

**INFORMATION AND COMMUNICATION TECHNOLOGY ENABLED
TEACHING IN HIGHER EDUCATION WITH REFERENCE TO CONVENTIONAL
COLLEGES UNDER SHIVAJI UNIVERSITY, KOLHAPUR**

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Abstract

The information and technology has influenced all the aspects of human life. Education is not an exception to the technology and information. Communication is an important aspect in the teaching and learning process. Information systems are important and they redefine the way of different organizations. . The ICT provide innovative learning opportunities and provides for valuable advancement in research. There is need to spread the education to every corner of the nation quickly and effectively. Therefore, it essential to have ICT enabled teaching higher education. ICT in education requires infracture, skilled teachers, full use of ICT devices, and maintenance of such devices. The present study covered the aspects ICT and based on data collected from the sampled institutions and population with the help of statistical tools conclusions were drawn. ICT enabled teaching require ICT infracture, IC T Coordinator, and teachers with ICT skills and knowledge.

Keywords: *Information and Communication technology, higher education, teachers*



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INTRODUCTION

Today's age is influenced by and information and technology. The information and technology has influenced all the aspects of human life. Education is not an exception to the technology and information. Communication is the heart of teaching and learning process. Information systems are important and they redefine the way of different organizations. The fast growing ICT has brought down the limitations on communication around the globe and has added towards efficiency and productivity of the various organizations. It has been universally recognized the need of ICT in education in the era of privatisation globalisation and liberalisation there is free flow of information through satellite and internet captures the way in the international information dissemination of knowledge. Educational institutions are using ICT for online learning; however use of ICT is not widely adopted by the teachers. The ICT provide innovative learning opportunities and provides for valuable advancement in research too. The country, like India, where there are needs to spread the education to every

corner of the nation to a large population, ICT shall play an important role in the process of education.

OBJECTIVES OF THE STUDY

1. To investigate the present status of ICT infrastructure in the colleges.
2. To study the attitude of the teachers in the use of ICT.

HYPOTHESIS OF THE STUDY

1. H₀: Faculty going for Professional Development in ICT is independent to Percentage of Operational ICT
2. H₀: Lack of Adequate Skills to Teachers in ICT is independent to Percentage of Operational ICT
3. H₀: Percentage of ICT Operational is independent to Availability of ICT Coordinator
4. H₀: Lack of Adequate Skills to Teachers in ICT is independent to Availability of ICT Coordinator

SIGNIFICANCE OF THE STUDY

The study is a path finding towards to the policy makers in adopting ICT enabled teaching in higher education. It will bring the facts regarding use of ICT at conventional colleges under Shivaji University, Kolhapur. The study considered the aided multi-faculty colleges in the jurisdiction. It will also find out the attitude of the teachers towards use of ICT in teaching. The study shall guide for the planning of ICT enabled teaching .Use of ICT enabled teaching will focus on smartness of the students on employability variable. Besides, this will enable the academicians, institutions and persons interested to understand the significance of ICT enabled teaching in the context of globalization.

Few studies were conducted on this topic at the national and the state level. Very few researchers have studied pertaining to aided conventional colleges in Western Maharashtra. Therefore, the study is an important contribution on this background. The scope of the present study is relating to the area covered under Shivaji University, Kolhapur only.

LIMITATIONS OF THE STUDY

1. The study is limited only for the use of ICT in the colleges (conventional, aided and multi faculty) affiliated to Shivaji University, Kolhapur

RESEARCH METHODOLOGY

A research methodology is the arrangement of conditions for data collection and analysis of the data in a manner that aims to combine relevance to the research purpose with economy in procedure. The present study is regarding Information and Communication Technology Enabled Teaching in Higher Education with Reference to Conventional Colleges under

Shivaji University, Kolhapur. For the research purpose, both primary and secondary data used to get the information and to meet the objectives of the study. Primary data is fresh and original collected to satisfy the research objectives. The data was collected through the questionnaire. The collected is classified, tabulated and as per frequencies percentages were drawn. Chi-square test is applied to test the hypothesis.

Table No. 1 Availability of Total number of Desktop Computers.

Range for the number of Desktop computers available for the use in teaching	Frequency	Percent
0	8	28.6
1-20	9	32.1
21 - 40	5	17.9
61 - 80	2	7.1
81 - 100	1	3.6
Above 100	3	10.7
Total	28	100

The figures in the above table show the response of the Principals about the availability of total number of Desktop Computers. 28.6 percent principals have opined that there are not such desktop computers in the colleges. 32.1 percent colleges have 1 o 20 c0mputers. 17.9 percent colleges have 21 to 40 desktop computers. It reveals that about 1/3 colleges do not have desktop computers for the use of the students and teachers and about 1/3 colleges have only up to 20 desktop computers. Therefore, it is concluded that there are not enough Desktop Computers for the use of the students and teachers.

Table No. 2 Total Number of LCD Projectors Available for teaching and learning process.

Range for the number of LCD Projectors available for the use in teaching	Frequency	Percent
1 – 10	23	82.1
11 - 20	4	14.3
Above 21	1	3.6
Total	28	100

The figures in the above table show the response of the Principals about the availability of total number of LCD projectors for the use in teaching learning process. 82.1 percent principals have opined that there are minimum 1 to 10 LCD projectors for the teaching and learning purpose. 14.3 percent colleges have the laptops in the range of 11 to 20 for the teaching purpose. It reveals that majority of the colleges have LCD projectors, but they are not enough considering the number of the classes and divisions for various streams.

Table No. 3 Total Number of Desktop Computers with Internet Access.

Range for the number of Desktop computers available for the use in teaching	Frequency	Percent
0	2	7.1
1 - 50	13	46.4
51 - 100	6	21.4
101 - 150	3	10.7
151 - 200	2	7.1
251 - 300	1	3.6
301 - 350	1	3.6
Total	28	100

The figures in the above table show the response of the Principals about the availability of total number of Desktop Computers with internet access. 7.1 percent principals have opined that there are not such desktop computers in the colleges. 46.4 percent colleges have 1 o 50 desktop computers with internet facility. 21.4 percent colleges have 101 to 150 desktop computers with internet facility. It reveals that about majority colleges do not have desktop computers with internet facility in proportion with the enrolment of the students for the use of the students and teachers. Therefore, it is concluded that there are not enough Desktop Computers with internet facility for the use of the students in proportion of the enrolment of the students.

Table No. 4 Attitude the Teachers Regarding Use of ICT for Learning Process.

Sr. No.	Use of ICT for learning has a positive impact	Frequency	Percentage
1	Yes	230	97.87
2	No	05	02.13
Total		235	100

The figures in the above table show the attitude of the teachers regarding impact of use of ICT for learning process. 97.87 percent teachers have opined that there is great impact of use of ICT in learning process. It reveals that almost all the respondents opined that there is great impact of use of ICT in learning process. Therefore, it is concluded that there is great impact of use of ICT in teaching learning process.

TESTING OF HYPOTHESIS

1) H_0 : Teachers going for Professional Development in the matters of ICT is independent to Percentage of Operational ICT equipments in the colleges

H_1 : Teachers going for Professional Development in the matters of ICT depends to Percentage of Operational ICT equipments in the colleges.

Table No.5

Percentage of Operational ICT * Percentage of Teachers going for Professional Development

Cross tabulation

Variable ↓		Percentage of Teachers going for Professional Development		
		Low	High	Total
Percentage of Operational ICT	Count	8	2	10
	Low Expected Count	7.1	2.9	10.0
	High Expected Count	12	6	18
	Low Expected Count	12.9	5.1	18.0
	High Expected Count	20	8	28
	Total Expected Count	20.0	8.0	28.0

Table No. 6 Chi-Square Tests

Model	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-Exact sided)	Sig. (1-sided)
Pearson Chi-Square	.560	1	.454		
Continuity Correction	.097	1	.755		
Likelihood Ratio	.581	1	.446		
Fisher's Exact Test				.669	.385
Linear-by-Linear Association	.540	1	.462		
N of Valid Cases	28				

The calculated value of Pearson Chi-Square is .560 and 'P' value is .454. Here at 5% level of significant we fail to reject the null hypothesis ($P > 0.05$). The test is not significant. Hence; the null Percentage of Teachers going for Professional Development in ICT is independent to Percentage of Operational ICT equipments in the colleges, is accepted. There is no association between Teachers going for Professional Development in the matters of ICT and Percentage of Operational ICT equipments in the colleges.

2) H_0 : Lack of Adequate Skills of Teachers in the use of ICT is independent to Percentage of Operational ICT equipments in the colleges.

H_1 : Lack of Adequate Skills to Teachers in the use of ICT is depends to Percentage of Operational ICT equipments in the colleges.

Table No. 7

Percentage of Operational ICT equipments* Lack of Adequate Skills to Teachers

Cross tabulation

Variable		→	Lack of Adequate Skills to Teachers		
			No	Yes	Total
Percentage of Operational ICT	Low	Count	3	7	10
		Expected Count	5.7	4.3	10.0
	High	Count	13	5	18
		Expected Count	10.3	7.7	18.0
	Total	Count	16	12	28
		Expected Count	16.0	12.0	28.0

Table No.8 Chi-Square Tests

Model	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	4.680	1	.031		
Continuity Correction	3.114	1	.078		
Likelihood Ratio	4.755	1	.029		
Fisher's Exact Test				.050	.039
Linear-by-Linear Association	4.512	1	.034		
N of Valid Cases	28				

The calculated value of Pearson Chi-Square is 4.680 and ‘P’ value is .031. Here at 5% level of significant we reject the null hypothesis ($P < 0.05$). The test is significant. Hence; the null Percentage of Lack of Adequate Skills to Teachers in the use of ICT is depends to Percentage of Operational ICT equipments in the colleges, is rejected. There is association between Lack of Adequate Skills of Teachers and Percentage of Operational ICT equipments in the colleges.

3) H_0 : Percentage of Operational ICT equipments in the colleges is independent to Availability of ICT Coordinator in the college.

H_1 : Percentage of Operational ICT equipments in the colleges is depends to Availability of ICT Coordinator in the college.

Table No.9

Availability of ICT Coordinator * Percentage of Operational ICT Equipments

Cross tabulation

Variable		→	Percentage of Operational ICT		
			Low	High	Total
Availability of ICT Coordinator	Yes	Count	5	8	13
		Expected Count	2.8	10.2	13.0
	No	Count	1	14	15
		Expected Count	3.2	11.8	15.0
	Total	Count	6	22	28
		Expected Count	6.0	22.0	28.0

Table No.10

Chi-Square Tests

Model	Value	df	Asymp. (2-sided)	Sig.Exact sided)	Sig. (2-Exact sided)	Sig. (1-
Pearson Chi-Square	4.1821		.041			
Continuity Correction	2.5061		.113			
Likelihood Ratio	4.4251		.035			
Fisher's Exact Test				.069	.056	
Linear-by-Linear Association	4.0321		.045			
N of Valid Cases	28					

a Computed only for a 2x2 table

b 2 cells (50.0%) have expected count less than 5. The minimum expected count is 2.79.

The calculated value of Pearson Chi-Square is 4.182 and ‘P’ value is .041. Here at 5% level of significant we reject the null hypothesis (P<0.05). The test is significant. Hence; Percentage of Operational ICT equipments in the colleges is independent to Availability of ICT Coordinator in the college, is rejected. There is association between Percentage of Operational ICT equipments in the colleges to Availability of ICT Coordinator in the college

4) H₀: Lack of Adequate Skills to Teachers in the use of ICT is independent to Availability of ICT Coordinator in the college.

H₁: Lack of Adequate Skills to Teachers in the use of ICT is dependents to Availability of ICT Coordinator in the college.

Table No.11

Availability of ICT Coordinator * Lack of Adequate Skills to Teachers

Cross tabulation

Variable		→	Lack of Adequate Skills to Teachers		
			No	Yes	Total
Availability of ICT Coordinator	Yes	Count	8	5	13
		Expected Count	5.1	7.9	13.0
	No	Count	3	12	15
		Expected Count	5.9	9.1	15.0
	Total	Count	11	17	28
		Expected Count	11.0	17.0	28.0

Table No.12

Chi-Square Tests

Model	Value	df	Asymp. (2-sided)	Sig.Exact (sided)	Sig. (2-Exact sided)	Sig. (1- sided)
Pearson Chi-Square	5.038	1	.025			
Continuity Correction	3.447	1	.063			
Likelihood Ratio	5.185	1	.023			
Fisher's Exact Test				.051		.031
Linear-by-Linear Association	4.858	1	.028			
N of Valid Cases	28					

a Computed only for a 2x2 table

b 0 cells (.0%) have expected count less than 5. The minimum expected count is 5.11.

The calculated value of Pearson Chi-Square is 5.038 and ‘P’ value is .025. Here at 5% level of significant we reject the null hypothesis ($P < 0.05$). The test is significant. Hence Lack of Adequate Skills to Teachers in the use of ICT is independent to Availability of ICT Coordinator in the college is rejected. There is an association between Lack of Adequate Skills to the Teachers in the use of ICT and Availability of ICT Coordinator in the colleges.

CONCLUSIONS

It is concluded that there are not enough Desktop Computers for the use of the students and teachers. There not enough LCD projectors, there are not enough Desktop Computers with internet facility for the use of the students in proportion of the enrolment of the students. The attitude of the teachers concludes that there is great impact of use of ICT in teaching learning process.

There is no association between Teachers going for Professional Development in the matters of ICT and Percentage of Operational ICT equipments in the colleges.

There is association between Lack of Adequate Skills of Teachers and Percentage of Operational ICT equipments in the colleges. There is association between Percentage of Operational ICT equipments and Percentage of Operational ICT equipments in the college. There is an association between Lack of Adequate Skills to the Teachers in the use of ICT and Availability of ICT Coordinator in the colleges.

SUGGESTIONS

It is high time to give an attention towards ICT enabled teaching in higher education, it has number benefits such as covers the large number of population, learning across nations, reduction in the cost of education, can be used for all streams, time saving, useful for independent learning, therefore, State should increase the infrastructure of ICT enabled teaching in the colleges. Teachers must acquire the knowledge and skill required to use ICT in educational process. There should be ICT coordinator to look after ICT infrastructure, provide technical support to teachers and the students. The ICT equipments must be fully used in the teaching and learning process.

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