

**PREPAREDNESS FOR ONLINE LEARNING IN THE MEDICAL  
COLLEGE OF MADHYA PRADESH**

**Dissertation  
At  
RuxmanibenDeepchand. Gardi Medical College,  
Ujjain**

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**Under the guidance of  
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**TO WHOMSOEVER MAY CONCERN**

This is to certify that Dr Anuja Lahiri student of MBA Hospital and Health Management from IIHMR University, Jaipur has undergone internship training at RD Gardi Medical College, Ujjain from 2<sup>nd</sup> Feb 2015 to 12<sup>th</sup> May 2015

The Candidate has successfully carried out the study designated to her during internship training and her approach to the study has been sincere, scientific and analytical.

The Internship is in fulfillment of the course requirements.

I wish her all success in all her future endeavors.



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# Ruxmaniben Deepchand Gardi Medical College

Unit of

Ujjain Charitable Trust Hospital & Research Centre

ARCADE/2266/15  
Date-13/05/2015

## To Whom Ever It May Concern

This certificate is awarded to **Dr. Anuja Lahiri** in recognition of having successfully completed her internship in the department of Public Health, R.D. Gardi Medical College, Ujjain. She has successfully completed her Project on "**Preparedness for Online Learning in the Medical Colleges of Madhya Pradesh**" from February 2, 2015 to May 12, 2015.

She comes across as a committed, sincere & diligent person who has a strong drive & zeal for learning. We wish her all the best for future endeavours

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**CERTIFICATE BY SCHOLAR**

This is to certify that the dissertation titled **“Preparedness for online learning in the medical colleges of Madhya Pradesh”** submitted by Dr Anuja Lahiri, Enrollment No. 1419 under the supervision of Prof. Anoop Khanna for award of MBA Hospital and Health Management of the IIHMR university carried out during the period from 2<sup>nd</sup> Feb 2015 to 12<sup>th</sup> May 2015 embodies my original work and has not formed the basis for the award of any degree, diploma associate ship, fellowship, titles in this or any other Institute or other similar institution of higher learning.



Signature

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## **List of Abbreviations**

|             |                          |
|-------------|--------------------------|
| MP          | Madhya Pradesh           |
| e-learning  | online learning          |
| EAG         | Empowered Action Group   |
| ol          | online                   |
| ppt         | presentation             |
| Asst. Prof. | Assistant Professor      |
| Asso. Prof. | Associate Professor      |
| Diff        | difficult                |
| Lib         | library                  |
| Ava         | available                |
| IT          | Information Technology   |
| LAN         | Local Area Network       |
| WAN         | Wide Area Network        |
| RDGMC       | RD Gardi Medical College |
| GBps        | Giga Bytes per second    |
| MBps        | Mega Bytes per second    |

# **DISSERTATION REPORT**

## **Preparedness of Online Learning in the Medical Colleges of Madhya Pradesh(M.P)**

### **Introduction:**

Madhya Pradesh, located in the heart of India is a member of EAG states. It is not cynical to conclude that achieving the MDG is a goal farfetched for MP. The need of the hour is to develop innovative strategies which can help to improve the health status of this state.

One of the key domains which require special attention in this regard is developing the capacity of the researchers (including faculty members/PG students) of the medical colleges so that they can do quality research work thus providing relevant information to the policymakers for carrying out the needful work. Capacity development of the researchers can be enhanced with the help of online courses along with their traditional classroom learning, available on internet by esteemed universities present around the globe.

The present study focuses on gauging the current level of knowledge, perception, views and acceptance by the faculty members/PG students regarding the online learning. Also what are the various challenges and benefits of online learning as per the study participants. In this regard the study was conducted in eight medical colleges of five districts in MP (Bhopal, Ujjain, Jabalpur, Sagar and Indore).

As this is the generation of internet, online learning will surely be a boom in the coming future. The important domain which needs special focus in this regard is to know the main loopholes in the present system which is hindering the usage of e-learning among the study participants and thinking of the ways to overcome them. Also ensuring that the medical colleges are well equipped with the infrastructure required for e-learning.

## Literature Review:

Madhya Pradesh (MP) comes under Empowered Action Group [EAG] states. The health indicators of MP are very poor and achieving the MDG target by 2015 is paradoxical. In this context there is an urgent need to think out of box and develop strategies by which the health indicators can be improved. One of the important aspect which needs special focus in this regard is research, as to improve health and reduce health inequalities, public policymakers need to find the best solutions to the most burdensome health problems, the best ways to fit these solutions into complex and often overstretched and under resourced health systems, and the best ways to bring about the desired changes in health systems. Systematic reviews can inform public policymaking by providing research-based answers to these questions.[1]

Health research capacity has high value to society. It can provide important information about disease trends and risk factors, outcomes of treatment or public health interventions, functional abilities, patterns of care, and health care costs and use. The different approaches to research provide complementary insights. [2]

In India, there are a total of 381 medical colleges and most of the research has been carried out by a meager 2.5% of colleges, as they contribute 96.0% of total research publications in the year 2007 .Though this inequality of research has not been studied scientifically can be hypothesized that it is due to involvement of not well informed medical professionals. To bridge the information gap will certainly require bringing together medical colleges in the field of research. On analysis of research publications, it was found that most of research work was carried over non-priority health areas of the country, where the health indicators are sound. So, this unguided research leads to growth of ineffective knowledge. This demanded the capacity building of researchers to identify the priority health research areas and to impart the knowledge and skills for research methods to design a sound research protocol [3]

MP has many medical colleges but there is dearth of research in the required arena and in relevant topics in health sector due to lack of capacity of the researchers because of resource crunch and busy schedule of doctors. This problem can be addressed with the use of e-learning. Delivering online courses to researchers requires preparedness of medical colleges. The current study focuses on the same.

e-learning in medical education is a means to an end, rather than the end in itself. Utilizing e-learning can result in greater educational opportunities for students while simultaneously enhancing faculty effectiveness and efficiency. However, this potential of e-learning assumes a certain level of institutional readiness in human and infrastructural resources that is not always present. Institutional readiness for e-learning adoption ensures the alignment of new tools to the educational and economic context.[4]

A developing infrastructure to support e-learning within medical education includes repositories, or digital libraries, to manage access to e-learning materials, consensus on technical standardization, and methods for peer review of these resources. E-learning presents numerous research opportunities for faculty, along with continuing challenges for documenting scholarship. Innovations in e-learning technologies point toward a revolution in education, allowing learning to be individualized (adaptive learning), enhancing learners' interactions with others (collaborative learning), and transforming the role of the teacher. The integration of e-learning into medical education can catalyze the shift toward applying adult learning theory, where educators will no longer serve mainly as the distributors of content, but will become more involved as facilitators of learning and assessors of competency.[5]

## **Rationale**

Previous studies as mentioned above clearly depicts that online learning is important and requires readiness of the medical institutions in terms of infrastructure and human resource but till date and to the best of our knowledge no study is conducted which highlights the preparedness of medical colleges of MP for online learning courses. The current study focuses predominantly on this gap.

## **Research question**

What is the level of preparedness of online learning in the medical colleges of MP?

## **Objectives**

1. To study usage of online learning courses by the study participants
2. To explore perception and acceptance of e-learning among the participants.
3. To study availability of infrastructure for online learning in the medical colleges of MP

## **Methodology:**

### **Study area**

This study is done in medical colleges of MP in five cities (Bhopal, Ujjain, Jabalpur, Sagar and Indore). To maintain the confidentiality the names of the eight colleges has been coded from A to H

### **Study participants**

Study participants are the faculty members/PG students of the Community Medicine Department of the medical colleges

### **Study duration**

Study is conducted in a duration of three months (Feb 2,2015- May 12,2015)

### **Sample size**

Based on viability and feasibility consideration

Sample size- 8 medical colleges of MP

- 31 researchers (faculty members/PG students)
- 8 IT operators/administration personnel

## **Sampling technique**

Non-probability sampling is done. In it Purposive sampling method is used

## **Study design**

### **A) For objective 1 and objective 2**

1. To study usage of online learning courses by the study participants
2. To explore perception and acceptance of e-learning among the participants.

Method- Qualitative study

Tool- open ended questionnaire

Analysis- Framework approach to analyze data

### **B) For objective 3**

3. To study availability of infrastructure for online learning in the medical colleges of MP

Method – Quantitative study

Tool- checklist

Analysis- Data tabulation (columns, grids)

## **Data Analysis:**

### **For objective 1 and 2**

The data was collected by using open ended questionnaires and was analyzed with the help of Thematic Framework Analysis. The steps are:

1. Firstly the transcripts were read (from the filled questionnaires) and heard (audiotapes) thoroughly and then the recurring concepts and the ideas were identified inductively from the respondents' responses.
2. This was followed by the identification of main "themes" and "sub-themes"
3. Further the "themes" and "sub-themes" identified were typed to form a "thematic framework" into an electronic list with proper codes.
4. Finally the thematic matrix is filled

### **For objective 3**

Data was collected and was analyzed with the help of column graph. A summary is also prepared on the IT infrastructure using the checklist

## **Results:**

### **A) For objective 1 and 2**

Four themes emerged out after the analysis

#### **a) Knowledge about online learning-**

- no knowledge about it
- facts known
- using internet for reading articles/journals/watching videos, etc
- online courses done

#### **b) Challenges of online learning-**

- internet connectivity/speed
- availability of computers/laptops
- time allocation
- awareness related to online learning
- lack of concentration/engagement/virtual/quality
- lack of incentive/certificate
- duration of the course
- not user friendly with internet/online learning

#### **c) Benefits of online learning-**

- saves time
- no need of physical presence to attend class
- variety/globalization/quality matter
- increase knowledge/skills
- convenient/can pause/repeat
- economical

#### **d) Views on using online learning for future-**

- will use it in future
- will not use it in future

### **Theme 1 knowledge about online learning**

#### **Sub-theme**

##### **a) No knowledge about online learning**

Some participants were totally unaware about online learning and during the study of this research they came to know about it. Quotation supporting this is-

*“no, never heard of online courses”*

**b) Facts known about online learning**

Most of the participants had elementary knowledge that online learning is using internet for the purpose of learning.

*“it is using internet for the purpose of learning”*

**c) Have heard/read articles/journals/videos online**

This question was particularly asked to know that whether the participants use internet for learning purpose. Almost all the participants use internet for reading articles/journals or watching videos online related to their fields.

*“yes, for reading journals, searching data for thesis work, making ppt ,skype”*

**d) Have done any online course**

This question was framed to know that whether the participants have done any online course and if yes then what experience they had.

Out of 31 researchers interviewed from various medical colleges of MP, only 9 did some online course.

*“yes, I have done and also conducted classes referring those materials. I have taken classes through webcam”*

*“no , I dont know much about them”*

**Theme 2 Challenges of online learning**

**Sub-theme**

**a) connectivity/speed of internet**

participants faced a lot of problem with internet connectivity and speed. Some participants even discontinued the course they have started because of problem of internet connection.

*“problem of internet speed”*

*“sometimes connectivity is slow so its annoying”*

**b) availability of laptops/computer**

Few participants mentioned the lack of availability of laptop/desktops as one of the reasons for not doing the online course.

*“we have computers but the number is not sufficient”*

**c) awareness related to online learning**

Many participants were either unaware about online learning concept or were unaware about the various courses available online.

*“dont know much about them”*

**d) lack of concentration/engagement/human touch**

Lack of concentration while doing the online courses was one of the prime reasons for discontinuing the online courses. Some participants felt that were less engaged while pursuing the online course.

*“its virtual, lack of attention and engagement”*

**e) lack of incentive/certificate**

Participants mainly enroll for online learning for the purpose of learning and having the certificates of the courses done by them. In few cases it was observed that even after successful completion of the course they were not awarded with a certificate which acted as a demoralizing factor for them to enroll for further courses in future.

*“we didnt received any certificate though we have done the assignments”*

**f) not user friendly with internet/online course**

Many participants were not very user friendly with internet and preferred traditional/conventional classroom learning over the online learning.

*” not comfortable with computers”*

*“medical people are not user friendly with computers”*

**g) duration of course**

*“it was too long, it was 6 weeks and keeping trace with a six week course is very difficult”*

**h) time allocation**

*“very much occupied in daily activities so taking out time separately is an issue”*

### **Theme 3 Benefits of online learning**

#### **Sub-theme**

##### **a) Time saving**

As the participants don't need to go to attend the classes separately so they listed it as one of the most important benefits as it saved their time

*"provides knowledge in a limited period of time"*

##### **b) No obligation for physical presence in the class**

Another main benefit which they felt is the freedom to attend the online courses from home, office, etc without physically going to the classrooms.

*"can know what is happening sitting at home"*

*"available at our doorstep"*

##### **c) Variety of matter/specialist views/sound quality of study material from all over the world**

Participants listed the advantage of getting expertise views, comments and suggestions from the eminent teaching staff present around the globe.

*"we can communicate with the top most teachers"*

*"well the reach, can access article published by an author of any part of the world"*

##### **d) Enhancing knowledge and skills**

The increase in level of knowledge and skills was also listed as a vital feature of the online courses

*"knowledge which is increased after doing such courses"*

##### **e) can pause/repeat the lectures**

An interesting feature was highlighted by the study participants that in online learning the lectures can be paused and can be repeated many times.

*“they can be done at convenient time and location,can repeat the sessions”*

#### **f) Economical**

Some participants mentioned the fact that online learning is economical, even the medical books which are very expensive otherwise can be referred online for free or with minimum investment.

*“yes off course as it saves time,energy,many books expensive so diff to buy for students in lib,if ava ol then very good”*

#### **Theme 4 Views on using online learning for future**

##### **a) will use online learning in future**

Some participants were very sanguine and were of the opinion of using online learning as a mode for further research/studies

*“yes definitely-access to knowledge,can be managed easily at one's own requirements”*

##### **b) will not use online learning mode in future**

on the contrary to the above mentioned views, some participants were not contented with online learning and clearly mentioned that they will not use online learning in future

*“I dont think as I am more involved when I have a chance to interact face to face”*

|                                          |                                                                     |
|------------------------------------------|---------------------------------------------------------------------|
| Theme 1                                  | Sub-themes                                                          |
| Knowledge about online learning          | - no knowledge about it                                             |
|                                          | - facts known                                                       |
|                                          | - using internet for reading articles/journals/watching videos, etc |
|                                          | - online courses done                                               |
| Theme-2                                  | Sub-Themes                                                          |
| Challenges of online learning            | - internet connectivity/speed                                       |
|                                          | - availability of computers/laptops                                 |
|                                          | - time allocation                                                   |
|                                          | - awareness related to online learning                              |
|                                          | - lack of concentration/engagement/virtual/quality                  |
|                                          | - lack of incentive/certificate                                     |
|                                          | - not user friendly with internet/online course                     |
|                                          | - duration of course                                                |
| Theme-3                                  | Sub-Themes                                                          |
| Benefits of online learning              | - saves time                                                        |
|                                          | - no need of physical presence to attend class                      |
|                                          | - variety/globalization/quality matter                              |
|                                          | - increase knowledge/skills                                         |
|                                          | - convenient/can pause/repeat                                       |
|                                          | - economical                                                        |
|                                          | - saves time                                                        |
|                                          | - no need of physical presence to attend class                      |
| Theme-4                                  | Sub-themes                                                          |
| Views on using online learning in future | - will use in future                                                |
|                                          | - will not use in future                                            |

Table 1

### B) For objective 3

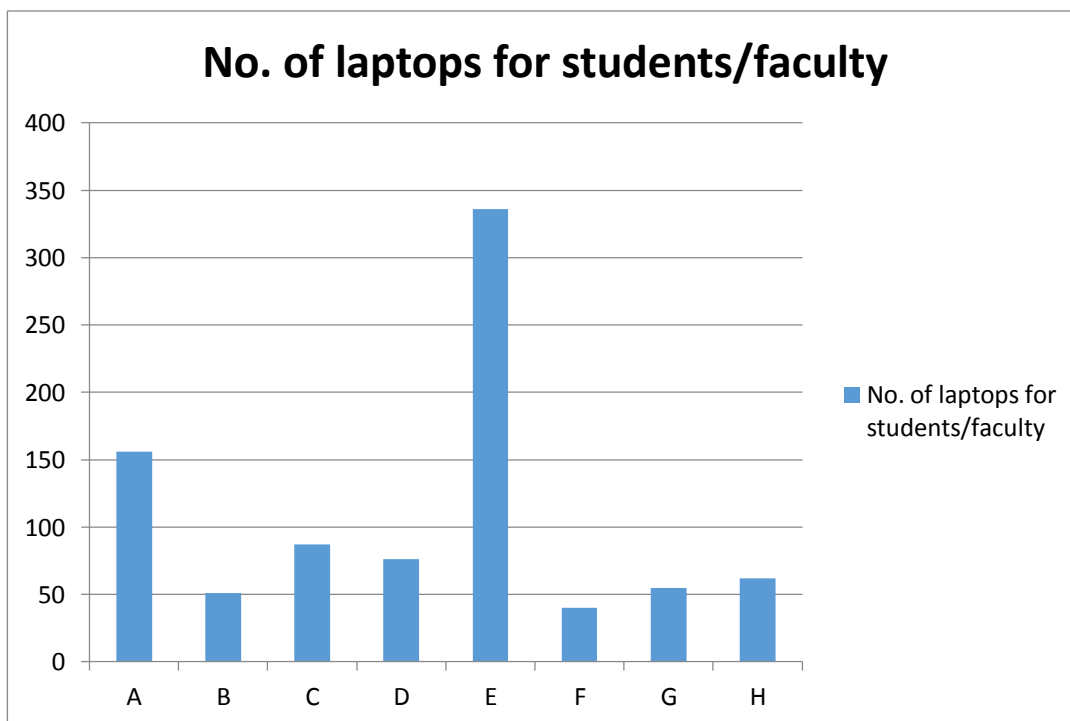


Figure 1 (A-H are the medical colleges)

Summary as per the checklist (out of 8 medical colleges)

| Parameter                     | Facility available (number) | Unavailable (number) |
|-------------------------------|-----------------------------|----------------------|
| Separate IT dept              | 4(A,B,D,G)                  | 4(C,E,F,H)           |
| Lease line                    | 6 (A,B,C,E,F,H)             | 2 (D,G)              |
| LAN                           | 8                           | 0                    |
| Separate net café/digital lib | 4 (A,E,F,H)                 | 4 (B,C,D,G)          |
| Electricity backup/inverter   | 8                           | 0                    |
| Antivirus                     | 8                           | 0                    |
| Login ID/password/firewall    | 8                           | 0                    |

Out of the 8 medical colleges-

- 7 have bandwidth of 1 Gbps ; 1 has bandwidth of 10 Mbps (college F)
- All the medical colleges have the latest version of Windows installed (Windows 7)
- Only medical college E has a separate Videoconferencing room

- Separate IT department is present in four colleges namely A,B,D and G and is not available in four colleges namely C,E,F and H
- Lease line is available in six colleges that is there is a monthly contract between the internet provider and customer. The lease line is always active and ensures good internet connectivity
- Digital library is present in four of the eight colleges which ensures internet availability in the library also
- Electricity backup is available in all the medical colleges
- To ensure the security of the computers/laptops, antivirus is present in all the computers in all the medical colleges. Also firewall and separate login id/password is present in all medical colleges
- IT infrastructure needs a drastic improvement to match the need of the researchers. Except one medical college the other colleges had no provision for videoconferencing.
- Other infrastructure was also not sufficient in quantity like the speakers, webcams , headphones.
- The number of laptops/computers were not adequate except in college E
- Separate person for handling the IT issues should be present in all the colleges
- Broadband width was satisfactory for all the colleges though only four out of the eight medical colleges had a separate IT department to address the issue and problems related to IT.
- All the colleges were stringent when it was the case of maintaining the security and internet breach. Firewall was installed in all the computers
- The lacunae which was seen in most of the colleges was the absence of a digital library or an internet café

## **Conclusion:**

From the above discussion it is clear that the young researchers though don't deny the fact that online learning is important but are not in completely favor of it. As they are more used to pursuing course through conventional and traditional classroom lectures.

They feel the lack of human touch and engagement in online learning which is very well present in conventional classroom lectures. Though many participants listed benefit of the enhancement of knowledge at a click of a button, just at the doorstep but still are a little unsatisfied with the virtual aspect of online learning. They feel that online learning is beneficial only as short and add on courses.

The availability of internet connection is yet another hurdle. Sound internet connection is available at the medical colleges but their the participants are so engaged in their day to day routine activities that they are not in a position to devote time for online learning. Furthermore the internet connection is not that sound when it comes to their personal connection. Surely the number of computers/laptops are less and separate IT wings needs to be installed in each and every medical college.

Online courses can have their impact only if they are well accepted by the students which is possible when students don't face any problem while pursuing course online and when the courses are made more interactive by including online forum discussions, live chats, quick feedback, etc. Further research can be done on the quality of the online courses and how these courses can be made more interactive like the traditional courses so that the participants don't lack the element of "human touch" in the e-courses

## **Ethical considerations:**

Informed consent is taken before starting the interview. Participation in survey is voluntary. If anyone disagrees to become part of the data collection process they will not be forced by any means.

Name of the colleges have been coded (A to H) to maintain the confidentiality.

## **Annexure: Instruments**

Two separate questionnaires were prepared:

1.) to gauge the knowledge, views, perceptions and usage of online learning among the faculty members/students regarding online learning

Do you know about online learning?

What do you know about it?

Have you done any online course? Please share your experience about it?

Do you use internet for reading articles/journals/videos, etc?

What according to you are the challenges of online learning?

What according to you are the benefits of online learning?

Will you use online learning as a mode of further research/study? Why or why not?

2.) to gauge the IT infrastructure available for online learning in the medical colleges.

1. Does the campus has a separate physical space for faculty, staff and students that provides access to internet ?

Probe: computer labs, internet cafe , digital library, IT department, etc

2. Please enumerate the number of computers/laptops available in the IT labs, exclusively for students/faculty for their learning purpose.

3. Does the college have appointed any separate person for handling the IT department?

Probe: his qualification, job responsibilities. If not hired then the reasons behind it.

4. What is the Bandwidth used for the network?

Probe: Kbps, Mbps, Gbps which one used

5. What version of windows is installed in the desktops, computers, etc present in the computer lab/IT department?

Probe: when was windows last updated, the current version used, antivirus installation

6. Is the connection WAN(wide area network) or LAN(local area network)?

7. What other backups do you need for access to internet connection? What are the status for the same in this medical college?

Probe: electricity

8. How internet security is maintained and internet breach is prevented?

Probe: user login id, network management, intrusion detection, etc present or not

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