)	(20.0)	(16.0)	(14.7)
		Computer Application	0	1	0	24	8	8	9	0
			(.0)	(1.3)	(.0)	(32.0)	(10.7)	(10.7)	(12.0)	(.0)
4	Major Avenues of ICT Used	Internet	4	5	1	5	5	5	3	2
			(5.4)	(6.8)	(1.4)	(6.8)	(6.8)	(6.8)	(4.1)	(2.7)
		Mobile	5	3	4	7	3	8	4	4
			(6.8)	(4.1)	(5.4)	(9.5)	(4.1)	(10.8)	(5.4)	(5.4)
		Social Media	5	6	3	6	6	5	7	2
			(6.8)	(8.1)	(4.1)	(8.1)	(8.1)	(6.8)	(9.5)	(2.7)
		All the above	5	7	2	6	6	4	7	3
			(6.8)	(9.5)	(2.7)	(8.1)	(8.1)	(5.4)	(9.5)	(4.1)
5	Purpose of Using ICT	Academic	4	3	0	2	4	3	2	0
			(5.3)	(4.0)	(.0)	(2.7)	(5.3)	(4.0)	(2.7)	(.0)
		Downloading	4	3	1	3	3	2	2	4
			(5.3)	(4.0)	(1.3)	(4.0)	(4.0)	(2.7)	(2.7)	(5.3)
		News and Information	2	5	0	2	1	6	1	1
			(2.7)	(6.7)	(.0)	(2.7)	(1.3)	(8.0)	(1.3)	(1.3)
		Chatting and Interaction	3	3	1	3	1	2	5	2
			(4.0)	(4.0)	(1.3)	(4.0)	(1.3)	(2.7)	(6.7)	(2.7)
		Career and Employment Opportunity	2	2	3	3	2	5	2	1
			(2.7)	(2.7)	(4.0)	(4.0)	(2.7)	(6.7)	(2.7)	(1.3)
		Mail Transaction	1	1	3	6	5	0	5	1
			1.3%	1.3%	4.0%	8.0%	6.7%	.0%	6.7%	1.3%
		Contact Development	0	2	1	2	2	2	1	0
			(.0)	(2.7)	(1.3)	(2.7)	(2.7)	(2.7)	(1.3)	(.0)
		All the above	4	2	1	3	2	3	3	2
			(5.3)	(2.7)	(1.3)	(4.0)	(2.7)	(4.0)	(4.0)	(2.7)

Source: Primary Data collected from the respondents through questionnaire, Figures in Brackets indicate percentage to Total against number of respondents

Table 2.0 probes the demographic background classification and purpose of using ICT related avenues by the selected study group based on their branch and year of study. It is observed that under the age category more than 23 in engineering 6.7 percent in mechanical and 9.3 percent in computer application, in 21 to 22, it is 16 percent in ECE and 6.7 percent in ECE and Mechanical under the category of less than 21. In terms of year of study more than 23 is 14.7 percent in fourth year 21 to 22 age group is 30.7 percent second year and 16 percent under the age group of less than 21. Regarding the gender background of students,21.3 percent in mechanical and 13 percent in MCA and whereas female 18 percent in MCA and 12 percent in ECE.

Regarding major avenues of using ICT, in the category of engineering, 6.8 percent of internet users belong to ECE branch and again 6.8 percent in MCA. Regarding mobile it is 6.8 percent in mechanical engineering compare to 9.5 percent in MCA. About the usage of social media it is 8.1 percent among ECE and MCA students. The usage of all is 9.5 percent in ECE branch compare to other engineering branches and which is 8.1 percent in MCA. Regarding the usage avenues of ICT based on year of study, internet is used by 6.8 percent of first and second year students both in engineering and MCA. The mobile is used by 10.8 percent of second year students. 9.5 percent of third year students use social media and again 9.5 third year students use all the sources compare to other year students.

The purpose of using ICT related avenues like internet, mobile and social media among the rural college students in the study, based on their branch background, 5.3 of mechanical students use for academic and downloading purposes where 2.7 percent MCA students use for academic and 4 percent for downloading. 6.7 percent of ECE students use for news and information purpose. For chatting purpose 4 percent of mechanical, ECE and MCA students use ICT. Regarding career purpose, it is used by 4 percent of EEE and MCA students. 8 percent of MCA students and 4 percent of EEE students use for mail transaction purposes. For contact management ICT related avenues are used by 2.7 percent of ECE and MCA students. 5.3 percent of mechanical and 4 percent of MCA students use all three internets, mobile and social media for all purposes from academic to contact management.

Regarding the purpose of using ICT based on the year of study, 5.3 percent of first year students use for academic purposes,5.3 percent of fourth year students use for downloading purposes,8 percent of second year students avail for news and information purposes,6.7 percent of third year students use for chatting purposes,6.7 percent of second year students use for career and employment opportunity,6.7 percent of first and third year students use for mail transactions,2.7 percent of first and second year students use for contact management and 4 percent of second and third year students use for all the purposes.

Paired T-test and Mean Score comparison result based on age, gender, course, branch backgrounds among the rural college students before and after using ICT for the academic, career and skill enrichment.

In order to verify the penetration effectiveness of ICT related avenues based learning among the students, the students were exposed to both ICT without and with modules through an experimental set up. The performance was measured as ICT without learning as pre test and ICT with learning as posttest. The marks scored in both pre test and posttest were measured and by applying paired t-test, the hypothesis was tested. The hypothesis taken for the testing narrates that the performance and learning effectiveness of students without and with ICT related avenues exposure do not change significantly. The table 3.0 depict the outcome of experiments and also describe the mean score difference in pre as well as posttest performance (without and with ICT) by students in terms of their gender, course, branch of study and year of study.

Table 3.0

	Paired T- Test						Experiment Stage	
Experiment Stage	Mean	Std. Deviation	T-Value	Level of Significance	Attribute	Category	Pre-test Mean Score (Without ICT)	Post Test Mean Score (With ICT)
Pre-Test(without ICT)	90.11	27.496	10.243	.000	Gender	Male	90.05	90.17
Post-Test (With ICT)	101.77	24.986				Female	100.45	103.25
					Course	Engineering	87.92	94.48
						Computer Application	98.58	108.20

	Branch of Study	Mechanical	88.65	99.65
		Electronics and Communication	83.38	93.24
		Electrical and Electronics	91.70	103.30
		Computer Application	96.54	110.38
	Year of Study	First	83.30	93.60
		Second	92.70	104.43
		Third	92.43	104.29
		Fourth	92.64	106.27

Source: Test Score of the students with and with ICT exposure (pre and post test)

Table 3.0 outlines the outcome of pre as well as post test results (without and with ICT exposure) among the students, the test score of students were measured in ratio scale in pre and post test. By applying paired t-test through spss 17.0 version, it is observed that mean score in post test (learning with the exposure of ICT) is comparatively higher that mean score of pre-test (learning without the exposure of ICT), the result of t-value also shows the significance is less than 0.05 and proven that the learning and exposure of students in rural college students related to their academic, career and skill enrichment is significantly differ with the exposure of ICT based learning than with ICT. It is also shown that the mean value of ICT based learning is higher than without ICT based learning.

The table also narrates the mean score difference in pre-test (without ICT exposure) and post-test (with ICT exposure) in terms of selected demographic and course background of rural college students. In terms of gender, among male and female, the mean score of ICT based learning is higher than without ICT. In terms of course background, both engineering and MCA background, the mean score of ICT based learning is higher than non-ICT based learning. It is also the same in terms of branches in engineering and MCA where the pre test score is lesser than post test score. The year of study by students also prove that the caliber of students in terms of their academic, skill enrichment and career management through ICT is higher than non-ICT based learning.

1.8.Findings

From the outcome of results and discussion, it is observed that the usages of ICT related avenues like internet, mobile and social media is equally distributes and preferred for learning, career, entertainment, contact development and formal as well as informal information sharing purpose among the rural college students both in work as well social places. By the descriptive analysis especially through comparison table (table 2.0) it is found that based on gender, course, branch of study and as well as year of study, the usage of ICT related avenues like internet, mobile and social media for academic, chatting, news and information, downloading, contact management, career planning and opportunity searching and finally for official and unofficial

transaction is getting increased gradually. It is also found that the influence of location factors as rural and urban do not influence on their preference of using ICT. The study also attempted to prove the penetration of effectiveness of ICT related avenues among rural college student, it is found that the penetration effectiveness of ICT related avenues among rural college students in terms of their gender, course, branch background and year of pursuing course is relatively high compare to earlier non-ICT era. It is also found that the preference of rural college students for using ICT environment based learning is comfortable and adds more academic and career values.

1.9.Conclusion

The digital revolution throughout world has brought significant changes in educational sector. The fast changing teaching – learning process in higher education sector invokes the use of ICT related avenues in the academic, career development and skill enrichment of students' community. The preference of students also getting augmented in gradual phase related to usage of ICT related avenues for academic, information sharing, knowledge deployment and career planning. It is increasing among the students those who are pursuing their higher education studies in rural colleges. Even though, the rural colleges yet to update their infrastructure, the efficiency level of students while learn through ICT based environment increases gradually. The current study also proves that the penetration of ICT exposure on students' academic growth, career development and skill enrichment in rural colleges. The promptitude of rural college students for using ICT related avenues like internet, mobile and social media significantly effective compare to traditional interactions in learning and development system in higher education.

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