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CHAPTER 7
FINDINGS; SUGGESTIONS AND CONCLUSION

7.1 Introduction

The researcher has attempted study of effect of implementation of ICT in management institutes and colleges in Sangli city. Researcher has arrived few findings may invite attention of Management Institutions and Colleges.

7.2 General Findings

Following are the general findings based on overall experience of researcher during personal interaction with respondents.

1. 80% institution doesn't have sufficient ICT infrastructure even institution doesn't have ICT interactive whiteboards only have a simple white board which was used for LCD teaching sessions.

2. Less than 50% institution provides classroom live training session as ICT training to the teacher's employees.

3. 57.1% teachers feel difficulties in use of ICT in teaching process.

4. 51% students enjoyed ICT teaching more than traditional black board teaching methods.

7.3 Specific Findings

Specific findings are drawn from the analysis are as follows:

Part I

1. 100% teacher's respondents are Post Graduate. 25% respondent have completed M.Com and MCA degree, 28.6% respondent have completed MBA, 7.1% respondent have completed MCM and 14.3% respondent have completed M.Sc. degree

42.9% respondents have experience of 0 to 5 years.25% respondents are having 6 to 10 years experience, 10.7% respondents are having experience 11 to 15 years.14.3% respondents are having 16 to 20 years experience and 7.2% respondents have 21 to more than 25 years experience. (Table No 6.1)

2. Table 6.2 shows the profile of student respondents. Out of total Respondents, 56.67 % are under graduate and 43.33% are post graduate samples respectively. 20% respondents are studying in BCA course, 23.33% are studying in BBA course, and 13.33% students are studying in MCA, B.Com, and M.Com course. And 16.67% are in MBA course.

Part II

1. **College A** has 80 computers and 3 LCDs for teaching and learning practices. 2 ICT labs for student use with internet connection but there was no interactive white boards as well as laptop in the College. Table 6.3

2. **College B** has 100 computers, 10 laptops and 4 LCDs for teaching and learning practices. 3 ICT labs for student use with internet connection but there was no interactive white boards in the College. Table 6.4

3. **College C** has 150 computers, 2 laptops and 8 LCDs for teaching and learning practices. 3 ICT labs for student use with internet connection but there was no interactive white boards in the College. Table 6.5

4. **College D** has 60 computers and 2 LCDs for teaching and learning practices. 1 ICT labs for student use with internet connection but there was no interactive white boards as well as laptops in the College. Table 6.6

5. **College E** has 60 computers and 1 LCD for teaching and learning practices. 1 ICT labs for student use with internet connection but there was no interactive white boards as well as laptops in the College. Table 6.7

Part III

A: Expected and observed Infrastructure provided by Institute / Colleges.

1. **Computers for teachers use** : From Table 6.20 researcher found that there are 1,0,4,0,1 computers are allotted for teachers use in college A,B,C,D and E respectively, But expected computers are 6,15,28,12,6 . Therefore college A, B, C, D and E have to implement extra 5,15,24,12 and 5 computers for teachers use respectively.

2. **Computers for classroom use** : From Table 6.23 researcher found that there are 2,0,4,1,1 computers are allotted for classroom use in college A,B,C,D and E respectively, But expected computers are 8,8,13,10,2 . Therefore college A, B, C, D and E have to implement extra 6,8,9,9 and 1 computer for classroom use respectively.

3. **Computers for students use:** From Table 6.26 researcher found that college A, C and D have to implement extra 110,140 and 70 computer for students use respectively.

4 **LCDs:** From Table 6.28 researcher found that college A, C, D and E have to implement extra 4, 3, 3 and 1 LCDs for teaching and learning purpose respectively.

5. **Printer for use:** From Table 6.31 researcher found that college A, C and D have to implement extra 11, 12 and 6 Printer respectively.

From Table 6.33. It is observed that there is difference between expected and observed infrastructure. For successful implementation of ICT in teaching and learning required sufficient number of computers for teachers and student use, every classroom should have one LCD and at least one computer connected. For conducting a lecture through ICT and changing traditional classroom teaching towards more students centric, every college should provide expected infrastructure. Hence, it is concluded that Implementation of ICT in teaching and learning depends upon infrastructure provided.

B : Cost required for Infrastructure

From Table 6.44 and 6.46it is observed that there is difference between observed and expected physical equipment investment and software license investment.

H_1 is accepted and H_0 is rejected

Hence, it is concluded that Implementation of ICT in teaching and learning depends upon financial support. **Therefore a sufficient financial support is not available for creating infrastructure of ICT.Is accepted**

Part IV

1   Table 6.48 shows Teaching Methodology used by sample respondents.

Computer Bases Teaching via CD-ROM, Classroom whiteboard teaching session, Call Visitor expert teachers, Online Teaching via Internet / World Wide Web have ranked 1st, 2nd, 3rd and 4th with mean 2 679, 2.571 , 2.536 and 2.250 respectively. Respondents have given 5^{th,} 6th and 7th ranks to Computer Based Games or Simulations, Teleconferencing/Video Conferencing and Video Tapes /Audiocassettes with means 1.964, 1 107 and 1.071 respectively.

Respondents are used the CD-ROM and Whiteboard teaching methods to teaching the target class and also call the visitor expert teachers. But respondents are less confident with Computer Based Games or Simulations, Teleconferencing/Video Conferencing and Video Tapes /Audiocassettes teaching methods.

2. From this survey, researcher was found that only 12 teachers out of 28 sample uses the computer for preparing their own teaching material and out of 28 sample only 15 teacher's uses computer for lesson delivery is as shown in diagram 6.1

3. Out of 15 teachers who uses computer for lesson delivery, only 12 teachers create their own teaching material and 3 teachers' uses downloaded material. From study researcher was founded that only 12 teachers was comfortable with ICT teaching, they doesn't required ICT training regarding to lesson preparation and lesson delivery. But 3 teachers who use computer only for lesson delivery needed ICT training for lesson preparation. At the end of this discursion, total 16 teachers requested for ICT training regarding to lesson preparation and lesson delivery as shown in Table 6.49

4. Most of the time institution / Colleges use Computerized Self-Study Programs and Public Seminars or Conference for providing training to the teachers. rarely or called never use Teleconferencing/Video Conferencing, Classroom Live training session and Computer Based Games or Simulations for training purpose as shown in **Diagram 6.4**

Part V

From Table 6.55 and 6.56 there is neutral opinion of teachers who doesn't use ICT for teaching about ICT teaching and teaching without ICT.(From Table 6.55)

According to ICT user, ICT teaching is effective (From Table 6.55), If there is no difference between the opinion of user and non user of ICT about ICT teaching it means both user are agree with effectiveness of ICT in teaching process **(From Table 6.56)** And if there is neutral opinion of user and non user of ICT about teaching without ICT, it means both users are disagree with effectiveness of teaching without ICT**(From Table 6.56)**.

From above discussion researcher found that ICT user and non user are agree on ICT teaching is effective than teaching without ICT. As a result the teachers who don't use ICT should use ICT for teaching process.

Part VI

Table 6.61 shows according to teachers who use and who doesn't use ICT for teaching: ICT learning is effective as compare to learning without ICT.

From Table 6.62 it is observed that there is agreement similar opinion about the consequences of using ICT in learning process among the user and non user of ICT, where as similarity of opinion are observed about benefits of using ICT in learning and differences of opinion are observed about learning without ICT among user and non user of ICT .From above discussion researcher found that ICT learning is effective than learning without ICT, as a result the management colleges and institution should provide sufficient ICT infrastructures to the students for learning process. Teachers who don't use ICT for teaching should use ICT for teaching; it will change classroom teaching towards the more learner-centric education system.

Part VII

1   From (Table 6.63, 6.65, 6.67),researcher conclude that time required for lesson preparation for ICT teaching is more but lesson delivery time is less as compare to black board teaching. If once teacher create their own digital teaching material, they won't required time for preparing same lesson again and again, they can send these teaching material to their student at anytime and anywhere, that is ICT teaching material created by once can be used again and again whenever required without wasting time. Finally researcher concludes that the ICT reduce teaching time.

2.   From Table 6.80 it is observed that there is agreement similar opinion of BCA and MCA students about ICT reduces learning time , BCA and MCA students use ICT lab more than other student's i.e.6 hours in a week because they have an IT subjects and most of the time teachers teaches them with ICT. They always use online digital learning material, online coding from internet therefore according to them ICT reduces learning time. BBA and B.Com students have similar opinion about ICT reduces learning time, BBA students use ICT lab for 2 hr in a, week and B.Com students rarely use ICT lab for making presentation,

MBA and M.Com students have similar opinion. MBA students use ICT lab for 2 hr. in a week and M.Com students use rarely.MBA and M.Com student mostly teaches by traditional teaching methods, they don't have technical subjects which required compulsory ICT lab, but they may have a presentation and seminar, whenever they have assignment of presentation or seminar, as per requirement they uses ICT lab for making presentation .According to them, ICT learning and traditional learning process takes similar time

From above discussion researcher found that ICT reduces learning time, as a result the management colleges and institution should provide sufficient ICT infrastructures to the students for learning process. Every student should use ICT lab for weekly 6 hr.

Part VIII

1   Table 6.93 shows a Pearson rank correlation analysis was conducted to examine whether there is relationship between learning with and without ICT. Researcher found that according to BCA, MCA, BBA and MBA students, learning with ICT is effective as compare to learning without ICT.

Only B.Com and M.Com students agree on both learning methods are equally effective.

2. From Table 6.94. Researcher found that 27 7% students enjoyed ICT interactive teaching a lot and 21.7% students enjoyed traditional black board teaching. Totally 51 % student enjoyed ICT teaching methods and 35% enjoyed black board teaching process. 65 % students little enjoyed or say never enjoyed a black board teaching and 49 % students little or say never enjoyed ICT teaching. From this survey researcher found that student more enjoyed ICT teaching than traditional black board teaching as shown in diagram 6.11

Part IX

1. From Diagram 6.12, Researcher found that 75% teachers agree with ICT should be a vital component of the country's strategic plan. 96.4% teachers agree with ICT could make college or institute more productive. 60.7 % teachers agree with ICT could increase college or institute admissions. 60.7 % teachers agree with ICT could increase college or institute admissions. At the same time 60.7 % teachers agree with ICT could improve achievement rates. 78.6 % teachers agree on ICT can have a big contribution to the learning/teaching practice for the institution. 85.7 % teachers agree on ICT can have a big contribution to the development of the country. 57.1 % teachers agree on ICT should be a vital component of the country's strategic plan. From this survey researcher found that teachers opinions about effect of ICT on Institute Management and on Social Aspect is very positive as shown in diagram 6.12

7.4 Suggestions

1. To proper implementation of ICT in teaching and learning process , should have sufficient infrastructure facility, College should provide required ICT infrastructure

2. More than 50 % teachers are requested for ICT training regarding to lesson preparation and lesson delivery. Hence colleges should provide required ICT training to the teachers.

3. College should motivate teachers to create their own teaching material instate of using downloaded material from internet.

4. There are very poor teachers and computer ratio. If institution provide computer to each teacher, then they could use computer for lesson preparation and teaching process. There should be 1 computer assigned for 1 teacher for better implementation of ICT in teaching learning process.

5. Institution should connect computer and LCD in the each class. It will reduce the connectivity time and teachers can use it for lesson delivery without wasting time. Computer connected in the class motivate teachers to conduct lecture through ICT, teacher who doesn't use ICT will try harder and at least starting to conduct lecture through ICT.

6. For better implementation of ICT in learning process, institution should increases the number of computer and should be providing computer more than 5 hr for each student use.

7. Researcher found that ICT teaching is effective than teaching without ICT. As a result the teachers who don't use ICT should use ICT for teaching process.

8. Researcher found that ICT learning is effective than learning without ICT, as a result the management Colleges and institution should provide sufficient ICT infrastructures and internet to the students for learning process.

9. Institution should increases the number of printers and should maintain the number of printer =10 % of expected computers

10. The sufficient financial support is not available for creating infrastructure of ICT, for implementation of ICT in commerce and management study, colleges should provide sufficient finance.

11. From this survey researcher found that teacher's opinion about effect of ICT on Institute management and on social aspect is very positive. Therefore every educational system should accept the changes of Information Communication Technology for better and positive effect.

7.5 Conclusion

This study has made an attempt to identify the effect of implementation of ICT in teaching learning process in management Colleges in Sangli city. In demographic profile of sample teachers, Gender, Educational Qualification, Age, Experience have been studied. Teachers and students opinion about teaching and learning with ICT and without ICT have been studied. Hypothesis in this regard has been set to test to reach conclusion. It showed that student enjoy ICT teaching and learning process.

Therefore, the study is important to find out factors which can create barrier in implementation of ICT in teaching and learning, it is hoped that the study findings will have some useful managerial implication for the management Colleges.