

ICT education in Ruler Area using Effective Learning Model and Analysis for improvement of Teaching learning Process in Selected schools

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Abstract—World is moving rapidly into digital media and information. The role of ICT in education is becoming more and more important in school education.

Implementation ICT various growth in education field like Student also Teacher get more confidential in his school also benefited his real life it can be beneficial in social environment also To improve overall performance of a system and faster response time, many systems allow multiple users to update the data simultaneously. In such environment, interaction of concurrent updates may result inconsistent data.

In this paper, a research has tried to focus on effective use of ICT learning model for Education, along with ICT use in the teaching learning process; quality and accessibility of education and learning motivation in schools of rural area. It is seen ICT and scholastic performance of Government schools are poor as compared to private schools.

Researcher surveyed in 12 taluka and contacted with 383 students. Majority of respondents belongs from Patan (63), Karad (50), Satara (47), Phaltan (41)Man (36) and rest from other taluka.

Keywords—ICT, scholastic performance, Data Analysis and interpretation

I. INTRODUCTION

In dynamic world computer is must researchers focus in this paper we reviewed the empirical studies that connect EPL with changes in teaching practices and student learning. This focus clearly limited the scope of the review as few published studies have looked at the impact of learning on teacher practice or student learning. However, studies which have been done clearly demonstrate that a learning community model can have positive impact on both teachers and students. Just as important, our act of interpreting the literature has led us to draw conclusions that are significant to future research.

Objective of Research Paper

Following are the objectives of the research paper

The research work is concerned with the prime objective of identifying the various problems and solution thereof in schools education using ICT. The major objectives of the proposed research are:

- 1) To study the present scenario of ICT implementation in selected schools in Satara District of Maharashtra.
- 2) To identify the problems faced during ICT implementation in the selected schools.
- 3) To analyze the effective of ICT implementation in the selected schools.
- 4) To develop a working model for efficient and effective ICT implementation in schools education.
 - 1) To suggest measures for effective implementation of ICT in Schools.

Hypotheses of the study:

- 1) The researcher has set out the following hypotheses:
- 2) ICT helps to enhance innovative learning and self-study of the students.
- 3) The availability of ICT infrastructure affects the teaching learning process.
- 4) There is significant difference in the level of ICT implementation in Private and Government schools.
- 5) Computer aided instruction brings clarity of concepts

Research Design

Researcher has selected secondary schools from Satara district using stratified random sampling method, strata has been defined using medium of school (Marathi,Urdu,and English).

The Satara district consists of 11 talukas namely Jaoli, Karad, Khandala, Khatav, Koregaon, Mahabaleshwar, Man, Patan, Phaltan, Satara, Wai.

Researcher has selected English, Urdu and Marathi medium secondary schools from all talukas for study purpose.

Fig: 1: Present Status of Satara District: in ICT Awareness

SR. NO	TALUKA NAME	TOTAL NO OF SCHOOLS	TOTAL NO OF SECONDARY SCHOOLS	POPULATION OF SECONDARY SCHOOL (9 TH AND 10 TH STANDARD)		
				MARATHI	URDU	ENGLISH
1	JAOLI	250	30	28	00	02

2	KARAD	510	118	99	03	16
3	KHANDALA	168	32	28	00	04
4	KHATAV	340	69	65	00	04
5	KOREGAON	270	59	56	00	03
6	MAHABALESHWAR	184	47	14	01	32
7	MAN	355	65	64	00	01
8	PATAN	627	67	64	00	03
9	PHALTAN	412	73	69	00	04
10	SATARA	484	110	89	01	20
11	WAI	254	45	38	01	06
TOTAL		3854	715	614	06	95

Source: From Zilla Parishid, Satara.and ps karad

Sample Size according to stratified random sampling method:

1. School

Population (schools in satara District) = 3854

Population (secondary schools in satara District) = 715

Sample Size calculated with 95% Confidence and 5% Margin of Error

Strata 1 (Marathi Medium Schools)

Population of strata 1 = 614

Sample Size of strata 1 = 237

Strata 2 (Urdu Medium Schools)

Population of strata 2 = 6

Sample Size of strata 2 = 6

Strata 3 (English Medium Schools)

Population of strata 3 = 95

Sample Size of strata 3 = 76

Total sample size of school is =

(strata 1+ Strata 2+ Strata 3) = 250

1. Student

Population (secondary schools students in satara District) = 137655

Sample Size calculated with 95% Confidence and 5% Margin of Error

Sample Size of Students = 383

Strata 1 (Marathi Medium Schools)

Population of strata 1 = 117929

Sample Size of strata 1 = 328

Strata 2 (Urdu Medium Schools)

Population of strata 2 = 1124

Sample Size of strata 2 = 3

Strata 3 (English Medium Schools)

Population of strata 3 = 18602

Sample Size of strata 3 = 52

Total sample size of school is =

(strata 1+ Strata 2+ Strata 3) = 383

2. Teacher

Population (secondary schools Teachers in satara District) = 5266

Sample Size calculated with 95% Confidence and 5% Margin of Error

Sample Size of Teacher = 358

Strata 1 (Marathi Medium Students)

Population of strata 1 = 4492

Sample Size of strata 1 = 305

Strata 2 (Urdu Medium Schools)

Population of strata 2 = 39

Sample Size of strata 2 = 3

Strata 3 (English Medium Schools)

Population of strata 3 = 735

Sample Size of strata 3 = 50

Total sample size of Teacher is =

(strata 1+ Strata 2+ Strata 3)=358

3. Administrative staff

Population (secondary schools Administrative Staff in satara District) = 1244

Sample Size calculated with 95% Confidence and 5% Margin of Error

Sample Size of Administrative staff = 294

Strata 1 (Marathi Medium Schools)

Population of strata 1 = 1174

Sample Size of strata 1 = 277

Strata 2 (Urdu Medium Schools)

Population of strata 2 = 12

Sample Size of strata 2 = 3

Strata 3 (English Medium Schools)

Population of strata 3 = 58

Sample Size of strata 3 = 14

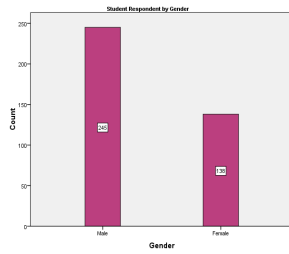
Total sample size of school is =

(strata 1+ Strata 2+ Strata 3) = 294

Developed Module;

In the education sector education is developed, there are six ways in which we can use ICT to improve education, following are the six areas as under:-

Respondent Type	Number	%
Marathi	910	87.9
Urdu	9	0.9
English	116	11.2
Total	1035	100.0



It can be seen in Table 1 the description of respondents sample according to the following categories: student, teacher and administrator. The highest percentage is for those who belongs to student category (37%) and the Teacher percentage is 34.6% and Administrator percentage is 28.4% respectively. The sample of present study comprises the student, teacher and administrator.

Q: No: 2 Distribution of sample by Medium of school?

Researcher had contacted 1035 schools for Primary data collection which comprises 87.9% Marathi Medium, 0.9% Urdu Medium and 11.2% English Medium.

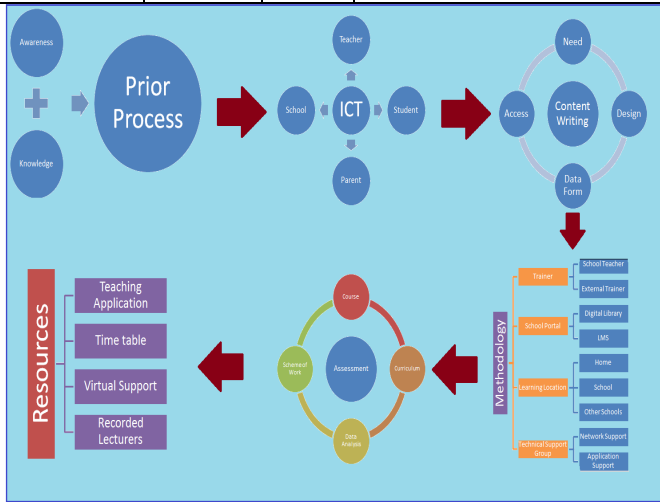


Fig: Dynamic Learning Model

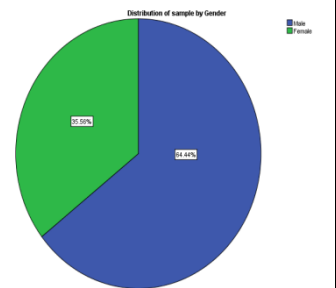
EPL Model is divided in six entity researcher is explaining in detail:-

In this model main entity is ICT, Content writing, Methodology ,Awareness, and Resources is very important each entity is dependent upon each other .we discuss one by one entity

In first step of model candidate in teaching learning process must require knowledge and awareness of the subject. In every school it is essential to use ICT for internal

Q: No: 3 Distribution of sample by Gender?

Gender	Number	%
Male	667	64.4
Female	368	35.6
Total	1035	100.0



It is notable from the table no. 3 that sample was 1035, formed by 667 males (64.4%) and 368 female

Sample Distribution of student

- 1) by Gender
- 2) by Taluka
- 3) by Medium of school

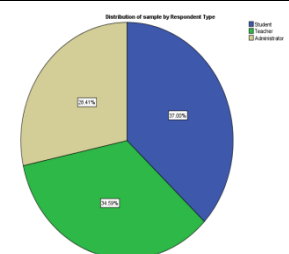
Q: No: 1 Student Respondent by Gender

Table No.1 Analysis of Gender

Gender	Distribution of Respondents	
	Frequency	Percentage
Male	245	63.96
Female	138	36.03
Total	383	100

Gender is an important variable in a given Indian social situation which is variably affected by any social or economic phenomenon and globalization is not an exception

Respondent Type	Number	%
Student	383	37.0
Teacher	358	34.6
Administrator	294	28.4
Total	1035	100.0



and external trainer, school portal, digital library and LMS (), learning locations and technical support group.

II. DATA ANALYSIS AND INTERPRETATION

Sample Distribution of

All((Stakeholder)(Student,Teacher,Administrator))

- 1) by Respondent Type
- 2) by Medium of school
- 3) by Gender

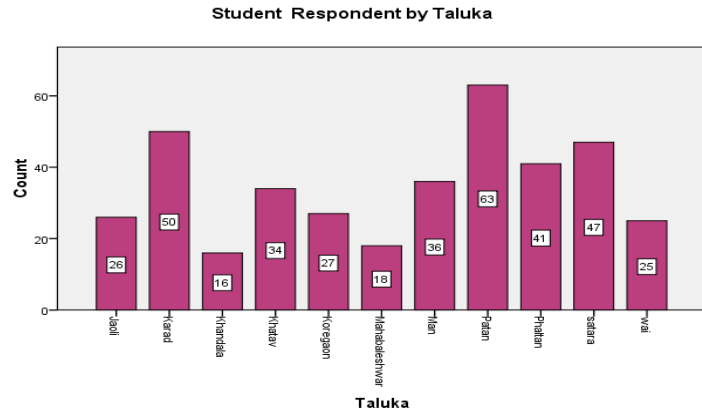
Q: 1 Distribution of sample by Respondent Type?

to it. Hence the variable gender was investigated for this study. Data related to gender of the respondents is presented in the Table 1. It is quite clear that out of the total respondents investigated for this study, overwhelming majority (63.96 %) of them were males whereas about 36.03 per cent female respondents included in the sample.

Graph 1: Distribution of Respondents by Sex

Taluka	Frequency
Jaoli	26
Karad	50
Khandala	16
Khatav	34
Koregaon	27
Mahabaleshwar	18
Man	36
Patan	63
Phaltan	41
Satara	47
wai	25
Total	383

Q: No: 2 Student Respondents by Taluka Table No.2 Distribution of Respondents By Taluka



Q: No: 3 Respondent by Medium of school Description of Student and category of school on the basis of medium

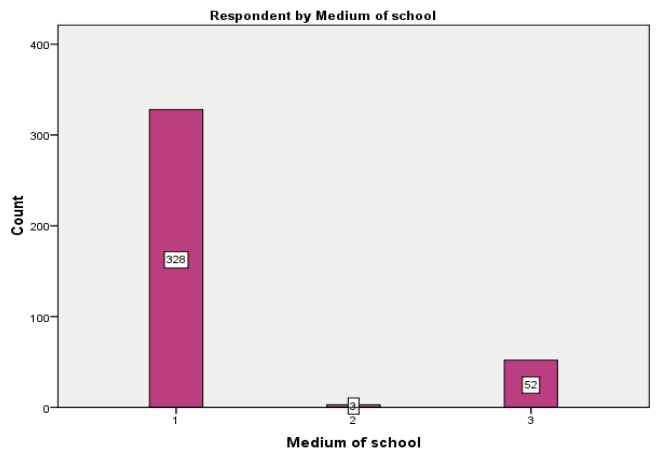
Table No.3:

Medium of school	Frequency	Percentage
Marathi	328	85.63
Urdu	3	0.78
English	52	13.57
Total	383	100

Table No. 3 shows the description of school on the basis of medium and number of students from different medium. It is notable from the table that high proportion of students belongs to Marathi medium with 85.63% followed by 0.78% Urdu and 13.57 English medium schools.

Table No. 2 indicates the distribution of respondents on the basis of taluka covered by researcher. Researcher surveyed in 12 taluka and contacted with 383 students. Majority of respondents belongs from Patan (63), Karad (50), Satara (47), Phaltan (41) Man (36) and rest from other taluka.

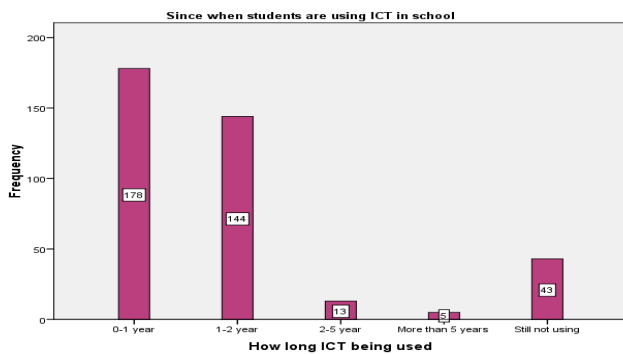
Graph. No.2



Q.4 Table No.4 Description of ICT usage

Number of Year	How long ICT being used	
	Frequency	Percent
0-1 Year	178	46.5
1-2 Year	144	37.6
2-5 Year	13	3.4
More than 5 year	5	1.3
Still not using	43	11.2
Total	383	100.0

Researcher conducted the survey research on the use of ICT usage by students this question aimed to evaluate ICT use by students. Responses showed that 178 (46.5%) respondents use ICT between 0-1 year, 144 (37.6%) respondents were using ICT between 1-2 year, 13 (3.4%) were using since last 2-5 years and only 1.3% respondents reported that they were using ICT with more than 5 year. Data further reveals that out of 383 sample respondents 43 (11.2%) respondents had never used the ICT which shows the level of illiteracy towards ICT among the respondents.



III. CONCLUSION

It is concluded that according to student gender quite clear that out of the total respondents investigated for this study, overwhelming majority of the male and female is the less compare to male.

Researcher had contacted 1035 schools for Primary data collection which comprises 87.9% Marathi Medium, 0.9% Urdu Medium and 11.2% English Medium. Also the description of respondents sample according to the following categories: student, teacher and administrator. The highest percentage is for those who belongs to student category (37%)

Researcher surveyed in 12 taluka and contacted with 383 students. Majority of respondents belongs from Patan (63), Karad (50), Satara (47), Phaltan (41)Man (36) and rest from other taluka.

The basis of medium and number of students from different medium. It is notable from the table that high proportion of students belongs to Marathi medium with 85.63% followed by 0.78% Urdu and 13.57 English medium schools.

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A question was asked to analyze the management opinion on the cost aspect if ICT is implemented in their school.. Data shows that majority of respondents 258 (67.4%) were positive for ICT implementation and don not think that this is costly affair for school management.

References:

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3. <http://www.gesci.org/> , date 10 Jan 2015
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ANNEXURE -I

QUESTIONNAIRE FOR A CRITICAL STUDY OF ICT IMPLEMENTATION IN SCHOOL EDUCATION
WITH SPECIAL REFERENCE TO SELECTED SCHOOLS OF SATARA DISTRICT**Notes:**

The contents of this form will be treated as strictly confidential.

The information given will be used only for academic purposes.

Please tick mark appropriate boxes.

Please write required information in the appropriate boxes.

Medium of School: Marathi / Urdu / English **Taluka:** _____

Name of Respondent: _____

Respondent Type: Student / Teacher / Administrative Staff

Name of School: _____

Gender: Male / Female

Q. 1: Does your school have ICT Infrastructure?

Answer 1: YES NO

If 'YES' proceed to question No. 2. If NO then skip question Nos. 2,3 proceed to question No.4.

Q. 2: Select the ICT devices available in your school?

Q. No	Particular	Yes	No	Number of Devices
1	Computer	<input type="checkbox"/>	<input type="checkbox"/>	
2	Printer	<input type="checkbox"/>	<input type="checkbox"/>	
3	Scanner	<input type="checkbox"/>	<input type="checkbox"/>	
4	Web-Camera	<input type="checkbox"/>	<input type="checkbox"/>	
5	Head Phone	<input type="checkbox"/>	<input type="checkbox"/>	
6	Projector	<input type="checkbox"/>	<input type="checkbox"/>	
7	Sound System	<input type="checkbox"/>	<input type="checkbox"/>	
8	Barcode Reader	<input type="checkbox"/>	<input type="checkbox"/>	
9	Internet	<input type="checkbox"/>	<input type="checkbox"/>	
10	Learning Management System	<input type="checkbox"/>	<input type="checkbox"/>	
11	Virtual Classroom	<input type="checkbox"/>	<input type="checkbox"/>	

Q. 3: Since when are you using ICT in School?

Answer 3: 0-1 Year 1-2 Year

2-5 Year More than 5 years

Q. 4: Do you think that ICT implementation is costly for school management

Answer 4: Yes No

Q. 5: Have you completed any computer course?

Answer 5: Yes No

If 'YES' proceed to question No. 6. If NO then proceed to question No.7

Q. 6: Which computer course you have completed?

Answer 6: Specify _____

Q. 7: Have you been trained to use the ICT?

Answer 7: Yes No

Q. 8: Which type of training was provided to you for using the software?

Answer 8: Basic System Administrator

Troubleshooting Other _____

Q. 9: Are training programs are arranged as and when needed by the school?

Answer 9: Yes No

Q. 10: Are you facing any problem with the ICT?

Answer 10: Yes No

If 'YES' proceed to question No. 11. If NO then skip question No.11.

Q. 11: What kind of problems do you face with the ICT?

Answer 11: Operational Maintenance

other- specify _____

Only for Administrative staff

Note: Rate the present system using five points scaling, a rating scale ranging from 0 to 4

0- Strongly Disagree, 1 -Disagree , 2 –Cant say, 3 –Agree, 4 –Strongly Agree

Q. No	Particular	0	1	2	3	4
12	ICT helps in maintaining and ease of Admission Process	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
13	ICT is helpful in Maintaining records of students	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
14	ICT helps in providing the timely information and documents to the student	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
15	Effectiveness of Stock management of school inventory is increased due to ICT Implementation.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
16	Impact of ICT Implementation is on effective utilization of library resources	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
17	ICT helps in enhancing efficiency of staff member	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Only for Student Only

Q. 18: Do you access information resources while lecture listen?

Answer 18: Yes No

Q. 19: Does your school provide computer based training?

Answer 19: Yes No

Q. 20: Whether school arranges lecture through video-conferencing?

Answer 20: Yes No

If 'YES' proceed to question No. 21. If NO then proceed to question No.23.

Q. 21: Do you face any problem with video-conferencing?

Answer 21: Yes No

Q. 22: What kind of problem with video-conferencing?

Answer 22: Image Clarity Sound Quality Speed

Other, Specify

Q. 23: Does your school emphasis on social learning software?

Answer 23: Yes No

Q. 24: Which of the social learning software used by school?

Q. No	Particular	Yes	No
1	Blogs	<input type="checkbox"/>	<input type="checkbox"/>
2	Wikis	<input type="checkbox"/>	<input type="checkbox"/>
3	Podcasts	<input type="checkbox"/>	<input type="checkbox"/>
4	Virtual World	<input type="checkbox"/>	<input type="checkbox"/>
5	Twitter	<input type="checkbox"/>	<input type="checkbox"/>

Q. 25: Does your school use e-assessment for the subject?

Answer 25: Yes No

Only For Teachers

Q. 26: Do you access online information resources while deliver lecture ?

Answer 26: Yes No

Q. 27: Have you taken lecture through video-conferencing?

Answer 27: Yes No

If 'YES' proceed to question No. 28. If NO then proceed to question No.30.

Q. 28: Do you face any problem with video-conferencing?

Answer 28: Yes No

Q. 29: What kind of problem with video-conferencing?

Answer 29: Image Clarity Sound Quality
 Speed Other, Specify _____

Q. 30: Do you emphasis on social learning software?

Answer 30: Yes No

Q. 31: Which social learning software you have used ?

Q. No	Particular	Yes	No
1	Blogs	<input type="checkbox"/>	<input type="checkbox"/>
2	Wikis	<input type="checkbox"/>	<input type="checkbox"/>
3	Podcasts	<input type="checkbox"/>	<input type="checkbox"/>
4	Virtual World	<input type="checkbox"/>	<input type="checkbox"/>
5	Twitter	<input type="checkbox"/>	<input type="checkbox"/>

Q. 32: have you used e-assessment for your subject?

Answer 32: Yes No