

Teachers Attitude About The Use of ICT in Higher Education

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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 the soul of teaching and learning process. The ICT provide innovative learning opportunities and provides for significant advancement in research. Therefore, to know the attitude of the teachers regarding use of ICT in teaching in higher education, present study is undertaken. Based on the responses of the samples it is concluded that there should be use of ICT in higher education. Teachers have a positive attitude towards use of ICT in higher education, however, majority of the teachers have not undertaken professional development in ICT. The collages too have not provided the enough infrastructure of ICT to teach the teachers and students.

Key words: *Information and communication technology, higher education, teaching learning, teachers.*

I 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 soul of teaching and learning process. Information systems are important and they redefine the way of different organizations. The fast growing ICT has eliminated the limitations on communication around the world and has contributed towards efficiency and productivity of the various organizations. It has been universally recognized the need of ICT in education in the era of globalization where there is free flow of information through satellite and internet holds the way in global information dissemination of knowledge. Academic institutions are using ICT for online learning however use of this technique is not widely adopted by the teachers. The ICT provide innovative learning opportunities and provides for significant advancement in research too. The countries like India where there is need to spread the education to a large population ICT shall play a vital role in the process of education.

II 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 research work is regarding teachers' attitude about the use of ICT in higher education Reference to Conventional Colleges under Shivaji University, Kolhapur.

Research Design:

The research design constitutes decision regarding what, where, when, how much by what means a research study could be carried out. It is an exploratory research study based on the information collected through the questionnaire. This research designed to collect the data; information that helped the researcher to arrive at conclusion and that fulfilled the requirements of the objectives of the study. For the research purpose, both primary and secondary data used to get the information and to meet the objectives of the study. There are several tools and techniques of data collection. These tools differ considerably in the context of time, energy and cost at the disposal of the researcher. For the present study, data collected through primary and secondary sources. The present research work is related teachers' attitude about the use of ICT in higher education to grant- in- aid, multi faculty, conventional colleges under Shivaji University, Kolhapur. The responses are collected through structured questionnaire relevant to the objectives from the sampled population .The questionnaire is structured in such a way to get the information that needs to fulfil the objectives of the present study. However, researcher also collected the information by asking the sub questions and clarification of main answer wherever necessary. For the present study researcher used the observation technique while collecting the data through questionnaire from the respondents in the colleges selected for the data collection. The data regarding ICT which is already collected, available in the form of books, reports, and other sources (e.g. websites) is used for the present study.

Method of Data Collection:

The various tools used for the present study to collect the data. The stratified convenience random sampling method of data collection is used to collect the data from the colleges located in the Sangli, Satara and Kolhapur District and affiliated to the Shivaji University Kolhapur for this study. For the present study population of teachers is identified to collect the information regarding ICT enabled teaching from the affiliated colleges.

Universe of Sample for Colleges (N=110):

The universe of Sample is consists of total number of conventional, multy stream and aided colleges affiliated to



Shivaji University, Kolhapur are considered for the data collection. Conventional colleges for the present study means the colleges with Arts, Science and Commerce streams which are functioning on grant-in-aid basis. There are total 282 colleges affiliated to the Shivaji University, Kolhapur out of which 110 (i.e. 25 percent colleges) are conventional, multi stream and aided colleges affiliated to the Shivaji University, Kolhapur, out of 110 colleges 25 percent colleges i.e. 28 colleges are considered for the data collection of the teachers.

The Sample Size for Teachers (n=235) N=938, n=235 (i.e. 25% of 938)

The total number teachers in the sampled 28 colleges from the Sangli, Satara, and Kolhapur District are 938. The sample size for the teachers' respondents is 25% of the total teachers in the conventional, multi stream and aided colleges considered for the present study. 25% of 938 come to 234.5; to avoid the fractions sample size is rounded off to 235. The respondents are selected by simple random sampling method at the convenience of the researcher. Accordingly, the responses are collected from the teachers of these 28 colleges through questionnaire. To arrive at conclusion the data is classified and tabulated, where there are responses in Yes/No form, the percentage values are calculated and based on the response to the questions which have more than 50 percent response, generalisations were made. In case of questions other than Yes/No form, proportion tests were applied. For some questions mode value is considered to arrive at conclusion.

III OBJECTIVES OF THE STUDY

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

IV ANALYSIS OF DATA

The responses collected through the questionnaire from the teacher are classified and tabulated as below. Based on the responses and according to the information/data, the same has been tabulated. The percentages were drawn wherever applicable and the highest frequencies were considered in case of the questions where the statements which are having more than two options.

Table 1: Response of the teachers about availability of Personal Computer with internet access.

Sr. No.	Source of internet access	Frequency	Percentage
1	At college only	228	97.02
2	At home	193	83.91
3	At the above both locations	228	97.02

Regarding the response of the teachers for the availability of the internet facility at college, at home and at both the locations, the figures in the above table shows that 97.02 percent teachers have internet access at college, and 83.91 percent teachers have internet access at their home. 97.02 percent teachers have internet access at the college and at their home. It reveals that the majority teachers have internet facility either at home and/or at the college. Therefore, it is concluded that almost all the teachers have their personal computers with internet facility.

Table 2: Opinions of Respondents about availability Learning Management System, Virtual Learning Environment, and E-Portfolio System.

Sr. No.	Nature of Response	Frequency	Percentage
1	Yes	92	39.15
2	No	143	60.85
Total		235	100

Figures in the above table show that opinions of the teachers about availability of the LMS, VLE, and e-portfolio system. 39.15 percent teachers opined that they have LMS, VLE, and e-portfolio system. It simply means majority teachers have opined that they have the facility of LMS, VLE, and e-portfolio system. Therefore, it is concluded that the facility of LMS, VLE, and e-portfolio system is not available in majority of the colleges and open for the use of the teachers.

Table 3: Response of the teachers regarding organisation of major training programme about the use of ICT for teacher by the college during last three years.

Sr. No.	Nature of Response	Frequency	Percentage
1	Yes	173	73.62
2	No	62	26.38
Total		235	100

The figures in the above table show the response of the teacher's regarding organisation of major training programme about the use of ICT for teacher by the college during last three years. 73.62 percent teachers have opined that the colleges have organised major training programme about the use of ICT for teachers during last three years. It reveals that majority of the respondents opined that the colleges have organised the major training programme about the use of ICT for teacher during last three years. Therefore, it is concluded that majority of the colleges have organised the training programmes about the use of ICT for teachers during last three years.



Table 4 : The extent of the ICT courses in Technological Skill provided to the Teachers.

Sr. No.	The extent of ICT courses provided	Frequency	Percentage
1	Not provided	68	28.94
2	Optional courses or activities are provided	112	47.66
3	Mandatory courses or activities are provided	19	08.09
4	Optional or mandatory courses or activities depending on program	60	25.53
5	Any other	02	00.85

Figures in the above table shows the classification of the extent of ICT courses in technological skill provided to the teachers. 47.66 percent teachers have opined that optional courses regarding ICT are provided. 25.53 percent teachers have opined that optional or mandatory courses of ICT are provided to the teachers. 28.94 percent teachers have opined that they are not provided any such course regarding ICT in technological skill. It reveals that 1/3 teachers opined that they have not been provided such courses; however only teachers concerned with computer education are provided such coursed on technological skill. Therefore, it is concluded that the extent of the ICT courses in technological skill is provided few colleges.

Table 5: Response of the teachers regarding technical support regarding ICT provided by the college.

Sr. No.	Nature of Response	Frequency	Percentage
1	Yes	107	45.53
2	No	128	54.47
Total		235	100

The figures in the above table show the response of the teachers regarding technical support regarding ICT provided by the college. 45.53 percent teachers have opined that they are provided with technical support regarding ICT at the college. It reveals that majority of the respondents opined that they are not provided with technical support regarding ICT at the college. Therefore, it is concluded that majority of teachers are not provided with technical support regarding ICT at the college.

Table 6 :Response of the teachers regarding supply of the ICT devices such as tablet PC, notebook by the college for teaching purpose.

Sr. No.	Nature of Response	Frequency	Percentage
1	Yes	66	28.09
2	No	169	71.91
Total		235	100

The figures in the above table show the response regarding supply of the ICT devices such as tablet PC, notebook by the college for teaching purpose. 28.09 percent teachers have opined that they are supplied with the ICT devices such as tablet PC, notebook by the college for teaching purpose, however, 71.91 percent teachers have opined that they are not supplied with such devices by the colleges. It reveals that majority of the respondents have opined that they are not supplied with the ICT devices such as tablet PC, notebook by the college for teaching purpose. Therefore, it is concluded that majority colleges have not supplied the ICT devices such as tablet PC, notebook by the college for teaching purpose.

Table 7: Classification of the teachers who have undertaken Professional Development Program about ICT in the various areas.

Sr. No.	Various areas of ICT- Professional Development Program	Frequency	Percentage	Rank
1	Introductory course on use of internet and general applications	216	91.91	I
2	Advanced course on application	156	66.38	VI
3	Advanced course on internet use	102	43.40	IX
4	Equipment specific training	94	40.00	X
5	Course on pedagogical use of ICT in teaching and learning	115	48.94	VIII
6	Subject specific training on learning applications	141	60.00	VII
7	Course on multimedia	71	30.21	XI
8	Participation in online communities	164	69.79	V
9	ICT training provided by the college staff	174	74.04	IV
10	Personal learning about ICT in own time	203	86.38	II
11	Other professional development opportunities related to ICT	192	81.70	III



Above table shows the classification of opinion of the teachers who have undertaken Professional Development Program about ICT in the various areas. 91.91 percent teachers have responded that, they have undertaken training on introductory course on use of internet and general applications. 86.38 Percent teachers have responded that, they have undertaken Personal learning about ICT in own time. 81.70 percent teachers have opined that they have undertaken other professional development opportunities related to ICT. 74.04 percent teachers have responded that, they have undertaken ICT training provided by the college staff. 69.79 percent teachers have responded that, they have undertaken professional through the participation in online communities. It reveals that majority teachers opined that they have undertaken different professional development training/programmes. Therefore, it is concluded that majority of the teachers have undertaken professional development in the areas such as, Introductory course on use of internet and general applications, Personal learning about ICT in own time, other professional development opportunities related to ICT, ICT training provided by the college staff, and Participation in online communities.

Table 8 Opinion of the teachers regarding use of ICT in Teaching and Its Impact on Students' Learning.

Sr. No.	Use of ICT in teaching and its impact on students' learning.	Frequency	Percentage	Rank
1	Students feel more autonomous in their learning	170	72.34	III
2	Students understand more easily what they learn	179	76.17	II
3	Students remember more easily what they have learned	189	80.43	I
4	ICT facilitates collaborative work between students	169	71.91	IV

Figures in the above table show the classification of opinion of the teachers regarding use of ICT in teaching and

its impact on students' learning. 80.43 percent teachers have opined that use of ICT in teaching and it impacts positively in remembering more easily what they learn. 76.17 percent teachers have opined that students easily understand what they learn. 72.34 percent teachers have opined that sue to use of ICT in teaching, students feel more autonomous in their learning. 71.91percent teachers have opined that use of ICT in teaching facilitates collaborative work between students .Therefore, it is concluded that majority of the teachers have opined that use of ICT in teaching and its impact on students' learning positive.

Table 9: Opinion of the teachers regarding ICT should be used for exercise, retrieve information, collaborative work, and learn autonomously.

Sr. No.	Use of ICT should be used for students for the following	Frequency	Percentage	Rank
1	Exercise and practice	170	72.34	II
2	Retrieve information	179	76.17	I
3	Work in a collaborative way	151	64.26	IV
4	Learn in an autonomous way	163	69.36	III

Above table shows the classification of opinion of the teachers regarding ICT should be used for exercise, retrieve information, collaborative work, and learn autonomously. 76.17 percent teachers have opined that ICT should be used to retrieve information, 27.34 percent teachers have pined that ICT should be used for exercise and practice, 69.36 percent teachers have opined that ICT should be used to make the students to learn autonomously, and 64.26 percent teachers have opined that ICT should be used to work in collaborative way in the teaching and learning process.

Therefore, it is concluded that majority of the teachers have opined that ICT should be used for exercise, retrieve information, collaborative work, and learn autonomously.

Table 10: Opinion of the teachers regarding use of ICT positively impacts on students' motivation and achievement.

Sr. No.	Use of ICT positively impacts on students for the following	Frequency	Percentage
1	Motivation	219	93.19
2	Achievement	214	91.06



The figures in the above table show the opinion of the teachers regarding the use of ICT positively impacts on students' motivation and achievement. 93.19 percent teachers have opined that there is positive impact of use of ICT on students' motivation in the learning. Similarly, 91.06 percent teachers have opined that there is positive impact of use of ICT on students' achievement. It reveals that almost all the respondents opined that the use ICT positively impacts on students' motivation and achievement. Therefore, it is concluded that use of ICT positively impacts on students' motivation and achievement.

Table 11: Response of the teachers about the availability technical support regarding ICT when needed in learning process to the students.

Sr. No.	Nature of Response	Frequency	Percentage
1	Yes	112	47.65
2	No	123	52.35
Total		235	100

The figures in the above table show response of the teachers about the availability technical support regarding ICT when needed in learning process to the students. 52.35 percent teachers have opined that students are not provided with the technical support regarding ICT when needed in learning process by the college. It reveals that majority of the respondents have opined students are not provided with the technical support regarding ICT when needed in learning process by the college. Therefore, it is concluded majority of the students are not provided with the technical support regarding ICT when needed in learning process by the college.

V CONCLUSIONS

1. The teachers in the colleges have their personal computers with internet facility.
2. The facility of LMS, VLE, and e-portfolio system is available in few of the colleges and open for the use of the teachers.
3. Majority of the colleges have organised the training programmes about the use of ICT for teachers during last three years.
4. The extent of the ICT courses in technological skill is provided in few colleges.
5. Teachers are not provided with technical support regarding ICT at the college.
6. Majority colleges have not supplied the ICT devices such as tablet PC, notebook by the college for teaching purpose.
7. The teachers feel that there is great impact of use of ICT in teaching learning process.
8. The teachers have undertaken professional development in the areas such as, Introductory course on use of internet

and general applications, Personal learning about ICT in own time, other professional development opportunities related to ICT, ICT training provided by the college staff, and Participation in online communities. However, it is not reflected into the practice due to the lack of the infrastructural facilities.

9. The teachers' attitude towards use of ICT in teaching and its impact on students' learning is positive.

10. The teachers opined that ICT should be used in teaching and learning process, for the students; for the exercise, to retrieve information, to undertake collaborative work, and to learn autonomously.

11. Use of ICT positively impacts on students' motivation and achievement.

Students are not provided with the technical support regarding ICT when needed in learning process by the college.

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