

Quadrant-I (e-Text)

Details of Module and its structure

Module Detail	
Subject Name	Education
Course Name	ICT in Education
Course Code	EDU504
Module Name/Title	Educational Application of word processing, spreadsheet and presentation; Drawing tools: diagrams, concept maps, timelines, flow chart; Reusable learning objects; E-content standards; Authoring tools: open source and proprietary alternatives.
Module Code	IIE007
Pre-requisites	Familiar with computer operations and use of internet
Learning Outcomes	<p>After going through this lesson, the learners will be able to:</p> <ul style="list-style-type: none">• use word processing for educational purposes, outline uses of spreadsheet and integrate presentation in teaching learning situation• evaluate different drawing tools, construct diagrams and design concept maps• use timelines in classroom situation, create flow chart and defend the use of reusable learning objects• analyze e-content standards and discriminate open source and proprietary authoring tools.
Keywords	educational application, word processing, spreadsheet and presentation; Drawing tools: diagrams, concept maps, timelines, flow chart; Reusable learning objects; E-content standards; Authoring tools: open source and proprietary alternatives

1. Development Team

Role	Name	Affiliation
Principal Investigator (PI)	Dr S K Bawa	Central University of Punjab
Subject Matter Expert (SME)	Dr.Jessy Abraham	Jamia Millia Islamia

Table of Contents

1. Introduction	2
2.Educational application of word processing	2
3.Educational use of spreadsheet	4
4.Educational use of presentation.....	5
5.Drawing tools: diagrams, concept maps, timelines, flow chart	7
6.Reusable learning objects	13
7.E-content standards	14
8.Authoring tools: open source and proprietary alternatives	17
9.Summary.....	18

1. Introduction

Now classrooms are places where ICT takes a predominant role formally and informally. Teachers use smart boards to present the lessons or as support material for their lessons. Students search for different topics on their smart phones, text messages to their teachers, friends and parents. Students and parents get information regarding events from the school websites. Students keep chatting with their peers on all topics. Teachers also use ICT tools in several ways in the classroom. Though the scope of the topic 'Educational applications in ICT' is vast, this module is limited to few predominant software applications

2.Educational application of word processing

The software used write a document using computer is known as word processing software. It is used for typing the text and for editing which includes copying, deleting and various types of formatting. (<https://study.com/academy/lesson/what-is-word-processing-software-definition-types-examples.html>)

Some of the functions of word processing software include the following:

- Create, edit, save and print documents.
- Copy, paste, change the position and or delete text within a document.

-
- Format text by changing the font type, making it bold, underline or italicize.
 - Create, format and edit tables.
 - Insert elements from other software applications like charts, illustrations or photographs.
 - Correct the spelling and the grammar
(<https://slideplayer.com/slide/12513454/>)

The most widely used word processing software is Microsoft Word with more than 500,000,000 using it.

Whenever we type assignments, notes, exams ,reports, resume using computers, we are using word processing software.

The uses and characteristics of word processing software are given in the website

http://miitnotes.weebly.com/uploads/9/8/4/1/9841023/lo1_word_processing_uses_and_features.pdf. Some of them are briefly stated below:

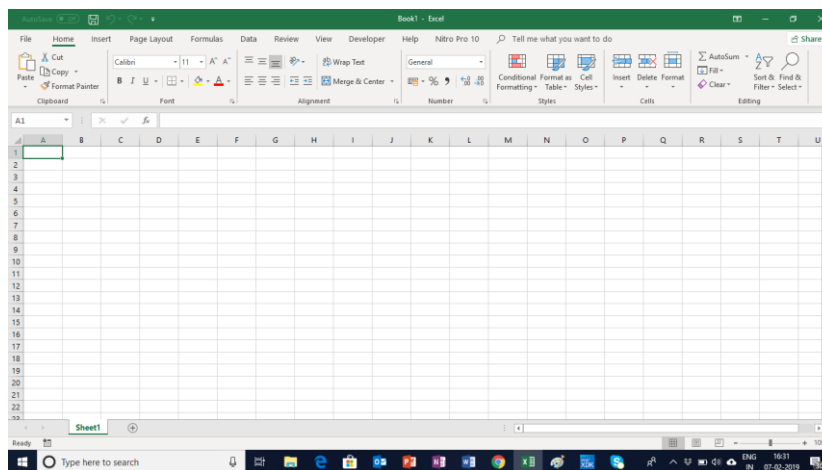
- Changing the case: It is possible to the change the capital letter to small letter
- Changing the Font: It includes using different font sizes, Font styles (Times New Roman, Calibri, Ariel etc., **Bold**, *italics* and underline, line spacing and adding margins
- Graphics refers to pictures, images or graphics that are added to word processed document. Graphics are added by inserting Pictures, Clip Art, Shapes and SmartArt.
- Tables with rows and column are also made with the word processor. It is also possible to make use of word to table of content in a word-processed article.
- Mail Merge and label printing: When many people are to be sent a letter as in the case of an invitation letter to parents, the letter can be sent to different addresses without having to type it again by this function. The address on the envelope can also be printed from the data base.

- Other features: Spell check, Grammar Check, Thesaurus function and Collaborative editing

3. Educational use of spreadsheet

Spreadsheet is an interactive computer application for organization, analysis and storage of data in tabular form. The program operates on data entered in cells of a table in either numeric or text data. It is possible to do calculations by applying formulas in spreadsheet. Chaamwe and Shumba (2016) has explained the use of spread sheet for teaching statistics.

An example of the spreadsheet page from Microsoft Excel is given below



Screen shot of the Excel worksheet

In the above screen shot sheet1 is the active sheet, A, B, C, D—U are columns.1,2,3 to 22 are rows.

A sample Excel sheet with labels can be viewed at

<https://www.computerhope.com/jargon/s/spreadsheet.htm>

Google sheets, iWork Numbers, Open Office Calc and Microsoft Excel are common spreadsheets and are explained in the website

<https://www.computerhope.com/jargon/s/spreadsheet.htm>

The spread sheets can be used for teaching mathematics, physics, business studies, accountancy. It is used for creating tables, graphs and for doing statistical calculations. (Peter,2000).

https://www.researchgate.net/publication/237412370_Teaching_Business_Statistics_with_Microsoft_Excel

Teachers may find spreadsheets useful for creating the following

- Lists: Lists can be sorted alphabetically or according to ranks
- Preparation of attendance percentages
- Accounting: Ideal for finance data, billing, calculations
- Chart creation of performance of students
- Statistics about their class
- to prepare mark sheets and grade

https://www.exceltrick.com/formulas_macros/excel-if-statement/

- By giving the if statement to the formula bar teacher can prepare the result

4. Educational use of presentation:

Presentation software is used for creating slides that present information.

The software helps in formatting the text and present it with visual effects.

In the presentation software video clips and audio clips also can be inserted.

<https://www.techopedia.com/definition/16572/presentation-software>

Nowadays Microsoft's PowerPoint, Powtoons, Google slides, Adobe Connect and Prezi next are some of the popular presentation software. Some interesting examples are given below as screen shots.



<https://www.powtoon.com/blog/best-free-presentation-software-and-powerpoint-alternative/>

(<https://whatis.techtarget.com/definition/presentation-software-presentation-graphics>)

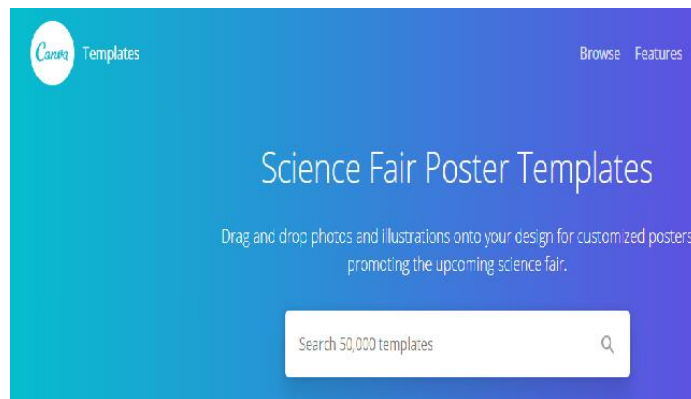
Google Slides



OpenOffice.us.com



Power Point is not your only option. There is an way to make professional-level slideshows and presentations—OpenOffice Impress!



There are many multimedia authoring tools such as Macromedia Director and Asymetrix's Multimedia Toolbook in Windows PC and Mac versions with presentation capability.

<https://whatis.techtarget.com/definition/presentation-software-presentation-graphics>

Vogel et.al (1986) in their study on Presentation and visual persuasions found that use presentation improve audience attention, and retention of the

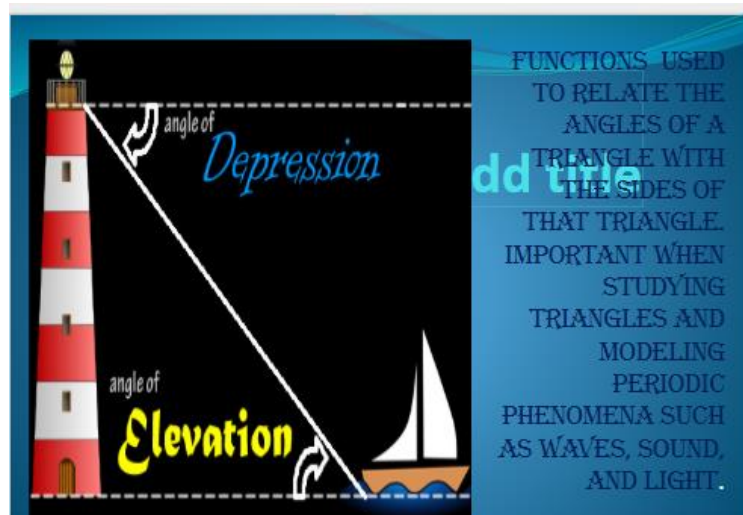
presented material. It was also reported that the presentation in color is more persuasive than black and white. It is also important to use image enhanced graphics with animations should be used appropriately to avoid distraction.

5. Drawing tools: diagrams, concept maps, timelines, flow chart

There are many software applications that can help us draw pictures, diagrams, concept maps, timelines and flow chart. In word processing software and presentation software also drawing tools are available.



Picture drawn using Microsoft Paint and copied to word processor (Showing air pollution)



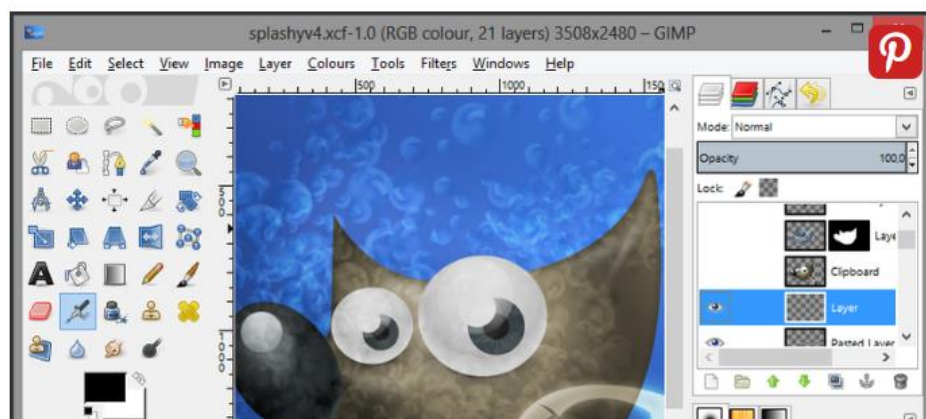
Picture in a power point slide (showing a math lesson)

In this module some of the best drawing software available under sub headings such as diagrams, concept maps, flow charts, timeline are discussed.

Diagrams: There are many software applications which are used for making diagrams and it is given in the website <https://www.enkivillage.org/free-drawing-software.html>

The **Gimp** is a drawing software application. (<https://www.enkivillage.org/free-drawing-software.html>)dr

Official Website: <http://gimp-win.sourceforge.net>



<https://www.enkivillage.org/free-drawing-software.html>

My Paint is an application that can be used for drawing and graphic designing. The official Website:<http://mypaint.intilinux.com/> can be used for this.

Psyko Paint uses vast variety of brushes, colors and layers for making the drawing experience different.

Sketch-Paint is an online free drawing software

Edraw is also a free online software for making diagrams

Diagrams are particularly helpful to learners with who prefer visual presentations for learning. Visuals help students process the information and connect with related topics.

<https://classroom.synonym.com/use-charts-diagrams-classrooms-5836308.html>

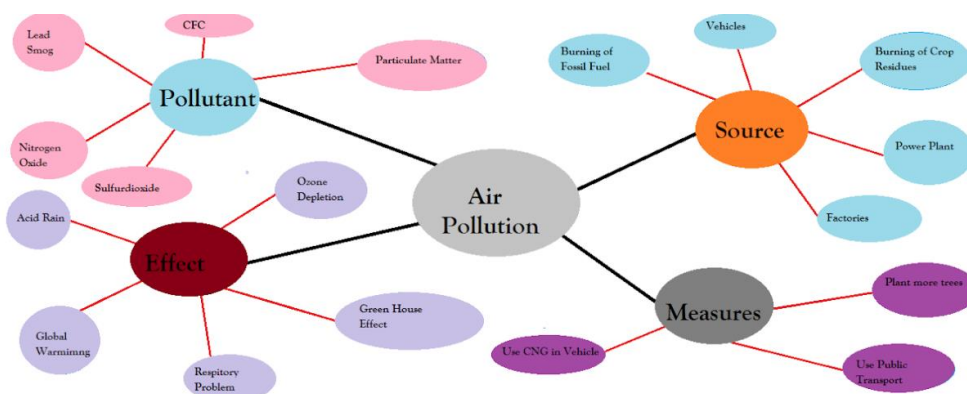
Cause and effect diagrams facilitate education by clear visualization and organization

Diagrams help visual thinking and learning which supports better understanding and retention of information. Some common visual learning strategies include creating graphic organizers, diagramming, mind mapping, outlining and more.

Concept maps/ mindmaps

Concept map depicts the relationship between various concepts pictorially.

<http://www.inspiration.com/visual-learning/concept-mapping>



Concept map on Air pollution prepared by a student

A concept map is defined as a graphic organizer which represent the information in a visual way. <http://www.inspiration.com/visual-learning/concept-mapping>. In order to make a concept map, begin with a main concept, for example air pollution in the above example and then branch out to represent specific sub topics such as pollutants, source, effect . <http://www.inspiration.com/visual-learning/concept-mapping>. In other words it is like a mind map with graphical representation of ideas and concepts. It's a visual thinking tool for organizing information, helping students to understand, remember and generate new ideas.

<https://quizlet.com/113677977/web-design-ch1-ch4-flash-cards/>

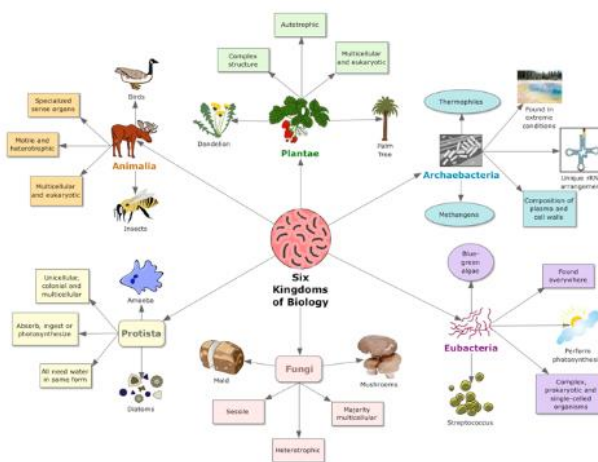
Benefits of Concept Mapping

- Aids in brainstorming for generating new ideas
- helps students to discover new connections between concepts
- Facilitate communication of information
- Compare new concepts with older concepts
- Illustrate the knowledge of the topic

- evaluate the learning outcomes
- Attain higher level objectives of cognitive performance
<http://www.inspiration.com/visual-learning/concept-mapping>

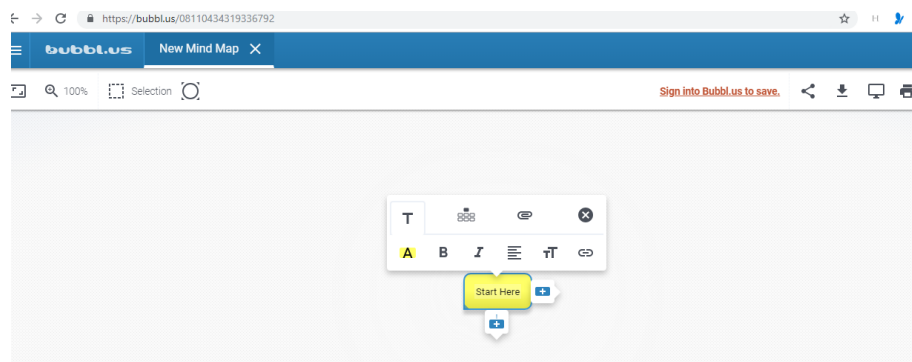
How to Build a Concept Map

- Identify the main idea, topic, or issue to focus on.
- Then determine the key sub concepts
- Finish by connecting concepts with sub concepts --creating linking phrases and words



There are many websites which help students and teachers help make concept map. They provide templates for making concept map easily.

<http://www.inspiration.com/visual-learning/concept-mapping>



Software that can be used for concept mapping.

Bubble.us is a graphic organizer as shown above in the above screen shot.

Smart draw available from www.smartdraw.com for using online directly or after downloading the windows desktop edition.

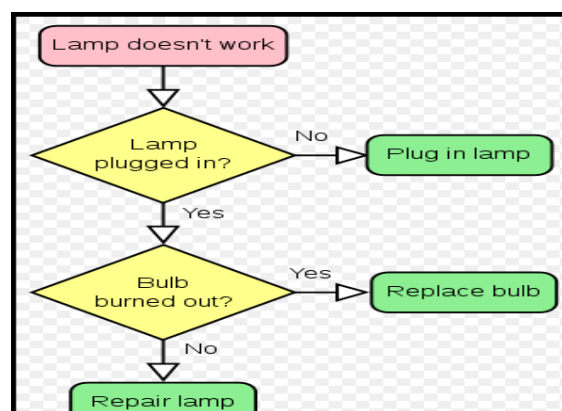
Lucid Chart: Free and web based tool for making concept maps

Inspiration software available at www.inspiration.com.

How to use a chart in the class is well depicted in the website <https://classroom.synonym.com/use-charts-diagrams-classrooms-5836308.html> by Pancare(2018)

Flow Chart:

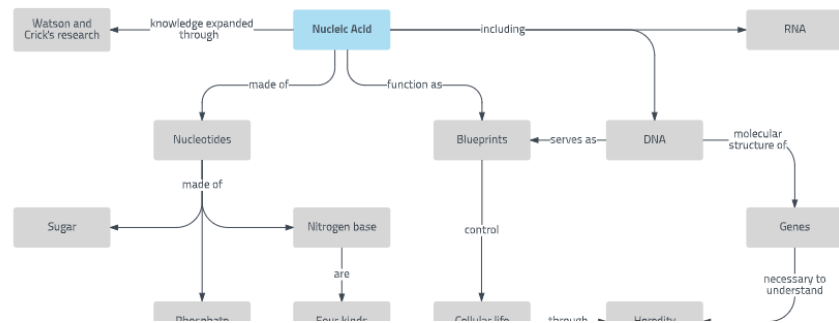
Flowchart is a diagram that represents an algorithm, workflow or process. The flowchart shows the steps as boxes of various kinds, and their order by connecting the boxes with arrows. Flowcharts are used in analyzing, designing, documenting or managing a process or program in various fields for solving problems. This diagrammatic representation illustrates a solution model to a given problem



Example of Flow Chart from Wikipedia

The chart shows that if the table lamp is not working check whether it is plugged in, if yes then check whether its bulb is burnt out if yes replace it, or if the bulb is not faulty then it needs to be repaired. In Education, for solving problems flow chart can be made and used. The word processor and presentation software also can be used for preparing flow chart otherwise there are graphic organizers like Lucid chart shown below:

Lucid Chart is also a graphic organizer which we can use for making flow charts and concept maps.



<https://www.lucidchart.com/pages/templates/concept-map/nucleic-acid-concept-map-template>

Timeline:

Time line is a graphic representation of the passage of time as a line or a time frame during which something is scheduled to happen, Collins Dictionary

According to Merriam Webster Dictionary, timeline is a table listing important events for successive years within a historical period

There are many software programs like the one depicted below which give template for making timeline.

The sesame street time line can be accessed from

<https://www.youtube.com/watch?v=RS9LOEPLqSo>

An event time line can be accessed from the link

<https://templates.office.com/en-US/Event-timeline-diagram-slide-widescreen-TM00001066>

You can generate your time line using the three steps given in http://www.teach-nology.com/web_tools/materials/timeline/

Xtimeline is a free web-based timeline creator available from <http://www.xtimeline.com/> for creating time line with text and images for any person above 13 years

Timeline History of Education

Timeline Educational Policy



<https://templates.office.com/en-US/Event-timeline-diagram-slide-widescreen-TM00001066>

Timeline is also helpful in organizing the history of any topic in a line and help students visualize it in a better way. It will act as a memory aid and make lesson interesting. Its use is not limited to history but for any topic which has a chronological order.

6. Reusable learning objects:

A Reusable Learning Object (RLO) is a digital content in the form of a web page that is used for e-learning which could be reused(Pappas,2016)

According to Pappas (2016) reusable learning objects should have following characteristics:

- It should be in the digital format using HTML5.
- It must be of multipurpose for it to be reused again and again
- It should support the learning objective
- Label the learning object and index it correctly so that it is contain metadata.
- It must be easy to adapt, update and customize
- Cohesiveness of the reusable learning object is attained by adapting it
- It should be compatible with the Learning Management System
- Keep the e-learning content succinct

Learning Object is a web based digital educational resource that can be used again and again to support learning.

<https://elearningindustry.com/developing-reusable-learning-objects-characteristics-consider>

For a teacher to make a reusable learning object, the simplest method is to make presentations on the topic and use it in different classes. If the teacher

makes use of web resources like NROER available on NCERT website for the classes, the need for developing material by themselves is saved. You Tube videos, Khan Academy lesson and many such web resources available to the teachers when used for teaching different subjects at different levels of schooling as per the class requirement are examples of RLO.

As there are many easier ways of preparing web pages like the Blog, google sites which are user friendly, teachers can prepare their web pages on different topics and use it for their teaching on a day today basis. Though the initial effort will be enormous subsequent uses will make it very effective and rewarding.

7.E-content standards:

E-content standards are *engineering or technical specifications* that help e-content developers are required to follow.

There are different kinds of standards:

- “Mandatory”: It is compulsory to follow these rules and regulation
- Voluntary: It is optional to follow it; not compulsory
- De facto: It is not published as a rule but is commonly practiced;
- De jure: These are formal legal requirements, which can lead to prosecution if disobeyed.

<https://www.bahrain.gov.bh/wps/wcm/>

When e-content is developed, the development standards are followed to ensure quality in the text, graphics, page design, test materials used, interactivity and audio /video standards. These standards are used as guidelines to make the e-content correct, adaptive to different learning styles and learners, communicative and also standardized.

Some of those agencies involved publishing the e-content standards are discussed below:

Shareable Content Object Reference Model (SCORM): It is an Extensible Markup Language (XML) based framework to be followed while developing learning objects so that it can be of use among Learning Management Systems (LMS). XML is used for creating information formats and electronically share structured data via internet or corporate networks. The accessibility, interoperability and reusability of the learning content is

ensured through SCORM .

<https://searchmicroservices.techtarget.com/definition/Shareable-Content-Object-Reference-Model-SCORM>

Aviation Industry CBT (Computer Based Training) Committee (AICC): This DOS-based digital audio guideline (AGR-003) was the first standard to be adopted by the e-learning industry in 1988 before the advent of window multimedia standards. It is still actively used in the aviation industry. AICC is a professional organization that deals with development, evaluation and delivery standards for computer based training.

Institute of Electrical and Electronics Engineers (IEEE) IMS Standards: The IEEE is a leading source of standards for telecommunications, information technology and power generation.
<https://ihsmarkit.com/products/ieee-standards.html>

Instructional Management System Global Learning Consortium (IMSGLC)

The IMS GLC focus on higher education and also interoperability needs of K-12 education in corporate and government training contexts with 190 organizations as members. The following websites give details of its functioning.

<https://www.learningsolutionsmag.com/articles/1306/ims-global-learning-consortium-interoperability-standards-for-education&>

<http://www.imsglobal.org/background.html>

The World Wide Web Consortium: According to its formal website, <https://www.w3.org/Consortium/mission.html>, W3C's mission "is to lead the World Wide Web to its full potential by developing protocols and guidelines that ensure the long-term growth of the Web".

The Modern Paradigm for Standards of W3C has five principles :

- 1) cooperation
- 2) Adherence to principles of standards development
- 3) Collective empowerment
- 4) Availability
- 5) Voluntary adaptation (<https://open-stand.org/about-us/principles/>)

<https://www.w3.org/Help/#activity>

The Internet Engineers Task Force (IETF) The Internet Engineering Task Force (IETF) is concerned with the guidelines for Internet architecture and also operation of the Internet. It provides internet standards and protocols <https://www.dialogic.com/glossary/internet-engineering-task-force-ietf>

According to its official website, Working Groups are formulated for the development of IETF specifications and guidelines to address a specific problem or to produce one or more specific guideline, or standards specification . <https://www.ietf.org/>.

The International Organization for Standards (ISO): It is a **nonprofit organization** that develops and publishes standards for wide range of products, materials and process including information technology. <https://webstore.ansi.org/SDO/ISO>

The ISO is comprised of 162 national standards bodies as its members, and is located in Geneva, Switzerland. <https://www.investopedia.com/terms/i/international-organization-for-standardization-iso.asp>. One of the recent standards developed by ISO and the International Electrotechnical Commission (IEC), ISO/IEC TS 27008, *Information technology – Security techniques – Guidelines for the assessment of information security controls*, provides guidance on assessing the controls in place to ensure they are fit for purpose, effective and efficient, and in line with company objectives for protecting companies from security threats. <https://www.iso.org/news/ref2367.html>.

European Computer Manufacturers Association (ECMA) International: ECMA International was established in 1961 to make standards for Information Communication Technology and consumer electronics. Published so far 524 standards and they can be freely accessed from the website <http://www.ecma-international.org/>.

iNACOL(International council for Online Learning)

According to iNACOL, there are three different roles in online learning such as Course Designer, Instructor, Program Administrator/Manager and

national standards. For each of these roles there are national standards, for ensuring the quality of online teaching of online programs and online courses and these standards have been published since 2007.

These standards help in maintaining quality, equity and accessibility to make online learning or e-learning serves its purpose. The learners are provided with good quality material through out the world and their disabilities if any do not act as barrier.

8. Authoring tools: open source and proprietary alternatives

According to W3 Org., authoring tool is the software, or collection of software components, that is used to create or modify web content.

<https://www.w3.org/standards/agents/authoring>

It is used to write the web pages. It is also known as Author ware which enable as to write hypertext and multimedia application.

Examples are: tools for publishing content, content management systems (CMSs), social media profile pages and apps, blogging tools and sites, microblogging tools, social bookmarks, forums, and video and photo sharing and more. Some of the common software used for authoring are given below:

- Adobe Presenter 11: PowerPoint presentations is turned into e-learning materials. No special training or technical expertise is required. It is a proprietary software with many advanced features.
- Udu: It is an opensource authoring tool that enables the preparation of training materials with customizable themes of templates and pre built game scenarios.
- Elucidate: It's a cloud based authoring tool with 30 days free trial. It has an extensive library of pre-built templates, user friendly, no codes are required for developing the e content.
- Adapt: It is an open source authoring tool that creates responsive HTML5 content.
- Course builder: Its an open source authoring tool developed by Google.it is possible to present the course material, include instructions, assessments, and activities for students.

-
- The Hot Potatoes suite includes six applications which enables to create interactive multiple-choice, short-answer, jumbled-sentence, crossword, matching/ordering and gap-fill exercises for the World Wide Web. Hot Potatoes is freeware, and it may be used for any purpose or project. It is not open-source.

9. Summary

This module covered the following

- Word processing: Definition of word processing and its uses in creation of documents, Spread sheet is a computer application for organization, analysis and storage of data in tabular form and also outline uses of spreadsheet; Presentation software is a category of software application program used to present the main points
- Drawing tools: software applications that can help us draw pictures, diagrams, concept maps, timelines and flow chart construct diagrams,
- Reusable learning objects: Free videos, blogs, OERs, Presentations that can be used in a variety of teaching learning situations.
- e-content standards: E-content standards are guidelines for e-content developers.
SCORM, AICC, IEEE, IMSGLC, W3C, IFTF, ISO, ECMA, iNACOL are some such standards
- Authoring tools: Any software that are used to create web content, there are proprietary and open source authoring tools.

Quadrant-III

References

Chaamwe ,Nchimunya and Shumba, Langstone (2016) ICT Integrated Learning: Using Spreadsheets as Tools for e-Learning, A Case of Statistics in Microsoft Excel International Journal of Information and Education Technology, Vol. 6, No. 6, June 2016 Available at <http://www.ijiet.org/vol6/728-E205.pdf>

Collins English Dictionary – Complete and Unabridged, 12th Edition 2014 © HarperCollins Publishers 1991, 1994, 1998, 2000, 2003, 2006, 2007, 2009, 2011, 2014

Douglas R. Vogel , Gary W. Dickson and John A. Lehman (1986) Persuasion and the Role of Visual Presentation Support: The UM/3M ,Working paper series, Study Management Information Systems Research Center retrieved from <http://misrc.umn.edu/workingpapers/fullpapers/1986/8611.pdf>

Hamilton, Boni (2019) Integrating Technology in the Classrooms: Tools to meet the needs of every student, ISTE.

Pancare, Rachel(2018) How to Use Charts & Diagrams in Classrooms.Updated June 27, 2018 <https://classroom.synonym.com/use-charts-diagrams-classrooms-5836308.html>

Pappas,Christopher (2016) Developing Reusable Learning Objects:9 characteristics to consider. <https://elearningindustry.com/developing-reusable-learning-objects-characteristics-consider>

Peter,B.C(2000)"Teaching business statistics with Microsoft Excel," vol. 1, no. 1, pp. 18-26, 2000.

Rouse, Margaret (March 2011). "presentation software (presentation graphics)". WhatIs.com. <https://whatis.techtarget.com/definition/presentation-software-presentation-graphics>

Weblinks

<http://wordprocessing.about.com/>

<http://www.gcflearnfree.org/word2010>

<http://www.webmediaworkshop.com/Classes/cs100/mod.wp/unit.3/outline.html>

http://miitnotes.weebly.com/uploads/9/8/4/1/9841023/lo1_word_processing_uses_and_features.pdf

<http://www.differencebetween.net/miscellaneous/difference-between-aicc-and-scorm/#ixzz5extyfaMU>

<https://www.bahrain.bh/wps/wcm/connect/0f54aba2-5425-43d7-9f4b-1eda17c50a21/Standards+for+e-Content+Development.pdf?MOD=AJPERES>

<https://classroom.synonym.com/use-charts-diagrams-classrooms-5836308.html>

<https://www.computerhope.com/jargon/s/spreadsheet.htm>

<https://www.dialogic.com/glossary/internet-engineering-task-force-ietf>

https://en.wikipedia.org/wiki/Presentation_program

<http://www.elearninglearning.com/learning-objects/examples/?open-article-id=8398873&article-title=using-learning-objects-as--knowledge-packages--to-achieve-learning-objectives&blog-domain=docebo.com&blog-title=docebo>

<https://elearningindustry.com/10-authoring-tools-easy-elearning-design>

<https://www.learningsolutionsmag.com/articles/1306/ims-global-learning-consortium-interoperability-standards-for-education>

<https://elearningindustry.com/developing-reusable-learning-objects-characteristics-consider>

<https://epublications.bond.edu.au/cgi/viewcontent.cgi?referer=https://www.bing.com/&httpsredir=1&article=1001&context=ejsie>

<https://www.enkivillage.org/free-drawing-software.html>

[Historic look at presentation software in 1983](#)

<https://www.bing.com/videos/search?q=Historic+look+at+presentation+software+in+1983+on+YouTube&qpv=Historic+look+at+presentation+software+in+1983+on+YouTube&view=detail&mid=191B1133B6B273AA9A56191B1133B6B273AA9A56&&FORM=VRDGAR>

https://en.wikipedia.org/wiki/Presentation_program

<http://www.imsglobal.org/background.html>

<http://www.inspiration.com/visual-learning/concept-mapping>

<http://www.inspiration.com/inspiration-science-examples>

<https://www.ietf.org/>

<http://misrc.umn.edu/workingpapers/fullpapers/1986/8611.pdf>

<https://open-stand.org/about-us/principles/>

<https://searchmicroservices.techtarget.com/definition/Shareable-Content-Object-Reference-Model-SCORM>

<https://sites.google.com/site/projectsthatpop/tool-options/timeline-tools>

<https://socioed.wordpress.com/2017/03/11/145-presentation-software/>

http://www.riemysore.ac.in/ict/unit_12_econtent_and_open_educational_resources.html

<https://www.techopedia.com/definition/16572/presentation-software>

<https://templates.office.com/en-us/History-timeline-TM16411244>

<https://whatis.techtarget.com/definition/presentation-software-presentation-graphics>

<https://www.w3.org/standards/agents/authoring>

http://miitnotes.weebly.com/uploads/9/8/4/1/9841023/lo1_word_processing_uses_and_features.pdf

<https://zapdoc.tips/regional-institute-of-education-national-council-ofeducation9f5b9421beeaf34f01e7a23dd82577af20229.html>

<https://study.com/academy/lesson/what-is-word-processing-software-definition-typesexamples.html> <https://quizlet.com/138094668/lesson-11-flash-cards/> <https://slideplayer.com/slide/12513454/>

<https://quizlet.com/113677977/web-design-ch1-ch4-flash-cards/>

<https://www.bahrain.gov.bh/wps/wcm/connect/0f54aba2-5425-43d7-9f4b-1eda17c50a21/Standards+for+e-Content+Development.pdf?MOD=AJPERES>

https://www.researchgate.net/publication/237412370_Teaching_Business_Statistics_with_Microsoft_Excel

<https://classroom.synonym.com/use-charts-diagrams-classrooms-5836308.html>

<https://www.docebo.com/blog/what-is-learning-objects-elearning-2/>

<https://www.computerhope.com/jargon/s/spreadsheet.htm>

<https://www.enkivillage.org/free-drawing-software.html>
<http://www.inspiration.com/visual-learning/concept-mapping>
<https://templates.office.com/en-US/Event-timeline-diagram-slid>
[https://quizlet.com/138094668/lesson-11-flash-cards,](https://quizlet.com/138094668/lesson-11-flash-cards)

Manipulating Text with Word –

<http://www.webmediaworkshop.com/Classes/cs100/mod.wp/unit.2/outline.html> Unit 3
http://miitnotes.weebly.com/uploads/9/8/4/1/9841023/lo1_word_processing_uses_and_features.pdf

<http://www.webmediaworkshop.com/Classes/cs100/mod.wp/unit.1/outline.html> Unit 2

```
<a href="https://open-stand.org/wp-content/uploads/2014/08/OpenStand_5Principles_v4b.png"></a>  
_v4b" width="800" height="auto" /></a>
```

https://tr.m.wikipedia.org/wiki/Sunum_program%C4%B1

Quadrant-IV (Self-Assessment)

1. Most popular Word processor is
 - a) LibreOffice Writer
 - b) WordPerfect
 - c) MS Word
 - d) Google Doc
2. Which of the following can be used for preparing results using “if statement”?
 - a) MS word
 - b) MS Excel
 - c) WordPerfect
 - d) LyX
3. Which of the following was the first presentation software?
 - a) MS PowerPoint
 - b) Crememco
 - c) BRUNO
 - d) ExecuVision
4. Gimp is a software utilized for
 - a) Word processing
 - b) Spread sheet
 - c) Presentation
 - d) Diagrams
5. Diagrammatic representation of the solution to a problem is done using
 - a) Flow chart
 - b) Concept map
 - c) Mind map
 - d) Timeline
6. Which of the following statement is not true regarding a Reusable learning Object
 - a) It should be in the digital format using HTML5.
 - b) It must be of multipurpose for it to be reused again and again
 - c) It should not support the learning objective
 - d) It must be easy to adapt, update and customize
7. Which of the following type of standard “may not be formally published but is a widely used and well established common practice”?
 - a) De facto
 - b) De jure
 - c) Mandatory
 - d) Voluntary
8. The first standard to be adopted by e-learning industry

-
- a) SCORM
 - b) AICC
 - c) IMS
 - d) W3C
9. Which of the following is an opensource authoring tool?
- a) Adobe Presenter
 - b) Uduntu
 - c) Course Builder
 - d) Elucidat
10. Which of the following is a freeware used for preparing interactive multiple choice questions?
- a) Adobe Presenter
 - b) Course Builder
 - c) Hot Potato
 - d) Adapt

Answer Key

1.C 2. B 3.C 4. D 5.A 6.C 7.A 8. B 9.B 10.C