

## Details of Module and its structure

Module Detail	
<b>Subject Name</b>	Education
<b>Paper Name</b>	Perspectives, Issues and Research in Teacher Education
<b>Module Name/Title</b>	Development of Info-savvy Skills
<b>Module Id</b>	e-PGEDN 10.28
<b>Pre-requisites</b>	<ul style="list-style-type: none"> <li>• The students are aware of various information resources.</li> <li>• They have experience of surfing the Internet.</li> <li>• They are capable of analysing, interpreting &amp; interrelating data.</li> <li>• They are aware of information explosion &amp; media implosion.</li> </ul>
<b>Objectives</b>	After going through this module the students will be able to <ul style="list-style-type: none"> <li>• differentiate data &amp; information</li> <li>• express the essential attributes of information</li> <li>• identify various resources of information</li> <li>• identify various search engines</li> <li>• employ the Info-Savvy Skills- Asking, Accessing, Analysing, Applying &amp; Assessing.</li> <li>• be info-savvy.</li> </ul>
<b>Keywords</b>	Info- savvy, internet, www, skimming, scanning, surfing, hyperlink, fact, opinion, authentic, asking, accessing, analyzing, applying, assessing

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## 1. Introduction

Now a day's Internet is a very common medium for communication and information gathering. It includes so many ways for gathering information. An individual can acquire and provide information through Internet. An individual can also interact with other individuals through e-mail, chatting, on-line video conferencing etc. These are some of the ways through which an individual can acquire information. There are various useful ways of seeking information, such as, searching divergently, skimming, scanning, skipping, hyper linking, cross validating. By using various ways an individual can get information from any type, anyone, anywhere, anytime. Some of the ways are as follows:

- **E-mail:** It is the short form for electronic mail, the transmission of messages over communications networks. E-mail is used by an individual for sending messages across the world through the Internet. At a time, message can be sent to many persons, which saves time and energy.
- **E-Chat:** E-Chatting is used for directly interacting with other person in written form.
- **Blog:** A blog (a contraction of the term "web log") is a type of website, usually maintained by an individual with regular entries of commentary, descriptions of events, or other material such as graphics or video. Entries are commonly displayed in reverse-chronological order. "Blog" can also be used as a verb, meaning *to* maintain or add content to a blog. Many blogs provide commentary or news on a particular subject; others function as more personal online diaries. A typical blog combines text, images, and links to other blogs, Web pages, and other media related to its topic. The ability of readers to leave comments in an interactive format is an important part of many blogs.
- **Twitter:** Twitter is a social networking and micro-blogging service that enables its users to send and read messages known as tweets. Tweets are text-based posts of up to 140 characters displayed on the author's profile page and delivered to the author's subscribers who are known as followers.
- **E-reader:** A handheld device specialized for reading electronic books. Starting in the late 1990s, e-book readers began to appear; however, it took nearly 10 years to gain any traction due to the many formats on the market. In addition, until E Ink electronic paper technology was used for the display, battery life was a limiting factor. An e-reader (electronic reader) is a device for reading content, such as e-books, newspapers and

documents. A standalone e-reader typically has wireless connectivity for downloading content and conducting other Web-based tasks. Popular dedicated e-readers include Amazon's Kindle and Sony Reader.

- **On-line video conference:** Now a day with the help of web camera on-line video conferences are done. In this type of conferences although we are not at the place of conference yet we participate virtually.
- **Facebook:** Facebook is a social networking website that was originally designed for college students, but is now open to anyone 13 years of age or older. Face book users can create and customize their own profiles with photos, videos, and information about themselves. Friends can browse the profiles of other Mends and write messages on their pages.
- **Whats App:** Whats App Messenger is a cross-platform instant messaging application that allows iPhone, BlackBerry, Android, Windows Phone & Nokia Smartphone Users to exchange text, image, video and audio messages for free.
- **Podcasting:** A digital recording of music, news or other media that can be downloaded from the internet to a portable media player. The term originated from “P.O.D”, meaning Portable on Demand, and cast relates to the term broadcast. Podcasting is a digital audio or video file a recording. Usually parts of themes series that can be downloaded from a website to a media player or computer.
- **Vodcasting:** Also called video podcasting, vlogging, adds video to the downloadable sound files podcast listener are used to. Download the video files is a simple matter of subscribing to a vodcast in one of the many freely available directory programs.
- **Viber:** Viber is a messenger that is as fast & easy as texting only for free! Viber messenger uses your phone’s Internet connection (whether Wi-Fi or your data plan).
- **LinkedIn:** Founded on December 14, 2002, and launched On May 5, 2003, LinkedIn is hands-down the most popular social media site for professional networking. The website is available in 24 languages and has over 400 million registered users. LinkedIn is great for people looking to connect with people in similar industries, networking with local professionals and displaying business related information and statistics.

- **Google:** While it's no Twitter, Facebook or LinkedIn, Google+ has its place among the popular social media sites. Its SEO value alone makes it a must-use tool for any small business. Launched on December 15, 2011, Google+ has joined the big leagues registering 418 active million users as of December 2015.
- **YouTube:** The largest and most popular video-based social media website — was founded on February 14, 2005, by three former PayPal employees. It was later bought by Google in November 2006 for \$1.65 billion. YouTube has over 1 billion website visitors per month and is the second most popular search engine behind Google.
- **Pinterest:** Launched in March 2010, Pinterest is a relatively newcomer in the social media arena. This platform consists of digital bulletin boards where businesses can pin their content. Pinterest announced September 2015 that it had acquired 100 million users. Small businesses whose target audience is mostly made up of women should definitely invest in Pinterest as more than half of its visitors are women.
- **Instagram:** Like Pinterest, Instagram is a visual social media platform. The site, launched on October 6, 2010, has more than 400 million active users and is owned by Facebook. Many of its users use it to post information about travel, fashion, food, art and similar subjects. The platform is also distinguished by its unique filters together with video and photo editing features. Almost 95 percent of Instagram users also use Facebook.
- **Tumblr:** is one of the most difficult to use social networking platforms, but it's also one of the most interesting sites. The platform allows several different post formats, including quote posts, chat posts, video and photo posts as well as audio posts, so you are never limited in the type of content that you can share. Like Twitter, reblogging, which is more like retweeting, is quick and easy. The social networking website was founded by David Karp in February 2007 and currently hosts more than 200 million blogs.

## 2. World Wide Web (www)

The concept of the www began in March, 1989 and was developed by Tim Berners-Lee of the European Laboratory for Particle Physics in Geneva, Switzerland. World Wide Web was the first web browser.

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Some people use words Internet and the www as same but both are different from each other. Internet is a network of networks, whereas, the www is a way of accessing information through Internet. The www is just one way of sharing information over the Internet. In simple terms the www is the collection of documents and information that are held on and sent through the Internet. Most popular search engines are Google, Yahoo, AltaVista, Excite, Go To, HOTBOT, Info-seek, Lycos, Northern Light, and Planet Search. There are thousands search engines available on the Internet. So it is difficult to choose one search engine.

A recent trend in Web searching is the Meta searchers, which search numerous engines simultaneously which will solve the problem of searching one search engine at a time. Names of some Meta search engines are Dogpile, Excite, HotBot, Mamma and Meta-crawler. . Earlier there was only one Internet Explorer browser used. But now there are different types of browsers available for computers and mobile phones. Mozilla Firefox, Google Chrome, Safari, Hot Java, Voyager and Opera these are some names of computer web browsers. Whereas UC browser, Opera mini, Android, and Bolt are mobile browsers which have special features because of which people can surf easily on mobile phones. This type of new trends increases more and more ways for getting information through the www. The www is most popular way to search through the information content of the Internet, the network of networks which has become part of everyday life for millions of people in all sectors of the community. Education is also one of the sectors which use the www on wide bases. Students use the www for pursuing information for their academic studies. Teachers impart information to students by using the www.

A teacher needs to equip with the up to date information. It is important for a teacher to learn Info-Savvy Skills for gathering information from the Internet. A computer is an electronic device utilized to process data. A computer system can be termed as an information generating system. Information is generated by processing data. A computer system consists of four parts- hardware, software, processor and data. Now a days there is an explosion of information. Because different types of resources available in the market. Out of them electronic resources are used frequently. Let us see the capacity of saving information, in 2003 it was 5 Billion Gigabytes or 5 Exabytes and in 2009 it was raised by 500 Exabytes. It shows that out of this much information one has to find out information which is appropriate for him/her. If we search information through books, newspapers, journals and magazines then it will require lots of time and energy. But because of Internet and other digital resources it is easy to search information.

### 3. Meaning of Data and Information

To know about Info-Savvy Skills first we have to understand the meaning of Data and Information.

#### a. Data

What so ever exists in this universe is called entity. The known entities are called examples. Every example has some attributes. Every attribute has some value. This attribute value is called Datum. The plural of Datum is Data. Often, 'data' is used as both in singular and plural forms. Data can be defined as any fact, text, numbers, graphics, audio, video images, sounds or any combination of these. Data may be numerical, alphabetical, alpha-numeric and special symbols.

**Information:** it means organised or classified data that has same value to the receiver. When data are placed in a meaningful context to the user for a particular task then it can be termed as information. So data are raw material whereas information is finished product.

#### b. Data Processing

It implies to reordering of data by people or machine. Data processing may be manually or electronically. Following operations are performed for data processing:

- Recording: It implies transcribing data into format form.
- Classifying: It implies grouping of data.
- Starting: It means arranging data in ascending or descending order.
- Calculating: It means adding, subtracting, multiplying or dividing data.
- Summarizing: It means consolidating data.
- Reporting: It means presenting information in a format.

#### Data Processing System

**Mechanical Processing:** It uses electro-mechanical devices to process data. It is also known as unit record method or Electrical Accounting Machine process. Data are punched on a separate card which is manipulated by unit record machine for output. These systems are suitable only for small and medium organisations.

**Manual Processing:** It relies on human operators. Information generated by manual processing is very slow and may be based on biasedness. This is traditional system of data processing which is not appropriate for the needs of modern business organisations.

**Electronic Data Processing:** Under Electronic Data Processing data are entered in the computer by input devices, which are processed electronically. Processing is done at significantly high

speed and accuracy. Monitors or printers are used for output. It is most suitable system for data processing in big organisations.

### c. Features, Types, Sources of Generating Information and Characteristics of Good Quality Information

#### Features of Information

- Information is processed data.
- Information updates the level of knowledge.
- Information reduces uncertainty.
- Information helps in decision-making.

#### Types of Information

- **Primary Information**

Original material that has not been interpreted or analysed. Examples: Statistics, Research articles, Blogs, Websites

- **Secondary Material**

Created from primary material, interpreting original material. Examples: Textbooks, Review articles

- **Tertiary Material**

Acts as a tool in understanding and locating information

Examples: Databases, Subject Gateways, Dictionaries, Bibliographies

**Sources of Generating Information:** Following sources can be used for generating information

- **Observation:** It implies generating information by observing the objects. Accuracy of observation will decide the quality of information. Survey: Market survey, opinion polls are instances of survey. The instruments used in survey decide the quality of information.
- **Estimates:** Opinions of experts are used for fixture estimates.
- **Transaction Processing:** Ledgers, statements and reports of organizations are processed to generate information.

- **Publications:** Various government publication and other organizations, publications are available for generating information.

### **Characteristics of Good Quality Information**

- Impartial
- Relevant
- Reliable
- Accurate
- Verifiable
- Transformation of Data into Wisdom

### **4. Info - Savvy Skills**

Info-Savvy Skills mean raising problem specific questions analytically, seeking related information from various media, analyzing information meticulously, such as, complete or incomplete, authentic or inauthentic, good or bad, fact or opinion, applying the analyzed information in the form of suitable formats to the initially identified problem and then assessing the entire process of asking questions, accessing information, information analysis, its application to the problem and assessment of the entire process spontaneously. A person who possesses all these skills is called info-savvy. According to Jean-LUC Picard, Approach to solving problems, following are the info-savvy skills.

#### **a. Asking**

The Asking stage is the key to engaging students in the learning process. The teacher introduces a topic and guides the students to generate their own questions related to that topic. This more clearly defines the boundaries for research. Questions posed by students and teachers clarify the information needs and define possible paths for inquiry using the Internet, as well as other electronic or traditional paper-based sources. Asking skill has the following components.

#### **Identification of problem**

Student teachers should be in a position to identify the problem. They have problems in their method subjects, general papers, practice teaching, assignments, and practical work.

#### **Identifying key words and forming question around them**



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After identifying the problem student teachers should identify the key words where the problem lies. Then after identifying the problem and key words questions should frame around that problem.

### **Brain storming**

Through brainstorming on the identified problem, the student teachers verbalize certain things and so suppression gets expression. They are in a position to shape their key words and questions more comprehensively.

### **Thinking laterally/divergently**

Student teachers should not think in one direction only for the problem but think for alternatives also. They should make many hypotheses.

### **Understanding ethical issues**

The ethical issues in the problem should be identified. Student teachers should address in such a way that they take care of ethical issues. Every profession has its protocol and rules. They have to go by that. Some of ethical issues are- Trustworthiness, Respect, Responsibility, Fairness, Caring and Citizenship.

### **Listening deeply, viewing wisely and speaking critically**

Listening deeply means student teachers should listen deeply not just at the surface level; they should receive and reflect upon that. When they are viewing, they should view it wisely; view all the details, purpose, and composition. They should be highly critical while speaking. They should speak in appropriate structure, socially acceptable phrases, words etc. They should duly reflect before communication.

### **Filtering information from noise**

Student teachers should retain relevant information and filter out noise. It means they have to filter out information which he/she get from their surroundings.

### **Sharing personal knowledge and experience**

Student teachers should share their personal knowledge and experiences.

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## **b. Accessing**

In the Accessing stage, student teachers should engage in the data-collection component of the Info-Savvy process. Now the initial questions have been defined, and the research boundaries narrowed, the time for considering possible data sources and how to access them is at hand. This skill has the following components.

### **Determining where the information is located**

The information whether it is located in newspaper, library, Internet etc. is determined first.

### **Determining what skills are needed to find information**

Wherever information is located student teachers should have skills to locate the information on various media. They need to have skills of surfing the Internet, if the information is located on Internet.

### **Using a variety of paper and electronic sources**

Whatever information is required student teachers should get it from variety of media, such as, radio, print, overhead projector, television, Internet etc.

### **Prioritizing searching strategies**

What is their priority depending upon nature of information? They can prioritize the information and corresponding media.

### **Skimming and scanning resources for pertinent data**

Skimming means going to the heading not to the whole text but sometime student teachers need to scan i.e. going through each and every bit.

### **Using filtering skills**

What is fact, what is belief, what is opinion, how to differentiate it out student teachers should know.

### **Taking smart notes**

Student teachers need to take smart notes.

### **c. Analysing**

Analyzing is the organizing stage of the Info-Savvy process. As the data is checked for relevance to the topic, accuracy and authenticity, it begins the process of being turned from data into usable information. Student teachers determine if the assembled data is sufficient to answer the questions, or whether more research is necessary. Documentation of data is a vital part of the Analyzing stage. It includes the following components.

#### **Differentiating the data into different categories**

Out of the available data some are relevant and some are irrelevant.

#### **Identification of relevant data**

Identifying relevant data from irrelevant data.

**Establishing authenticity and credibility of the data** Check authenticity and credibility and establish it.

#### **Authenticity**

- Who wrote the page i.e. where is the information coming from?
- The affiliation of the authors to an organisation, company or educational institution.
- If sponsorship is clearly evident on the page.

#### **Accuracy and Reliability**

- The information is correct.
- One can easily verify the information on the website using another source.
- The author is qualified to be writing about this topic.
- It means references to other sources backing up the author's claims are clearly given.

#### **Objectivity**

What is the purpose of the website? is it trying to -Inform you, advocate a particular argument in favour of an issue, - Sell or promote something,

Provide you with news, - or is just someone's personal website?

#### **Currency**

- When the site was last updated - is there a "last created" or "last updated" date clearly visible?

- That the links provided by the author are live?
- That there are no dead links on the page, a sign that the site is not checked regularly?

### **Content and coverage**

- That the level of detail in the information is suitable for your purpose?
- That the information on the site is well presented?
- That the information on the site increases your understanding and is not just a list of links?

### **Differentiating the facts from the opinion**

From opinion differentiate facts.

### **Finding relationships amongst different data**

When student teachers find out so many data, they have to find out relationship among the data.

#### **d. Applying**

After the material has been organized and analyzed, it must be presented in a finished form or product. During the Applying stage, presentations are created in a variety of ways using combinations of the four formats of information - text, images, video, and sound. As the presentation is developed, it completes the process of turning data into information and usable knowledge.

#### **e. Assessing**

Assessing is the final stage of the Info-Savvy process. Assessment confirms that learning has occurred, while allowing student teachers to make connections to previous experiences, as well as laying the groundwork for dealing with future information problems. It seeks the answers to the following questions.

- Is the problem identified in proper manner?
- Is related question asked?
- Is data collected sufficient?
- Is data analyzed properly?
- Is information applied usefully?
- Is problem solved or remaining?

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When a student teacher gives proper answer to all these five stages, he/she is known as Information fluent. So student teacher has to possess these Info-Savvy Skills to become information fluent, i.e., Info-Savvy. But it requires awareness and frequent use of Internet by student teachers. Then only they can become Info-Savvy.

## **5. Conclusion**

Now a day we find that the role of teacher is changing very fast. The teacher is a facilitator of knowledge. This can be possible if teacher has enough knowledge about the new ways and means of getting information.

In this age of information explosion, it has almost become essential for everyone, particularly teacher and students to develop expertise in the area of information seeking and its timely application. The problem is that despite media implosion, Internet and World Wide Web, at times the very much needed information, although readily available is not retrieved by the person who is in dire need. It is because there is lack of technological culture in teacher education institutions and so in schools. Universities having their web portals, educational institutions being on the Internet, sophisticated technology labs have become more of status symbols, but with little educational substance. It is because we have more of media crowd and less of media culture. In spite of indiscriminate flow of funds from apex agencies and focus on ICT we have information poverty. Is not it a paradox that on one side we have information explosion, on the other side information poverty. How to bridge the gap? The teacher education institutions can contribute significantly in this area by designing developing and implementing programme in the area of Info-savv skills.

Internet is a very useful medium of getting information from all over the world. According to Joshi (1999) most of the students were eager to know more about the utilization of Internet for their educational work. According to Dhodi and Goel (2004), students who were aware about Internet adopted different approaches for finding suitable information. Students also felt that there was a need for developing skills through which one can get information easily and precisely.

In this age of Information and Communication Technology it is expected that all the Student Teachers have ICT literacy. It becomes almost an essential requirement that all the Student Teachers have technological aptitude, technological attitude, and Info-Savvy Skills. It is desirable to study the technological aptitude, technological attitude and Info-Savvy Skills of the

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Student Teachers, so that they are better equipped in the area of information. The enhancement of Info-Savvy Skills in Student Teachers is likely to facilitate better integration of technology in education.