

**SUAN SUNANDHA
RAJABHAT UNIVERSITY**

ETI 6303

**Innovation and Information
Technology Management for
Administration**

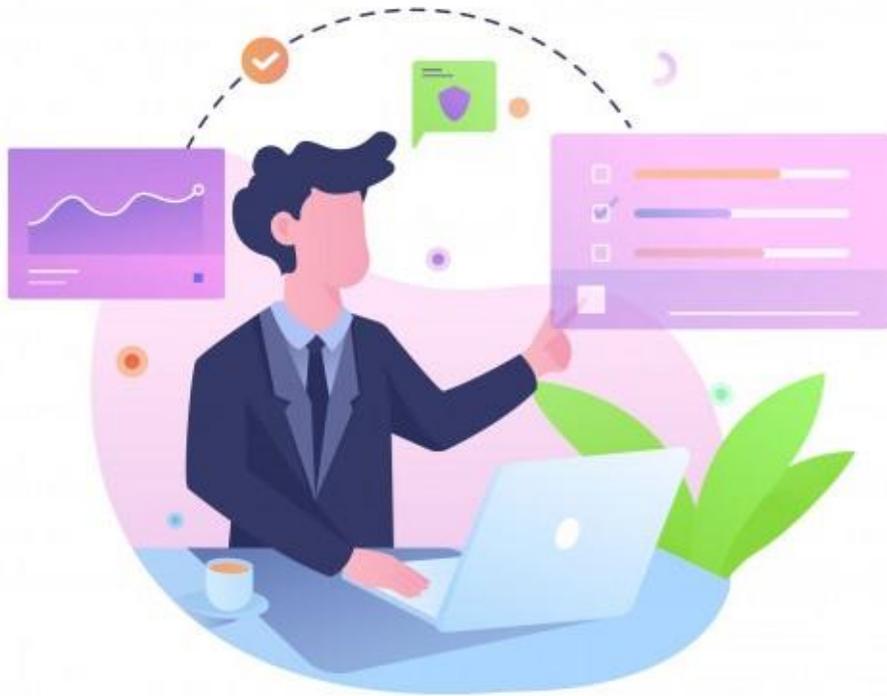


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Assoc.Prof.Dr.Nuntiya Noichun

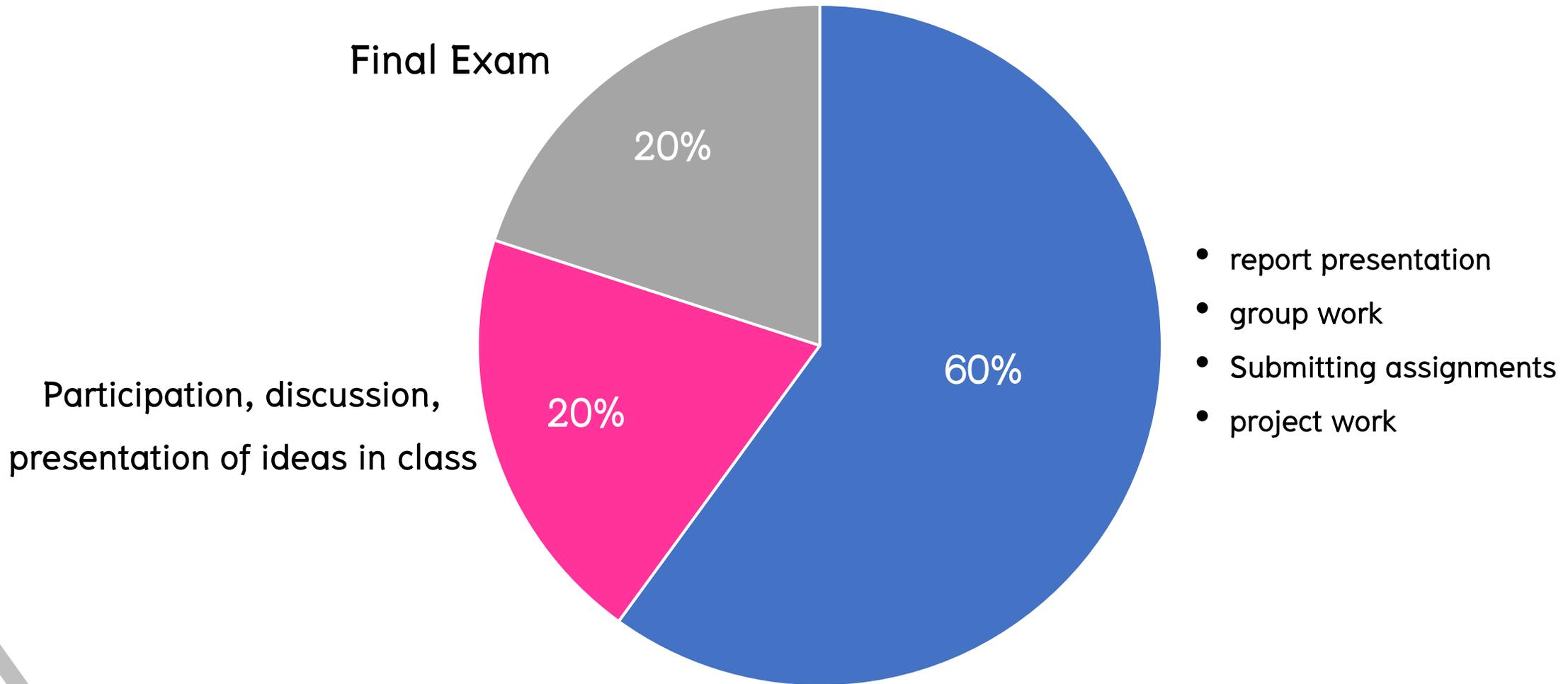


Course Description



Roles and the importance of information system for administration, fundamental techniques of communication system and network of information system building including management of information technology network for educational administration, educational innovation and administration, implementation of innovation for learning management and educational administration, innovation together with the development of information system, information system administration including efficient administration of information system in educational institution

Learning Evaluation



Topic

Week	Date	Topic
1	14/07/21	Introduction
2	21/07/21	Roles and the importance of information system for administration
3	28/07/21	Fundamental techniques of communication system and network of information system building
4	4/08/21	Management of information technology network for educational administration,
5	11/08/21	Educational innovation and administration
6	18/08/21	Implementation of innovation for learning management and educational administration,
7	25/08/21	Innovation together with the development of information system,
8	1/09/21	Information system administration
9	8/09/21	Efficient administration of information system in educational institution
10	15/09/21	Design Thinking



Technology and innovation management means **recognizing technological trends early on and using new technologies for product innovations.**



Innovation has been a phenomenon which for centuries serves the only purpose of making human beings' lives more comfortable. Throughout history, supporting, generating and implementing innovation has been of outstanding importance not only for the well-being but sometimes the survival of individuals, entities and even for whole civilizations and nations.

Over the last few decades, our understanding of innovation and its overall impact on national welfare has changed considerably. Innovation has commonly been understood as the ‘... implementation of a new or significantly improved product (good or service), or process, a new marketing method, or a new organizational method in business practices, workplace organization or external relations.’



Innovation practice today shows that innovation is by nature a value-free term and comprehensively covers the whole spectrum of activities from discovery to first time practical application of new knowledge. Moreover, innovation aims to fulfil recipients' requirements and goals in a new way; and it stresses that risk and uncertainty are inherent at all stages of innovation processes.



In light of the development of innovation concepts, models of innovation and innovation processes have evolved. Meanwhile, there is a broad range of models about innovation processes.



All these models share a common understanding that innovation activities can broadly be described and visualized in process models. Some models describe the life cycle of innovation by an S-shaped logistic function, which consists of three separate phases reflecting the application phases of its development: emergence, growth and maturity. Other studies emphasize the characteristics of innovation which are defined according to its development stages.



The distinguishes and recognition of the invention, development, realization and distribution as phases of innovation process. In general, linear models of innovation distinguish the discovery (invention), the definition of possible spheres of applications of the results of innovation, its development, design and use as phases of the innovation process) for simplistic description of innovation processes).



The evolving understanding of innovation as a *process* of activities raises new challenges to innovators. Although innovation is commonly regarded the outcome of a process of activities, these are by no means always succeeding in linear shape but involve several feedback loops. Hence, typical activities and steps are common for many innovation projects but the uncertainty of achieving results and finishing an activity with the required quality force innovators to feedback between the activities in order to improve the final solution.



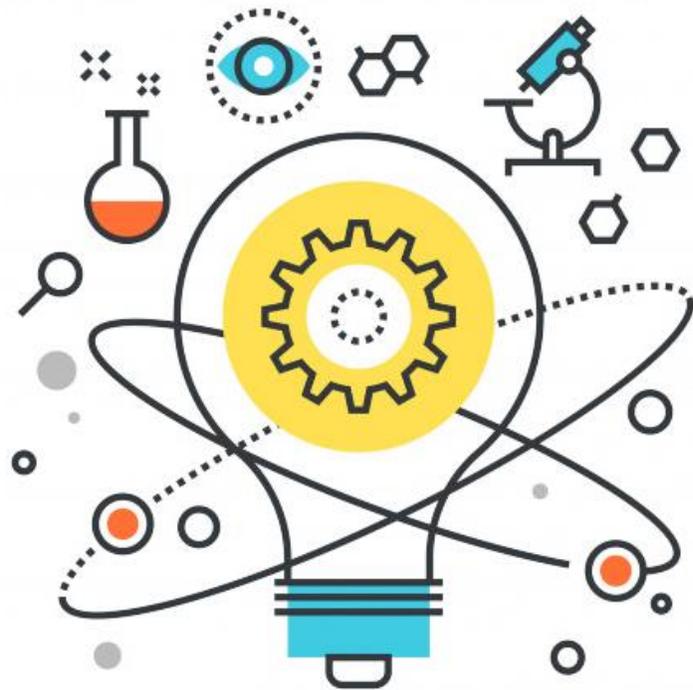
These challenges are expressed in the increasing complexity of innovations which are in turn also determined by the complexity of the surrounding, ‘framework’ conditions. Consequently, the complexity—expressed by the number—of information sources, knowledge and application fields for innovation is rising. In this light, innovators need to analyse and process more information for the same purpose



Furthermore, until recently, innovation was considered as a process or a sequence of activities and steps but the surrounding factors such as company culture for innovation and the meaning of human resources for innovation were only partially reflected. Therefore, the authors consider it important to review the existing academic works which analyse the understanding of the emergence of innovation from a management perspective (innovation management) and from the macro perspective.



Definition of Innovation



Innovation comes from the verb "Innovate", meaning that it has been re-made to create something new in the old Thai language, using the word "innovation", and then changing the word innovation to mean bringing new things in addition to the way they were used to be better.



Therefore, regardless of the industry or business, when new changes are introduced to improve the work, it is called innovation in the industry, such as in the education industry, it is called "educational innovation".

Definition of Information Technology



The meaning of educational information technology refers to the application of information technology to educational tasks, including storing data and processing databases. The development of information systems to help teaching and learning. Education Planning and Management Course planning, guidance and services Human Resource Development Testing





So, when words are included, technology refers to the science of techniques, methods or practices using scientific knowledge systematically when the technology is used in education. It's called educational technology.

Information Concepts



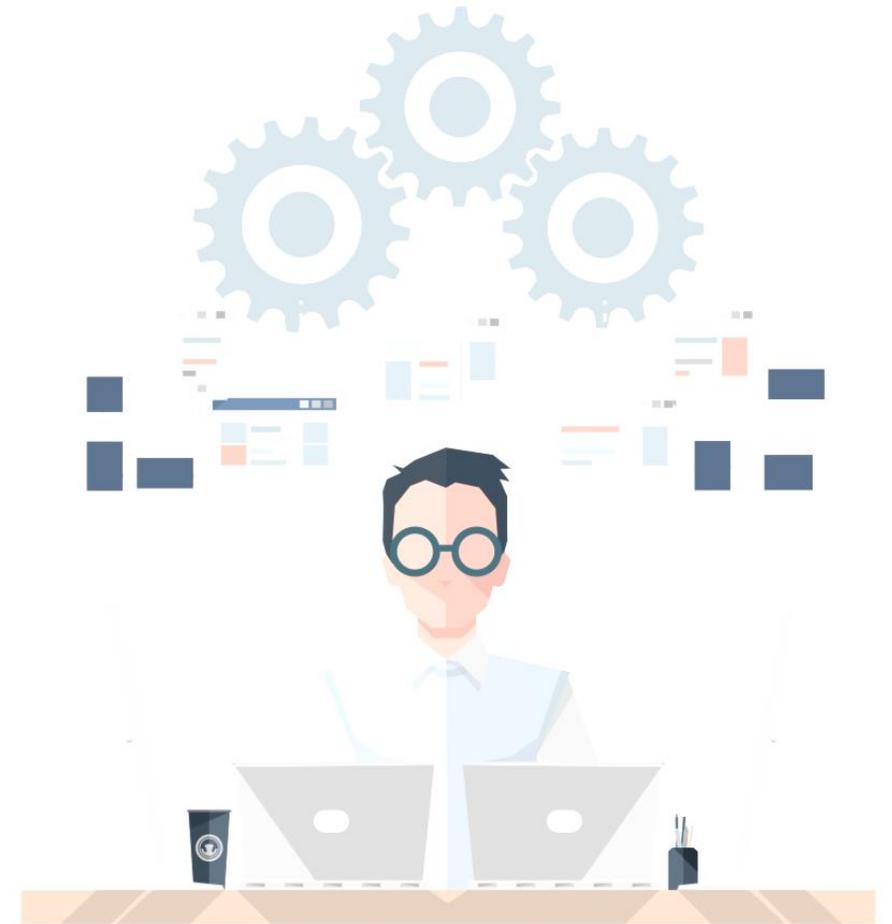
Information Technology refers to information processing technology that covers transfer, conversion, and processing. Data storage, processing, and retrieval of information in application, service, and technological basis can be divided into 3 subgroups:



The importance of information



Nowadays, IT has increased significantly in everyday life. The work life and operation of organizations can sometimes be compared to the pedigree that nurtures almost every aspect of the organization, and the impact of information is widespread. At the individual level. Organizational groups as well as working in various professions.



Definition of Data

Data is facts about events or raw data that have not yet been processed. There is no meaning to implementing it yet. Letters, symbols, pictures, sounds, or animations.



Information



Definition of Information

Information is data that has been processed or organized to provide meaning and value for users.



Characteristics of good information



The value of each person's information does not have to be the same.

Time dimension

Content Dimension

Format Dimension

Process dimension



Time dimension



- Timeliness » Can be found quickly and quickly in time.
- Up-to-date » Keep information up to date.
- Time Period » Historical Data This will be useful for planning and decision making.

Content Dimension



- Accuracy » Information which has no errors.
- Relationship with Subject » Consistent with Subject Required.
- Integrity » Cover all important details you need to know.
- Reliability » Depends on data collection and data source.
- Verifiable » Validation and Source.

Format Dimension



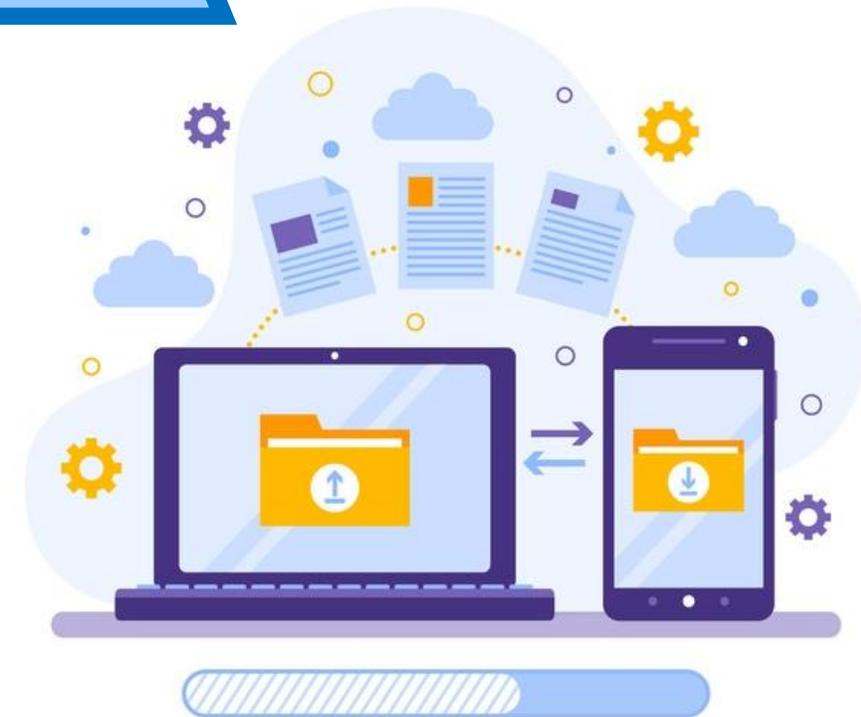
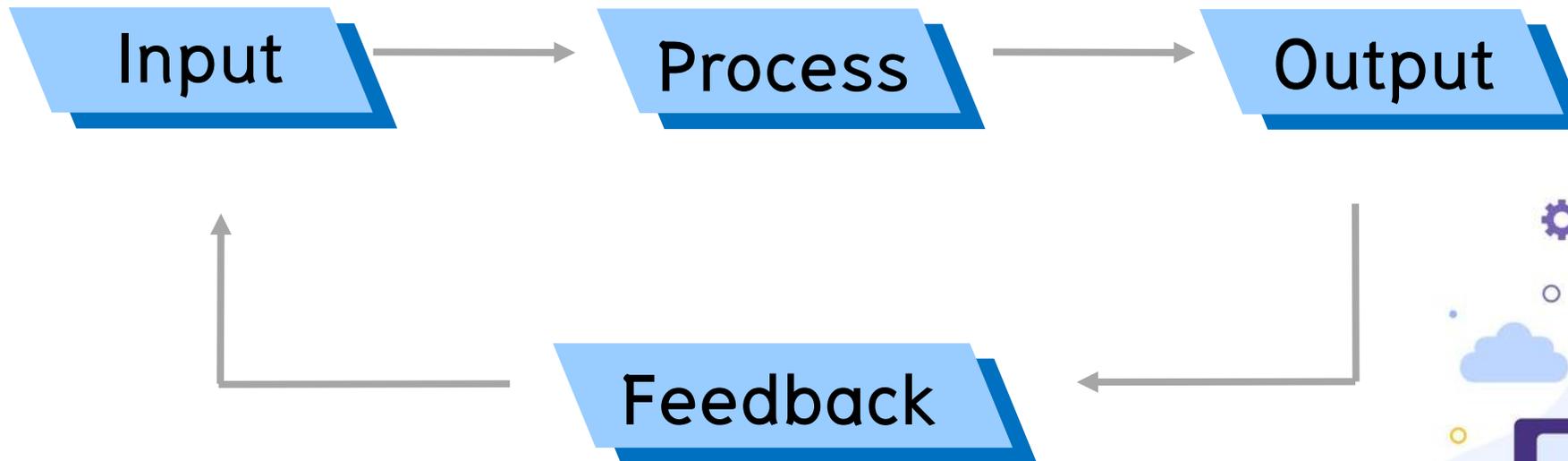
- clarity
- Level of detail presentation
- Presentation Format
- Presentation Media
- elasticity
- economy

Process dimension



- Accessibility
- participation
- Quick Links

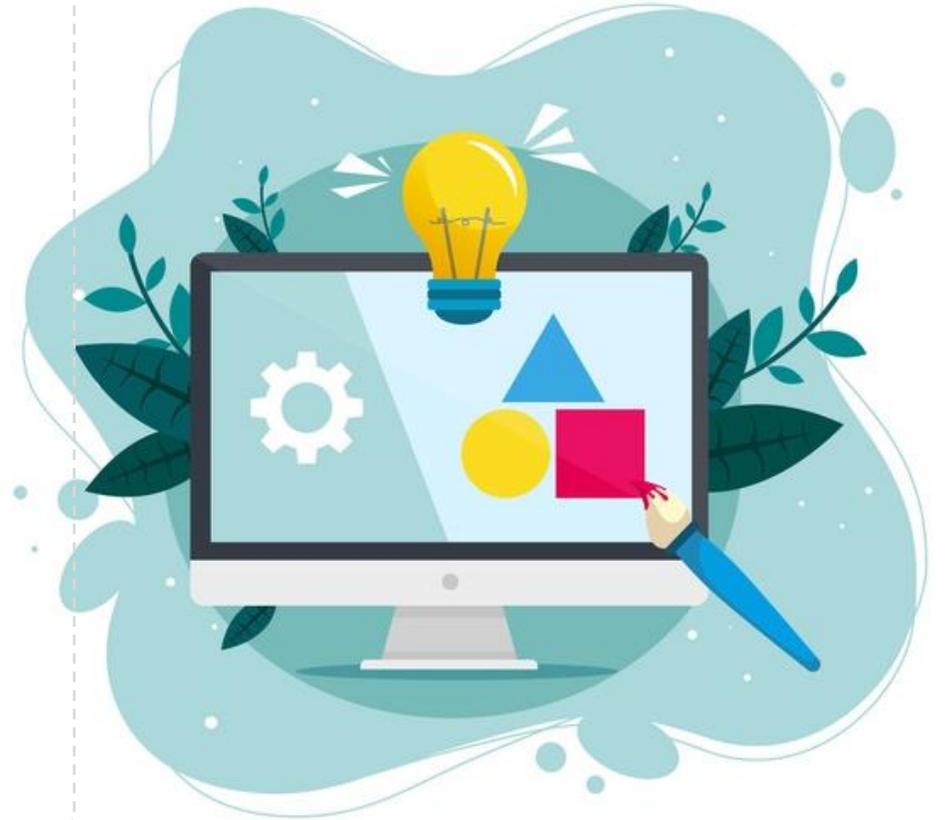
Information Systems



Computer Base Information System



- Hardware
- Software
- Data
- Telecommunication
- Procedure
- People

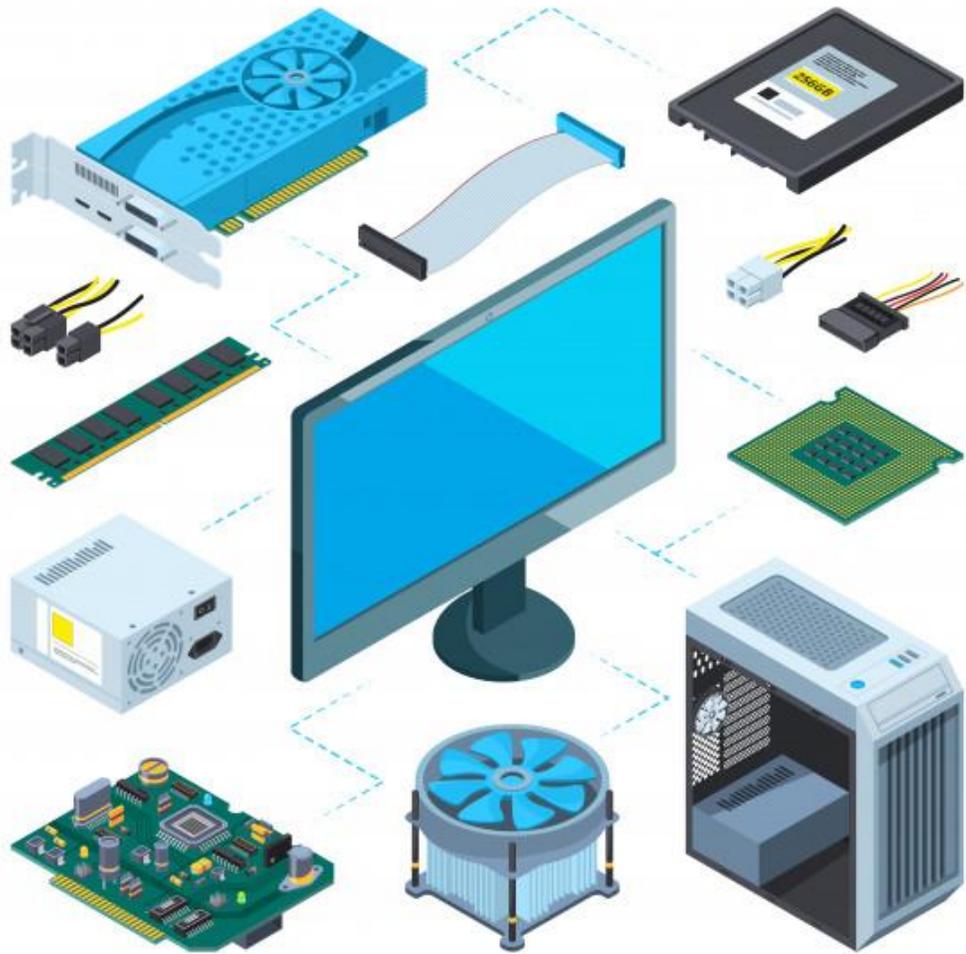


Hardware

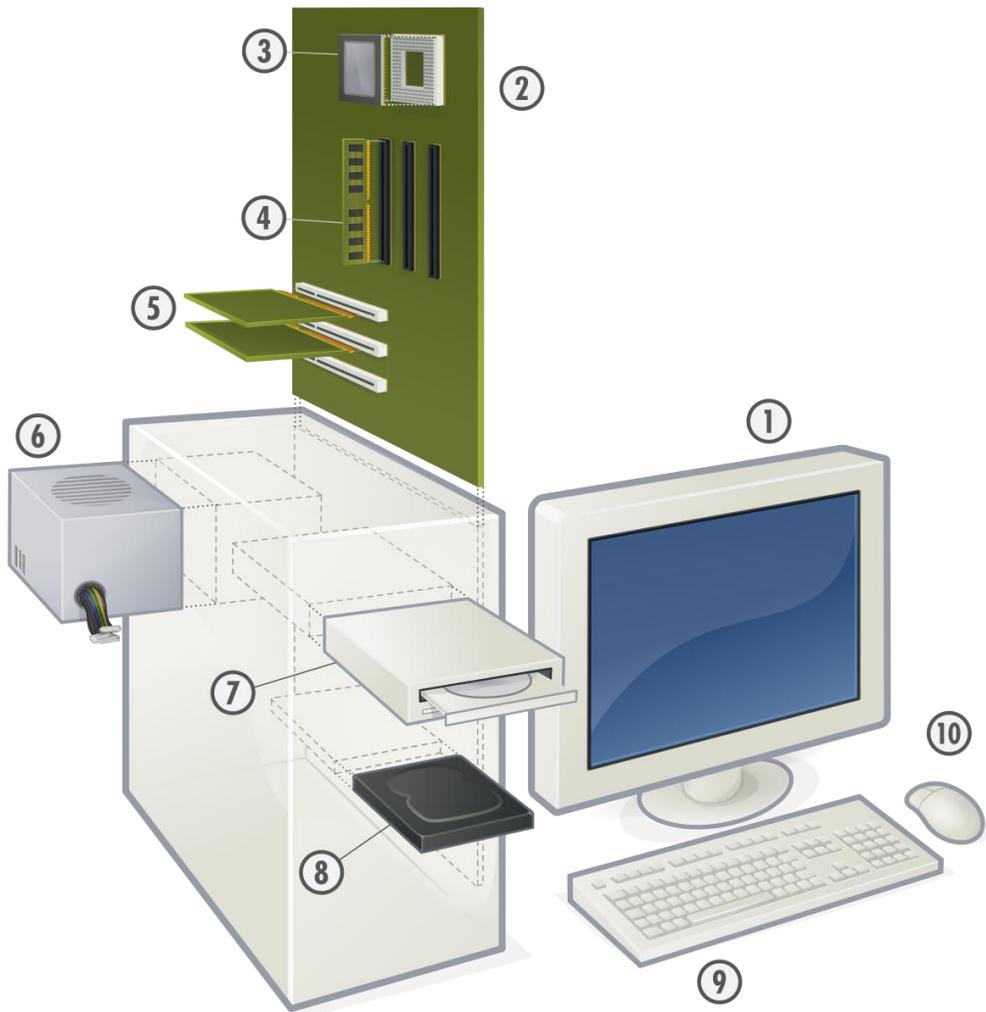


Hardware refers to computers and related devices that are visible or tangible.



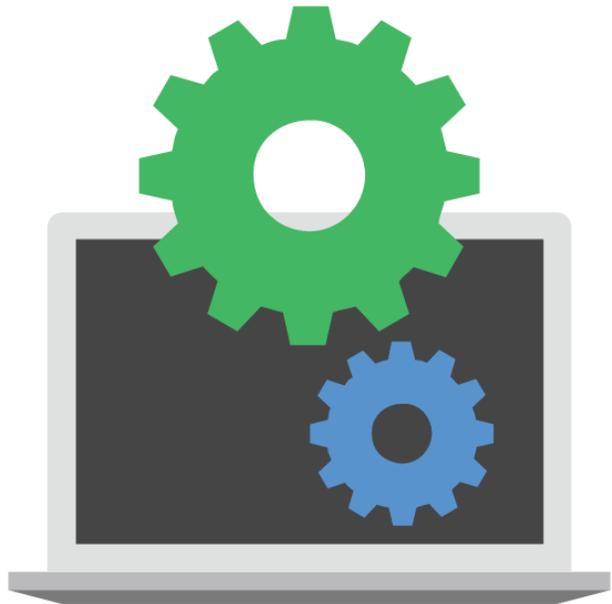


- CASE
- Mainboard
- Power Supply
- Hard disk
- RAM
- CD-ROM Drive
- Printer
- Scanner
- Digital Camera



- CPU
- Mouse
- Keyboard
- Sound Card
- VGA Card
- Monitor
- Modem
- Lan Card

Hardware Components



Input Unit

Central Processing Unit

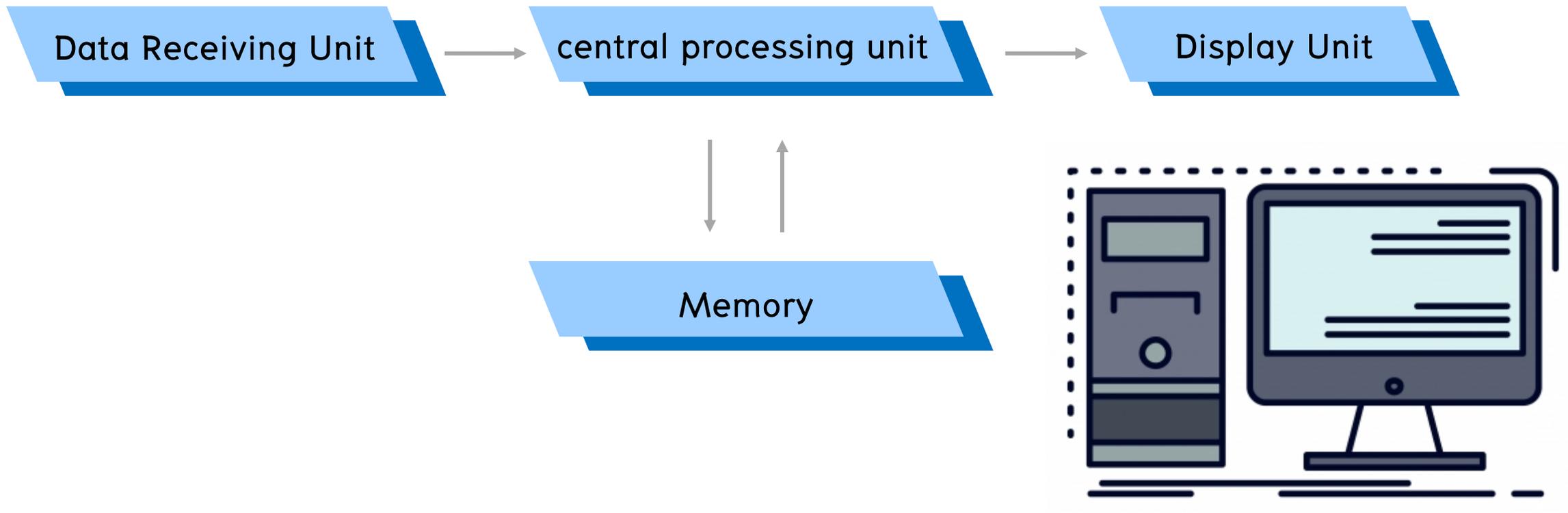
- Control Unit
- Calculation unit

Input Unit

- Primary Memory
- Backup Memory

Display Unit

Hardware



Software



A set of commands or command programs written by humans to keep the computer running as needed under the control of the control unit.

There are two types:

System Software

Application Software



System Software

- OS: Operating System
- Program Loader
- Translation Program
- Utility Program



Application Software

- Package Program
- Programs written by programmers themselves

Data



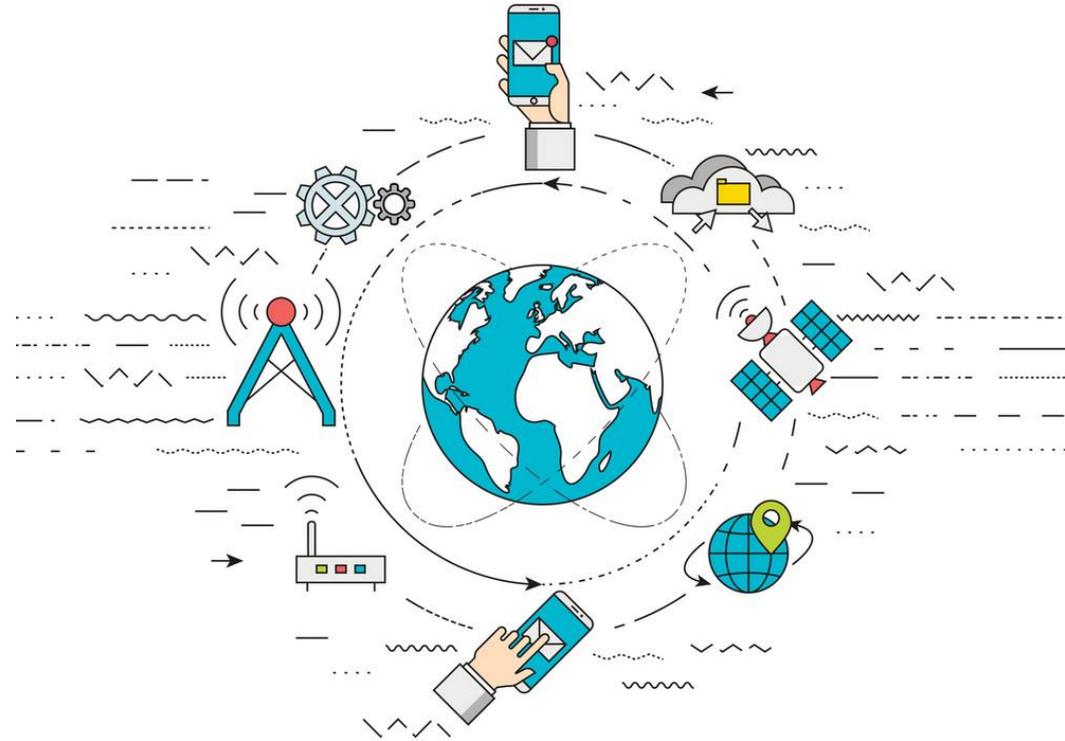
In data processing, computers process data or information entered the receiving unit. If the input is correct, the field is right. The result must be reliable.



Telecommunication



Today's computer systems must consider system links. A method of movement used to communicate so that computers can communicate with each other, such as communication through stars. This includes devices used to link in networking.



Procedure



A process or procedure refers to the steps that a user must follow in order to obtain specific tasks from a computer in which all computer users must know the basic functions of the computer. In order to be able to use it correctly.



People



Most computers require personnel to operate them. These people are called users or users, but there are some types that can work on their own without a controller. However, computers must always be designed or maintained by people.



Structure of information system



The structure of the information system is divided into two types:

Information Systems by Information Usage

Information Systems by Activity

Information Systems by Information Usage

The structure of the information system resembles a pyramid, with a wide and narrow base converging into sharp corners, which means that each level requires different information. But the structure of the information system resembles a pyramid– the same.



Information Systems by Activity



Structure of information system



1st level

Transaction Processing



To prepare information for reporting, data must be collected and entered to process items from list data in a repetitive transaction.

2nd level

Operational Planning



It is an information preparation for the purpose of planning details related to daily operations. Control operations efficiently under equipment Limited tools and budgets

3rd level

Tactical Planning



It is an information preparation for short-term planning purposes for determining how resources are provided. System structure Plan your power rate in the short term to align with your strategic planning.



It is an information preparation for long-term planning purposes. Strategically placed Set goals General policies and guidelines that represent the overall goals of the organization.

Information Systems for Executives



Executive Information Systems–EIS

Executive Support Systems–ESS

- ESS is a type of information system that supports the work of senior executives, especially in matters of organizational importance or the direction of operations of the organization, by rapidly accessing information.
- It has an easy-to-use layout.

EIS Functions

- Help with strategic planning
- Assists in strategic control
- Networking
- Help to monitor the situation closely.
- Help to deal with crisis management



Executive Information Systems–EIS



Dataware House

- Internal Information
- External Information

Access to all types of information



EIS

- Analysis/Decision Making
- Drill down
- Ready-made software
- Use ESS and AI

Supports flexible reporting and is an information analysis tool.



Help executives identify problems and create opportunities.

Source: Adjust from Haag et al.(2000:68).

Eis General Capabilities

- Data Warehouse Access
- Use drill down capability
- Presenting information in a flexible manner
- Access to a wide range of information
- Using trends analysis models



EIS Features

- Support strategy planning and strategy planning
- Link to the environment outside the organization, especially the news generated by the external environment.
- It has the ability to calculate a wide picture because it involves problems with uncertain structure and lack of clarity.
- It is easy to learn and use, since executives have many yard activities, or it can be said that executive time is very valuable.
- Developed specifically for executives

EIS and ESS relations

- EIS – Senior Executives
- ESS – Intermediate Management
- EIS – Designed to be easy to use, with the DSS chart table providing decision-making information based on job characteristics.
- Differences in skills between EIS and DSS



Information benefits for administrative use



For planning purposes.

For decision making.

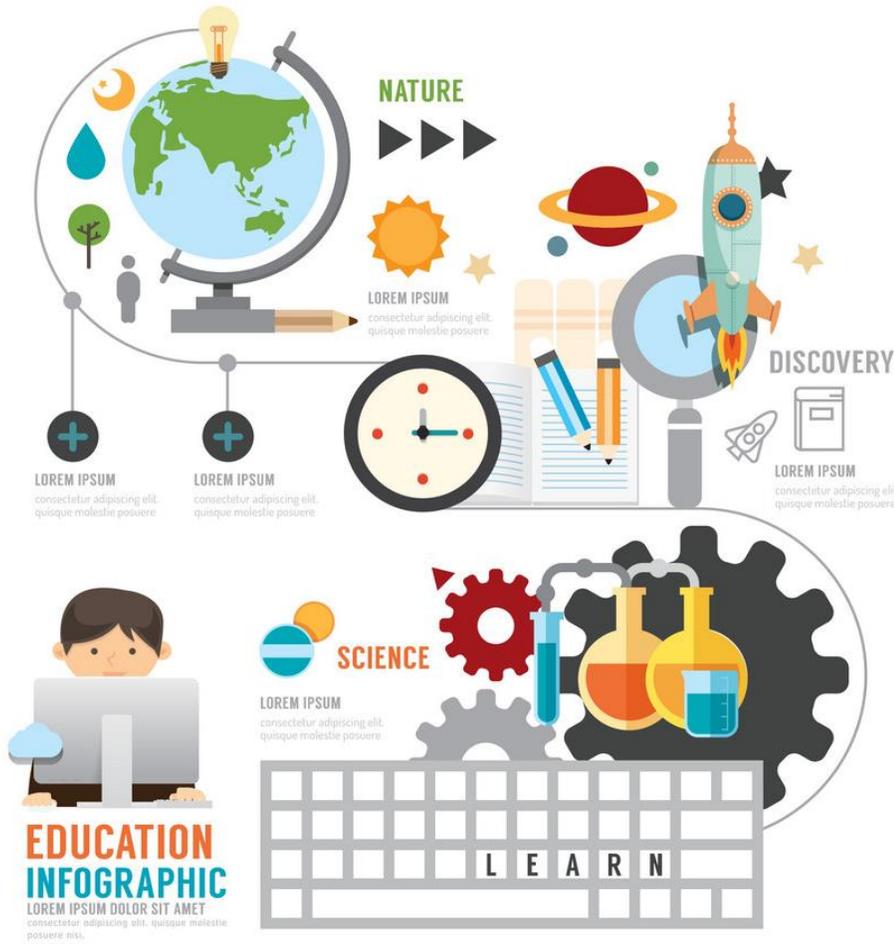
For operations purposes



The Importance of Innovation and Information Technology for Learning

Innovation is important for many studies. This is because in a world of globalization, the world is changing in all aspects especially rapidly. In the field of advancement in educational technology and information, it is necessary to evolve from the existing education system. To modernize the changing technology and changing social conditions.





It also effectively addresses some educational issues. As well as changes in education, education innovation is needed to be used to address educational issues such as problems related to many learners.

The Role of Innovation and Educational Information Technology



1. Education technology makes teaching more cured, allowing learners to study more extensively, giving teachers more time to learn.

2. Educational technology can meet the differences of learners, they can learn according to the ability of the learner, the instruction will be to meet the interests and needs of the individual.

3. Educational technology makes educational management set on the foundation of scientific methods, making education organized systematically and step by step.

4. Educational technology makes education more powerful, adopting media technology as a tool to make education more powerful.

5. Educational technology allows learners to learn extensively and experience the most real-life conditions.

6. Educational technology allows educational opportunities including systemic education, informal education, and informal education.



Using Innovation and Information Technology for Learning



The use of innovation and technology in educational management is used in teaching and learning. If the two are used together by applying new scientific techniques and inventions called "INNOTECH", which comes from the full term "Innovation Technology", it brings together innovative words and technologies.



Currently, there are no current terminology that is required by the school. Apply new subjects, innovation, and new techniques that are innovation together with ready-made artifacts as teaching aids, which is technology used to organize teaching and learning that it is time to do. BRING INNOTECH INTO A SCHOOL OR SCHOOL



Things to keep in mind when applying innovation and technology in education, applying innovation and technology to education and teaching.

1. Efficiency

In teaching, the instructor must be fully taught and complete the full course full time with satisfaction. Full Energy and Satisfaction are used in the media.

2. Productivity

In order to provide instruction to achieve the intended purpose for which students are learning to achieve their objectives better than not using the media.

3. Economy

In the use of innovation and technology to help with teaching and learning. The right conditions must be taken into account, which must be saved, that is, saving money, saving time and saving labor.

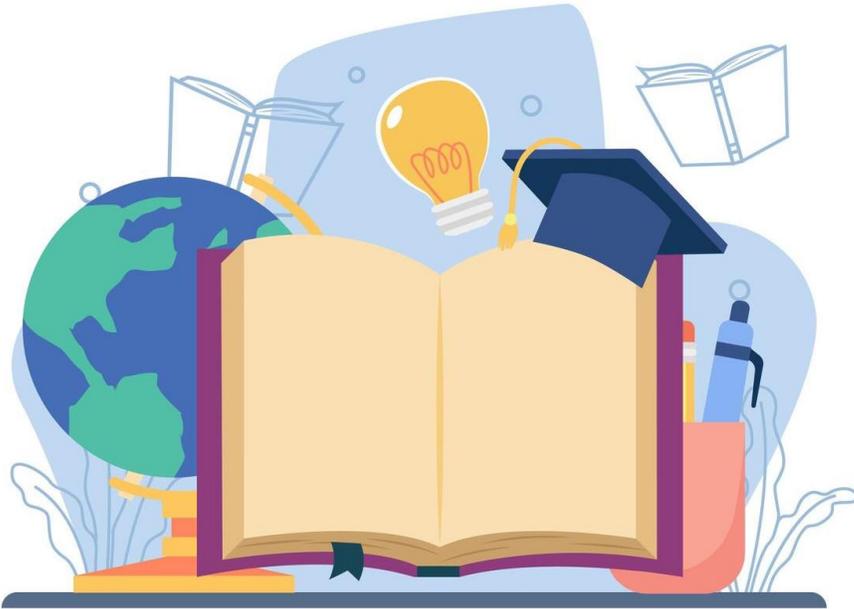


There are 4 effective lesson objectives:



1. Enable students to actively participate in learning with satisfaction and willingness to learn.
2. Giving learners a sudden reverse help motivates them to continue learning.
3. Empower learners by providing a successful experience with satisfaction.
4. Let students learn step by step No quenching. Study with interest, satisfaction.

The role of computers that need to be used in education



computer Applications into Administration

Computer –Managed Instruction

Computer –Assisted Instruction : CAI



Using database management technology of educational organizations can have many positive effects, such as having a database that is self-integrated. There is a systematic separation of storage without the user having to do anything else in regards to packing data. Works with multiple groups of users and reduces data redundancy because it is compatible. Eliminate data mismatch

Users can use the data and control the use of it at the same time. Measures can be imposed to control and change data. Data standards are set in line with each other and keep all aspects of the data connected.





Adoption of innovative and modern technology to improve teaching and learning

The method of education can be divided into the following topics:

such as

- Individual education, group education, mass education.
- Distance Education Open System Education Continuing Education Adult education, etc.





The use of technology supports the decisions of educational organization executives.



Technology helps make decisions and is necessary because of the decision-making process. It is necessary to rely on many factors. There is a lot of relevant information. Several stages are performed, but time is limited. Therefore, information technology professionals are trying to develop systems that facilitate the decision-making process to affect the various aspects of the work resulting from the decision.

Use of information technology for the administration of educational organizations



Education organization executives are responsible for many fields such as budget and finance. Human Resources Buildings, educational programs and student jobs, etc. These tasks are also divided into many sub-task systems. Therefore, executives need a good information system or information system. That is to say, it is timely and utilized to meet the needs of the current requirements. Accuracy, integrity, covering everything the management wants.



The use of technology to enhance the quality of educational organizations



Enhancing the quality of educational organizations is an increased institutional development work in addition to database management. Using decision-making technology, The above-mentioned management technology is used to enhance internal quality control, quality auditing and quality assessment.



