

Critical Understanding of ICT

Overview

Every day we hear about the names of various technologies in the present scientific and technological age, such as sugar technology, paper technology, cloth technology and glass technology. In educational field too, the term 'Educational Technology' is being used with great interest. Scholars believe that with the proper use of science and technology in the field of education, desirable results can be achieved in teaching, learning and testing spheres as tremendous progress is taking place in the various fields of agriculture, health and industry.

Communication is very important in human life. It creates a link or bond between two individuals, groups, organizations in order to understand each other. It creates one to one to many interactions, reciprocation, know- how, which facilitates the relationships and benefits each other. Without communication life becomes meaningless, difficult to connect between any two individuals, groups or systems and so on not to lead a happy life.

The term, information and communication technologies (ICT) refers to forms of technologies that are used to create, store, share or transmit, exchange information. This broad definition of ICT includes such technologies as: radio, television, video, DVD, telephone (both fixed line and mobile phones), satellite systems, computer and network hardware and software; as well as the equipment and services associated with these technologies, such as videoconferencing and electronic mail.

Scope of ICT

ICT has a vast scope in the field of education. At all levels of education, whether at school or college, ICT has promising results. These encompass the areas such as teaching-learning in and outside the classroom, in regular face-to-face set-up or distance mode. Thus, the scope of ICT in education

- ❖ Use of ICT in teaching-learning process
- ❖ Use of ICT for Publication purposes
- ❖ Use of ICT in Evaluation
 - Portfolios

- Reports, essays and journals
 - Case studies and scenarios
 - Online (asynchronous) conference discussions and synchronous oral examinations
- ❖ Use of ICT for Research purpose
 - ❖ Use of ICT for Administration
 - ❖ Use of ICT for Personal Purposes
 - ❖ Use of ICT for Professional development

Characteristics of ICT

The characteristics of ICT in education can be discussed in detail under the following headings

Student-centric: Student-centric classroom environments put students' interests first and are focused on each student's needs, abilities and learning styles.

Computing devices: The ability to deftly operate a computer is a critical 21st century skill. Computing devices greatly assist in teaching and learning and make them more engaging and effective.

Active learning: Students can learn actively by talking and listening, writing, reading and reflecting. When students are encouraged to take an active interest in learning, they are more likely to retain the knowledge they've accumulated.

Adaptive learning: The modern approach of adaptive learning gives students the freedom to learn at their own pace and in the way they are most comfortable with. There are various kinds of software available for adaptive learning that teachers can use to enhance the learning of their students.

Invitational environment: The BYOD (Bring-Your-Own-Device) approach can be adopted, so that students can bring their laptops or tablets to the classroom for better personalized learning. Teaching with technological material is more effective, stimulates student engagement, eases the work of teachers and makes it easy for students to focus on learning.

Students understand and follow the rules and procedures: The learning environment is carefully planned and well-organized. Class rules, procedures, and notices of upcoming

activities are posted in convenient places to help students stay on track.

Mutual respect: Teachers and students should always have respect for each other. In a well-disciplined environment, students should also co-operate with and respect their classmates.

Students take responsibility of their learning: Teachers should employ a variety of strategies to promote responsible decision-making and create self-reliant students.

Performance-based assessments: Regular performance-based assessments are carried out by teachers through various methods which are not restricted to tests. These can be by conducting quizzes and polls.

Collaborative learning: Collaborative learning activities include collaborative writing, group projects, joint problem solving, debates and more. Collaborative learning redefines traditional student-teacher relationship in the classroom.

Info- Savvy Skills

Information literacy or Info-savvy is a set of abilities requiring individuals to “recognize when information is needed and have the ability to locate, evaluate, and use effectively the needed information.” Information is available through libraries, community resources, special interest organizations, media, and the Internet and increasingly, information comes to individuals in unfiltered formats, raising questions about its authenticity, validity, and reliability. In addition, information is available through multiple media. Including graphical, aural, and textual, and these pose new challenges for individuals in evaluating and understanding it. The uncertain quality and expanding quantity of information pose large challenges for society.

The purpose of Info-Savvy is to help teacher systematically provide information literacy experiences for students at all grade levels and in all subject areas. The key process that Info- Savvy uses for any information – processing task is known as the five aspects(5 A’s) of Information Literacy, and this is at the heart of how to become Info- Savvy. There are five basic steps that can be used to solve any information need:

- Asking (Key questions to be answered)
- Accessing (relevant information)

- Analyzing (the acquired information)
- Applying (the information to a task)
- Assessing (the end result and the process)

Digital Age Skills

The digital age, also called the information age, is defined as the time period starting in the 1970s with the introduction of the personal computer with subsequent technology introduced providing the ability to transfer information freely and quickly. The Information Age (also known as the Computer Age, Digital Age, or New Media Age) is a period in human history characterized by the shift from tradition industry that the Industrial Revolution brought through industrialization, to an economy based on information computerization. The Information Age formed by capitalizing on computer microminiaturization advances. This evolution of technology in daily life and social organization has led to the fact that the modernization of information and communication processes has become the driving force of social evolution.

The skills required in a digital age/ knowledge society include the following:

- Communication Skills
- The ability to learn independently
- Ethics and responsibility
- Teamwork and flexibility
- Thinking skills (critical thinking, problem- solving, creativity, originality, strategizing)
- Digital skills
- Knowledge management

Safe surfing

Every day people lose millions of files, programs, and documents because of weak and

inadequate Internet Security practices. The Web is full of malicious programs and software that can wreak havoc on your computer's file systems. Viruses and malware can result in everything from annoying pop-up ads to threats that can wipe out your entire operating system. Some malicious software programs can even get a hold of sensitive information like credit card numbers, passwords, and other personal information. The Internet can be a confusing and dangerous place. Without a safety net, many people can fall into the danger zones of pornography, predators, online scams, Internet viruses, any spyware. With such free access to the Internet around the world, many have abused it as an opportunity to take advantage of others.

Other good things to do

- While using wireless broadband, make sure it's password-protected to prevent other people from using it.
- Keep the passwords secret and don't use the same one for everything. Read our guide [How to choose a password](#).
- Email attachments can contain viruses so never open them unless felt confident that they're from a reliable source. If an email looks suspicious, it's best to delete it.
- Beware of 'phishing' emails. These often look like they've come from a bank or similar institution and usually ask you to click a link to verify your identity. These emails are never genuine and should always be deleted.
- When shopping online, only use reputable sites. The [Shop safe](#) website has a directory of secure Indian shops as well as advice on safe online shopping.
- Before entering any personal or payment information online, always check that we are on a secure website. This is indicated by a yellow padlock icon at the top of the screen and a website address that starts with 'https://' (the 's' stands for 'secure').
- Use a nickname rather than your real name when participating in online chatrooms or forums and don't give out any personal information.
- If you use social networking sites – for instance, Facebook – change your account

security settings to limit who can see your profile information. Never update your status with information that you wouldn't want to be made public.

Final thoughts

Information literacy forms the basis for lifelong learning. It is common to all disciplines, to all learning environments, and to all levels of education. It enables learners to master content and extend their investigations, become more self-directed, and assume greater control over their own learning. An information literate individual is able to:

- Determine the extent of information needed
- Access the needed information effectively and efficiently
- Evaluate information and its sources critically
- Incorporate selected information into one's knowledge base
- Use information effectively to accomplish a specific purpose
- Understand the economic, legal, and social issues surrounding the use of information, and access and use information ethically and legally

(write in fresh page)

In order to enhance the professional capacities of a student teacher in integrating Information and Communication Technologies (ICTs) for effective teaching and learning in a classroom. We practicing skills like handling of ICT tools, surfing skills, presentations skills of smart classroom with the help of computer, laptop/Internet, Interactive Whiteboard, Tablet PC, iPad, iPhone, Mobile phones, Digital Cameras and Multimedia equipments , and Video-Conferencing Via Skype, and Uploading skills via blogger etc. which we got through various activities throughout the course, At last we acquired those skills.

Here, the activities which we done throughout the course have been enlisted one by one. They are

1. To operate / use various ICT tools such as computer, laptop/Internet, Interactive Whiteboard, Tablet PC, iPad, iPhone, Mobile phones, Digital Cameras and Multimedia equipments (audio/video), Skype and video- conferencing.

Skill Acquisition

Under the guidance of our teacher-educator, we operated and used all the above ICT tools on various occasion. It makes us feel more confident than ever before, we dare to face the classroom with the help of ICT, and surely we will make our classroom more interesting, attractive and effective.

(Paste the pictures of above ICT tools in the left side of your record)

Link

We browsed through the Google found the usage of ICT tools for our more knowledge, I prepared handout and e-content about the usage of ICT tools posted in to my blog.

(write Blog id)

(write in fresh page)

2. To browse the internet, using a computer/laptop, identify and use education related websites and video/audio resources in teaching-learning.

Skill Acquisition:

I browsed the internet via Google with the help of computer/laptop and I got an ability to identify the education related websites and video/audio resources and also got an ability to use those which are adopt in teaching-learning.

I have enlisted the education related websites here which I frequently visit n also I have posted to my blog.

(enlist the related websites)

Link

(write blog id)

(write in fresh page)

3. To prepare teaching materials/learning resource materials: e-content, e-booklet for selected school subject areas and to create edu(cational) blogs for individual/group students for strengthening sharing and learning.

Skill Acquisition:

Under the guidance of our teacher-educator I prepared teaching resource materials for (mention your subject) I have used during mini teaching practice in this way I got presentation skill.

Link

(1) I have uploaded my e-content in to my blog and shared with my peers

(blog id)

(2) I have attached my soft copy in CD-ROM

(write in fresh page)

4. To use a laptop/PC for preparing slides for powerpoint presentations/ lectures and also download the video resources available on the internet and use them embedded with slide presentations.

Skill Acquisition:

Under the guidance of our teacher-educator I prepared powerpoint presentation (mention your subject) and also I downloaded video resources which is relevant to my topic from you tube then I have used during mini teaching practice in this way I acquired surfing

skill.

Link

(1) I have uploaded my presentation in to my blog and shared with my peers

(blog id)

(2) I have attached my soft copy in CD-ROM

(write in fresh page)

5. To teach a content/lesson using an Interactive Whiteboard (by connecting a desktop computer to a whiteboard and project Google images onto it).

Under the guidance of our teacher educator, we have used Interactive whiteboard which is connected to the desktop computer for the projection of Google images. The following steps we have adopted.

Step1:

Connected a computer/ laptop to a projector.

Step 2:

Interactive whiteboard and LCD projector connected to the Interactive whiteboard.

Step 3:

Computer has connected to the internet through Wi-Fi modem.

Step 4:

After Switch on the computer, the display of the computer has displayed in the Interactive Whiteboard.

Step 5:

With the help of calibration pen click on the Google chrome browser on the whiteboard.

Step 6:

Google chrome has opened and type www.google.com/images in the URL

Step 7 :

The Google image has opened and type garland in the text box and click search button.
The images of garland has projected into the white board.

Skill Acquisition:

In this way we acquired the knowledge how to use interactive whiteboard and smart board skills

(write in fresh page)

6. To use a visualize/document camera (visual projector) to display and share an information to the whole class.

The steps have to be adopted for visualize (visual projector)

Step 1:

Connect the visual projector to the switch board.

Step 2:

Visual projector has lens and placed the book or notebook below the lens.

Step 3:

Connect the visual projector to the LCD projector.

Step 4:

After Switch on the visual projector displays the book content or note book content in the LCD projector and shows the content to the whole class. The page in that document or

book can be visualized to the whole class.

Note:

There is no need a computer/laptop for connecting the visual projector.

Skill Acquisition:

Under the guidance of our teacher-educator, I have learnt to use the visual projector in order to project the information and share to the whole class. By this way I have acquired the knowledge how to handle the visual projector

(write in fresh page)

7. To use a mobile device/ a cameral phone to take a series of snapshots of children's actions events/scenes/activities and prepare a photo documentary or photo album with explanatory notes/ descriptions.

Skill Acquisition:

Under the guidance of our teacher-educator we got an ability to use a mobile device for taking a series of snapshots of children's action which we see whatever, wherever. This made me got an photographic skills and also I have prepared photo album

Link

- (1) I have uploaded my photo documentary into my blog (write your blog id(URL)).
- (2) I have attached soft copy in CD-Rom.

(write in fresh page)

8. Prepare videos on different teaching styles of experienced teachers/peers and keep them available for viewing as a stream on a computer.

Skill Acquisition:

Under the guidance of our teacher-educator we got an ability to use a digital camera for

the preparation of videos on different teaching styles of our teachers and peers. I have the videos in my computer and the mobile.

Link:

(1) I have uploaded into my blog (URL)

(2) I have attached soft copy as in CD-ROM

(write in fresh page)

9. Organize a few video-conferencing classes (organize Skype-based video conferencing) inviting experts in school subjects and encourage the students to share the learning experiences through whatsapp with their classmates and others.

Skill Acquisition:

Under the guidance of our teacher-educator, we organized many video-conferencing classes with the experts in school subjects by this way we acquired an ability to video chat with the help of Skype, Hangout and Whatsapp. It inculcate us to chat with our friends and teachers share our learning experiences through whatsapp. Herewith we have attached screen shot of our whatsapp chat.

(write in fresh page)

10. To create educational blogs(edublogs) for individual/group students for sharing and learning articles/class notes/ assignments and participating in active blogging community.

Skill Acquisition:

Under the guidance of our teacher-educator. I acquired the knowledge of how to create an educational blogs from various websites like Blogger(Google Apps), Edublogs and Wordpress. After the demonstration done by our teacher-educator, I got an ability to upload my learning articles and class notes to my blog regularly. This inculcate myself actively participate in blogging community

Link

My learning articles , class notes and assignments have uploaded into my blog. I have used regularly

(URL)

Tasks and Assignments

1. Write a report based on your preparation of e-content and presentation of it to the class with different ICT tools

(Prepare report about this in separate paper and submit me tomorrow). I will check after that u have to write in the record.

2. Write a report on the organization of video conferencing with an educational expert.

(Prepare report about this in separate paper and submit me tomorrow). I will check after that u have to write in the record.

Note:

If you have any doubt call me