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Practice of ICT tools during Classroom Teaching in Private Universities of Jaipur, Rajasthan, IN

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Abstract

Ensuring universal service and access to Information and Communication Technology (ICT) is a top National objective in many countries. One of the distinctive features of human being is their ability to acquire knowledge and what makes the knowledge an ever-thriving entity is men's ability to impact this knowledge to others. In this research paper researcher tried to find out the concept of moving the traditional classroom of desks, notebooks, pencils and blackboard to an online form of computers, software and the internet intimidates many teachers who are accustomed to face to face interaction of the traditional classroom. A quantitative research design is used to collect the data through the method of survey and personal interview by filling the survey questionnaire. Through this data finding the benefits of ICT's in teaching is that they can improve the quality of education. The contemporary higher education systems are aiming for accusation of ICT skills as part of the core education system. It is believed that this research paper provides proper recommendation and suggestions for use of ICT in education and can increase access to learning opportunities. Findings of this research suggest that mostly teachers use Laptop and projector as a mode of ICT tools at universities for teaching and learning. It is concluded that the use of ICT in education can increase access to learning opportunities. It can help to enhance the quality of education with advanced teaching methods, improve learning outcomes and enable reform or better management of education systems. Through this research paper it is recommended that teachers of universities should combine different resources in their teaching methods and utilize different ICT tools in classroom and Universities must ensure that student must have equitable access to digital content for learning.

Keywords: *ICT tools, Education, Survey, Teaching, Private University*,

In this digital universe where strong waves of knowledge are flowing in minds and boosting the development of technology which approaches towards the teaching and learning methods. There is a shift from the concept of moving traditional classroom of desks, notebooks, pencils, and blackboard to an online forum of computers, software, and the Internet intimidates many teachers who are accustomed to the face-to-face interaction of the traditional classroom.

One of the distinctive features of human beings is their ability to acquire knowledge, and what makes this knowledge an ever-thriving entity is man's ability to 'impact' this knowledge to others.

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Transfer of knowledge, which is one of the foundations of learning, is among the most fundamental social achievements of human beings.

Advancements, standards and specifications have led to major growth in the extensibility, interoperability and scalability of e-learning technologies. E-learning is fast becoming a major form of learning. Computer multimedia offers ideal opportunities for creating and presenting visually enriched learning environments. The latest technologies associated with virtual reality will also play an important role in not too distance future.

Management institutes and educators have attempted an increased incorporation of collaborative group work, problem-solving and decision-making through technology as an integral component of pedagogy. There is no doubt that technology-based tools can enhance student's cognitive performance and achievements if used appropriately, in accordance with knowledge learning and as part of a coherent educational approach.

Computer-based systems have great potential for delivering teaching and learning material. The scenario of the classroom is changing its traditional looks in modern era. In this digital environment teachers as well as students are more interactive in classroom discussions. Information and Communication Technologies ICT has enabled better and easier tool for presentation of ideas in more effective and innovative way. Information and technology are emerging in educational fields for making classroom learning process more fruitful and interesting for students and teachers both. In the past 10 years, online instruction has become extremely popular as is evident in the rise of online universities, and on-campus universities offering online courses and degrees.

The rapid development of Information and Communication Technology (ICT), particularly the Internet, is one of the most fascinating phenomena characterizing the Information Age. ICT powers our access to information, enables new forms of communication, and serves many on-line services in the spheres of commerce, culture, entertainment and education.

Definition and Meaning of ICT - ICTs stand for Information and Communication Technologies and are defined, for the purposes of this primer, as a diverse set of technological tools and resources used to communicate, and to create, disseminate, store, and manage information. So, ICT is the technology required for information processing and disseminating. ICT is the means through which people interact and exchange their ideas around the world through variety of technological medium.

Role of ICT - These technologies include computers, the Internet, broadcasting technologies and telephony that have been boosted as potentially powerful enabling tools for educational change and reform. When used appropriately, different ICTs are said to help expand access to education, strengthen the relevance of education to the increasingly digital workplace, and raise educational quality by, among others, helping make teaching and learning into an engaging, active process connected to real life.

Role of ICT in education - ICT not only helps to avail the in-depth knowledge of basic courses but also increases the flexibility of delivery of education so that learners can access knowledge anytime and from anywhere. ICT can influence the way students are taught and how they learn as now the processes are learner driven and not by teachers. Teachers will play an effective role in the overall use of ICT whose main task will not be to transmit information and culture but rather act as expert to motivate learning. ICT encourage students to take responsibility for their own

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learning and offers problem centred and inquiry-based learning which provides easy access and information-based resources.

Role of ICT in Teaching- Academics have taken to the use of computer in teaching much more readily than they adopted earlier audio-visual media. This is because the strength of computers is their power to manipulate words and symbols - which is at the heart of the academic endeavour. There is a trend to introduce eLearning or online learning both in courses taught on campus and in distance learning.

Distance education and eLearning is not necessarily the same thing and can have very different cost structures. Whether eLearning improves quality or reduce cost depends on the particular circumstances. ICTs in general and eLearning in particular have reduced the barriers to entry to the higher education business. Countries which are aspiring to create new Higher education institutes can learn from the failures of a number of virtual universities. They reveal that ICTs should be introduced in a systematic manner that brings clarity to the business model through cost-benefit analyses.

In many countries, demand for higher education far outstrips supply and Governments and institutions are turning more and more to the use of ICTs to bridge the access gap. It is too early to say whether the role of ICTs in the teaching function of higher education is truly transformative, or whether it is simply a repackaging of previous pedagogy.

Various ICT tools used in teaching and learning-

There are various ICT tools available which can be utilized for the knowledge creation and dissemination in the modern world. Tools include Radio, T.V, Internet, Mobile phone, Computer, laptop, tablets and many other hardware and software applications. Certain ICT tools like laptops, PCs, mobile phones, and PDAs have their own implication in Education. These devices can be used in imparting education and training for teachers and students. Many of the ICT tools are much hyped but have not given fruitful results till now.

Use of radio for pedagogical practices has been very much popular in past and is still in use in India by (IGNOU) Indira Gandhi National Open University. But One-to-many broadcast technologies like radio and television are seen as less revolutionary. ICTs in education, as their usage is seen as reinforcing of traditional instructor-centric learning models, unlike computers, which many see as important tools in fostering more learner-centric instructional models.

Successful ICT initiatives meet three intertwined objectives: availability, access, and demand. Educational ICT tools are not for making educators master ICT skills themselves, but for making educators create a more effective learning environment via ICT. Teachers can utilize ICT tools to get benefits from using these tools in the areas of content, curriculum, instruction, and assessment. ICTs include fixed-line telephony, mobile telephony, newspapers, radio, television, radio trunking, very small aperture terminal (VSAT), computer, and internet must be accessible to rural public as per their demand.

- There are many ICT tools that is useful for education
    - Laptop and Computers
    - Schools need to provide them either of this tool
    - Students may find resources for themselves

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- Interactive Whiteboard
  - As the title say, it is interactive.
  - Students can get involve with the whiteboard
  - Teacher can control the board from her table
  - Other application e.g. Stopwatch can be used in the class and display for the class.
- Educational games
  - Students can use it to have a fresh mind before starting the day or after a long day
  - Brain teasing games
  - Media: Computer/laptop, Nintendo DS, etc
- Intranet
  - School should create a website
  - Students can get useful information from the website
  - Other useful online tips and website can be display in the website
  - Online Forum by the website- Fun et educational tool
  - Discuss some serious issues in the forum
- eBooks
  - Access to resources outside library
  - Useful books

ICTs in terms of the technologies, i.e. the delivery systems or in terms of their content. Let us look at the different types of ICTs/Media Technologies first.
Delivery systems: Based upon their characteristics, media technologies can be grouped into two categories; namely, Synchronous and Asynchronous. Synchronous media require all participants to be together at the same time even though in different locations. Asynchronous ICTs allow for participants in the learning process to be at "different times" and "different places".

- Synchronous Media:
  - Audio-graphics
  - Audio conferencing as in Telephone conference
  - Broadcast radio and television
  - Teleconferencing
  - Computer conferencing such as chat Internet telephony
- Asynchronous Media:
  - Audio and video tapes and CDs
  - E mail
  - Computer file transfers
  - Virtual conferences
  - Multimedia products, off line
  - Web based learning format

Applications of ICT in Education (In India)- In developing countries like India, effective use of ICT leads to development of the educational sector resulting in educational competitiveness and increased employment. ICT has the potential to remove the barriers that are causing the problems of low rate of education in any country. Prime Minister Narendra Modi said that Information and

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technology is rapidly growing which has ability to transform India into a Knowledge Economy and Society. In India applications of ICT in Education was started couple of years back and it has touched every aspect of human life and has become a crucial part of our life.

In 12th Five Year Plan, special stress has been given on enhancing facilities in schools especially on ICT. Various software tools to serve the school curriculum have also being emphasis. This will focus to enable students and teachers to access wide variety of resources in digital format.

Benefits and Challenges of ICT

One of the great benefits of ICTs in teaching is that they can improve the quality and the quantity of educational provision. For this to happen however, they must be used appropriately. While using ICTs in teaching has some obvious benefits, ICTs also bring challenges.

First is the high cost of acquiring, installing, operating, maintaining and replacing ICTs. While potentially of great importance, the integration of ICTs into teaching is still in its infancy. Introducing ICT systems for teaching in developing countries has a particularly high opportunity cost because installing them is usually more expensive in absolute terms than in industrialized countries whereas, in contrast, alternative investments (e.g., buildings) are relatively less costly.

Using unlicensed software can be very problematic, not only legally but in the costs of maintenance, particularly if the pirated software varies in standard formats. Even though students can benefit immensely from well-produced learning resources, online teaching has its own unique challenges as not all faculties are ICT literate and can teach using ICT tools.

The four most common mistakes in introducing ICTs into teaching are: I) installing learning technology without reviewing student needs and content availability; (ii) imposing technological systems from the top down without involving faculty and students; (iii) using inappropriate content from other regions of the world without customizing it appropriately; and (iv) producing low quality content that has poor instructional design and is not adapted to the technology in use. The other challenge faced is that in many developing nations the basic requirement of electricity and telephone networks is not available.

Also, many collages do not have proper rooms or buildings so as to accommodate the technology. Another challenge is that the teachers need to develop their own capacity so as to efficiently make use of the different ICTs in different situations. They should not be scared that ICTs would replace teachers English being the dominant language most of the online content is in English. This causes problems as in many nations the people are not conversant or comfortable with English.

Since ICTs provides greater opportunity for both teachers and students to adjust learning and teaching to individual needs, so it is necessary to integrate ICT applications in school and university education. But introduction and integration of ICTs at different levels and various types of education in a developing country like India is most challenging undertaking.

Literature review –

India is not the only country which undertake the challenges. The difficulties related to the accessibility of new technologies differ from country to country.

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Lack of access is the largest barrier and it can be lack of computers and a lack of adequate material found in European study (Empirica's ,2006). Technical problems were found to be major barrier for teachers. Failing to connect to the internet, printers not functioning properly, technical issues with hardware and teachers having to work on old computers. "Technical barriers impeded the smooth delivery of the lesson or the natural flow of the classroom activity" (Sicilia,2005, p. 43).

"Without good technical support in the classroom and proper software resources, teachers cannot expect to overcome the obstacles preventing them from using ICT(Lewis,2003). In the view of primary and secondary teachers, one of the top barriers to ICT use in education was lack of technical assistance". (Willem J. Pelgrum 2001).

Fundamentally when there are new tools to teaching, teacher training at school and universities is essential (Osborne & Hennessy, 2003) if they integrate these into teaching. "Teachers need to not only be computer literate but they also need to develop skills in integrating computers use into their teaching/learning programmes" started by (Paul Newhouse (2002) (p. 45)).

As we are aware with the fact that Information and Technology (ICT) is an important part of most organizations these days (Zhang &Aikman,2007). Computers began to be used in schools in the early 1980s, and several scholars suggested that ICT will be an important part of education for the next generation (Brandsford, Brown, & Cocking, 2000; Grimus, 2000; Nicola Yelland, 2001).

The term ICT encompasses the range of hardware (desktop and portable computers, projection technology, calculators, data logging and digital recording equipment), software applications (generic software, multimedia resources), means of telecommunication and information systems (Hennessy et al. (2005, 2). A positive effect that ICT tools have on children's creativity naming a range of soft skills that emphasize play, improvisation, experimentation, simulation and the ability to judge diverse information sources stated by (S. Livingstone (2012, 17).

Need of the Study:

1. India stands second by the list of countries using Mobile-Phones, having 93.2/100 connections. Which means more than 93 people out of 100 which are using ICT tools, which makes this research project a point of concern for those 93 people out of 100?
2.Use of ICT tool has given a good way to teach students with more efficiency and it is helpful in both teaching and learning.

Objectives

1. To determine the use of (Information and Communication Technologies) ICT tools during the classroom teaching.
2. To identify that up to what extent do the faculty of particular university are using ICT tools in teaching and learning in the classroom.
3. To determine the response of the students towards ICT teaching and learning practices.

Research Design

Research Methodology-

In this research, researcher used quantitative methodology to collect and analyse the data obtained from all respondents. A questionnaire was developed and finalized by the researchers before being distributed to the respondents. Researcher designed the questionnaire specifically to achieve the

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research objectives with regards to identify the usage of ICT tools during the classroom teaching in private universities of Jaipur.

Researcher puts questions to know the practices of ICT tools during the classroom teaching in private universities of Jaipur. Questions which were asked from respondents were do you know what is ICT. If yes, did your teacher uses the ICT tools for teaching in classroom, Which mode of ICT tools your teacher uses for teaching, How often teacher uses it in a week, Which kind of teaching you like ICT or traditional teaching, According to students(respondents) how often teacher should use ICT tools in a week, Which form of ICT tool you like most, Do you have a communication device, If yes, which communication device you use, Do you think that your teacher has a good knowledge of ICT tools, Are you satisfied with the use of ICT tool.

Data Collection Procedures –

A data collection is a procedure of collecting data and then analyse the information and the findings or conclusions which comes out. This questionnaire consists closed ended questions to analyses the responses and personal interviews regarding ICT tools. The researcher conducted surveys in four private universities of Jaipur (India). These universities were Amity University, IIS University, Mahatma Jyoti Rao Phoole University (MJRP), Jayoti Vidyapeeth Women's University (JVW). The questionnaire has been distributed to total 40 students (respondents) randomly. They were given one week to fill in the questionnaire and return it to the researcher. All the participants volunteered themselves in this research. Finally, after two days 40 questionnaires were returned to the researcher for data analysis.

Data Analysis Process-

The data collected from the respondents were gathered together and researcher analyzed that data using Microsoft Excel (version 2019 16.0.). The analysis includes data representation through graphs and pie charts. This method helped the researcher to organize the data and interpretation of result.

All the results are shown in tabular as well as graphical format to visualize the statistically significant difference more clearly.

Survey Sample Method

In this research paper questions were put forward for respondents of four private universities of Jaipur these universities were:

1. Amity University
2. IIS University
3. Mahatma Jayoti Rao Phoole University (MJRP)
4. Jayoti Vidyapeeth Women's University (JVW).

The Sample

The researcher actually wants to collect the data of all private universities of Jaipur which is not possible, so the sample is necessary. Samples are not selected haphazardly they are chosen in systematically random way by researcher. All respondents were students of these universities. According to purposive sampling method about 10 students from each university was selected for proposed study. Data were collected between Sample of 40 students from Amity University, IIS

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University, Mahatma Jayoti Rao Phoole University (MJRP), Jayoti Vidyapeeth Women's University (JVW). This sample is based on purposive sampling method.

Sr. No.	Name of Private Universities of Rajasthan	Participants
1	Amity University	25%
2	IIS University	25%
3	MJRP University	25%
4	JVW University	25%

Table : Representing participants from each university

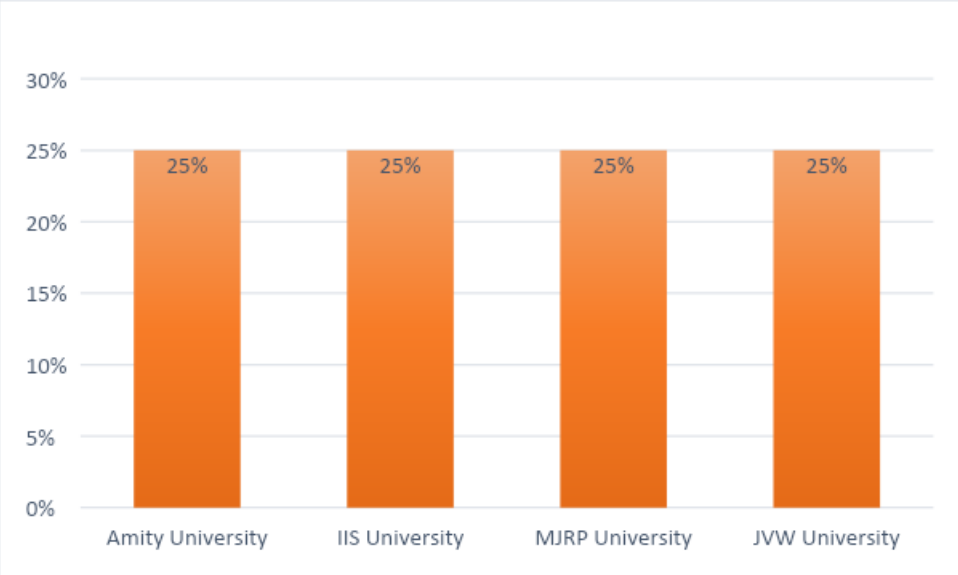

Figure: Representing participants from each selected private university of Jaipur.

The Questionnaire Designed –

The questionnaire consisted of some sections and was designed to collect information regarding use of ICT tools by teachers in their classroom. The questionnaire was designed simply and easily for responding. The questionnaire was used to assess the student's perceptions of ICT tools practices in their universities. The researcher asked them to complete the questionnaire and return it after one week.

Research findings-

Finding 1-

Q1) Do you know what is ICT?

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Based on data obtained, the following graph in figure -1 representing majority of the respondents i.e. students of four selected private universities of Jaipur have knowledge about ICT tools. 92.50% respondents were aware about the ICT tools whereas 7.50% respondents were not aware about ICT tools.

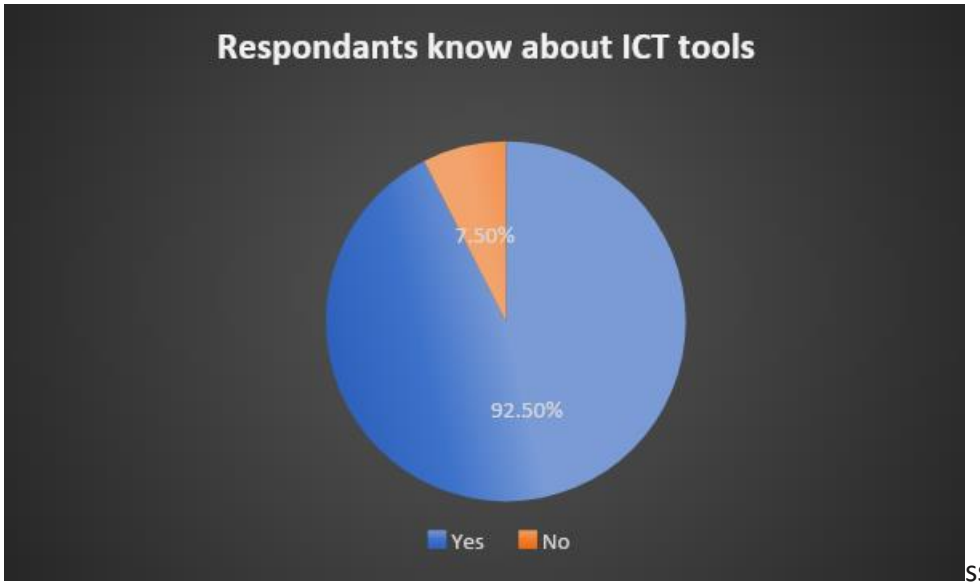

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Figure 1: representing how many respondents know about ICT tools.

Finding 2:

Q2) If yes, did your teacher use the ICT tools for teaching in classroom?

The private universities of Jaipur which were selected by researcher for survey have majority of students who have knowledge about ICT tools. Figure -3 is representing the data that whether their teachers use the ICT tools for teaching in classroom or not. The data in figure depict that 92.50% respondents revealed that their teachers use the ICT tools for teaching in classroom.

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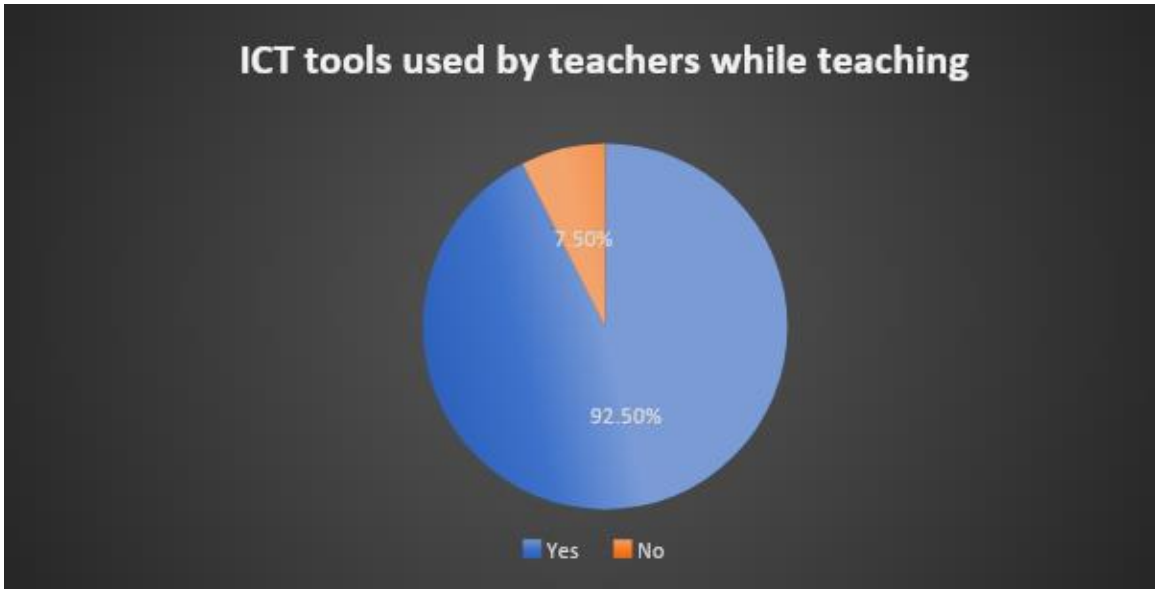

Figure 2: Represents that whether teachers use ICT tools during teaching in classroom or not.

Finding 3:

Q3. Which mode of ICT Tool your teacher uses for teaching?

ICT tools in education has potential to transform teaching and learning methods. Here, figure-3 represents the mode of ICT tools used by teachers for teaching methods in their classroom. 35.00% respondents selected Laptop; 32.50% respondents selected Projector. Respondents selected mobile and T.V. were 10.00% and 12.50% respectively. This data defines that majority of teachers use Laptop and Projector as ICT Tool while teaching.

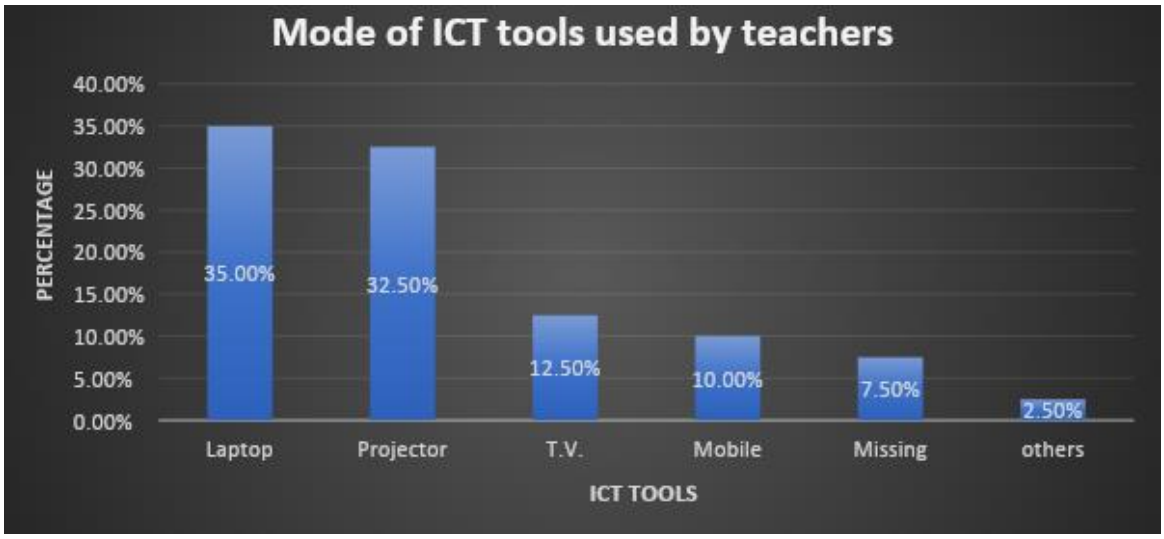

Figure 3: Mode of ICT tools used by teachers while teaching in classroom

Finding 4:

Q4) How often your teacher uses ICT tools in a week?

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In selected private universities of Jaipur, teachers use ICT tools mostly thrice a week according to the respondents. From figure-4 shows that 47.50% respondents chosen thrice a week and 7.50% respondents chosen four times in a week. 35.00% respondents selected twice a week and 2.50% respondents chosen once a week. Teachers who use ICT tools thrice a week are more in private universities of Jaipur.

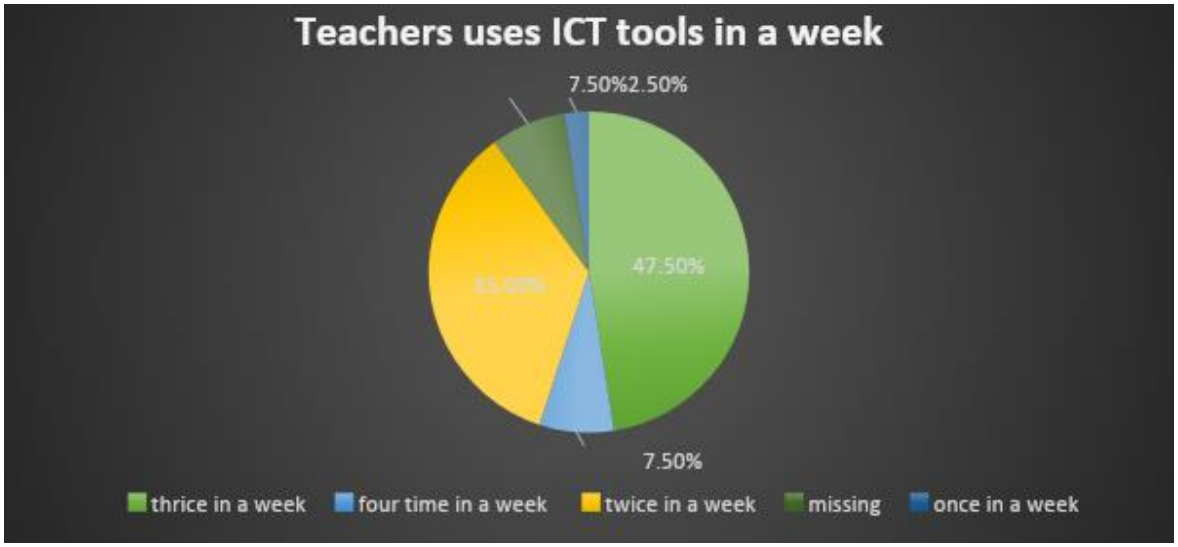

Figure 4: Data represents teachers uses ICT tools how many times in a week.

Finding 5:

Q5) Which kind of teaching you like ICT or traditional teaching?

Teaching and learning is now two-way communication process due to ICT tools. More than half of respondents (52.50%) like both ICT teaching methods and Traditional Teaching Methods. From figure-4 data shows that 17.50% respondents like Traditional teaching methods whereas 22.50% like ICT based teaching methods.

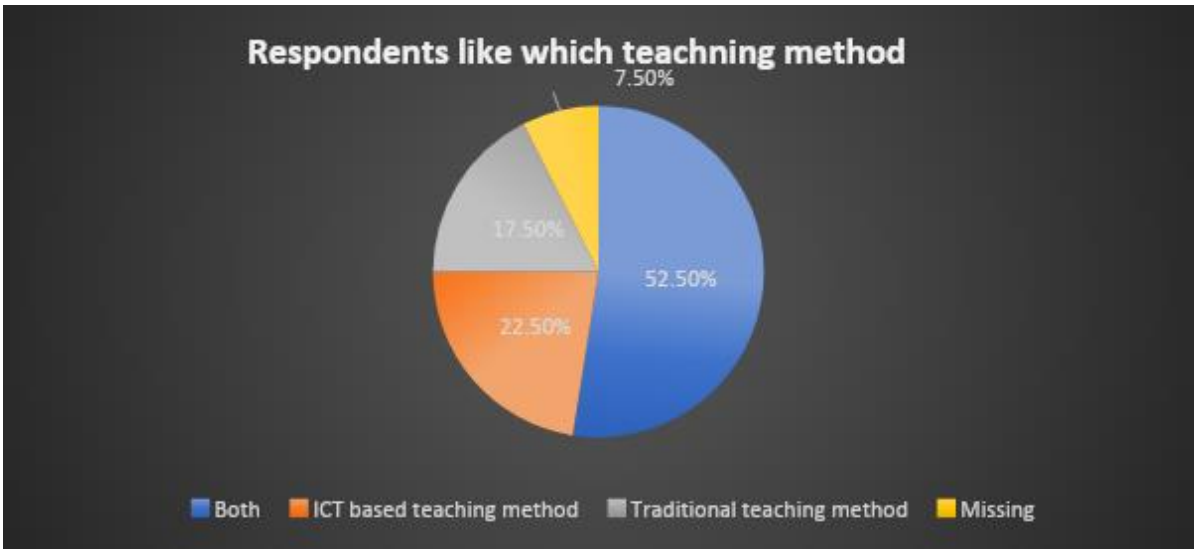

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Figure 5: Data represents respondents like which teaching method in classroom

Finding 6:

Q6) According to students (respondents) how often teacher should use ICT tools in a week?

Majority of respondents (37.50%) want their teachers to use ICT tools thrice in a week. Respondents (30.00%) wants twice in a week and 17.50% respondents wants their teachers to use ICT tools every day for teaching in classroom.

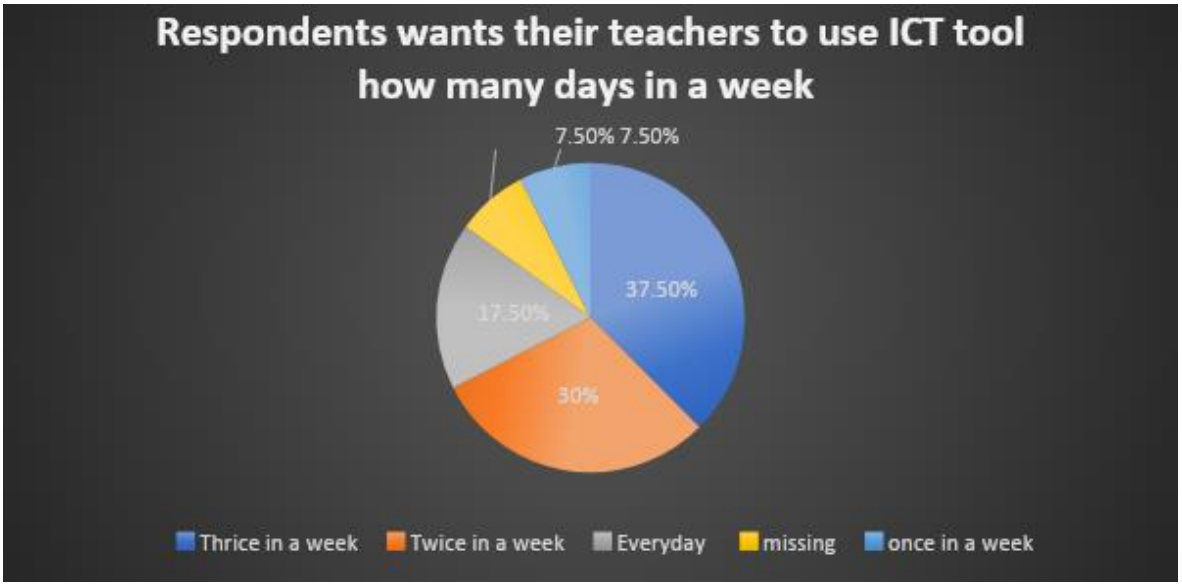

Figure 6: Data representing how often teacher should use ICT tools in a week.

Finding 7:

Q7) Which ICT tool you (respondent) like the most?

ICT tools not only make the classroom teaching interactive but it makes the understanding in a better way. As per figure-7 (47.50%) respondents liked the Video form of ICT Tool. 25.00% respondents like PowerPoint Presentation (PPT) for classroom learning method and Audio form of ICT Tool liked by 15.00% respondents.

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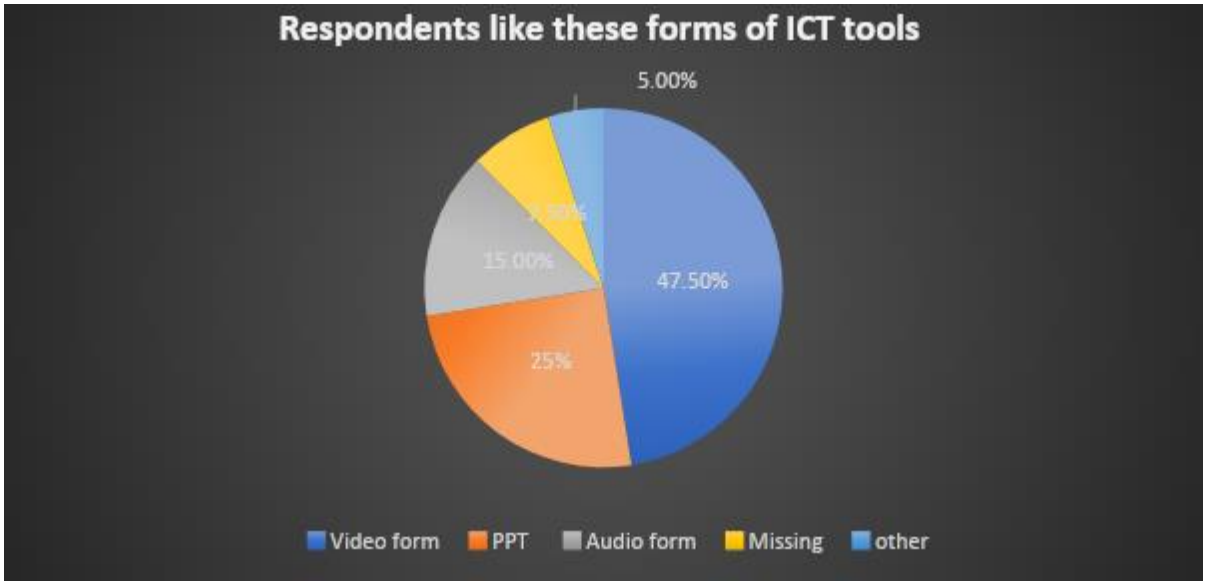

Figure 7: Data shows respondent like which form of ICT tools in their classroom learning methods.

Finding 8:

Q8) Do you have a communication device?

For shaping education system communication devices have their own importance in student's life. More than half of respondents have communication device i.e. 82.50% as shown in figure-8 whereas 10.00% does not have any communication device.

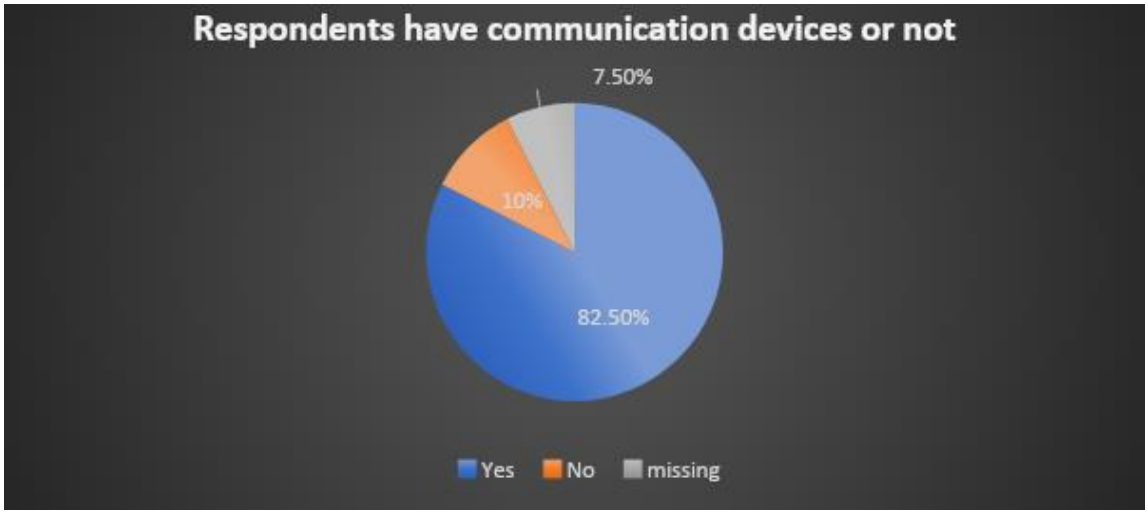

Figure 8: Shows how many respondents have communication devices.

Finding 9:

Q9) If respondent have communication devices then which communication device respondent use?

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Majority of respondents have communication devices that is 82.50% as depicted in figure -8 data. So, next question arises that which communication device is used by respondent. As per the figure-9 the respondents use laptop were 30.00%. Respondents who use mobile were 28.00% and 22.00% use desktop. Any other type of communication devices used by respondents were 2.50% .

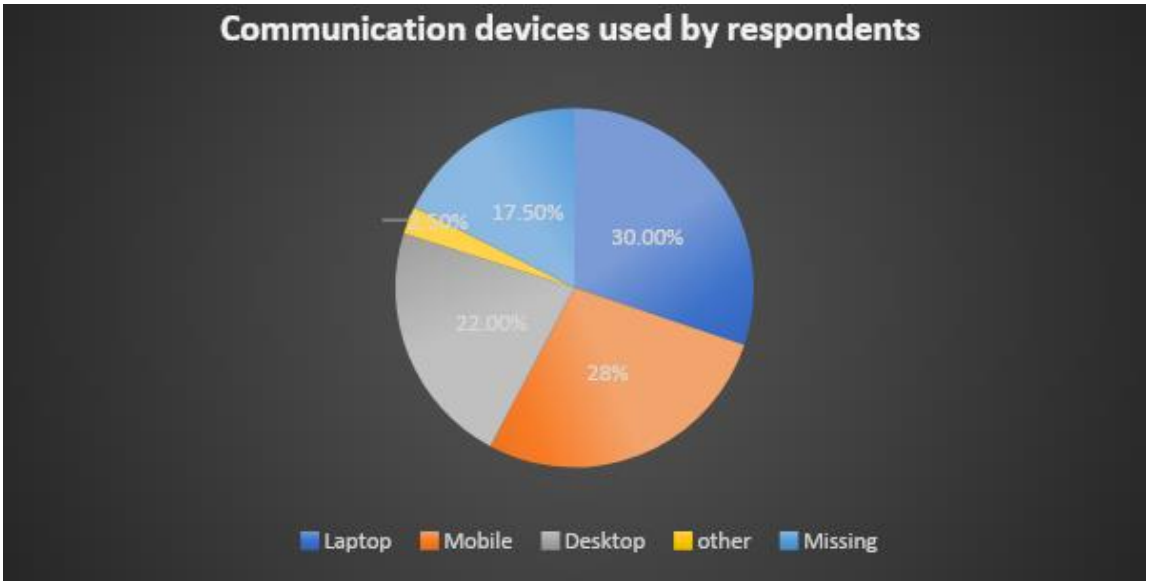

Figure 9:Type of communication devices used by respondents

Finding 10:

Q10) Do you think that your teacher has a good knowledge of ICT tools or not.

ICT tools helps in effectiveness of learning and teaching. It is important that teachers of 21st century must have several skills and techniques for providing education. Majority of the respondents (75.00%) agreed that their teacher has a good knowledge of ICT Tool and rest 17.50 disagree with it. The figure-10 shows data of respondents for this question.

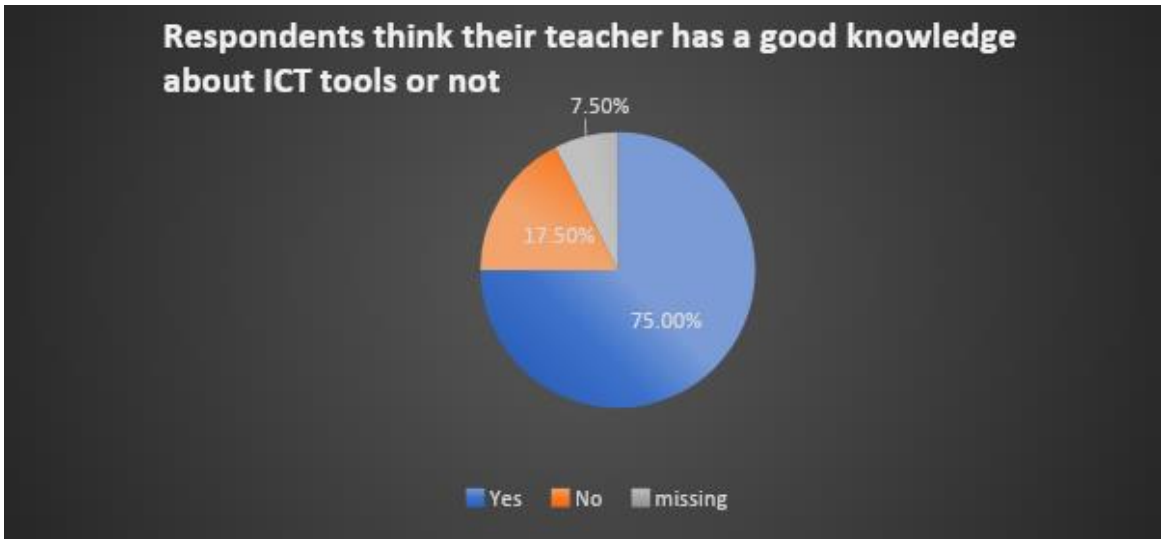

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Figure 10: Data represents what respondents think their teacher has a good knowledge about ICT tools or not.

Finding 11:

Researcher question in questionnaire:

Q12) Are you(respondent) satisfied with the use of ICT tool?

By figure – 11 it is reflected that more than half of the students (respondents) are satisfied with the use of ICT tools. As 75.00% respondents were satisfied with the use of ICT tools in their University but 18% were not satisfied with the use of ICT tools.

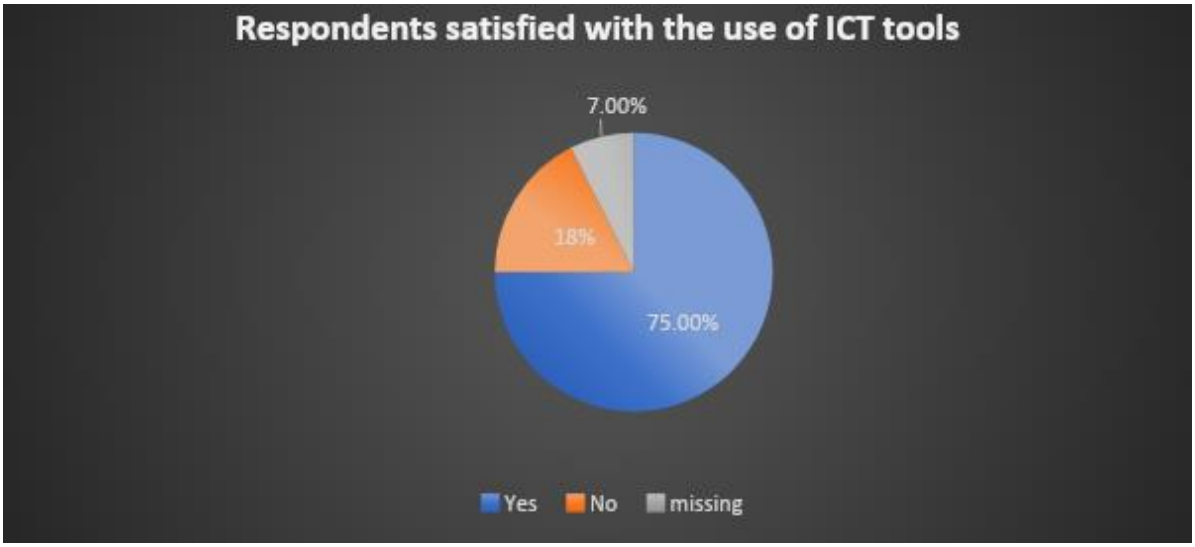

Figure 11: Shows the satisfied respondents with the use of ICT tools in their university.

Conclusion

Diffusion of ICTs in Jaipur (Rajasthan) universities and colleges would respond to the twenty-first century demands. The contemporary higher education systems are aiming for acquisition of ICT skills as part of the core education system, provision of infrastructure/ fully equipped labs, professional assistance and other support needed to enhance quality of education.

Application of ICTs in managing higher education institutions and use of the technology to homogenize quality of education in the highly diverse scenario across the colleges and universities established in the Jaipur would benefit many students.

The arguments against the introduction of ICTs have pointed out that ICTs would benefit the urban and already advantaged sections of society at the expense of rural communities. The time is right to push the driving forces hard as it is expected that implementation of initiatives to integrate ICTs bring about improvement in higher education organization and quality education through ICT would be realized.

Despite the many efforts in ICT integration in universities, many families specifically in rural areas still do not know how to use ICT tools in their daily life. They even did not know how to check

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their children's results in the existing systems. Not all houses have computers and Internet facilities to use daily. In this regard, the main challenge is to provide appropriate ICT tools to both urban and rural areas efficiently.

Findings of this research suggest that mostly teachers use Laptop and projector as a mode of ICT tools at universities for teaching and learning. Results of the study showed that teachers practice ICT tools in their teaching methods mostly thrice a week. Anyway, it is also evident that textbooks are still considered most important in the educational systems. Nearly half of our respondents (52.50%) follow both teaching methods that were ICT tools based and traditional methods in their learning. Important technologies for learning such as laptop (30.00%) and desktop (22.50%) were ranked as the top technologies by the respondents of this research.

It is believed that the use of ICT in education can increase access to learning opportunities. It can help to enhance the quality of education with advanced teaching methods, improve learning outcomes and enable reform or better management of education systems. Extrapolating current activities and practices, the continued use and development of ICTs within education will have a strong impact on: What is learned, how it is learned, when and where learning takes place, & who is learning and who is teaching. The continued and increased use of ICTs in education in years to come, will serve to increase the temporal and geographical opportunities that are currently experienced.

Recommendation and Suggestions

1. It is recommended to use more and more ICT tools in classroom teaching in private universities in order to make students user friendly with ICT Tool learning.
2. More focus on management strategies to address the barriers related to software or hardware of system faced by teachers in using ICT tools in teaching.
3. Teachers of universities should combine different resources in their teaching methods and utilize different ICT tools in classroom.
4. Organization of ICT practices workshops for teachers and students to provide knowledge about various uses of new ICT tools.
5. It is suggested that to support teachers as their way of teaching change, it is also important for education managers of university to give trainings in order to increase teacher's ability to use ICT for formative learning assessments.
6. University management and policies need to provide acceptable infrastructure for ICT, better internet connectivity and security measures related to websites.
7. Universities must ensure that student must have equitable access to digital content for learning.
8. Feedback related to practice of ICT tools in classroom learning should be given by students to their respective courses Head of departments (HOD's) at least thrice in a month.

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