



Skill India
कौशल भारत-कुशल भारत



Participant Handbook



Skill India
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Skilling India in Electronics

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IT Coordinator In School

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Shri Narendra Modi
Prime Minister of India

“ Skilling is building a better India.
If we have to move India towards
development then Skill Development
should be our mission. ”



Certificate

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QUALIFICATION PACK – NATIONAL OCCUPATIONAL STANDARD**

Is hereby issued by the

Electronics Sector Skills Council of India

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Complying to National Occupational Standards of
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I would like to take the opportunity to thank everyone who contributed in developing this Handbook for the QP IT Coordinator in School.

The Handbook is the result of tireless pursuit to develop an effective tool for imparting the Skill Based training in the most effective manner.

I would like to thank the team of KontentEdge for their support to develop the content, the SME and the team at the ESSCI along with the industry partners for the tireless effort in bringing the Handbook in the current format.

CEO

Electronics Sector Skills Council of India

About this Book

This Participant Handbook is designed to enable training for the specific Qualification Pack (QP). Each National Occupational (NOS) is covered across Unit/s.

Key Learning Objectives for the specific NOS mark the beginning of the Unit/s for that NOS.

- Identify the classroom structure and equipment
- Classify the equipment needed for basic IT operations
- Recognize different methods of training
- Understand the benefits of the Online School ERP Software
- Identify different training delivery methods
- Explain installing of hardware and software
- Identify the places of installation
- Explain how the installed equipment is operated
- Assist in designing school curriculum
- Identify the dos and don'ts of designing a curriculum
- Identify the E-learning hardware
- Identify the E-learning software
- Identify advantages and disadvantages of learning centres
- Identify common issues faced by an IT coordinator and teachers/assistants
- Manage work as per given responsibility
- Handle materials correctly
- Report as per schedule and maintain proper documentations
- Follow the health and safety norms
- Identify ways to improve the work process

Symbols Used



Key Learning
Outcomes



Steps



Role Play



Tips



Notes



Unit
Objectives



Resources/
Practical



Exercise



Activity

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1. Basics of IT in Schools

Unit 1.1 – IT Requirement in Schools

Unit 1.2 – IT Equipment



Key Learning Outcomes

At the end of this module, you will be able to:

1. Describe the basics of IT
2. Identify the classroom structure and equipment
3. Classify the equipment needed for basic IT operations

UNIT 1.1: IT Requirement in Schools

Unit Objectives

At the end of this unit, you will be able to:

1. Identify the requirements for schools to enable smart classes
2. Define the structure of smart classrooms
3. Identify the basic computer technology and display products



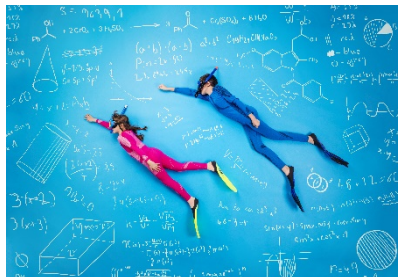
1.1.1 Basics of IT

Technology has played an integral role in everyday life, be it in the form of communication, entertainment or most importantly, education. The traditional system of teachers teaching children has now been modified by new methods of teaching known as smart classes or a smart classroom.

A smart classroom equips an instructor or a teacher with a computer supported by audio-visual equipment and a range of media elements/equipment allowing the instructor to teach. The range of media includes Microsoft PowerPoint Presentations or commonly known as PPTs, video links and DVDs which are displayed through a data projector and interactive white boards. A data projector simply connects with a laptop or any other computer system and projects/displays the output or data onto the white board. The following figure represents the range of media displayed through a data projector:



PPT



3D Animation Websites



DVD

Fig. 1.1.1: Range of media displayed through a projector

For the users to interact with a computer, an input or output device is required. The type of interaction specifies which device is required to get the results. The information is sent to the computer through an input device and the information is displayed by the computer using an output device. A computer functions using a combination of two important components – hardware and software.

Hardware

All the components of a computer which can be touched are known as hardware. It is important to be able to distinguish between the different types of computers based on their hardware. The different types of computers are:

- **Desktop:** The components of a desktop are monitor, mouse and a keyboard. All these components are separate and connected to the Central Processing Unit (CPU) using wires or wireless technology. This type of computer is bulky and not portable, as shown in the following figure:

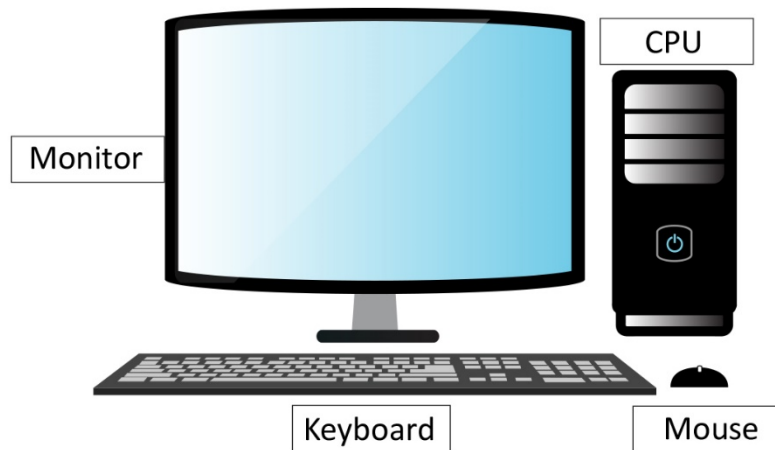


Fig. 1.1.2: A desktop computer

- **Laptop:** It is a portable unit having all its components (similar to a desktop) integrated in a single unit. Similar to laptops, notebook computers are also portable but lighter in weight. A notebook computer is small enough to be carried in hand or in a small bag. Laptops are shown in the following images:



Fig. 1.1.3: Laptops

- **Tablets:** A tablet is a portable personal computer having a touchscreen interface much smaller than a laptop in size, as shown in the following figure:



Fig. 1.1.4: A tablet




- **Smartphones:** Cell phones which are advanced in a way that they combine a normal phone to make calls and a computing system are called smartphones. Smartphones play a crucial role in a person's day to day life. A person can make calls, check mails, send voice messages, search anything on Internet, set timely reminders and alarm call, and perform many more functions using a smartphones. An example of a smartphone is shown in the following image:



Fig. 1.1.5: A smartphone

A desktop is the most widely used type of computers used in schools, due to its low price and versatility. Laptops, on the other hand, are used mainly by teachers and assistants.

The following table explains all the hardware components of a computer:

Component	Image	Description
CPU		Also known as the brain of the computer, a CPU performs all the calculations and computations. A CPU is inbuilt in a laptop but is a separate unit in a desktop.
Keyboard		A keyboard is a rectangular input device which enables the user to press keys and type to enter data. It can be wired or wireless.
Modem		A modem is a device that allows a computer to transfer data over phone lines. It stands for Modulator Demodulator.



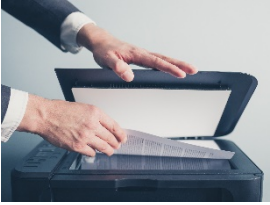


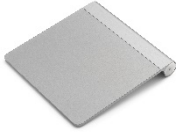
Mouse		A mouse is a small input device which enables the user to navigate the computer screen using a pointer controlled by clicking its buttons. It can be wired or wireless.
Printer		A printer is an output device linked to the desktop/laptop which lets the user print information on a paper.
Scanner		A scanner is an input device that converts written data or pictures on a paper to digital data by scanning it.
Speakers		A speaker is an output device that produces sound.
Microphone		A microphone is an input device that converts sound waves to electrical energy variation. It is used to record voice or interact with the computer through voice.
Touchpad		A touchpad is a flat rectangular surface which enables users to run their fingers on the surface. It lets the user control movement of the pointer to navigate on the screen.

Fig. 1.1.6: Hardware components

Software

It is a part of computer which helps the hardware to function properly. It also helps the input/output devices communicate with the CPU. Software comprises of the operating system along with various programs of the computer.

The following figure shows classification of software into three types:

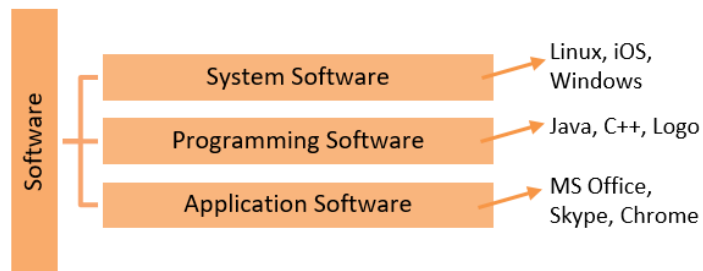


Fig. 1.1.7: Hardware components

System software operates the hardware directly and provides a platform to run application software. Programming software is used to maintain, debug, create or support other applications/programs. Application software enables the computer to perform special functions such as creating documents, performing calculations, making presentations and search the Internet.

The following figure gives an overview of the hardware and software:

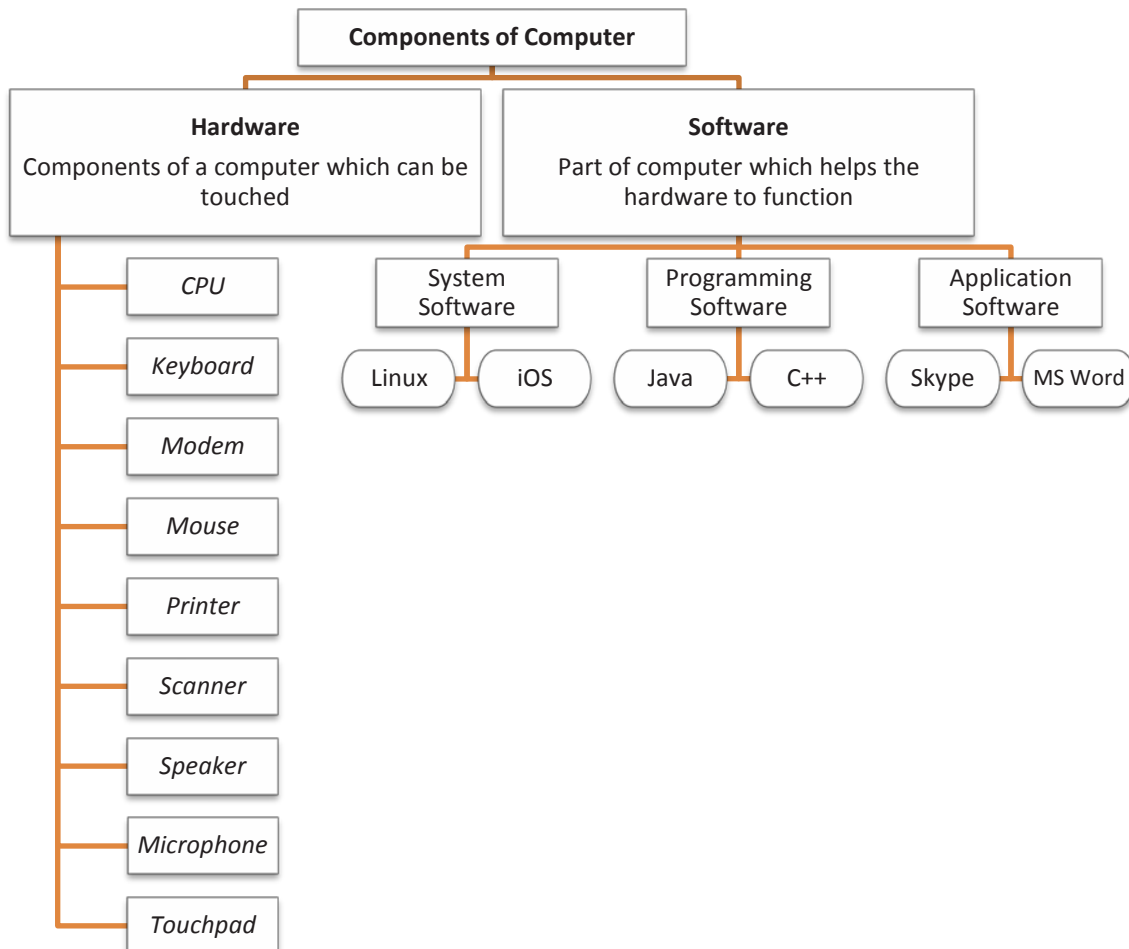


Fig. 1.1.8: Components of a computer

Hardware and Software Requirements

An IT coordinator needs to be aware of the minimum requirements of a computer system typically needed in a school infrastructure and curriculum. Some recommended specifications are as follows:

- **Hardware**
 - Network Adapter: 802.11ac dual band
 - Display: 1600 × 900 pixels or higher
 - Processor: Intel Core i7-2600, 3.4 GHz, 8MB cache or better
 - Storage: 500GB internal hard drive
 - Memory: 3GB DDR3 RAM
 - HDD: 320 GB @7200 RPM SATA or higher
 - DVD ROM Drive: minimum 8X
 - Network Interface Card (NIC): 10/100/1000 on board integrated network port and GiGa bit Wi-Fi Card
- **Software**
 - Operating System: Windows 8 or Windows 10
 - Adobe Reader
 - Flash player
 - Preinstalled MS Office 2012 Professional (Academic Version) or higher
 - Preloaded Antivirus with one year subscription`

There are certain software requirements which are also essential for running courses on a Windows operating system (OS). For example, Windows OS must have Microsoft Office 2016 to support the learning modules. From an operating system's security point of view, an antivirus and spyware protection software known as Microsoft Defender (for Windows 8 and above) is recommended.

1.1.2 Classroom Structure and Equipment

A classroom largely affects the quality of educational experience. The following figure represents the goals which a classroom structure strives to achieve:

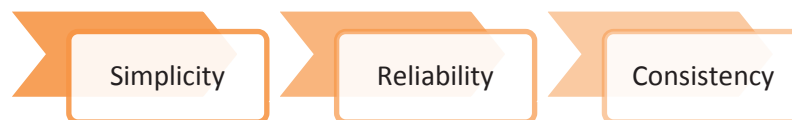


Fig. 1.1.9: Goals a classroom structure strives to achieve

For schools, a smart classroom or simply a smart class has a unique model for delivery of lessons. A school is equipped with a knowledge centre which consists of the entire smart class digital content. The Internet connects the knowledge centre, also called a learning centre, to such classrooms.

The following image shows how a smart class is connected to a knowledge centre:

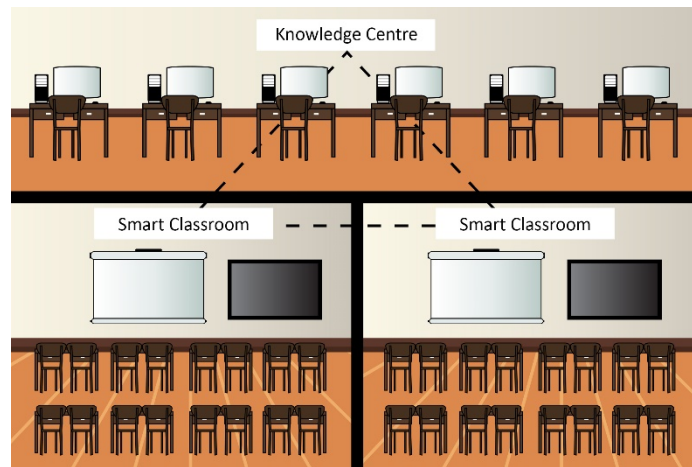


Fig. 1.1.10: Smart class connected to knowledge/learning centre

The classrooms are equipped with custom designed electronic gadgets. The following figure shows the typical gadgets in a standard smart classroom:

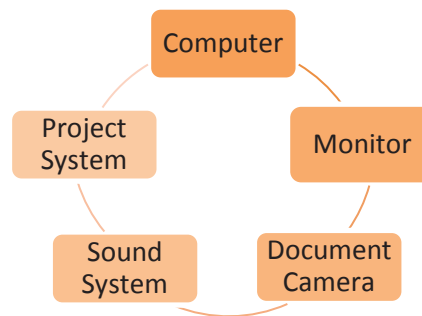


Fig. 1.1.11: Electronic classroom standards

Various educational concepts are taught in smart classes using digital content. The digital content contains lesson specific two dimensional (2D) and three dimensional (3D) multimedia modules in the form of animations.

The following figure lists the features of such digital content:

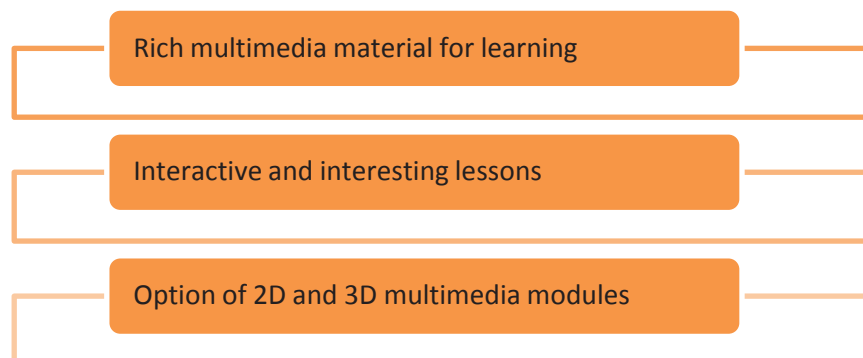


Fig. 1.1.12: Features of digital content

One of the most important equipment for a smart class structure is an interactive whiteboard. It enables a person to control applications by touching the surface of the board. It acts as an input device, just like a monitor with a big touch sensitive screen. The following image shows an interactive whiteboard:

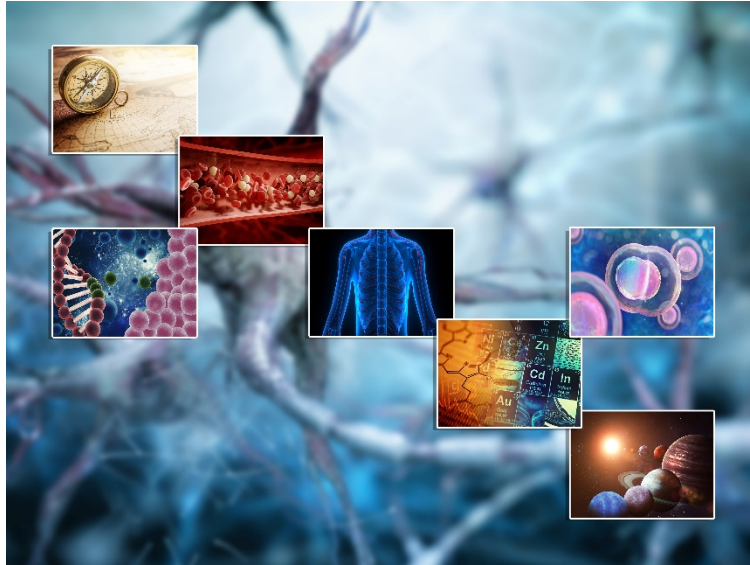


Fig. 1.1.13: Projection of image on white board

A computer is connected to the projector. Once the projector is turned on, it displays the contents on the computer screen onto the whiteboard. This enables the user to control the computer through the whiteboard by simply touching the board or using special pens.

The following image shows how other equipment are connected to the interactive whiteboard to make it work in a smart class:

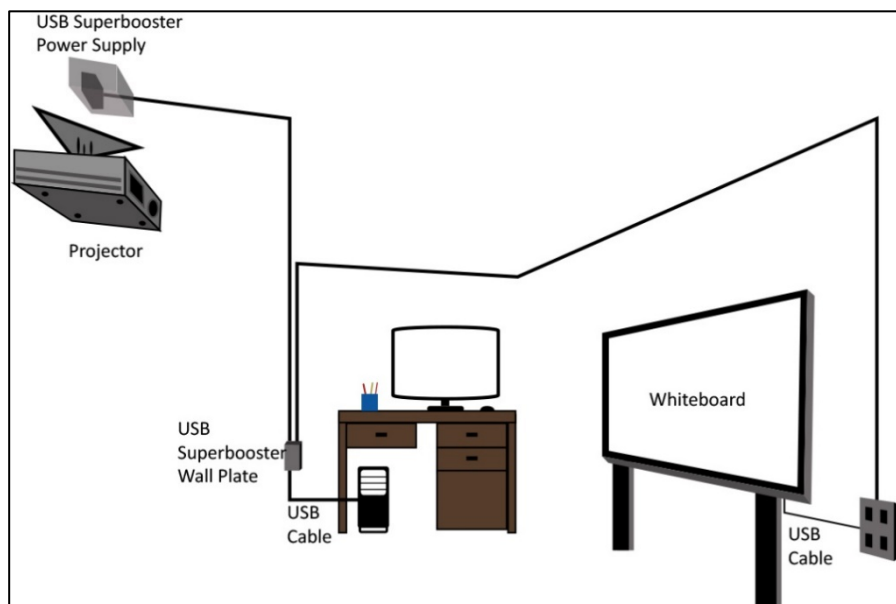


Fig. 1.1.14: Working of an interactive whiteboard

1.1.3 Awareness of Latest Computing Technology

As an IT coordinator, it is vital to know the purpose of defining all the resources which are required to fulfil the teaching methodology in a smart class. Among various teams involved in enabling the learning experience in a smart class, the IT team helps in the preparation of software and hardware, integration with different systems, checking bandwidth issues and ensuring Learning Management System (LMS) safety. There are generally eight factors that help in the implementation of successful learning in a school. The following figure lists these eight factors:



Fig. 1.1.15: Factors for successful learning implementation in schools

In addition, a proper plan is crucial towards implementing the learning, especially when a school is introducing the smart class concept. The following figure lists the points that make a plan vital for implementation of smart classes:

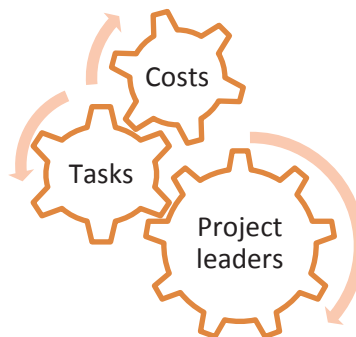


Fig. 1.1.16: Need of plan

1.1.4 Awareness of Display Products

The display products used for smart classes vary depending on the need and requirements of the school. The common display products used in smart classes include interactive smartboards, LED displays and projectors. As a popular saying goes, a picture is worth a thousand words and so it would be only fair to say that a video is worth a million words. This especially holds true for children to whom a syllabus content is far more interesting when it is presented to them through video and audio elements using varied display products in a class.

It also gives the teachers an added advantage of explaining a concept using three dimensional (3D) images. For example, if a teacher has to explain the replication of DNA, imagine how interesting and easy to understand it would be if the teacher shows a 3D animation to the students. In addition, the teacher can replay the animation, pause to explain it, zoom in and out of the images and take other actions for explaining the concept, without putting in major effort again and again.

Therefore, to be able to explain and use the display products diligently, it is important for IT coordinators to be well aware of all the features of these products. This would enable them to further train and assist the teachers and teaching assistants in ensuring smooth functioning of the classes.

Exercise

Look at the picture of some computer devices given in the following table. Identify whether that device is an Input or Output device. Write “I” if it’s an input device and “O” if it’s an output device.

Image	Input or Output?
	
	
	
	

UNIT 1.2: IT Equipment Used for Operations





Unit Objectives

At the end of this unit, you will be able to:

1. Identify the equipment used in schools for E-learning
2. Define the need for maintaining equipment

1.2.1 Various Equipment Used in Schools for Operations

The term equipment refers to computer hardware and related equipment, such as cabling, communication, and any other technology-related device used regularly in schools for E-learning operations. The following figure lists the different types of equipment typically used in schools for E-learning:

Name of Equipment	Images	Description
Interactive Whiteboards		It enables the user to control the computer through the whiteboard by simply touching the board or using special pens.
Digital Projectors		It receives video signals and then displays the image on an interactive whiteboard or projection screen with the help of a lens system.
Digital Pens		It resembles a pen with a USB cradle. It enables a user to upload handwritten notes to the laptop/PC.
Classroom Audio Systems		It enables an effective and enhanced learning by incorporating audio-visual experience.




Name of Equipment	Images	Description
Wireless Slates/Tabs		It helps in surfing the Internet or social media and sending emails. It can be useful for uploading documents.
Computer/Laptop		It connects to the projector and the interactive whiteboard. An operating system with a post-2000 processor and 512 megabytes of memory is appropriate to support all E-learning platforms.
Printer/Scanner		It can be used to offer notes/worksheets to the students.

Fig. 1.2.1: Types of equipment used in schools

1.2.2 Basic Hardware/Software Maintenance

Usually, a computer hardware is reliable but, it may get damaged over a period of time. It is essential to maintain the hardware system to keep the system functional and not disrupt the E-learning experience of the children.

Preventive maintenance is essential to ensure that a computer is functioning at its best. Maintenance is also required to ensure that the hardware equipment is not damaged or ruined due to ignorance. For example, to avoid overheating of the CPU, fans and vents require regular cleaning.

In addition, the software also needs to be maintained periodically. For example, an organized and clean hard disk helps the computer system to perform better. Deleting unused, unwanted and temporary files is the easiest way to help the system give better results.

The following figure represents a variety of utility programs which are used to keep a system safe and running without unwanted errors:



Fig. 1.2.2: Utility programs to keep a system safe

These utility programs have specific functions in the maintenance of the hardware. They are as follows:

1. Defragmentation software pulls files into a common area on the hard disk, thereby enabling a faster search.
2. Disk compression programs minimize the space taken by files on a computer.
3. Disk scanning programs check and also attempt to fix errors on the hard disk.
4. Firewall software limit unwanted people from accessing a computer through the Internet.
5. Spyware detectors check and remove spyware programs which send information from a computer to the Internet.
6. Virus detection software can detect and eliminate possibly damaging viruses from a computer.

1.2.3 Other Requirements for Operations

The different learning environments used for delivering content, keep a track of the learners' progress as well as administer their exams. This has changed the outlook towards a rich learning experience and teaching methodology. In addition, there may be pre-recorded sessions or live classes happening on such a platform.

This technology of interactive learning classrooms is now widely approved and enabled though a platform called the Learning Management System, or the LMS.

The following image represents the equation of online learning management systems:

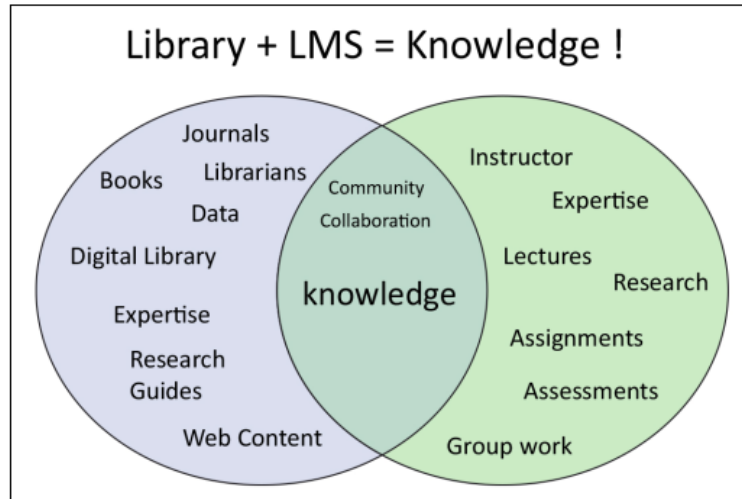


Fig. 1.2.3: Online Learning Management System

Exercise

Match the following devices with their names.

Device	Names
	Laptop
	Digital Projector
	Scanner
	Digital Pen



2. Basics of E-learning

Unit 2.1 – Need for E-learning

Unit 2.2 – Designing E-learning Applications



Key Learning Outcomes

At the end of this module, you will be able to:

1. Understand the concept of E-learning
2. Recognize different methods of training
3. Understand the benefits of the Online School ERP Software
4. Identify different training delivery methods

UNIT 2.1: Need for E-learning

Unit Objectives

At the end of this unit, you will be able to:

1. Identify the benefits of E-learning
2. Differentiate between traditional classroom and E-learning methods
3. Identify different training delivery methods
4. Identify the types of educational boards in India



2.1.1 What is E-learning?

Any learning or teaching which is supported electronically is called E-learning. Use of information through digital communication, electronic devices or the internet can be termed as E-learning. Education in this day and age is not restricted to a classroom or a teacher imparting the knowledge through conventional methods.

The emergence of educational technology through the use of computers, CD ROMs, videos, internet and social media has changed the face of learning worldwide. E-learning is fast gaining acceptance in most schools in India and has provided the base for a boom in education, breaking the barriers of time, distance and financial constraints among others.

Some benefits of E-learning are shown in the following figure:



Fig. 2.1.1: Benefits of E-learning

No Boundaries or Restrictions

E-learning is not bound by geographical barriers. One does not need a physical classroom for reaching out to potential students. Some major Indian E-learning players (such as Educomp and Learn Today) are reaching out to millions in remote areas through computers, internet and some specially devised E-learning tools. Even the remotest of areas, where specialised training is impossible to reach due to lack of teachers, are being filled up through E-learning modules.

It is one step forward in educating India. Also, most schools complement their curriculum with E-learning tools such as Skype calls to children from other schools and other countries. With E-learning, you get the option to learn with the whole world. People from different parts of the world join to discuss and share knowledge. Through online learning, different students from different countries can exchange learning processes and through that a cultural exchange also takes place. This constant cross-cultural exchange benefits students in many ways.



Fig. 2.1.2: Online learning

More Fun

E-learning by way of its nature can be fun and interactive. This has always been one of the primary objectives of E-learning practitioners, making it more impactful than the traditional form. Through the use of various tools such as multimedia, interactive games, quizzes and personalised questions, E-learning can not only be fun but also very engaging.

For example, in schools, children are creating their own games on any given topic through multimedia software and learn while enjoying as well. This has a multi-pronged benefit for the students as they not only learn the subject but also enhance their problem solving and analytical skills. Platforms such as Khan Academy make topics so interesting and interactive that even someone who is afraid of the subject absorbs the concept properly while



Fig. 2.1.3: A girl using a laptop in school

having fun.

Cost Effective

E-learning can prove to entail minimal cost implications as it can be accessed from anywhere by way of a simple internet connection. It reduces the costs of travel, books and admission in any institution. It also allows the student to learn while learning.



Fig. 2.1.4: E-learning platforms for school children

The E-learning modules are so designed that the student can avail it at their own pace and in their own homes. Moreover, the cost of development and learning has drastically reduced due to the speed and comfort at which E-learning is provided.

Besides, it is important to understand that E-learning, if delivered in the right manner, also plays a major factor in improving a school's profitability.

Improves Learning Efficiency

A good E-learning module will have all the tools to engage its students for effective learning. Use of technology can simulate real world experiences with virtual tools like multi-player simulations or role-plays. This enables students to practise real-life scenarios in a secure setting, which increases the learners' confidence.

E-learning can be a powerful tool for students with different learning abilities. Each module can be tailor made for different students depending on her/his learning capacity and can be very impactful.

Good E-learning systems are very motivational and engaging for students as they adjust to their personal progress as well as strengths and weaknesses, are available anytime, anywhere and are self-paced.



Fig. 2.1.5: The concept of E-learning

However, there are pros and cons for both E-learning and traditional methods of teaching. The following table shows a comparison between E-learning and traditional methods of teaching:

Criteria	E-learning	Traditional Method
Cost	Cost effective. Only internet connection required	Travel, books, stationery and other expenses
Interest	Fun and interesting	Boring and mundane
Learning efficiency	Improves learning efficiency	Learning depends on the pace of the student and can vary for different students
Scope of teaching	No boundaries, no restrictions	Needs a physical classroom and a teacher. Reach of the teaching is limited.
Types of learning	Learning new skills such as technological, analytical, problem solving and gamification	Linear and slow learning with less scope for new skills as it is limited to books

Criteria	E-learning	Traditional Method
Scale of effective learning	Personalised training catering to the pace of the student	A standard common platform for all. Sometimes, not as effective for students with different learning abilities
Scope of practical skills	Cannot learn practical skills online	Works very well in giving practical and hands on experience for any learning
Scope of social interaction	An e-learner has the tendency of feeling isolated and cut off from the real world	Encourages social interaction in a big way and gives a feeling of teamwork and cooperation, essential in any learning
Related health hazards	Continuous use of computer or any electronic screen can be hazardous for the eyes	A healthier way to impart and absorb learning through a physical classroom and teacher, as it promotes movable and social interaction. Instant feedback is also possible.

Fig. 2.1.6: Comparison between E-learning and traditional methods of teaching

Though E-learning has several advantages, it does have few limitations or drawbacks as well. For example, a student can watch several videos of making of a wooden table online but cannot learn to make it till they do it themselves practically. Similar is the case for all skills requiring practical training.

Another disadvantage of E-learning is that the learning allows the student to learn and interact with the teachers through video conferencing and online forums and eventually the student might not feel the need to meet anyone socially. This can pose a grave

threat to the personality of the student.



Fig. 2.1.7: Incorrect and correct posture for sitting in front of laptop/desktop

Health is also one of the main concerns with most e-learners. Sitting in front of the computer screen for long period of time can result in a bad posture and severe back or shoulder pain. Most E-learning platforms suggest the students to take regular breaks and to do stretches during the classes.

This brings us to the point where teachers play a vital role in learning. The role of a teacher is not just limited to teaching the students through the medium of books. Nowadays, the job role of a teacher has evolved and they are facilitators who facilitate new approaches of teaching for improved learning. Both learning as well as teaching

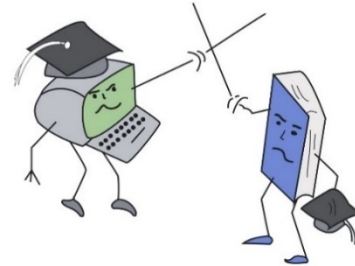


Fig. 2.1.8: E-learning vs. traditional method

has modified due to new innovations in education. Similarly, as an IT coordinator, the job role not only requires a person to be the coordination link but also to help/assist teachers and students with the new classroom technologies.

Identify Different Training Delivery Methods

There are various learning materials and methods that are available for learning. Given the wide variety of methods to choose from, it may be difficult to decide upon the methods that can be used. It is therefore important to identify the myriad techniques and study their advantages and disadvantages.

Classroom or Instructor-Led Training

The most basic and popular training technique is the classroom training method. This technique includes:

- **Blackboard/Whiteboard:** It is known as the 'old school' method but is still effective.
- **Story telling:** It involves a typical classroom session along with stories that may be used as examples to meet the learning objectives.

This technique promotes communication between the teachers and the students. The following table lists the advantages and disadvantages of a classroom training session:

Advantages	Disadvantages
1. Efficient method for addressing a large body of students	1. Not much of an interactive session as most of the time, the teacher speaks
2. Enables personal face to face interaction	2. Learning outcomes depend on the efficiency of the teacher
3. Every student gets the same knowledge	3. Scheduling a large group session gets difficult if the students' locations are scattered
4. Story telling within the sessions engages the students	
5. Cost effective	

Fig. 2.1.9: Advantages and disadvantages of a classroom training session

Interactive Methods

To make a learning session interactive, it can be broken up into various types of training sessions. The following figure represents the learning methods that can keep the students engaged, attentive and involved:

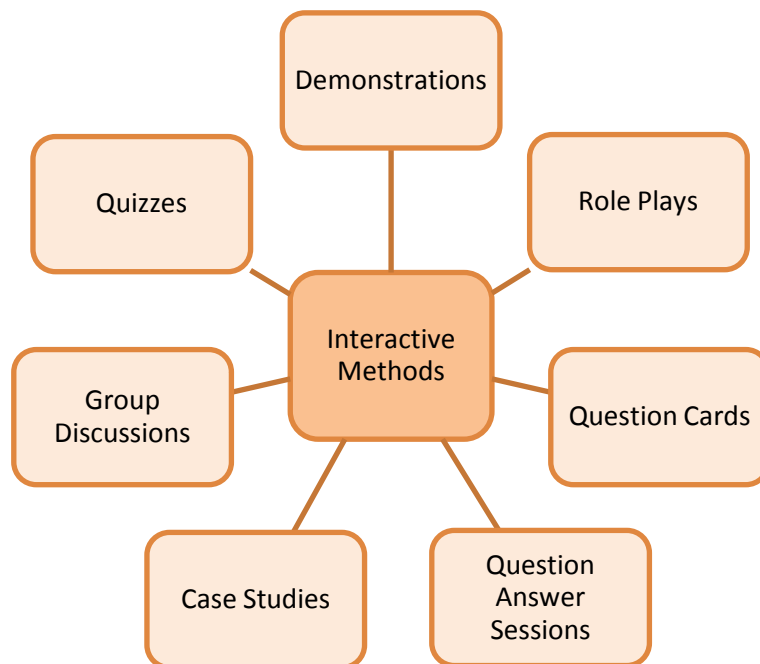


Fig. 2.1.10: Interactive Methods

There are other activities which need an action plan in place to conclude or summarize important pointers covered in a particular lecture. The following table lists the advantages and disadvantages of an interactive method:

Advantages	Disadvantages
1. Makes the student more receptive to information being taught	1. Training sessions are considerably longer than classroom sessions because the activities are time consuming
2. Makes the learning session enjoyable	2. In activities like group discussions, the essence of topic being discussed may get lost
3. Enables the teachers to put together information in different styles to engage a learner	
4. Enables the teachers to give instant feedback to learners	

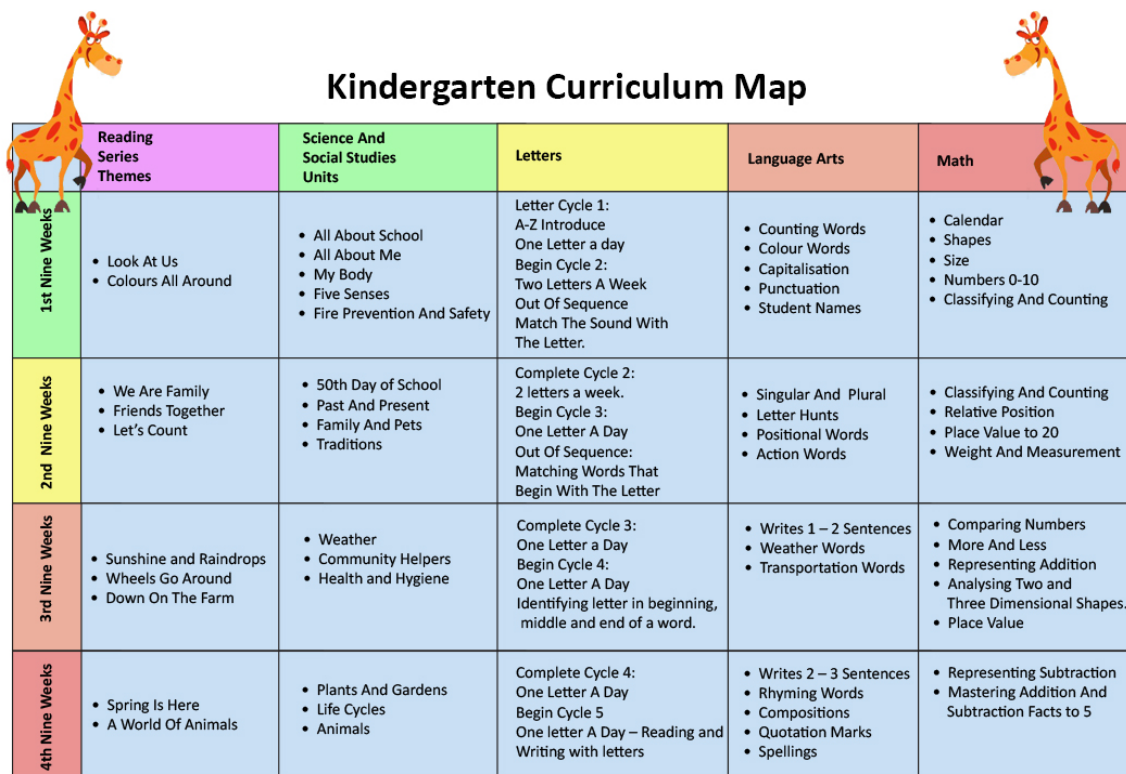
Fig. 2.1.10: Advantages and disadvantages of an interactive method

Internal Process System such as ERP in Schools

ERP stands for Enterprise Resourcing Planning. It is a management software for business processes containing various applications that manage business and automate back office functions.

An Online School ERP Software is a web based software application designed specifically for schools with fonts and icons that are clearly visible to the users. It is also known as any time student information (ATSI).

Technology has made people go paperless and get tasks done in the easiest way possible. Schools have a lot of issues on a day to day basis when it comes to operating daily administration. There are various processes and functions in a school that are done manually, for example – attendance management, time table management, management of data and collection of fees. These functions when done manually consume a lot of time, effort and energy. The following figure shows an Online School ERP:



	Reading Series Themes	Science And Social Studies Units	Letters	Language Arts	Math
1st Nine Weeks	<ul style="list-style-type: none"> Look At Us Colours All Around 	<ul style="list-style-type: none"> All About School All About Me My Body Five Senses Fire Prevention And Safety 	Letter Cycle 1: A-Z Introduce One Letter a day Begin Cycle 2: Two Letters A Week Out Of Sequence Match The Sound With The Letter.	<ul style="list-style-type: none"> Counting Words Colour Words Capitalisation Punctuation Student Names 	<ul style="list-style-type: none"> Calendar Shapes Size Numbers 0-10 Classifying And Counting
2nd Nine Weeks	<ul style="list-style-type: none"> We Are Family Friends Together Let's Count 	<ul style="list-style-type: none"> 50th Day of School Past And Present Family And Pets Traditions 	Complete Cycle 2: 2 letters a week. Begin Cycle 3: One Letter A Day Out Of Sequence: Matching Words That Begin With The Letter	<ul style="list-style-type: none"> Singular And Plural Letter Hunts Positional Words Action Words 	<ul style="list-style-type: none"> Classifying And Counting Relative Position Place Value to 20 Weight And Measurement
3rd Nine Weeks	<ul style="list-style-type: none"> Sunshine and Raindrops Wheels Go Around Down On The Farm 	<ul style="list-style-type: none"> Weather Community Helpers Health and Hygiene 	Complete Cycle 3: One Letter A Day Begin Cycle 4: One Letter A Day Identifying letter in beginning, middle and end of a word.	<ul style="list-style-type: none"> Writes 1 – 2 Sentences Weather Words Transportation Words 	<ul style="list-style-type: none"> Comparing Numbers More And Less Representing Addition Analysing Two and Three Dimensional Shapes. Place Value
4th Nine Weeks	<ul style="list-style-type: none"> Spring Is Here A World Of Animals 	<ul style="list-style-type: none"> Plants And Gardens Life Cycles Animals 	Complete Cycle 4: One Letter A Day Begin Cycle 5 One letter A Day – Reading and Writing with letters	<ul style="list-style-type: none"> Writes 2 – 3 Sentences Rhyming Words Compositions Quotation Marks Spellings 	<ul style="list-style-type: none"> Representing Subtraction Mastering Addition And Subtraction Facts to 5

Fig. 2.1.11: Online School ERP

Hence, the functions mentioned above, when done on the Online School ERP, save time and effort, eventually increasing the efficiency.

The following figure lists a few benefits of the Online School ERP Software:

Accesible any time any place	<ul style="list-style-type: none"> •Any person can work on it, be it a teacher, parent or student.
Monitoring attendances	<ul style="list-style-type: none"> •Using biometric devices and smart cards, attendance is marked automatically for teachers and assisstants.
Tracking school transport	<ul style="list-style-type: none"> •To ensure student's safety, school vehicles are GPS enabled so that the parents can track the vehicle's (school bus) location.
Customisation and configuration	<ul style="list-style-type: none"> •A system can be customized as per the process flow and functions of a particular school.
Personalised teaching and learning	<ul style="list-style-type: none"> •Teachers and students check their class schedules in advance and access study material at all times.
Transparency in communication	<ul style="list-style-type: none"> •Parents are kept informed about the happenings in school through newsletters, mails and circulars.

Fig. 2.1.12: Benefits of the Online School ERP Software

School's Affiliation with Educational Boards

Each school is affiliated to an educational board. There are four major educational boards in India. The following figure lists the educational boards prevalent in India:

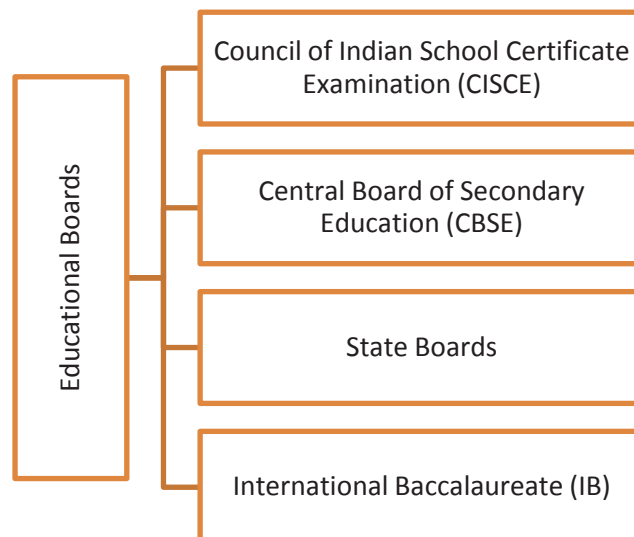


Fig. 2.1.13: Educational Boards in India

Council of Indian School Certificate Examination (CISCE)

The CISCE board focuses equally on arts, languages and science subjects. The benefits of CISCE are:

- Wide recognition of its board results in India and abroad
- More freedom and choice for students to decide the final subjects
- Reasonably number of schools available under this board across the country

Central Board of Secondary Education (CBSE)

CBSE is the most popular board under which fall a major percentage of schools. The benefits of a CBSE affiliated school are:

- Schools can be found in any area within India
- CBSE board results are accepted across all Indian colleges
- Teaching methodology makes the curriculum holistic
- Books, activities and tutors are easy to look for

State Boards

Each state has its own board of education that conducts certificate examinations for class tenth and twelfth. The benefits of state boards are:

- Schools under this board are relatively cheaper
- Topics under the curriculum are of local relevance
- Schools are within the state

International Baccalaureate (IB)

IB boards envision is towards all round development of a student. The benefits of IB board are:

- Stress free and variety of teaching methods
- Curriculum is innovative
- Wide acceptance internationally
- Focus is not limited to academic performance

Exercise

Match the following board affiliations with the descriptions:

Board	Description
IB	Topics under the curriculum are of local relevance
CBSE	More freedom and choice for students to decide the final subjects
State Board	Schools can be found in any area within India
CISCE	Curriculum is innovative

UNIT 2.2: Designing E-learning Applications

Unit Objectives

At the end of this unit, you will be able to:

1. Define an E-learning application
2. List the components of an E-learning application
3. Understand what makes E-learning effective

2.2.1 What is an E-learning Application?

A software package designed by developers and used for creation and packaging of E-learning content course for learners is known as an E-learning application. It enables a person to learn anywhere and anytime. E-learning lessons are mostly delivered through the Internet.

A common and popular example of E-learning applications is Moodle. The following image represents the website of Moodle for schools:

(Note: This image has been taken from the website <https://moodle.com/cloud/school/>)

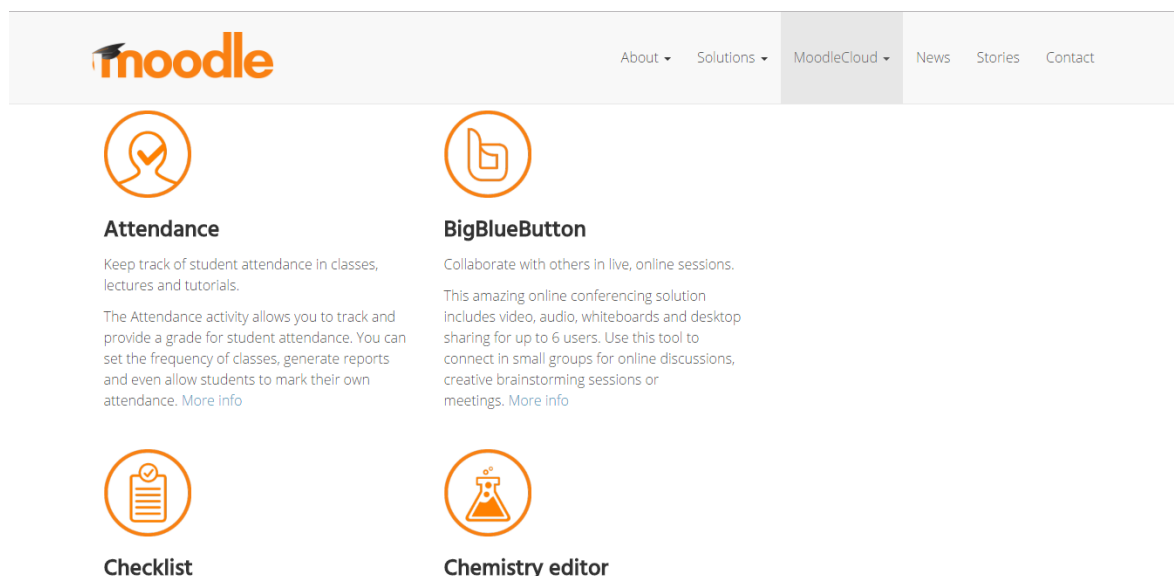


Fig. 2.2.1: Moodle website

The design of an E-learning application envisions student development on the basis of life skills and values which are included in the curriculum. The curriculum is supported by games, animations labs, activities and simulations. With the help of easy communication techniques, it involves and engages parents to participate and monitor the learning of their children. The application is designed to have separate features and interface for teachers, parents and students.

The following figure lists separate features and interface for teachers, parents and students:

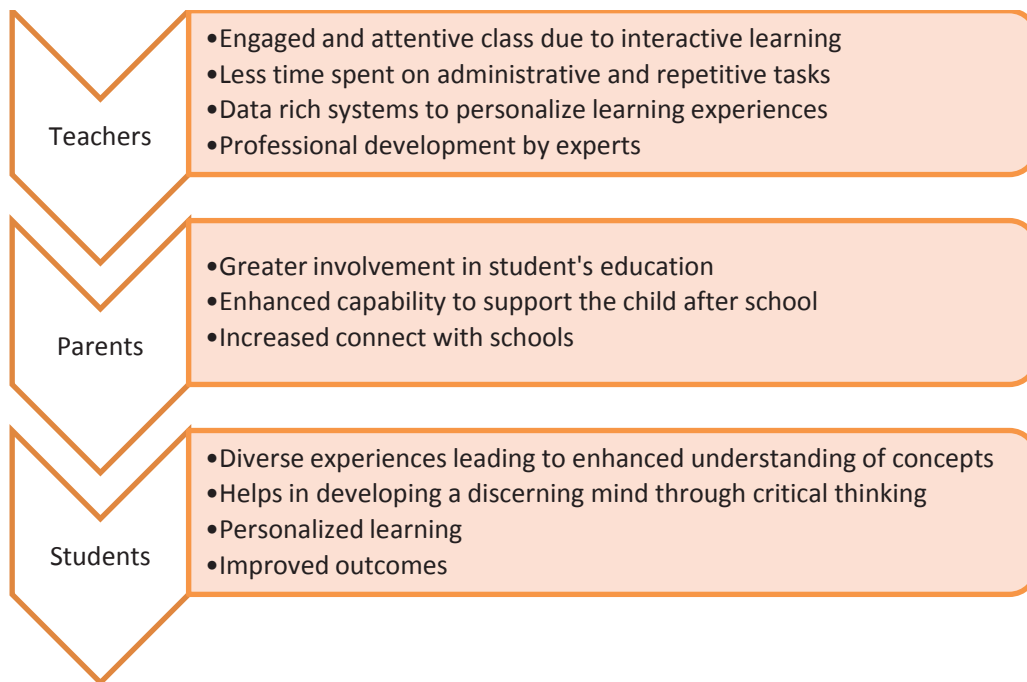


Fig. 2.2.2: Separate features and interface for teachers, parents and students

Basic Components involved in designing an E-learning Application

Some basic components of a typical E-learning application are listed in the following figure:

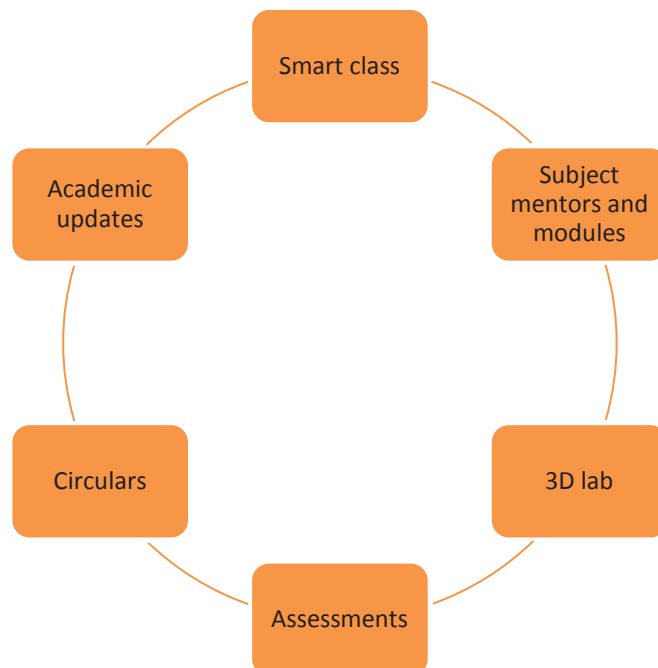


Fig. 2.2.3: Basic components of E-learning application

A smart class is one of the most effective teaching tools used in most schools in India. With the use of a wide range of hi-tech multimedia content, a smart class has literally revolutionised E-learning in most of the classrooms. The content caters to all classes from kindergarten to 12.

Different subject mentors or modules in the application should be designed for learners from grade one to ten. These modules need to be tailor made to suit the needs of every learner in a most engaging and fun way. They should move at the pace of the learner and be interactive in nature. Skills such as correct pronunciation and public speaking for the English subject can be introduced in a most effective and innovative way.

A 3D lab, which has animation based learning modules, can also be designed in the application. Such labs enable the students to learn complex concepts on any subject through 3D animations, making them easier to visualise and comprehend.

An effective assessment system which the student can use to evaluate life skills and academic skills is a must for an E-learning application. It needs to be designed in such a way that it proves to be the most comprehensive assessment and counselling system.

There will be frequent updates on the LMS related to academic units and the scheduling for the same, class work and home work/assignment updates, date of assignment submission, calendar, and reminders and so on.

E-learning is a whole new world of technology-led learning which when practised in the right way can lead to huge benefits to the user.

Most of the good learning platforms also offer the best ways to use their platform in order to get maximum benefits.



Fig. 2.2.4: Parent helping in E-learning

The following figure shows some factors that make E-learning effective:

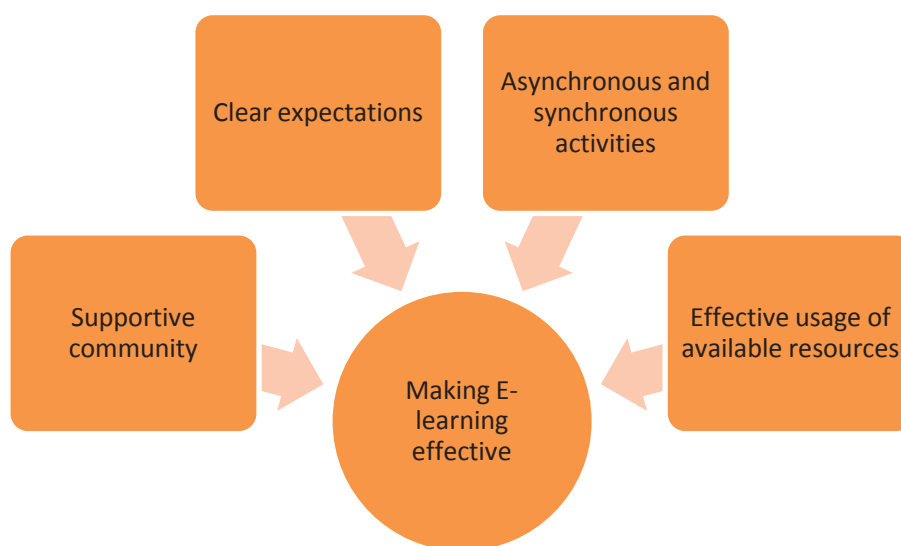


Fig. 2.2.5: Factors that make E-learning effective

The best way to reach out to other learners is to form a supportive community which enables close interaction within the community and helps enhancing the learning across the board. This will benefit both the teachers and E-learning portals and companies.

Sometimes many of the E-learning systems complement the conventional learning and the teacher should set clear expectation in the mind of students on how much to depend or learn from them. For example, deadlines and the schedule of assignments should be set well in advance for the student, which could be sent either through the email or through the site itself.

A good E-learning platform will have a range of learning modalities incorporated in its module to make it engaging and interesting for the learner. For instance, it should be interactive and research-based so that it enables the student to research in an in depth way as well. Some of the internet platforms also have live courses as well as complete coursework online for the student to get the benefit of both and also learn new skills.

Many a time, due to lack of proper knowledge, the learner does not get the full benefit of online learning. A well-trained teacher, who knows how to harness the use of internet and E-learning, is vital to a good learning experience of a student. Due the vast pool of resources on the internet it is important for the teacher to give proper guidance to the students and enable them get the maximum benefit of the same. Tapping the right resources for specific learning is a very important skill.

Role Play

Divide the number of participants into two groups.

One group, Group A, is named IT coordinators. The other group, Group B, is Parents and Teachers.

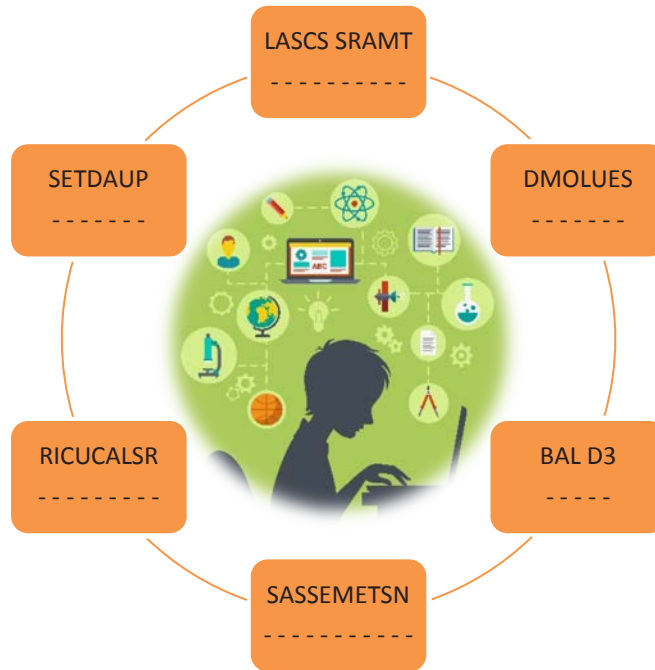
Tell the participants:

- Group A has been assigned the work to change the old traditional classroom of the school into a Smart Classroom.
- Group B, the teachers and parents, are not convinced about this change.
- Each member of Group B needs to state one discomfort or disadvantage/limitation of a Smart Classroom versus a traditional classroom.
- Each member of Group A needs to provide a justification on how that discomfort or disadvantage will be handled by the Smart Classroom methodology. This member will also tell a benefit of converting the traditional classroom into a smart classroom.

Exercise



Look at the following figure. It lists some basic components of a typical E-learning application but the words have been jumbled up. Unjumble the words to form the component name.



3. Installing, Operating and Training of E-learning Equipment

- Unit 3.1 – Install equipment
- Unit 3.2 – Operate the equipment
- Unit 3.3 – Arrange for trainings
- Unit 3.4 – Train staff

Key Learning Outcomes



At the end of this module, you will be able to:

1. Identify installing and disassembling procedures
2. Explain installing of hardware and software
3. Identify the places of installation
4. Explain how to refer manuals
5. Explain how the installed equipment is operated

UNIT 3.1: Installation of E-learning Equipment

Unit Objectives

At the end of this unit, you will be able to:

1. Identify installing and disassembling procedures
2. Explain installing of hardware and software
3. Identify the places of installation
4. Explain how to refer manuals

3.1.1 Assisting in Installation

The main advantage of today's technology is that it is user friendly and been designed to make installation fast. Though installation of E-learning equipment is the responsibility of the technical IT staff or engineers, an IT coordinator should be aware of the installation process. Moreover, the coordinator would always be needed in school to assist the technical staff in installing such equipment.

For any type of equipment, it is important to ensure that the right resources, such as plug points, power supply, desks, wall mounts, tools and other such basic equipment is functional and available in the area or classroom where the equipment will be installed. In addition, an Internet connection may also be needed to install E-learning software or check basic connectivity and functioning of the different equipment.

The basic equipment that is ideally installed in a smart class is shown in the following figure:

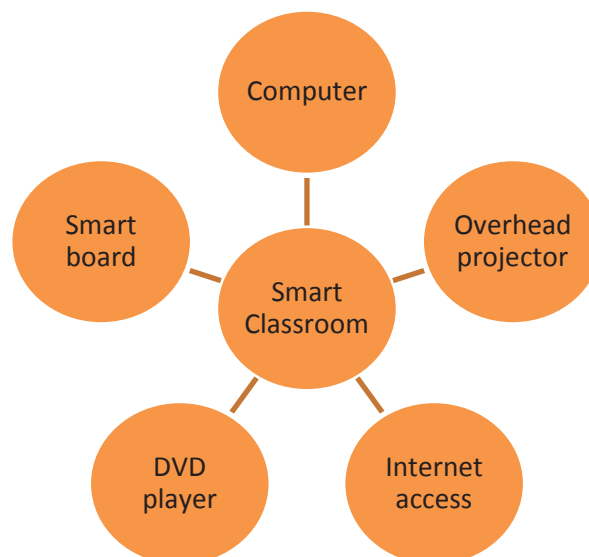


Figure 3.1.1: Basic equipment in a smart class

The use of each of these equipment is as follows:

- Computer: Used for making lesson plans, updating attendance records, checking emails, uploading homework on E-learning application, making circulars and many more.
- Overhead projectors: Used to project a variety of information including images, animations, and photographs, from computers, cameras or other mobile devices.
- Internet access: Used to access and view various multimedia data and online animations. Also used to send/receive emails.
- DVD player: Used to run disks containing video lessons or other recordings.
- Smart board: Used to explain concepts to students by accessing the computer through it.

Install and Disassemble Equipment

There are various equipment which are attached to a laptop/computer in a smart classroom in schools. However, the computer may not work as desired until all the required components are assembled and installed properly. It is therefore important to ensure that all components of a new computer are installed and assembled. Though an IT coordinator will not be doing these tasks, but, he will be assisting the technical support team in installing and assembling the components.

1. Assembling and installing a desktop

Assembling and installing a desktop is very simple, and can be performed by anyone who reads the instructional manual thoroughly and follows it step by step. A typical desktop has a monitor, CPU, keyboard, mouse and speakers.

The following figure lists the common steps to assemble and install a desktop:

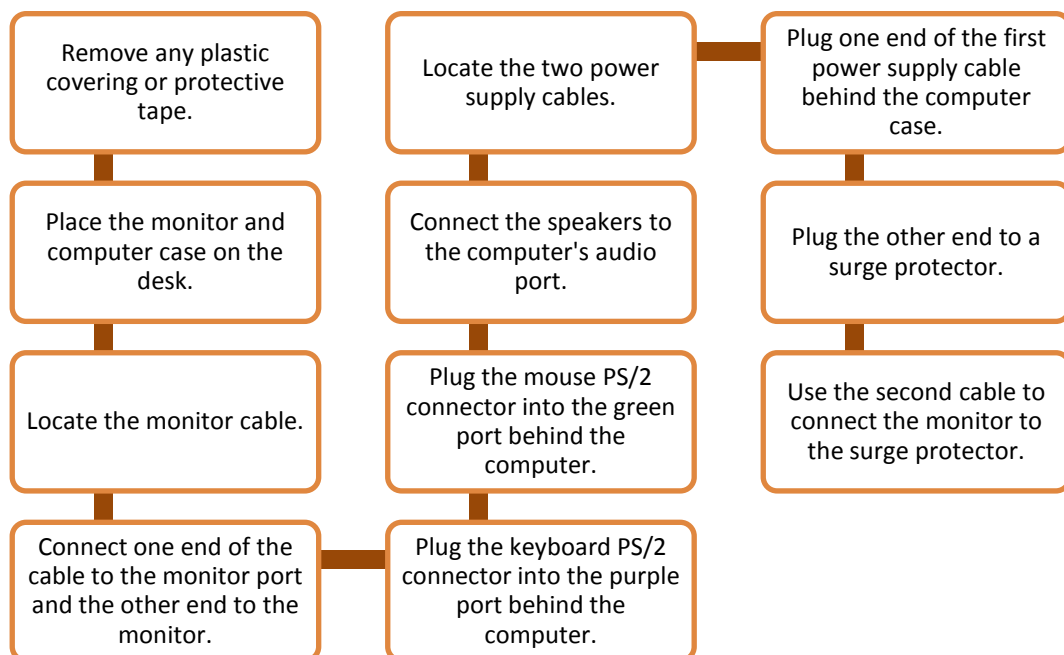


Figure 3.1.2: Steps to assemble and install a desktop

2. Installation of wireless mouse and keyboard

The mouse and keyboard may be wired or wireless. The steps performed for a wired mouse and keyboard vary based on the model and make of the device. The following figure lists the steps to install a wireless mouse and keyboard:

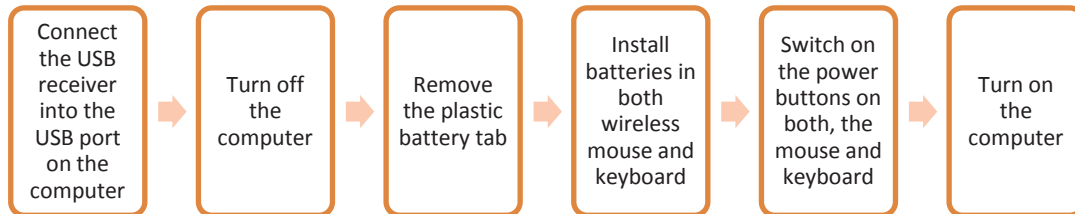


Figure 3.1.3: Steps to install a wireless mouse and keyboard

3. Installing a SMART interactive whiteboard

The components of a regular SMART interactive board include a mounting bracket, the board to be positioned, wall anchors and screws along with a power cable/cord. The following figure lists the steps to install a SMART interactive whiteboard:

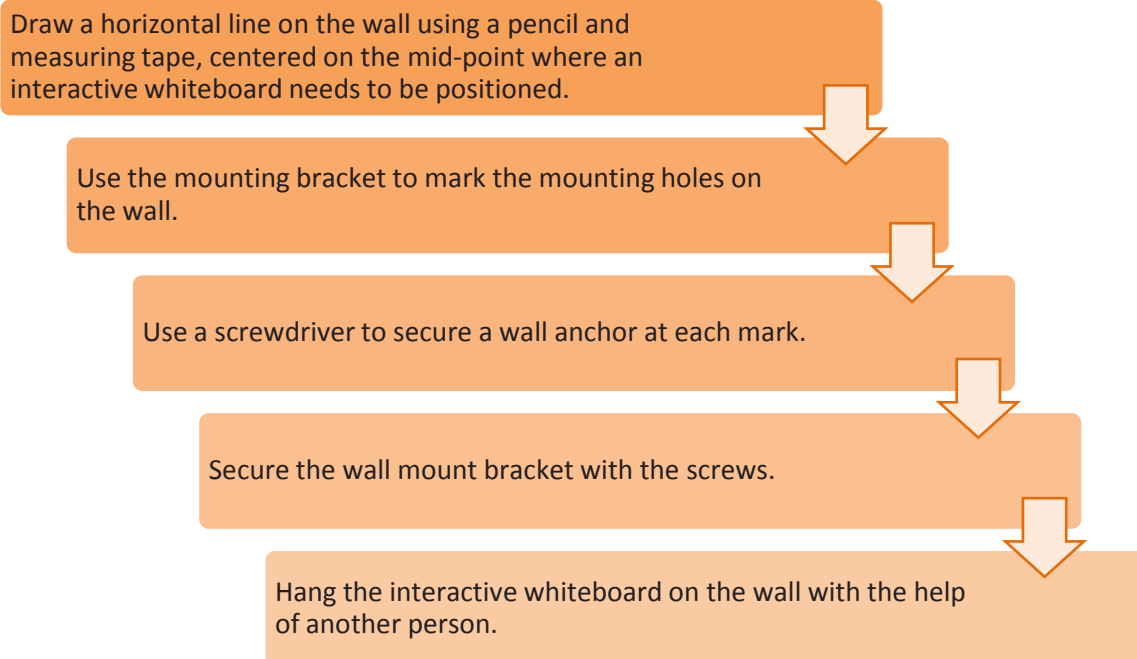


Figure 3.1.4: Steps to install a SMART interactive whiteboard

4. Installing a printer

A typical printer includes components such as a cord, cable, ribbon and cartridges. Papers placed in the printer's tray are a part of printing stationary and not of the printer.

The following figure lists the steps to install a printer:

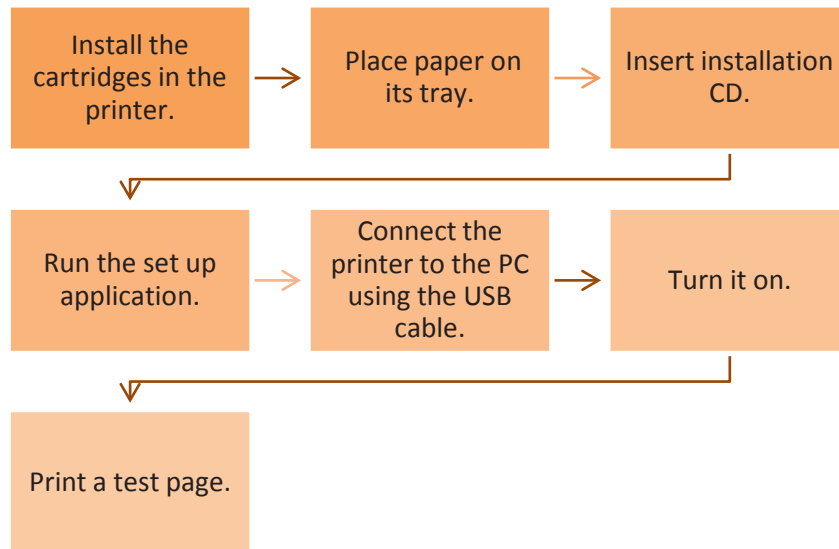


Figure 3.1.5: Steps to install a printer

Run the Application on Installed Equipment

An IT coordinator's responsibility is not limited to only assisting in assembling and installing of hardware components. An IT coordinator is also required to run the applications on the LMS. The following figure lists the steps to install License Manager Service (LMS) from a CD:



Figure 3.1.6: Steps to Install License Manager Service (LMS) from a CD

1. Install Antivirus in Windows Operating System

Antivirus is a software for computers which is designed to search and destroy viruses and other harmful applications. Computer viruses usually slow down the system or corrupt the files, which disrupts the functioning of the computer.

The following figure lists the steps to install an Antivirus on Windows operating system:

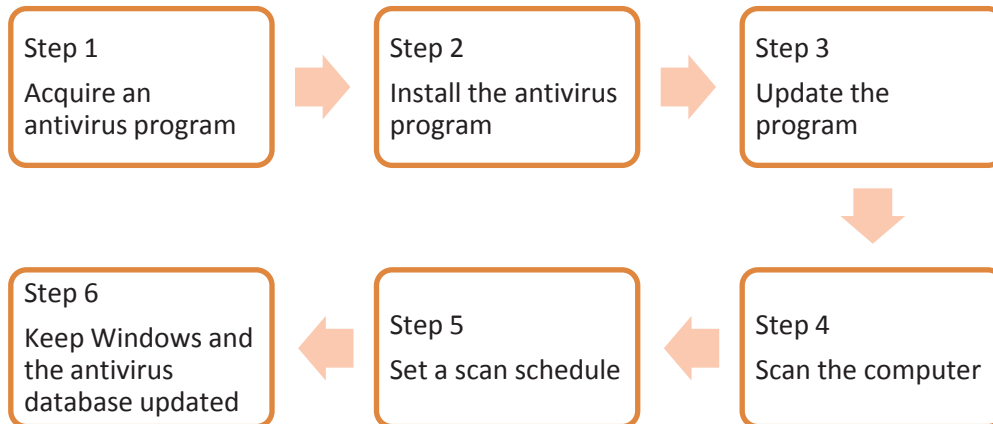


Figure 3.1.7: Steps to install Antivirus on Windows

The antivirus database is an information about latest viruses and harmful software which needs to be updated regularly.

2. Install MS Office

MS Office includes applications such as Microsoft Word, Microsoft PowerPoint, Microsoft Excel and MS Outlook.

The following figure lists the steps to install MS Office on Windows operating system:

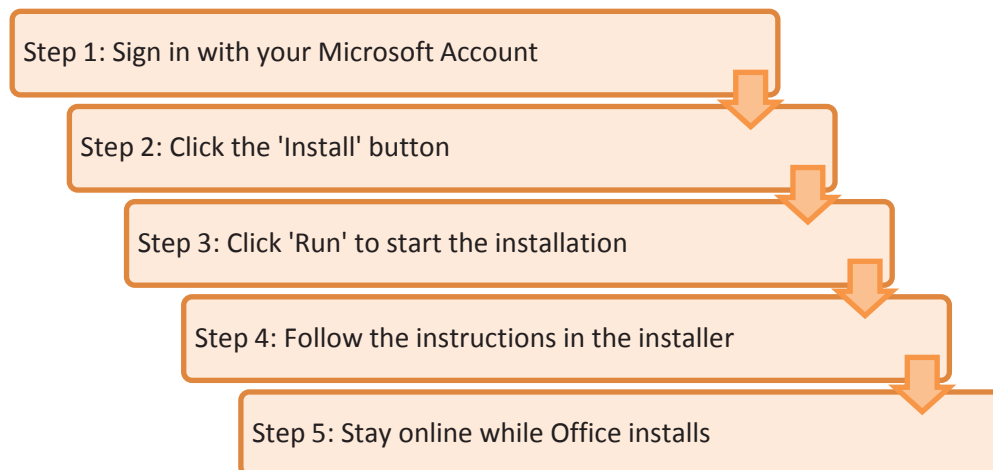


Figure 3.1.8: Steps to install MS Office

3.1.2 Identify Correct Installation Places

An IT coordinator must consider the size of teaching arena in the front of classroom.

The following figure shows a typical smart classroom setup:

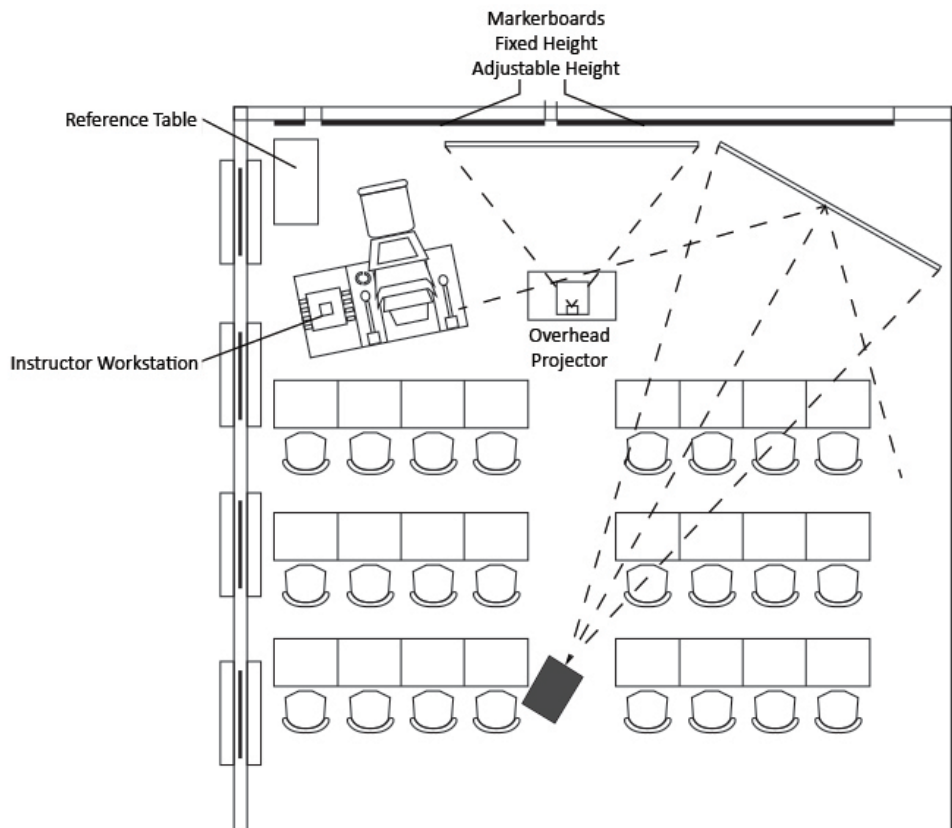


Figure 3.1.9: A smart classroom setup

The following figure lists the points that an IT coordinator should identify for proper installation of equipment such as white boards, projectors, instructor's podium and sitting arrangement of students:

- Dimension of the classroom
- Circulation space between the desktops and desks
- Depth of room for projectors to be far enough from screens
- Height of the screen
- Width of the screen

Figure 3.1.10: Points that an IT coordinator identifies for proper installation of equipment

Dimension of the classroom should be such that you can accommodate a multi-media instructor workstation and a reference table. There must be ample circulation space between the workstation and screens. Moreover, the room should be deep enough for carts to be able to move around. These carts are used for portable media projectors to be located far enough from screens to project images without a keystone shape and large enough to be easily seen. The screen placement should be high enough to give all students a clear view of projected images.

In addition, the placement of the room should be wide enough for marker boards and at least one projection screen to be used at the same time, spaced far enough apart so that light on the board does not spill over onto the screen.

A projector mounted on the wall enables to show bigger images for a better picture clarity and better view for students.



Fig. 3.1.11: A teacher writing on smart board

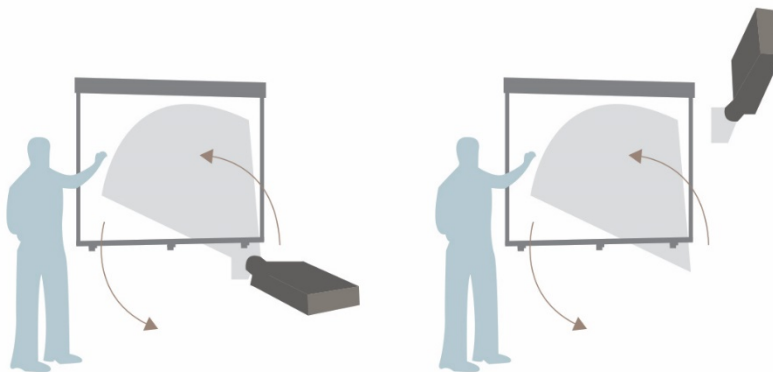


Fig. 3.1.12: A man mounting the projector

To mount a projector, an IT Coordinator will have to consider a variety of measurements. The following figure represents the three major aspects to be considered by an IT Coordinator:

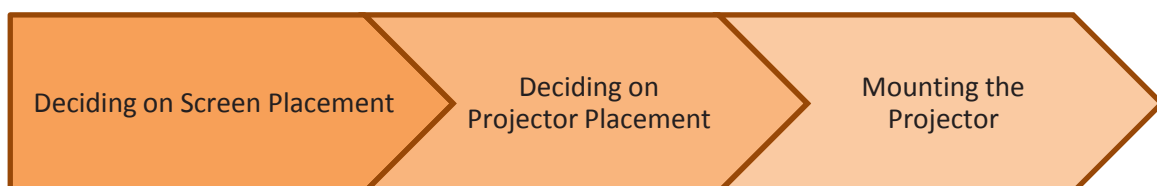


Figure 3.1.13: Three major aspects to be considered by an IT Coordinator

Deciding on Screen Placement

The following figure lists the factors to be considered related to screen placement:

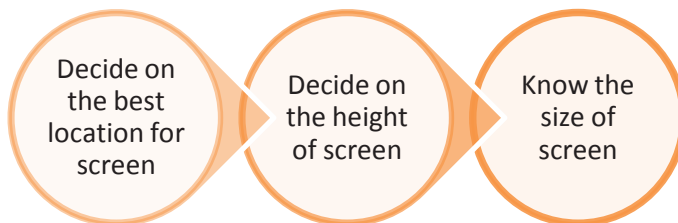
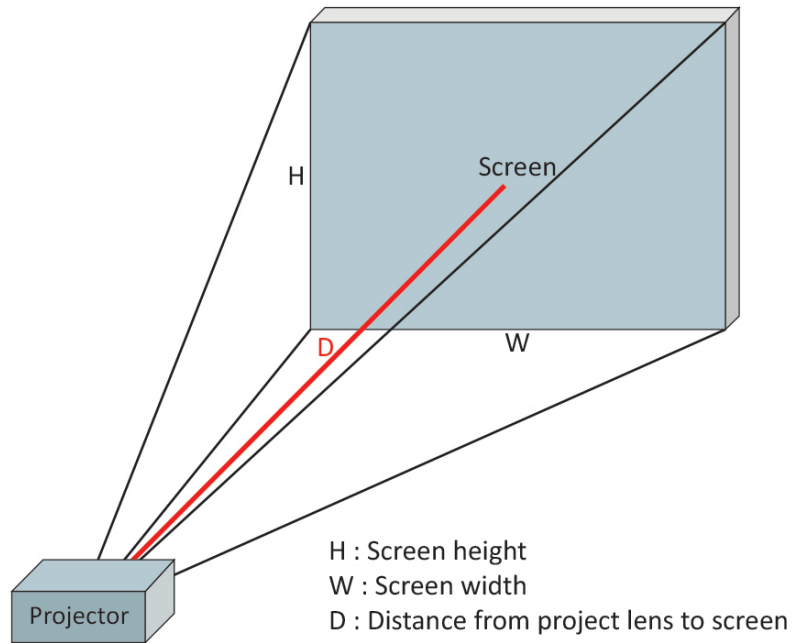


Figure 3.1.14: Factors to be considered related to screen placement

Deciding on Projector Placement

The following figure lists the factors to be considered related to projector placement:

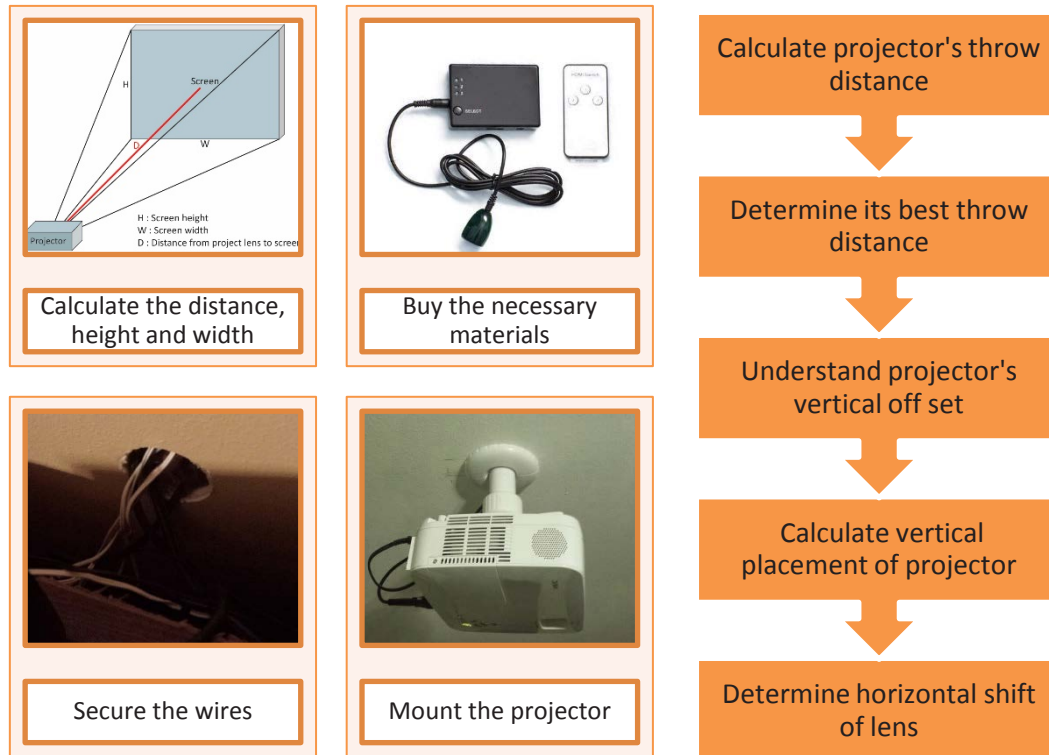


Figure 3.1.15: Factors to be considered related to projector placement

Deciding on Mounting the Projector

A projector's installation is very critical as it needs to be placed at the right angle. The angle determines the throw distance, the distance between its position and the whiteboard. The cables must be secured properly along the wall because if left loose, it may prove to be dangerous.

The following figure lists the steps related to mounting the projector:

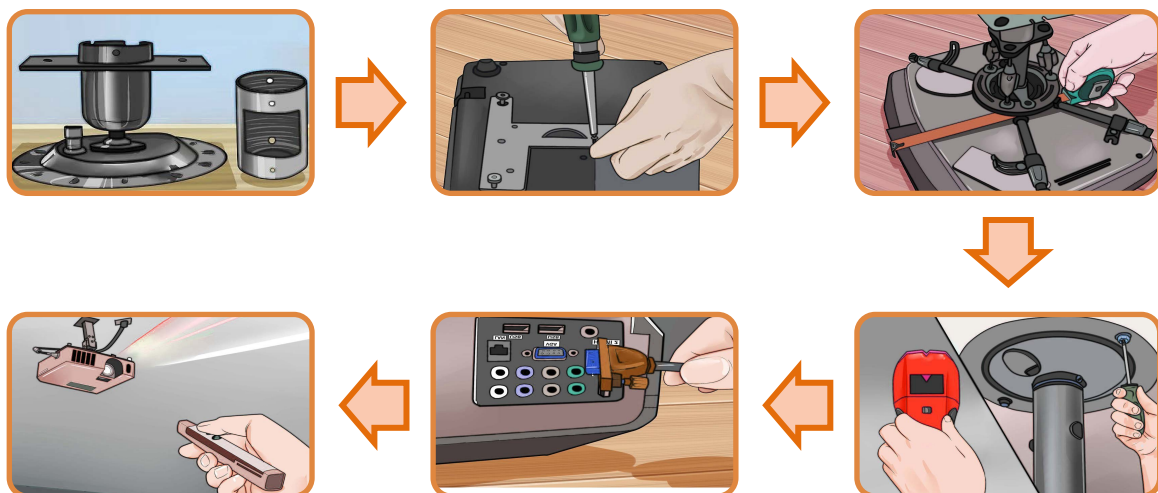


Figure 3.1.16: Steps related to mounting the projector

3.1.3 Refer to Installation Manuals

The 'User Manuals' of products or equipment that are used in smart classes contain all essential information for the user to make full use of the system. This manual includes a description of the system functions and capabilities, contingencies and alternate modes of operation, and step-by-step procedures for system access and use.

A user manual generally has five sections. The following figure shows the five segments of a user manual:

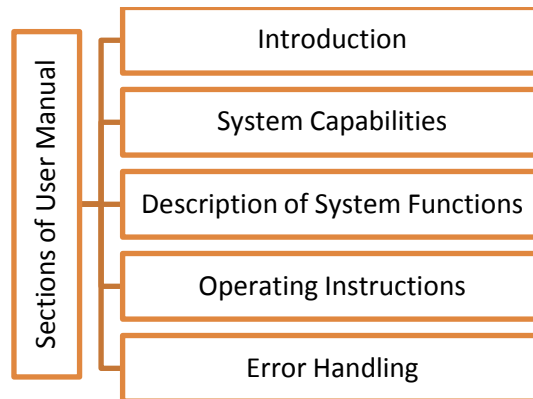


Fig 3.1.17: Sections of User Manual

A 'Help Facilities' is also present which describes a help desk facility that the user can contact for error resolution. Help desk telephone numbers are also included. There are various sections in a typical help book of a particular equipment.

The following figure lists the contents of a help book:

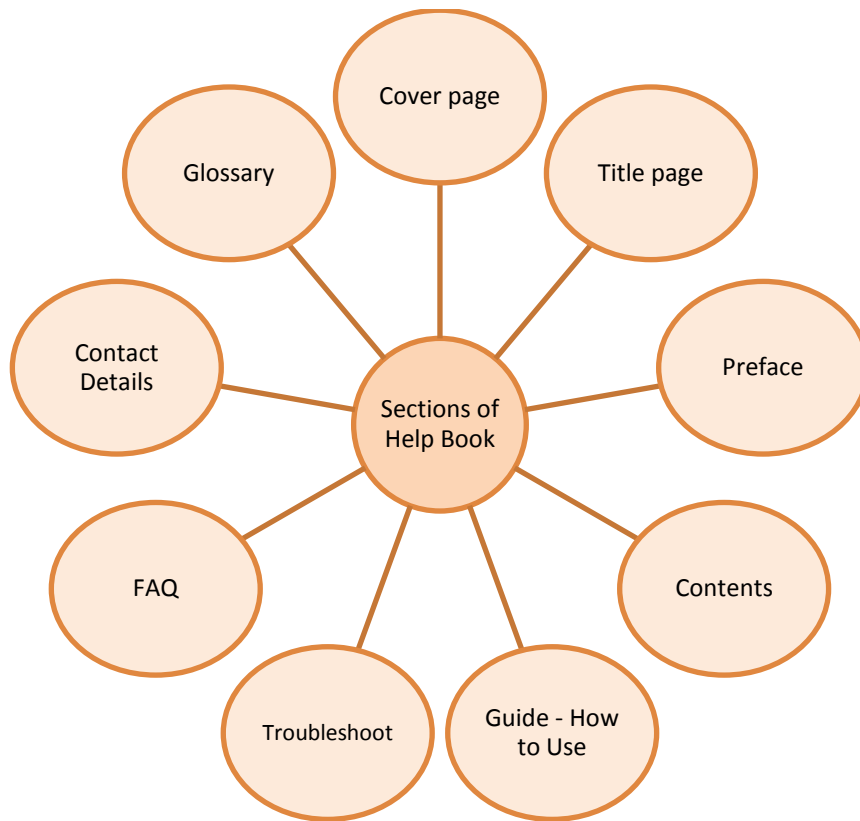


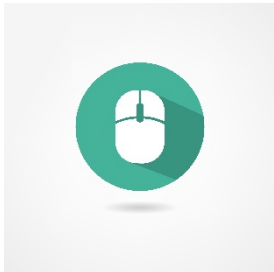
Fig 3.1.18: Contents of a Help Book

The contents of a help book are:

1. **Cover page:** Shows the image of the equipment along with the manufacture's name. The title page shows the name of the equipment.
2. **Preface:** Gives a brief introduction to the product.
3. **Contents page:** Lists down the table of contents, that is, the list of topics along with the page numbers.
4. **Guide:** Includes all the instructions that enable a user to operate the equipment.
5. **Troubleshoot section:** Includes all the issues and resolution for it which a user can handle at their end.
6. **FAQs section:** Covers all possible questions related to a product and answers to them.
7. **Contact details section:** Provides a call centre or service centre number where the user can call and register their complaints and seek assistance to their grievances.
8. **Glossary section:** Includes terms along with their definitions whose page numbers are mentioned alongside.

Exercise 

Identify the equipment that are connected to a desktop during its installation. Put a ✓ mark against the correct figure.



Practical



Perform the steps to install a printer and connect to a desktop. Test its functioning after installation.

Equipment:

- Working system/Desktop
- Printer and cartridges
- Paper

Practical



Perform the steps to install MS Office 2016 on Windows 10.

Requirement:

- Desktop with Windows 10
- MS Office 2016 installation disk

UNIT 3.2: Operation of E-learning Equipment

Unit Objectives

At the end of this unit, you will be able to:

1. Identify how operation and demonstration of E-learning equipment is done
2. Explain how the installed equipment is operated effectively

3.2.1 Operation and Demonstration of E-learning Equipment

Demonstrating a product is a way of promoting or showing the operation of an equipment to the users. The goal of demonstrating the workability of an equipment, such as a newly installed desktop or an interactive white board, is to introduce the users, in our case teachers and assistants, to the equipment and answer their queries related to its operation.

There is nothing better than a good demonstration session. It is only after a demonstration (demo) that users understand the operation of particular equipment.

There are a few rules which must be considered while preparing for the demo. The following figure lists these rules:

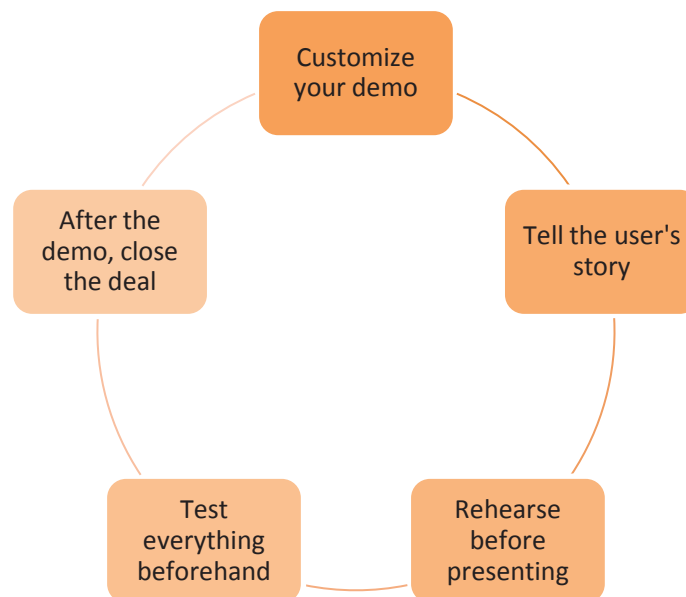


Fig 3.2.1: Rules to be followed to prepare an effective demo

3.2.2 Effective Operation of Installed Equipment

Many E-learning applications require specific software to be installed in order to work efficiently. Flash and Adobe are examples of such software which are usually required by an E-learning application to support its working.

It is important to test that multimedia applications are working on the system and that equipment like the speakers and projector is also functioning well. Therefore, as an IT coordinator, a few points must be considered for an effective operation of installed equipment and the required software. The following image lists those points:

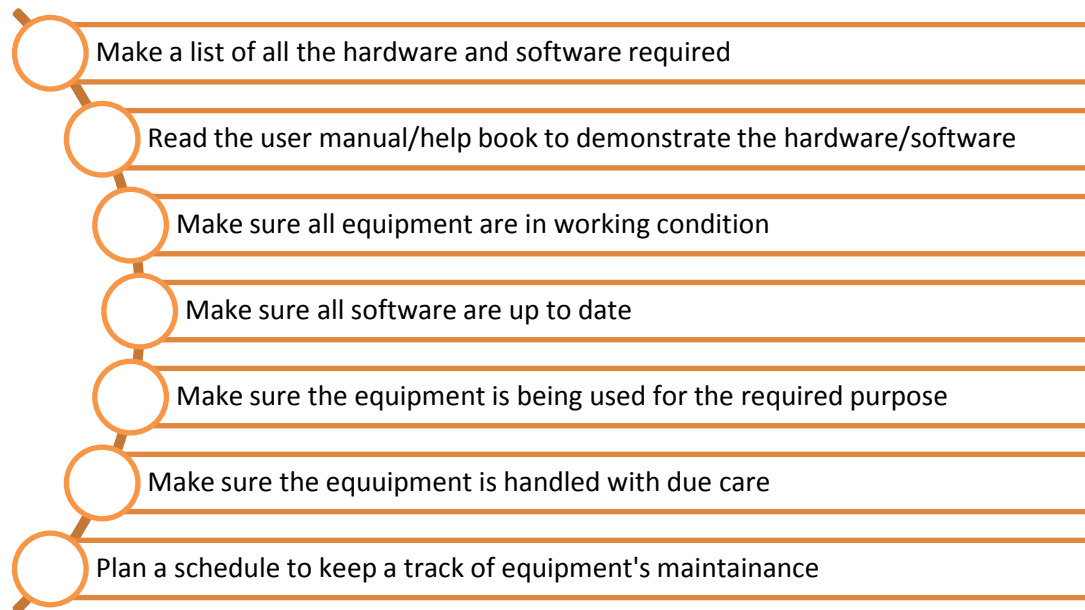
- 
- Make a list of all the hardware and software required
 - Read the user manual/help book to demonstrate the hardware/software
 - Make sure all equipment are in working condition
 - Make sure all software are up to date
 - Make sure the equipment is being used for the required purpose
 - Make sure the equipment is handled with due care
 - Plan a schedule to keep a track of equipment's maintainance

Fig 3.2.2: Rules to be considered for an effective operation of installed equipment

Activity 

Look at the following image of an LMS. Prepare a demonstration session in the form of a presentation.



UNIT 3.3: Provision for Training and Assistance

Unit Objectives

At the end of this unit, you will be able to:

1. Identify the elements of online training
2. Discuss the benefits of online training
3. Describe peripheral and consumable equipment

3.3.1 Applications of Online Training

Online training takes place completely on the internet and includes various elements for delivery of lessons. The following figure represents the multimedia elements that make up an online lesson:

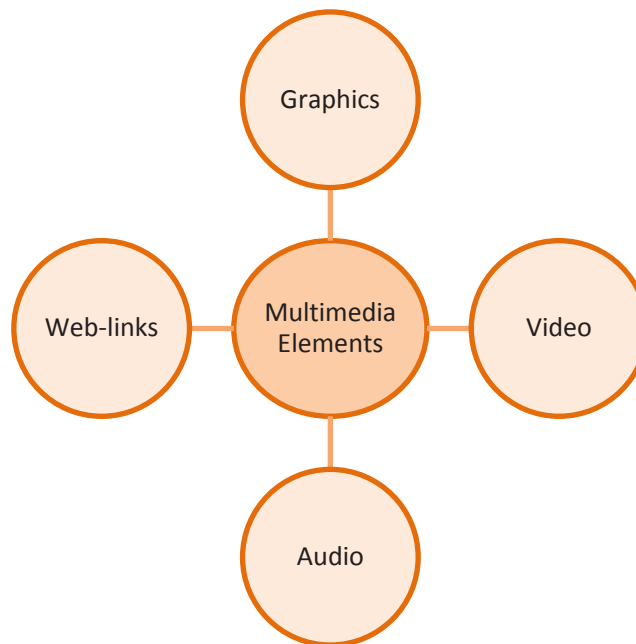


Fig 3.3.1: Multimedia elements of an online lesson

How online training helps?

Online training lessons are aimed to guide users through a curriculum coursework. Some courses are presented online whereas some courses are available in the form of CD's or DVD's. The online courses enable the users to have live interactive sessions with the instructor/trainer. The courses are supported with surveys, quizzes, activities, assignments and tests.



Fig. 3.3.2: A monitor showing learning icons

Online training also enables a user to access training material from any part of the world by logging into the designated Learning Management System (LMS) portal.

Benefits of Online Training System

There are mainly four major benefits of online training. The following figure lists the factors favouring online training:

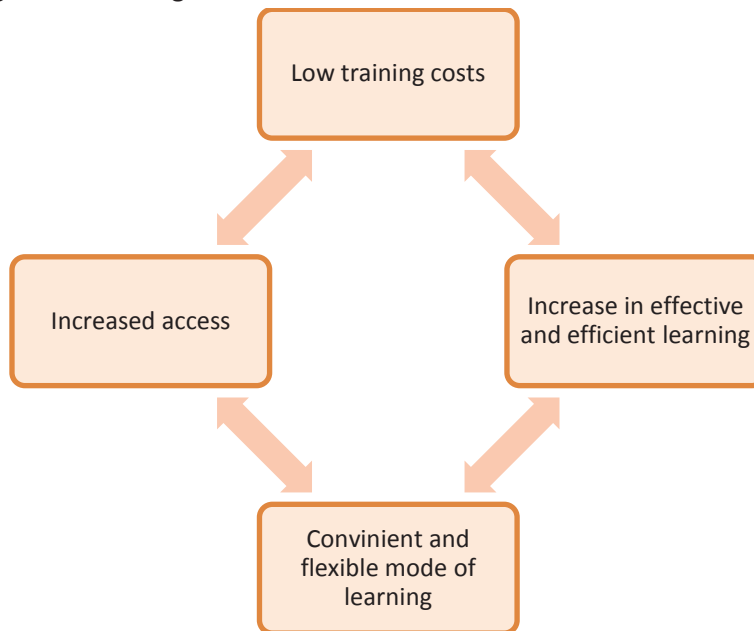


Fig 3.3.3: Online Training Benefits

3.3.2 Operate Hardware during Training

An IT coordinator must operate hardware when providing training. It is essential to have a thorough knowledge about operating a system.

External Hardware Equipment

The following figure represents the external hardware equipment:

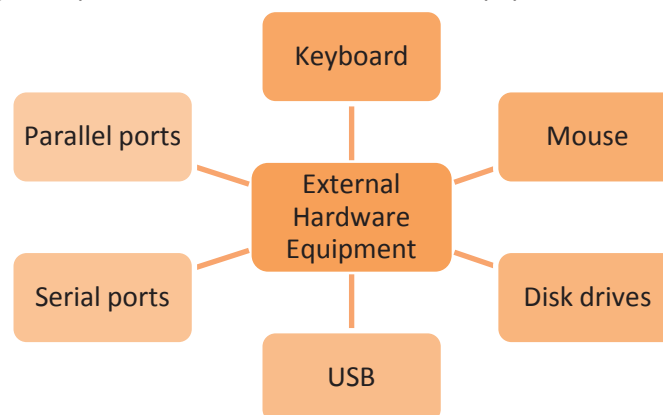


Fig 3.3.4: External hardware equipment

Internal Hardware Equipment

The following figure represents the internal hardware equipment

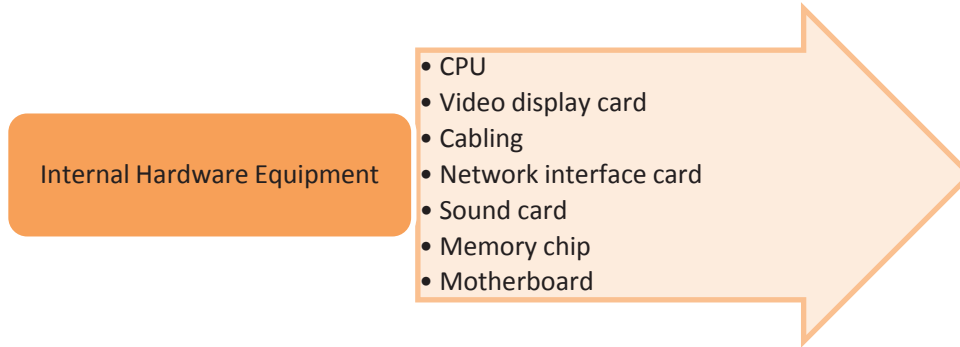


Fig 3.3.5: Internal hardware equipment

Peripheral Equipment

The following figure represents the peripheral equipment:

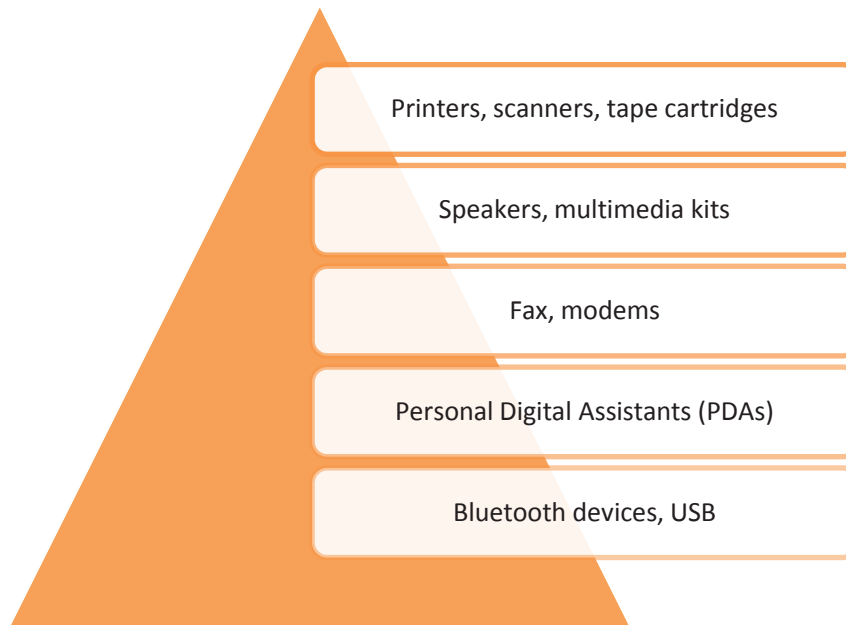


Fig 3.3.6: Peripheral equipment

Consumable Equipment

The following figure represents the consumable equipment:

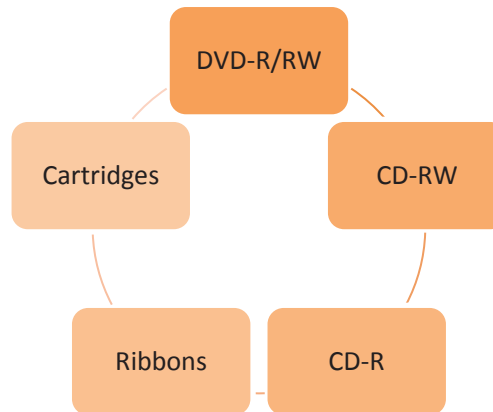


Fig 3.3.7: Consumable equipment

IT coordinator's role requires a person to assist the teachers/instructors in operating the equipment used for online training. It is not possible to hand over a user manual to each teacher/instructor asking them to learn themselves as to how they should navigate in order to learn operation of an equipment. Training sessions are held separately for teachers as well as the students and other users to enable them to handle the operating systems.



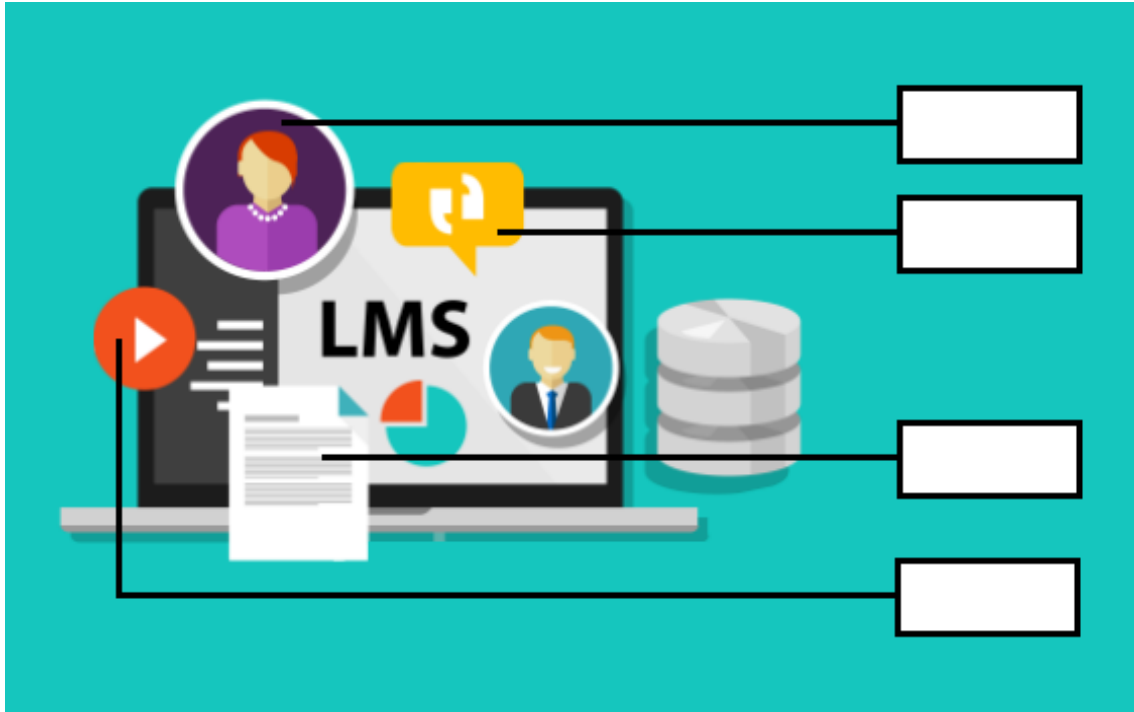
Fig. 3.3.8: Typical training sessions for IT Coordinators

Also, an IT coordinator must assist the teachers as they design content for the training material to be uploaded on the LMS for the learners and at the same time help teachers with daily classroom material.

For example, a mathematics teacher wants to design a training material where a user should have working space under each problem sum given in an assignment. This training material is not compatible on the operating system being used in the school. How can the teacher be helped? As an IT coordinator it is a person's responsibility to look out for new ways and seek a resolution to this issue. A person may seek the learning centre's assistance to resolve the issue or may suggest a new template or portal that can be helpful.

Exercise 

Mark the multimedia elements in the following figure:



UNIT 3.4: Training Staff

Unit Objectives

At the end of this unit, you will be able to:

1. Discuss training of teachers and assistants
2. Explain how zero complaints are achieved
3. Recognize steps for effective coordination

3.4.1 Training Teachers and Assistants

A SMART whiteboard is touch sensitive and works as a part of system which includes a projector and computer/laptop. It is essential to teach the workability of an interactive whiteboard to the teachers and students.

The following figure represents the working of an interactive whiteboard in brief:

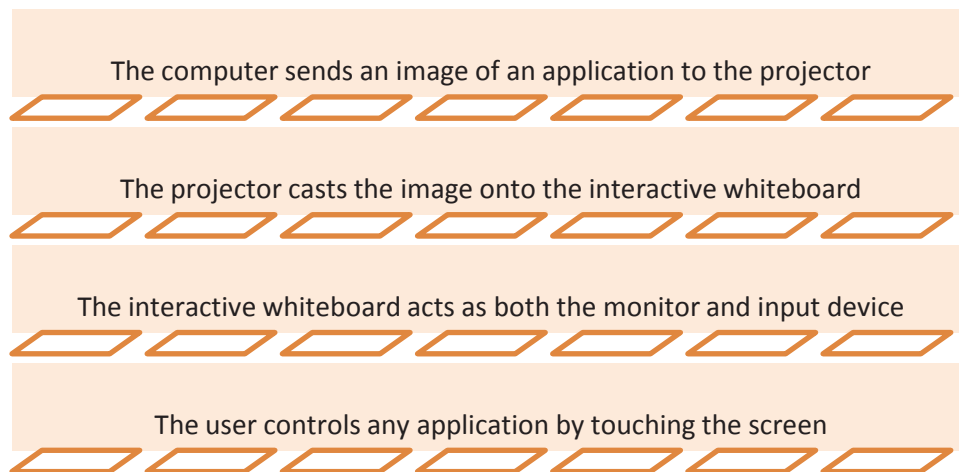


Fig 3.4.1: Working of an Interactive Whiteboard

The teachers and students must be taught how they should be using the smartboard. As an IT coordinator, it is important to learn how to operate it in a step by step procedure.

Starting the SMART Interactive Whiteboard

Make sure that the projector and interactive whiteboard are connected to the computer. Switch on the projector and the computer. The whiteboard gets its power from the computer and gets activated automatically. A red coloured light indicates that the whiteboard is ready to be used. Then, log on to the system with the help of the keyboard. But how will someone know if the computer system and whiteboard have established? When a green light is seen on the pen tray, it indicates an established connection. It also means that the whiteboard is can now be controlled by touching it.

A SMART Pen Tray has four colour coded slots meant for pens and there is one slot for the eraser. Each slot is equipped with an optical sensor which can easily make out the pen picked up for use.

Test Basic Functionality

Once the whiteboard is connected, testing the whiteboard for its functions becomes necessary, as the applications will be run on it for the users. The following figure lists the steps for testing the basic functions of the whiteboard:

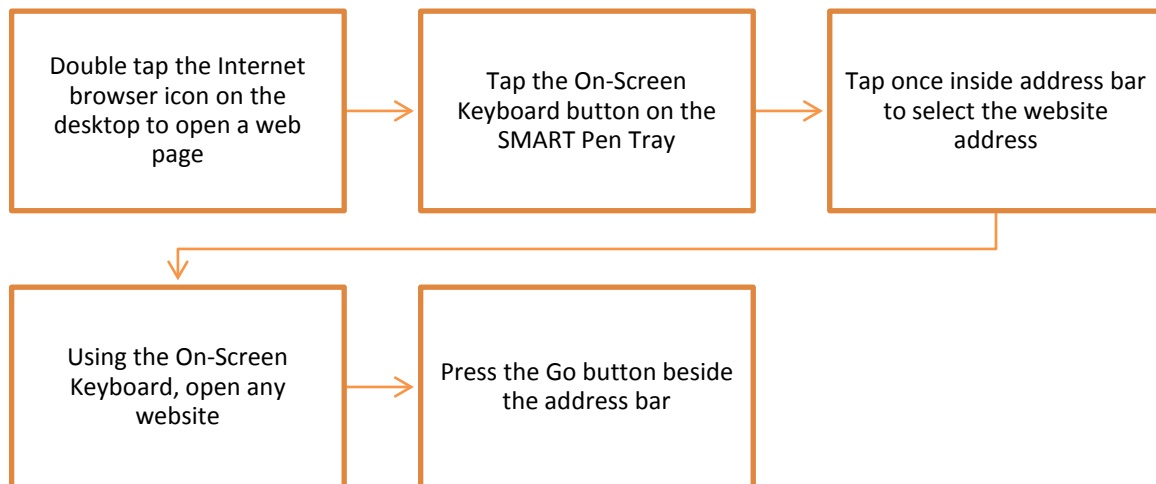


Fig 3.4.2: Testing the basic functions of keyboard

3.4.2 Resolve Queries and Achieve Zero Complaints

As an IT coordinator, if the teachers and students are satisfied with the service provided in terms of resolution to queries, complaints would be rare. However, if complaints do come up, one must be ready to resolve it with zero defects.

Listen

It is very important for a coordinator to listen to the queries and complaints in order to understand the root cause of the issue and resolve the problems. However, if the complaints are complex, it is advisable to reach out for learning centre's assistance and further communicate the solution to the complainant.

Acknowledge

In cases of complex problems which may arise, it is essential for the person to acknowledge it. For example, students have been trying hard to submit the assignment but the system redirects the user back to the Home page. In such a case, acknowledge the issue first to inform the complainants that the matter has been escalated and they will shortly be informed of a solution to the issue. This avoids chaos as well.

Solve

While solving the issues raised by users, it is essential for a coordinator to follow up on the issue. This is important especially in case the issues have been escalated with the learning centre. A coordinator must also keep in mind that resolving complaints on the spot is better rather than dealing with them later.

3.4.3 Coordinating with Teachers

Not all teachers are tech savvy and most of them may not even know how to operate a computer. As an IT coordinator, a person has a major role to play in coordinating technical tasks in classrooms, computer labs and faculty offices. Moreover, network issues also need their attention which are co related to network security and various other functions.

For example, if there is a need of installing a new software, there are certain set of steps that need to be carried out; one of them being issue of purchase requisition. In lay man terms, there is a proper plan which needs to be in place before a large purchase is even initiated/made. Coordination is done with the technical staff in such cases where they are asked to download and try the free version of the software first.

Activity 

Work in groups. Discuss and list five queries related to using a projector which a user/teacher/instructor is likely to ask you to resolve.

Two queries have been given as sample.

1. Are there any specific lighting requirements while using the projector, for example, should the classroom be switched off when the projector is switched on?
2. How do we come to know whether the projector is switched off or in standby mode?
3. _____
4. _____
5. _____
6. _____
7. _____

Practical



You are given a faulty motherboard. How would you analyse the type of failure in the motherboard?

Hardware:

A desktop system with a faulty motherboard

Hint:

1. Symptoms associated with system board hardware failures
2. Typical symptoms associated with system board CMOS setup failures
3. Typical symptoms associated with system board I/O failures

Use:

1. Beep codes
2. Motherboard manufacturer's manual

Practical



Install a new hard disk to the laptop of a teacher.

Hardware:

1. Phillips and flat blade screwdrivers (small and medium size)
2. A 3-claw part grabber
3. A chip inserter and chip extractor
4. A TORX head screwdriver
5. A 1/4" and 3/16" nut driver
6. A container to hold small parts and screws

Software:

1. Operating system
2. Bootable disk with FDISK.EXE and FORMAT.COM copied onto disk
3. Disk Manager

4. Managing the E-learning Curriculum

- Unit 4.1 – Basics of an E-learning Curriculum
- Unit 4.2 – Content Structure and Presentation
- Unit 4.3 – Preparing Content for E-learning Curriculum
- Unit 4.4 – Guiding Teacher/Assistant on the Content

Key objectives



At the end of this unit, you will be able to:

1. Understand the importance of E-learning
2. Assist in designing school curriculum
3. Identify the dos and don'ts of designing a curriculum

Unit 4.1: Basics of an E-learning Curriculum

Unit Objectives

At the end of this unit, you will be able to:

1. Explain the importance of E-learning
2. Assist in designing school curriculum
3. Identify the dos and don'ts of designing a curriculum

4.1.1 Introduction to E-learning Curriculum

As discussed in the previous unit, E-learning is the use of digital technology to enhance and facilitate learning and training beyond the periphery of a classroom.

With growing use of information and communication technology, E-learning has become a significant part of today's learning. It is used in schools to educate, inform, coach and train students even when they cannot be present in the classroom for traditional learning.

It is generally believed that E-learning is a mere teaching of the traditional academic courses over the internet. However, there is a lot more to E-learning than just this. E-learning helps the students to develop knowledge, skill and understanding of traditional academic curriculum, in addition to gaining a whole lot of information, through the use of computer-based technologies.

E-learning is changing the role of teachers and thus the learning experience of school children. With E-learning, school students enter an exciting world where they study through increasingly interactive modes with the help of videos, audios and workable examples. Additionally, E-learning enables flexible use of school classrooms, school schedule and movement of students.

Increased connectivity of schools to the internet in India is providing more and varied opportunities for the school IT coordinators to help design and introduce E-learning material in the school curriculum.

There are many aspects to designing a curriculum for students. It is important to design a curriculum which ensures that all students receive the same level of education.

It's vital to plan a curriculum because its design and content is not only important for teachers, but for students as well. While the curriculum details what and how teachers have to teach, it also explains what students would be learning during its course.

4.1.2 Designing the Curriculum

Use of E-learning in schools has developed from the corporate industry, where E-learning is being used to train employees for a couple of decades now.

Schools prefer to develop E-learning curriculum in addition to standalone traditional courses. The digital learning curriculum comprises of several modules. Each module is integrated and requires to be completed in a sequence by the student, as per the scheduled timelines.

This allows the student to learn a subject comprehensively. The following list gives a few advantages of an E-learning course and how it makes life easier for teachers:



Fig. 4.1.1: Massive online education

- E-learning eliminates dependence on a workplace. It decreases the need for travel and eliminates requirement for classroom-based teaching.
- E-learning makes a course more scalable. It enables a teacher to quickly create and communicate a new idea or information.
- E-learning ensures that the information is communicated consistently. The result is that all students receive the same training.
- E-learning creates blended learning, which results in higher knowledge retention.
- With E-learning, learning is fun and course can be refreshed and updated whenever required.

School's E-learning Modules and Curriculum:

The main function of a school curriculum is to deliver a template (design) that enables the learning to take place. E-learning curriculum describes the learning that has to take place during an E-learning study program.

The following figure depicts the focus areas of a curriculum:

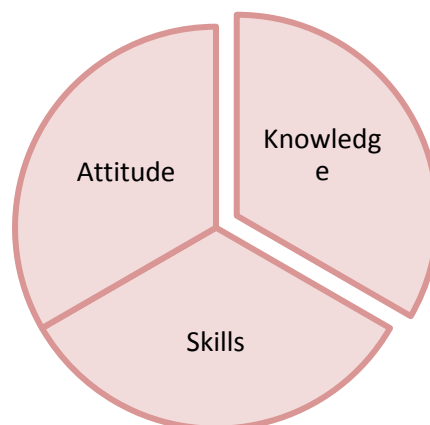


Fig. 4.1.2: Focus areas of a curriculum

A curriculum is more than the syllabus. Syllabus simply defines the contents of a study program, which is just one part of the curriculum. The curriculum specifically lays down the main learning methodology that is required to deliver the course effectively.

A school curriculum is considered the heart of E-learning in a school. It is important in modern education as it is the 'total learning experience of an individual student not just in school, but in the society as well.'

Designing the E-learning curriculum is a planned, progressive and systematic process of creating positive workflow for the school's educational system. The following figure explains that curriculum is an academic plan that includes the given aspects:

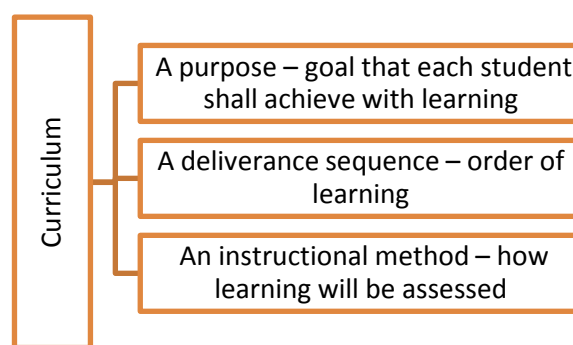


Fig. 4.1.3: Curriculum

The following points form the basis of a curriculum:

- E-learning curriculum is a document – official plan – of what the school faculty hopes a student will learn.
- It includes the skills and attributes that will be learned and remembered by the students.

Goals and Objectives of Designing a Curriculum

The goals and objectives of an E-learning curriculum includes the purpose and desired achievement from it. It refers to what is required from the curriculum, and what will the students end up learning from the designed curriculum. It should be interactive, easy to understand, detailed but not cluttered and should effectuate practical learning.

Goals and objectives are characterized by learning, skills and knowledge; they lay down the framework for assessing the effectiveness of a curriculum. A curriculum is regarded as effective as per its outcome that is what the learners have really understood, and how they can implement the same.

Outcomes and Competencies

The outcome and competence of the E-learning curriculum defines the measurable knowledge, skills and learning that the students would have acquired at the completion of the curriculum.

Outcome describes the level of proficiency attained and competence describes the proficiency needed to begin professionally in the field of study. For example, through a course in English, students are able to attain proficiency in grammar, and then use the same in an essay competition in the school.

Curriculum Map

Curriculum maps help teachers to describe effectively the sequence of the course material or how different modules of the curriculum will work together to define the course. The following image is an example of kindergarten curriculum map:

Kindergarten Curriculum Map

	Reading Series Themes	Science And Social Studies Units	Letters	Language Arts	Math
1st Nine Weeks	<ul style="list-style-type: none"> Look At Us Colours All Around 	<ul style="list-style-type: none"> All About School All About Me My Body Five Senses Fire Prevention And Safety 	Letter Cycle 1: A-Z Introduce One Letter a day Begin Cycle 2: Two Letters A Week Out Of Sequence Match The Sound With The Letter.	<ul style="list-style-type: none"> Counting Words Colour Words Capitalisation Punctuation Student Names 	<ul style="list-style-type: none"> Calendar Shapes Size Numbers 0-10 Classifying And Counting
2nd Nine Weeks	<ul style="list-style-type: none"> We Are Family Friends Together Let's Count 	<ul style="list-style-type: none"> 50th Day of School Past And Present Family And Pets Traditions 	Complete Cycle 2: 2 letters a week. Begin Cycle 3: One Letter A Day Out Of Sequence: Matching Words That Begin With The Letter	<ul style="list-style-type: none"> Singular And Plural Letter Hunts Positional Words Action Words 	<ul style="list-style-type: none"> Classifying And Counting Relative Position Place Value to 20 Weight And Measurement
3rd Nine Weeks	<ul style="list-style-type: none"> Sunshine and Raindrops Wheels Go Around Down On The Farm 	<ul style="list-style-type: none"> Weather Community Helpers Health and Hygiene 	Complete Cycle 3: One Letter A Day Begin Cycle 4: One Letter A Day Identifying letter in beginning, middle and end of a word.	<ul style="list-style-type: none"> Writes 1 – 2 Sentences Weather Words Transportation Words 	<ul style="list-style-type: none"> Comparing Numbers More And Less Representing Addition Analysing Two and Three Dimensional Shapes. Place Value
4th Nine Weeks	<ul style="list-style-type: none"> Spring Is Here A World Of Animals 	<ul style="list-style-type: none"> Plants And Gardens Life Cycles Animals 	Complete Cycle 4: One Letter A Day Begin Cycle 5 One letter A Day – Reading and Writing with letters	<ul style="list-style-type: none"> Writes 2 – 3 Sentences Rhyming Words Compositions Quotation Marks Spellings 	<ul style="list-style-type: none"> Representing Subtraction Mastering Addition And Subtraction Facts to 5

Fig. 4.1.4: Kindergarten curriculum map

Benchmarking

Benchmarking involves teachers to make comparison of their E-learning programs with their competitive institutions. This helps teachers to identify any important lessons that they may have missed in framing their curriculum. For example, if a teacher has missed a worksheet on Pythagoras theorem in a Maths module, in comparison with the E-learning program, the teacher can quickly correct the mistake and compile a worksheet immediately.

4.1.3: Dos and Don'ts for the Curriculum

Since curriculum comprises a course of study in a school, it is important to frame it very cautiously, taking into consideration what students should be able to learn at the end of the course.

The following table lists a few dos and don'ts to consider while preparing a school curriculum:

Dos	Don'ts
Design the curriculum to enable development of independent learning skills.	Don't design a complex curriculum – misunderstanding can lead to ineffectiveness of the course.
Curriculum should establish and identify steps to reach a learning goal.	Don't hesitate to define the curriculum goals after comparing it with the educational experiences of competing schools.
Curriculum should enhance conversation. Students should talk openly about the doubts and they should be made to understand that their feedback is necessary.	Do not blindly brainstorm the student feedback. It should first be analysed and discussed.

Fig. 4.1.5: Dos and don'ts to consider while preparing a school curriculum

Exercise 

State whether the following statements are true or false. Correct the statements if they are false.

1. E-learning means dependence on several classrooms as there is a need for travel.

2. E-learning makes a course scalable.

3. E-learning ensures that the information is communicated consistently.

4. E-learning creates non-blended learning, which results in lower knowledge retention.

5. Learning is fun and any content can be updated whenever required.

Unit 4.2: Content Structure and Presentation

Unit Objectives

1. Identify the main concepts involved in course designing and planning
2. Understand primary components of a course

4.2.1 The Content Structure

The content structure (course structure) is the identification of topics for the course. When designing the content structure, teachers need to keep in mind that the choice of topics is done in such a manner that it supports learning. Moreover, through the content structure, the content objectives of the course should be easily brought to light.

It is important for teachers to want the students to master the course content and use the content learned in some form. For example, through knowledge about lenses in a physics module, a student can easily identify the type of lens used in a car's headlight. Generally, it is seen that teachers consider the first aspect, but completely neglect the second, which should not be the case.

Also, it's vital to focus on essential topics only. Focusing on covering everything that is, including too many topics in the course content can impede students' learning ability. Too many topics only crowd the students' mind and leave them with limited scope to apply the skills and knowledge that they were expected to gain from the course.

It is therefore imperative for teachers to determine a reasonable scope for the course. This will include defining the essential content, which will be helpful in providing students with deeper analytical learning.



Fig. 4.2.1: A laptop has replaced a book

4.2.2: Concepts Involved in Course Design and Planning

In order to develop reasonable set of topics, teachers should create a list of supposed content that would cover all the relevant information to be provided in the course. These topics should then be scrutinized to arrive at the list of topics that are of utmost importance in comparison to the rest. Now, the teacher can easily build course content around these essential topics.



The following figure lists the materials used for building course content to help students accomplish their career goals:

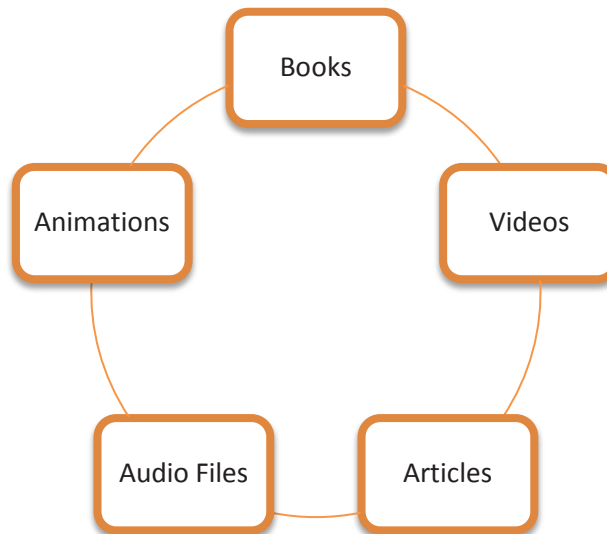


Fig. 4.2.2: Materials used for building course content

Understanding the Course Flow

There are a host of effective ways to organize course content to accomplish a set of objectives, which a teacher wants fulfilled.

The following figure lists the steps of how a teacher can create the flow of the content in a chronological order:

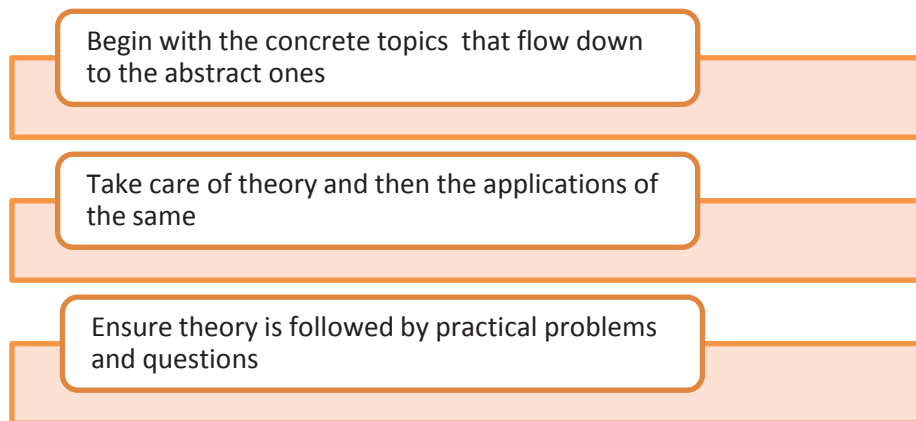


Fig. 4.2.3: Steps to a create a flow of the content

The course structure can be the other way around too. No matter how the teachers organize the course content, the goal is simple – it should bring out the learning objectives clearly, which are easily comprehensible and identifiable for the students.

So, what's really the learning goal? The goal is to arrange the topics in such a manner so as to build a storyline. The following figure shows how a course should flow:

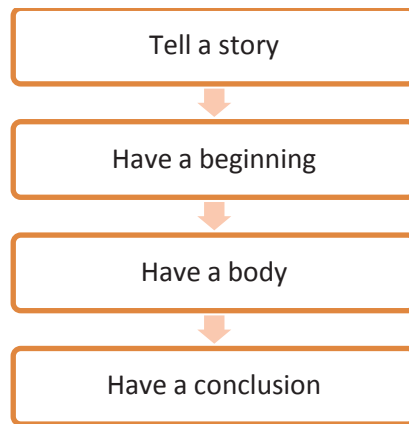


Fig. 4.2.4: Flow of a course

This allows the students to correlate the new topic in the course with the previous topic or idea and thus learn in a systematic flow.



4.2.3 Primary Components of a Course

The three main components of course content are learning objectives, assessments and instructional strategies. The following image depicts the various components of a course:



Fig: 4.2.5: Various components of a course

Learning Objectives

Learning objectives of a course means what a teacher wants the students to learn and understand from a course content. Learning objective is the specific knowledge, skills and attitude that a student is expected to develop, learn and master at the end of the course.

A teachers must develop strategies to combine and arrange a number of instructional activities and topics that would help the students to accomplish their learning goals. To design an effective course, a teacher must first think about what the students should be able to achieve when they are done with the course. The teacher must lay down the objectives of the course and then set out to develop it. The objective of designing a course on Sets and Venn diagrams for example would be to have complete understanding of universal set, union and intersection of a set.

Having understood the learning objectives, teachers can then identify the knowledge, skills and tools that the students would require to accomplish the learning objectives.

Assessment

Assessment for a course is the basis of a curriculum, since this is the best way to calculate the grades for students.

The following figure shows the components of an assessment:

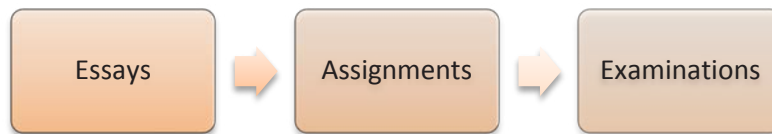


Fig. 4.2.6: Various components of an assessment

But, are these components the ultimate benchmark to know if students are learning? How does a teacher know?

Assessment of a course (and its learning attributes) is therefore necessary for both teachers and students, and it should be slightly more than the above mentioned traditional methods.

Assessment is most effective when it's not based on one information-gathering source, but is gathered from multiple sources. Data from one particular source of information (say assignments) is limited for student evaluation.

Thus, in addition to examinations, assignments and other evaluation items, a teacher must consider the following questions to arrive at a more interesting method for assessment.

The following figure lists the questions to be answered in order to arrive at a more interesting method for assessment:

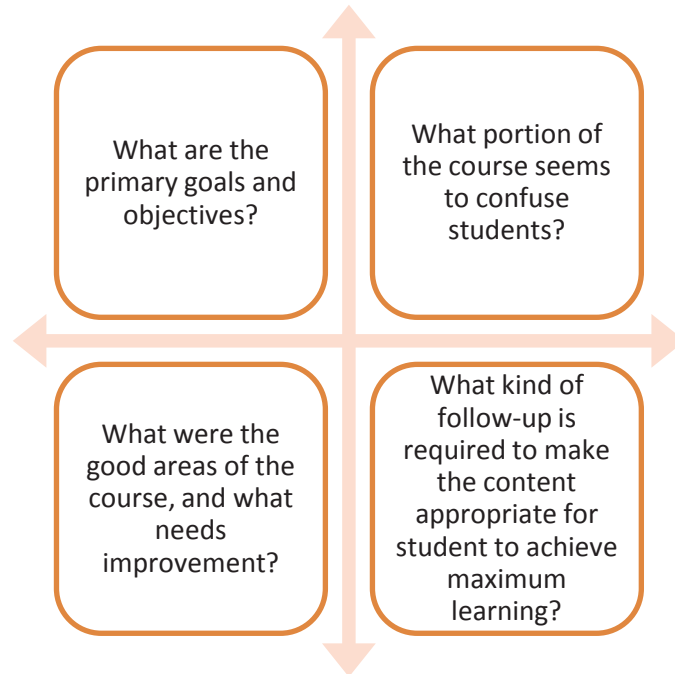


Fig. 4.2.7: Questions to be answered to arrive at a more interesting method for assessment

Instructional Strategies

Instructional strategies are the next step after learning objectives and assessments. The teachers need to evaluate the different types of instructional activities that they will use to engage students in the course and help them meet the learning objectives.

The key for successful strategies is to form instructional strategies along with learning objectives and assessment. Though a few strategies that teachers may devise are flexible, but most of them require to work in combination with other components of a course to achieve a particular set of objectives. The following table lists the different types of strategies along with their objectives:

Instructional strategy	Objective
Transmitting information through lectures	This helps enhance student reading and understanding ability. Also, teacher can use the time to address student course queries, create interest in new areas of learning and motivate students to comprehend assignments.
Creating communication through discussion	By communicating and discussing the subject, topics or assignments problems can be identified and any conflict can be addressed. Teachers can also receive valuable feedback from students.

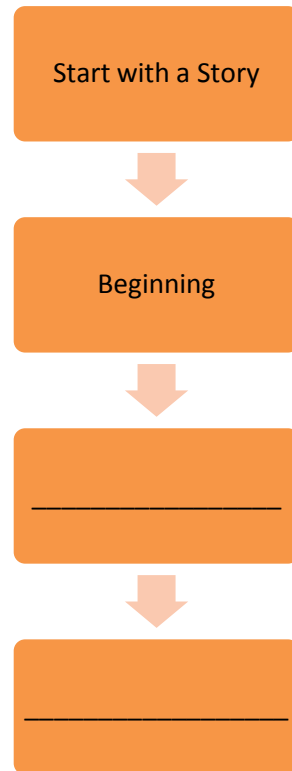
Enhancing information and knowledge through group activities	Group projects can help students develop their cognitive, leadership, communication and conflict resolution skills. It also helps them tackle problems and understand distribution of work for better efficiency.
Involving students in learning through case studies	Case studies are important for students to uplift their cognitive understanding and skills. With well-presented case studies, they can start to think critically and develop knowledge of real world scenario.
Developing disciplinary and practical learning with audio-video, lab-works and studios	Understanding in an interactive manner by seeing things happen practically enhances a student's content grasping ability instantly. The students can self-evaluate their skills in any of the mentioned, approximately real-life situation.

Fig: 4.2.8: Different type of instructional strategies

Exercise

Look at the following figure which describes a course flow.

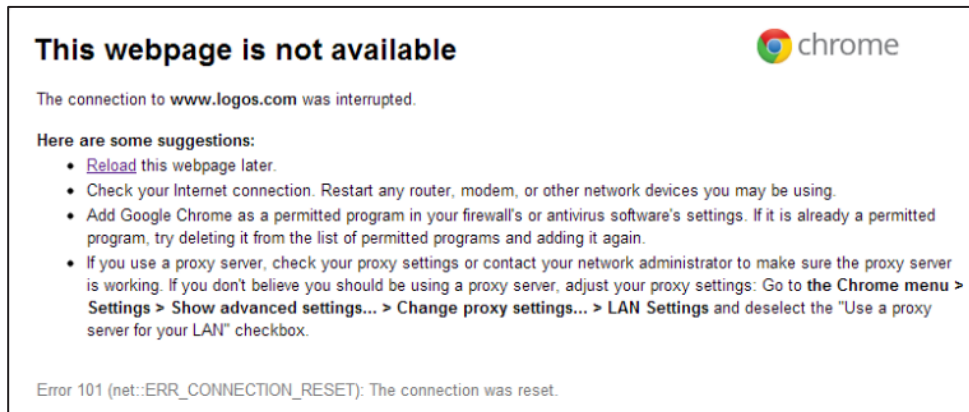
Fill in the missing components of a course in the figure.



Practical



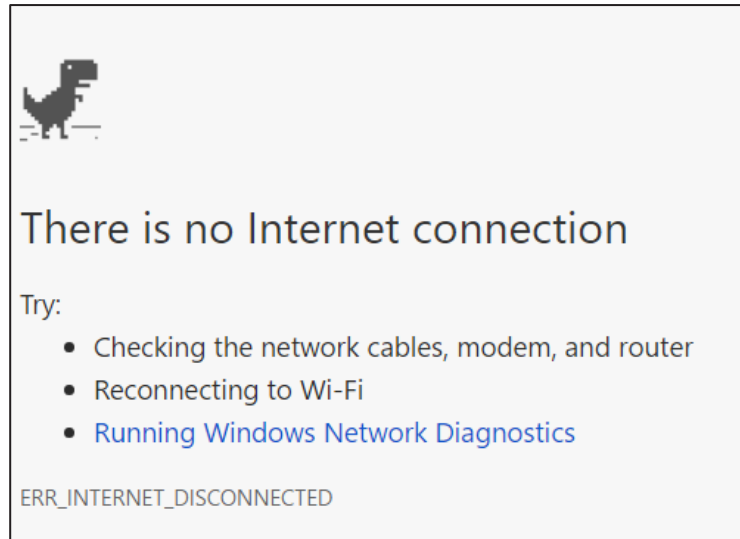
A teacher is trying to access the E-learning portal of the school, but the screen keeps giving the following message:



Perform the steps to diagnose the issue and provide a resolution.

Practical

A student has told you that she is getting a screen as shown in the following image:



Perform the steps to check for the issue and provide a solution.

Unit 4.3: Preparing Content for E-learning Curriculum

Unit Objectives

1. Define the objective of formulating content
2. Create content framework for E-learning curriculum in schools
3. Identify the things to keep in mind while deciding the topics of interest
4. Use the Internet as a source for collecting information
5. Organize information according to curriculum duration

4.3.1 Content Preparation

While preparing the E-learning curriculum, it should be kept in mind that the content in the curriculum forms a coherent learning experience. The content should always be a reflection of the knowledge, skills and values which need to be passed on for understanding of the subject.

The content for E-learning curriculum is derived from the primary objective of imparting knowledge in schools and educational institutions. Based on this objective, the content takes shape, and it should strictly be in line with the educational objective.

The purpose of the curriculum defines all the content structure for E-learning, such as the reason why the content is being formulated. Also, it should clearly define what the students need to know and what they will gain out of it. For example, students need a

better understanding of E-learning applications, and how to operate them in real time.



Fig. 4.3.1: E-learning can be used for extensive reaserach

4.3.2 Preparing the Content for Training

While preparing the content for E-learning, as an IT coordinator, the duration of session should be kept in mind. The session can be of one or two hours depending on the level of training required. The duration of classes in one day should also be kept in mind while framing the content. Depending on these criteria, the curriculum mainframe is defined. Consequently, the content in E-learning curriculum takes shape.

For example, the session for E-learning could be of 10-15 minutes only in each one hour class, and the other 45 minutes could be of traditional classroom learning. Each section/unit of the E-learning curriculum needs to be prepared keeping in mind the duration of classes. This results in smooth learning and teaching experience for the students and the IT coordinators in schools.

Some tips to prepare content are:

- Consult existing curricula available online or in libraries
- Take advice from teachers or supervisors
- Have a sample of E-learning curricula
- Understand the objectives of E-learning curriculum
- Decide on the learning goals of each unit
- Divide all the content into small sections
- Create a template to organize content
- Consult with school authorities about any an existing template
- Make the curriculum content presentable with proper headlines, objectives, sub-headlines, pictures, diagrams, tables, graphs and illustrations
- Prepare general questions at the end of each unit/chapter

Chapter Classification in the Syllabus

Chapters are the main classification elements of E-learning curriculum, and should be properly organized. It should be strictly in accordance with the syllabus specified by the concerned school education board. The basic topics should be covered in the chapters in the beginning while the elaborate and more difficult topics should be covered consequently.

The chapters should follow a logical sequence and the units should be unified at all times. All these chapters need to be in line with the overall objective of E-learning curriculum. The content in chapters should always be in relation to other parts of the curriculum.

4.3.3 Development of Content as Per the Curriculum

The essential part of any E-learning curriculum development is its ability to clearly define all the topics without any confusing sections. Easily understandable language is the holy grail of E-learning curriculum and it should cover all the objectives. The content development stage should have accurate mapping of learning sequence in a logical manner for smooth progress of the students throughout the session.

Since content development for E-learning curriculum is a repetitive learning process, therefore it will contain many versions of

timetables or other course documents before it is ready for implementation.

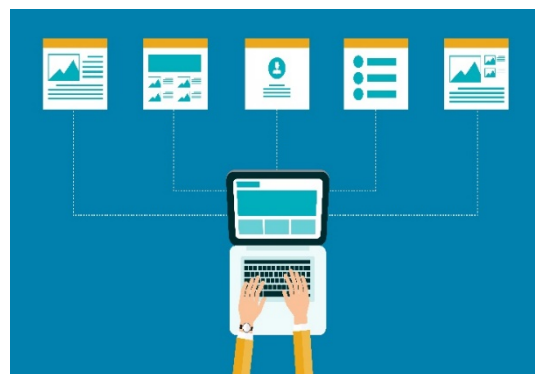


Fig. 4.3.2: Development of e-learning

before

Few things to keep in mind while developing content are:

- Content reflects the job that learners will perform after the training.
- Individual elements should be directly related to the learning outcomes.

- Total time duration invested in each element of the course is appropriate.
- There should be a balance between the theoretical and practical knowledge.
- Pitch of the content needs to be according to the understanding of the learners.

4.3.4 Extraction of Additional Content

After finalizing the content development strategy, the next step is to collect the most relevant content from different sources. Internet is the most abundant source for collecting information on managing E-learning curriculum. Apart from assimilating relevant information for each chapter, websites are also a good source for relevant pictures, illustrations and diagrams. Content enrichment is a major goal of any curriculum and researching for information from related websites is essential. As an IT coordinator in schools, one needs to consider educational websites as a major source of accurate information.

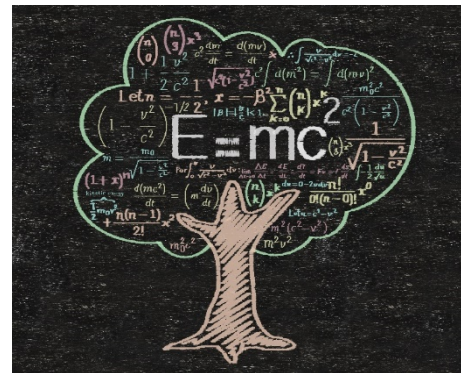


Fig. 4.3.3: E-learning diagram formulas

Some advantages of extracting content from the Internet are:

- Relevant and updated information
- Guidance on how to create the general framework of curriculum
- Abundant source of pictorial content
- Makes it easy to formulate topic specific content
- Accuracy of information can be checked

The Internet is an endless source of information on trending E-learning applications. Therefore, finding the relevant information without wasting time is important. Getting confused or getting off course while searching for information needs to be avoided. Having a specific set of keywords for the search queries is important. The information can be found using Images, Videos, News or Books tab below the Search bar of Google search engine. For example, while researching for latest E-learning applications, search for all the relevant content in videos, images and e-books.

How to collect information from the internet:

- Collect all the websites, images, videos and E-books with related information
- Then filter down the sources with relevant information and collect it in an organized manner
- Start preparing the content with headers, sub-headers and pictorial representations.



Fig. 4.3.4: Finding relevant information

Exercise



You have been given the assignment to prepare content for an Environmental Science project of 9th grade.

Arrange the following steps (number them) into the sequence that you will perform them to collect information from the Internet.

Filter the sources with relevant information.

Collect information in an organized manner.

Prepare the content with headers, sub-headers and pictorial representations.

Collect all the websites, images and videos.

Unit 4.4: Guiding Teacher/Assistant on the Content

Unit Objectives:



1. Train the teaching staff about the curriculum to be followed
2. Schedule classes and prepare time table accordingly
3. Ensure smooth E-learning in classrooms
4. Modify the curriculum based on feedback

4.4.1 Training the Teachers

As an IT coordinator, forming the curriculum is the first vital step. The next step is to educate and form guidelines for the E-learning course. Making the teachers and assistants understand the objective of the curriculum is of utmost importance as they will be educating students. Being clear about the objective of the learning program reflects in the proficiency of the students in understanding the E-learning applications.

Any confusions and doubts on the educator's end can hamper the objective of E-learning programs. Also, it will create confusion for the students who will then find the subject uninteresting in the long run. The following image shows a teacher training session about the curriculum:



Fig. 4.4.1: Training teachers about the curriculum

The teaching and learning methods have to be derived from the curriculum content and learning objectives. This should always be done in a meaningful way, and result in attainment of respective objectives such as easy practical learning and understanding of the subject thoroughly. Apart from the contemporary methods, implementing flexible methods in E-learning is also recommended. For example, use of latest technological hardware for seamless video conferencing during the course of subject. The conference call can be from the main learning centre regarding the use of E-learning apps. Most importantly, E-learning curriculum should be designed to keep the students aligned with effective learning. The teachers/assistants facilitate to provide learning in a practical form.

The following figure lists the things to consider while guiding teachers and teaching assistants on the curriculum:

- How will practical skills be taught in sync with theoretical learning?
- How should the students be guided for independent learning?
- What are the required resources for effective teaching and learning of e-learning applications?
- How to inculcate logical thinking and critical analysis at the level of learner?
- What are the constraints affecting the teaching and learning process?
- What is the infrastructure and technology in schools to deliver digital content learning?
- How to involve periodical participation of teachers and students in professional e-learning communities?
- How to introduce innovative methods for better learning experience?
- What will be the form of ongoing assessment of students to increase productivity?
- How to infuse new technologies for student engagement, learning and achievement?

Fig. 4.4.2: Things to keep in mind while guiding teachers and teaching assistants

The E-learning curriculum needs to have a pre-decided timetable for classes that will take place on daily or weekly basis. The daily learning tasks, such as practical sessions and educational tours, also need to be considered when preparing the final draft of the E-learning curriculum.

4.4.1 Smooth Functioning of the E-learning Training

Once the E-learning has been developed, the next step is smooth implementation in training programs. It is important that teachers, volunteers and students, who'll implement the training, interpret the curriculum correctly.

The following image shows an E-learning training program:



Fig. 4.4.3: E-learning training program

Pilot Training and Pre-Testing

Before implementing the training program, it is advised to try out the draft of curriculum for a few days in different real-field conditions which is also known as pilot training. This will solve the small issues which cannot be foreseen, and help modify the curriculum to meet the needs. For example, if a new E-learning method is introduced into the curricula, teachers need additional training. This may be done by introducing new innovative mechanisms for systematic evaluation.

Monitoring and Evaluating

This part of any curriculum development process looks out for bottlenecks, serious setbacks or reoccurring issues that hinder the learning process. As an IT coordinator, one needs to devise activities for accurate input deliveries, smooth work plans and expected output of the activity.

Monitoring includes seeing how the teachers are implementing the E-learning in classrooms. Also, monitoring the assessment methods employed by the teaching staff is important.

The following figure explains the commonly used methods of monitoring and evaluating the curriculum:

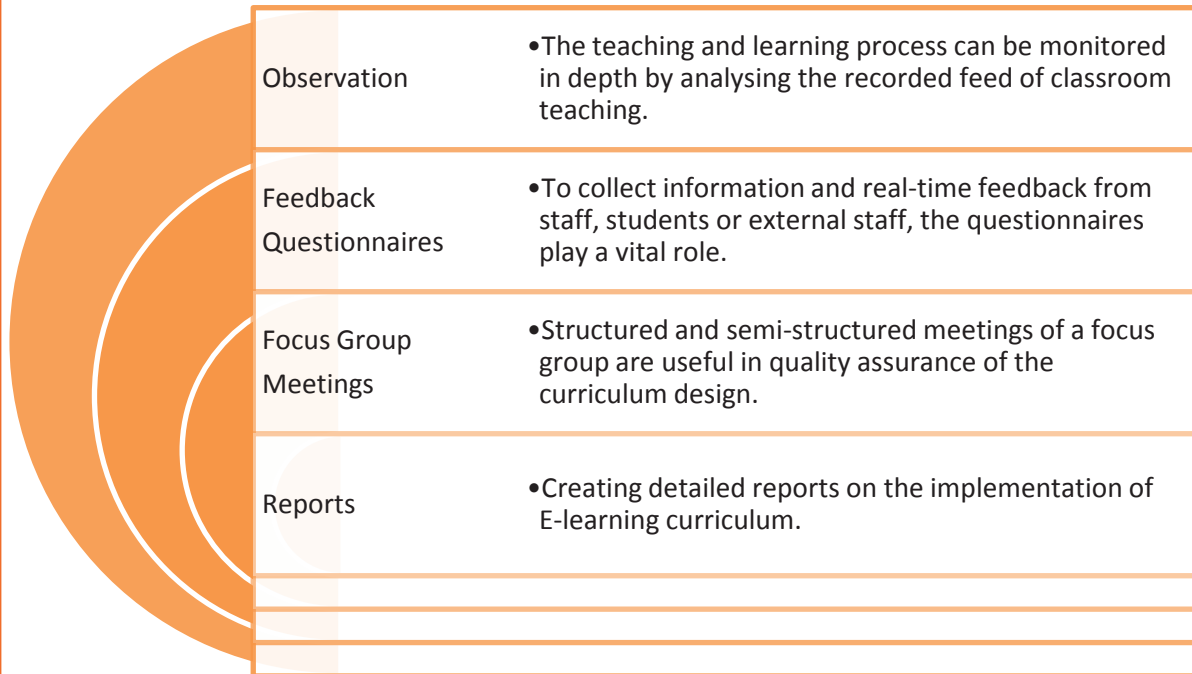


Fig. 4.4.4: Methods of monitoring and evaluating curriculum

4.4.2 Arrive at Quick Resolutions

As an IT coordinator in schools, detecting and resolving issues in real-time is vital for the success of curriculum implementation and learning. Failing to do so can result in disruption of learning in classrooms. Therefore, it is important to have everything running smoothly. To do this, IT coordinator needs to keep in mind the following things:

Resolve Content Related Concerns

Content related issues need to be addressed at the earliest, otherwise the whole purpose of learning is affected. Any false information and misrepresentation of facts can lead to serious problems. As soon as some problem with the content formation is identified, IT coordinator needs to resolve it or get in touch with the appropriate person to resolve it.

Resolve Queries on the Content and Presentation in the Application

The content and presentation in the E-learning application may not be completely understood by all. Identifying the problems and queries in individual modules of the curriculum needs to be done as soon as possible.

Resolve any Queries from Teachers on Usage of Application and Hardware

Since the E-learning program is going to be in close relation to technology, there may be queries of the staff regarding the usage of particular hardware or software application. For example, there can be a problem with connecting to the remote server while having a video teleconferencing session. The IT coordinator needs to train the teachers on how to resolve minor issues as and when they occur.

Satisfaction of the Teacher as per Relevance of Content Prepared

The content of curriculum should be in line with the teaching methods and in accordance with the practical sessions conducted in schools. If the teachers are not comfortable with the curriculum, then it is going to create a hindrance in learning of the students.

Valid Inputs for Content and Design Modification Based on Feedback

As the curriculum goes through the pilot and pre-testing phase, and then into the real E-learning in classrooms, feedback from teachers is important to make the necessary modifications in the content. The feedback given by teachers and students addresses the real life problems that are encountered. Solving these issues strengthens the curriculum content formation for the future. The following image represents finding solutions to content related problems at the earliest:



Fig. 4.4.5: Find solutions to content related problems at the earliest

Exercise

Match the following methods of monitoring and evaluating curriculum with their definition.

Feedback/
Questionnaires

•Analysing the recorded feeds of classroom teaching

Reports

•Collecting information from staff, students or external staff

Observation

•Gathering data collected from experts

Focus group
meetingsReports

•Creating organized structured summary on the implementation of e-learning curriculum

Practical

You received a complaint from the computer lab assistant that the laptop is not giving audio output. How would you troubleshoot the problem?

Components:

- System with faulty sound card
- Flat/Phillips screwdrivers
- Screws
- Sound card
- Correct drive cables (IDE or SCSI)
- Audio cable to attach CD-ROM drive to sound card
- Installation disk for the new sound card

Practical

Design a feedback form for teachers and teacher assistants that can help you get a better insight into the quality of the tasks you are in-charge of in the school.

Hint:

1. Include timeliness
2. List the tasks that you carry out as an IT Coordinator



5. Manage Computing and Display Systems

- Unit 5.1 – Maintaining the E-learning Hardware
- Unit 5.2 – Maintaining the E-learning Software
- Unit 5.3 – Coordinating with Customer Care/Repair Centre
- Unit 5.4 – Achieving Productivity and Quality

Key Learning Outcomes

At the end of this module, you will be able to:

1. Identify the E-learning hardware
2. Identify the E-learning software
3. Discuss the need of coordination with customer care centre

UNIT 5.1: Maintaining E-learning Hardware

Unit Objectives

At the end of this unit, you will be able to:

1. Maintain hardware
2. Identify correct methods for cleaning systems
3. Provide necessary technical support for all E-learning equipment



5.1.1 Basic Cleaning and Usage Norms

Keeping a computer and its peripherals clean from dust and debris helps in keeping the operating temperature down. It also ensures prevention of any false circuit formations that can short circuit the Integrated Circuits or IC's or transistors. In addition, regular cleaning of all computer hardware eliminates the chances of the spreading of bacteria.

As an IT coordinator, educating the teachers, assistants, and other staff members about basic maintenance is of great importance. Cleaning the computer and its peripherals ensures the longevity of the product lifecycle. Some precautions that should be followed are:

- Follow manufacturer instructions provided in the instruction manual of the devices.
- Always unplug the equipment from electrical sockets before performing maintenance checks.
- Use anti-static wristband, which is used to ground a person working on sensitive electronic equipment.
- Never spray liquid cleaners near internal computer hardware as it can short circuit the electronics.
- Do not keep magnets around the computer and its peripherals.
- When cleaning the inside components of a computer, don't touch any chips or circuits and instead use soft brushes as shown in the following image:



Fig. 5.1.1: Cleaning of internal components with a soft brush

Some useful cleaning tips are:

- Use a vacuum cleaner to suck up dirt and dust particles. For cleaning the CPU, use a battery-powered vacuum cleaner or compressed air to avoid damage to the circuit board due to static electricity.



Fig 5.1.2 Gently clean the CPU with a vacuum cleaner

- To clean monitors, keyboards and other peripheral devices spray the cleaner onto a soft cloth and then clean the surface. Always use a highly diluted solvent to clean the computer and its peripherals. Rubbing alcohol, ammonia diluted in water or plain water is also a good cleaning agent for computer equipment.



Fig 5.1.3 Soft cloth and diluted spray for cleaning computer equipment

- To clean circuit board and chips, use a soft anti-static brush. Such kind of brushes clean off all the dirt and dust from hard to reach corners.

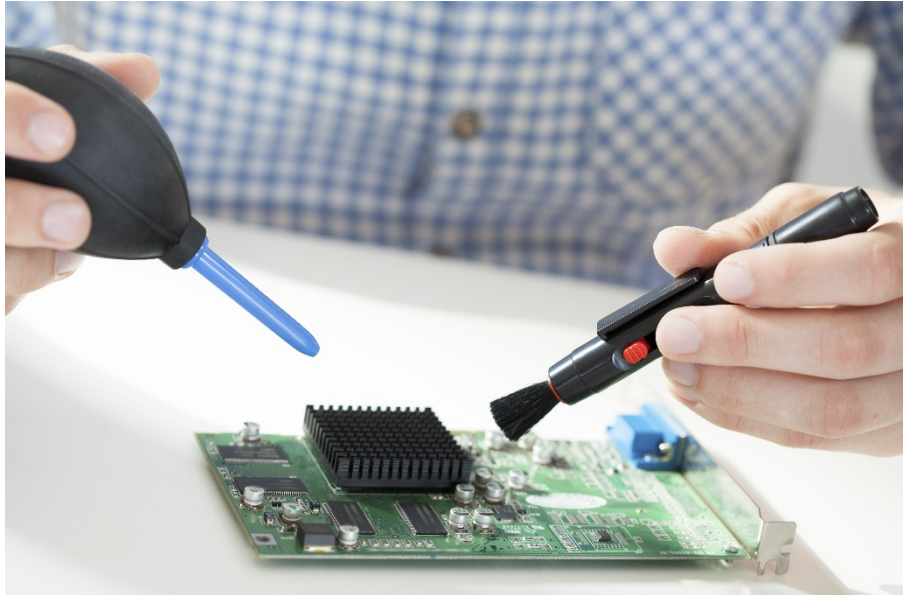


Fig 5.1.4 Use antistatic brush to clean delicate circuit board like RAM

5.1.2 Maintaining the Equipment

After purchasing the hardware and installing it in schools to enable smart classes, it is important to perform regular maintenance checks to identify problems and ensure smooth functioning of the equipment. For computing and display systems, keeping a check on problems at the initial stage ensures the longevity of hardware and software applications.

Performing timely checks keeps the equipment running in top condition, which is pivotal in avoiding any unforeseen hiccups. It is also important to ensure that the existing hardware such as processors, hard drives, RAM or the graphics processing unit (GPU), are upgraded periodically, to keep up with the changing technological advances.

For example, current generation Intel processors work best with NVidia graphics processors paired with DDR3 RAMs.

Why is Maintenance Important?

- Maintain hardware and software compatibility
- Avoid electrical faults occurring due to loose wiring or faulty configurations
- Toggle system functionality without any hassle, for example to add network nodes or designate system for servers or CRM purpose (to maintain school data such as record of students)
- Avoid system guaranties/warranties getting void due to non-maintenance issues

Benefits of Regular Hardware/Software Maintenance

- Reduced costs on long term maintenance and upgrade of computer systems
- Timely technical support from manufacturer in case of hardware/software issues
- Improved performance of the technology systems such as the school ecosystem

The following figure lists the steps for computer maintenance:

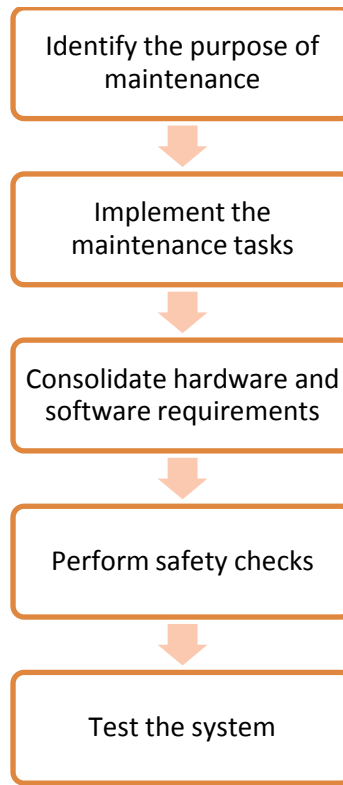


Fig 5.1.5: Steps for computer maintenance

Maintain the E-learning Application

E-learning applications play a pivotal role in basic learning (electronic education programs) in schools, universities and other education institutions. Maintaining the E-learning applications/software is important for smooth functioning of the learning ecosystem.

Updating E-learning software means there is more learning material and modules included in the application. Also, new versions of online learning software come with bug fixes which are important. Regular update of E-learning software ensures smooth operations in schools. To perform E-learning application maintenance, ensure that the following steps are conducted:

- Check for any new updates of the application online.
- If there is a new update, download and install them.
- Check with your software vendor for any new E-learning applications which come with latest training material.

After Sales Support for Hardware Equipment Used in Schools

Throughout the product lifecycle, getting after sales support from the Original Equipment Manufacturer (OEM) is important. All the after sales activities comprise of repairs, upgrades and warranties which are time constrained.

The following figure represents the things included in after sales support and warranty on computer equipment:

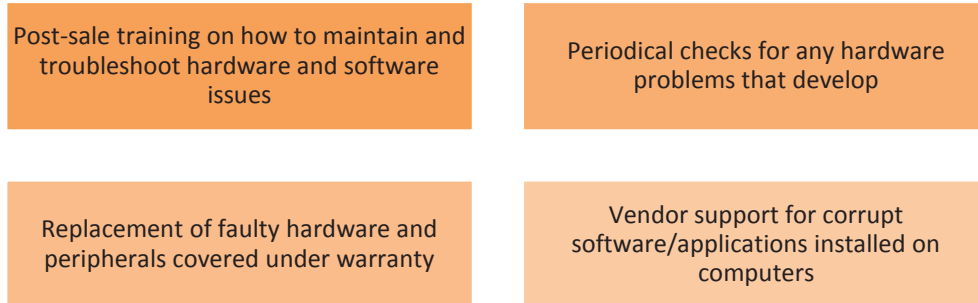


Fig 5.1.6: Things included in after sales support and warranty on computer equipment

To Get Warranty and After Sales Support

- Contact computer vendor or OEM regarding the hardware/software issue via telephonic communication or E-mail.
- In case of any new hardware installation requirements, prepare a quotation and then contact the computer vendor.
- Go through all the equipment papers supplied at the time of purchase to check what is covered under the warranty.

Diagnose Basic Problems in Hardware

Over a period of time, computing technology systems may develop hardware issues which need to be taken care of. The first step is to identify whether the glitch is hardware or software. Once a hardware issue is confirmed, the second step is to determine what the issue is. In case the computer is booting slowly it could be a hard drive problem. On the other hand, if the computer is freezing/hanging during operation, it indicates RAM issues. Any other issues could be related to the connected peripherals; mouse, keyboard or printer.

The following figure lists the steps to determine hardware problem:

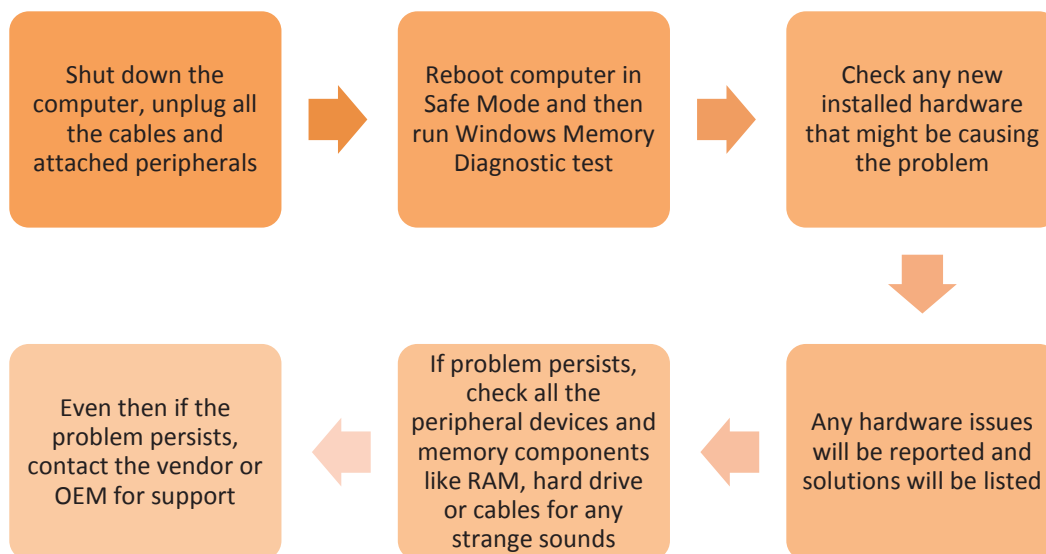


Fig 5.1.7: Steps to determine hardware problem



Dos and Don'ts of Maintaining Equipment

As an IT coordinator, taking care of computer equipment is important for smooth functioning of all the IT related tasks in a school. Once the equipment is procured and installed the next step is to take proper care of all the PC hardware and peripherals such as mouse, keyboard, and printer and so on. The following table lists the dos and don'ts of maintaining hardware and software:

Dos		Don'ts	
Hardware	Software	Hardware	Software
Clean all equipment with a clean cloth	Use Antivirus and AntiSpyWare programs	Don't remove hardware components without properly shutting down	Don't use pirated version of software
Upgrade the hardware components regularly	Update operating system on regular basis	Don't store the hardware equipment in extremely hot or cold temperatures	Don't shutdown the computer when the software is in use
Remove computer and peripherals from electrical sockets before cleaning	Defragment the hard drive to speed up performance	Don't eat or drink near computer	Don't delete the software directly from the installed folder
Use soft antistatic brush to clean circuit boards	Shutdown computer properly to avoid software issues	Don't install hardware components without reading the manual	

Fig 5.1.8: Dos and Don'ts of maintaining hardware and software

Dos for Maintaining Equipment

There are a few dos which need to be considered in order to properly maintain IT equipment:

- Clean the computer, attached cabling and peripherals (keyboard, mouse, printer or webcam) of all dust and dirt on frequent basis.
- Use Antivirus and Antispyware programs to detect any infected files.
- Defragment disk drives regularly (on monthly basis) to eliminate any hard drive problems.
- Backup all the data files periodically and delete any unnecessary files residing in the local disks.
- Shut down the computer properly to avoid any software related issues.

- Update the computer hardware and peripheral drivers regularly.
- Remove computer and peripherals from electric sockets before performing physical cleaning tasks.
- Use soft fabric cloth to clean external hardware surface and a soft brush to clean internal hardware components like RAM, hard disk, processor etc.
- Strictly follow manufacturer instructions for performing cleaning tasks.
- Update operating system and antivirus programs regularly.

Don'ts of Maintaining Equipment

There are a few don'ts which need to be considered in order to properly maintain IT equipment:

- Removing disks, RAM or other connected peripherals without properly shutting down the computer, as shown in the following image:

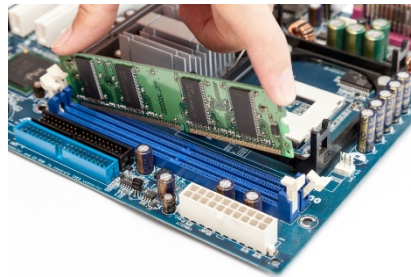


Fig 5.1.9: Never remove RAM or disks without properly shutting down the computer

- Storing the hardware equipment in extremely hot or cold temperatures
- Eating or drinking near computer hardware, especially near disks as shown in the following image:



Fig 5.1.10: Never eat or drink while working on computer

Exercise



Look at the following images.

Put a tick mark for the image that shows the correct way for maintaining hardware in a school and put a cross for the image which shows the incorrect way.

UNIT 5.2: Maintaining E-learning Software

Unit Objectives

1. Discuss E-learning and software
2. Define anti-virus, and explain its importance
3. Identify the software useful in E-learning and the ways to maintain them
4. Discuss the importance of licensed software and anti-virus

5.2.1 E-learning

E-learning is to classroom learning what mobile phone is to landline phone. Just like a mobile phone allows communication anytime, anywhere; E-learning allows learning anytime, anywhere.

Also known as Computer Based Learning, E-learning is a way to impart learning completely over the Internet. This involves use of multimedia including written material, video, audio, website links and graphics.

E-learning is one of the fastest growing software industries in the last decade. It is believed that a large number of schools and colleges will be E-learning based by 2020. As a result, E-learning software are high in demand. These software or Learning Management Systems are useful in implementation and management of E-learning.



Fig. 5.2.1: E-learning attributes

Learning management systems are used in academic institutions to track, manage and deliver E-learning courses and trainings.

A wide range of tools and software are used to enhance learning and teaching. The tools make learning interesting, interactive and more meaningful for young students. The learning management system tools provide anyone the opportunity to build their own course content online, which can be consumed by the end user through any connected device with web browser. Since everything in E-learning happens in the connected world, safety and security becomes paramount. This is where anti-virus programmes play a vital role.



5.2.2 Run Antivirus and Protective Applications

Antivirus software, also referred to as anti-malware software, is a software that helps to prevent, detect and remove unwanted, malicious software from a computer. Malicious software or malware is a software used to harm the computer and disrupt its functioning with the intention of gathering personal information from the computer.

Computers are a huge investment, and in schools they can hold school work, photos and even student report cards. In absence of a good antivirus software, hackers can infect the school computers with malware and steal sensitive data such as passwords, personal data, and identity.

Antivirus software were initially developed to detect and remove virus from computers. Over the years, with technological improvements, antivirus software can now protect browsing as well. The software can protect a computer against browser hijackers, ransomware, adware, spyware, phishing and browser helper objects.

Hackers use malicious software or virus to gain unauthorized access to a computer to attain sensitive information such as credit card information or personal data, either for profit, fun or just to cause harm to a system. An IT coordinator should use high quality anti-hacking software (antivirus) to remove hacks and avert any fraudulent user from accessing a school computer. Additionally, students can be educated about ways virus can enter a system. If students – don't open any unsecure attachments in the emails, never send confidential information via emails, don't download software from unknown sources – they can save the computers from acquiring malware.

Install Antivirus

Before installing an antivirus in a computer:

- Check if the computer meets the requirements of the antivirus – this is in context to the Microsoft Windows version and the system requirements, if any.
- Remove any other antivirus that may be installed in the computer.
- Close all the running applications.

The following figure shows steps to standard antivirus installation:

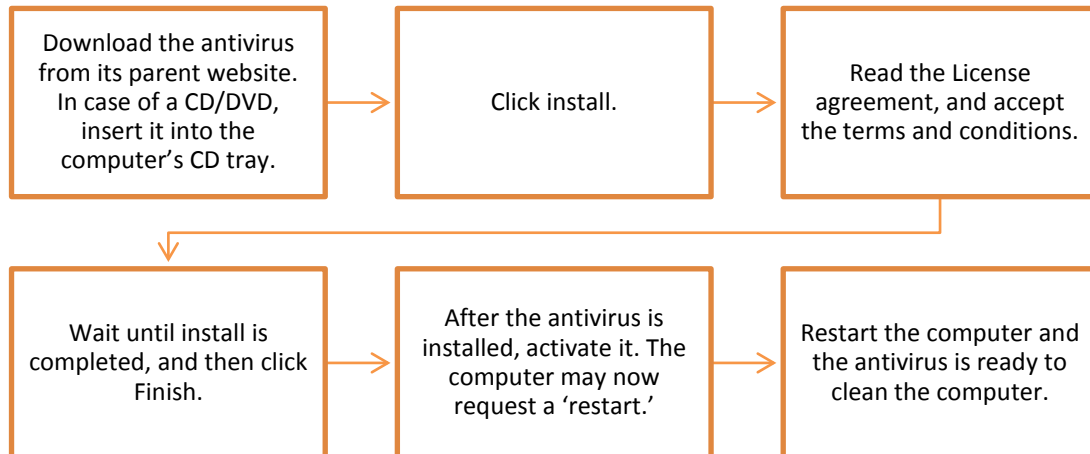


Fig. 5.2.2: Steps to standard antivirus installation

How to Run an Antivirus?

It is advisable to scan the computer regularly for malware. An antivirus will detect infected files, virus and Trojans and clean them accordingly.

Before Running Antivirus Scan:

- Update the antivirus signature files
- Upgrade to the latest version of the software

Run the Antivirus:

The typical steps to run an antivirus are shown in the following figure:

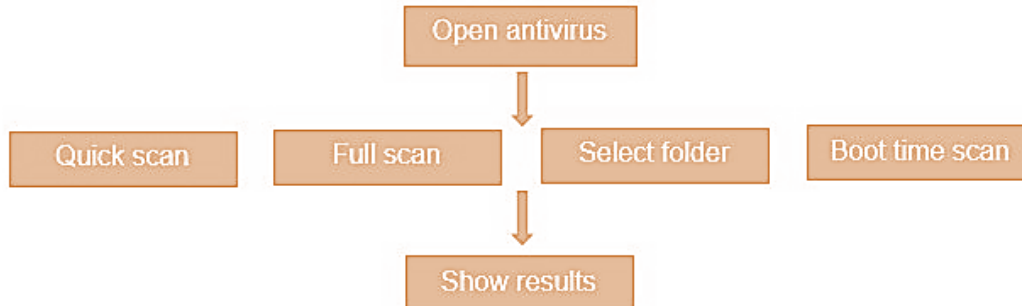


Fig. 5.2.3: Steps to run antivirus software

Open the antivirus user interface by double-clicking the icon on the computer and select any of the following options:

1. Quick scan - This will guide the antivirus to perform a scan on the area's most susceptible to malware infection on the computer.
2. Full scan – This performs an in-depth scan of the computer. All the files are scanned. This is a detailed scan, so it can take time to complete.
3. Select folder scan – If malicious files are only in a particular folder, select the folder(s) and perform scan on the specific or multiple folders.
4. Boot-time scan – Some viruses are in the system, but they do not show up after the computer is started. Perform a boot-time scan to detect and remove such viruses while booting.

After the scanning is complete, a notification will appear with scan result. If threat(s) is detected, click 'show result' to view the action taken by the software automatically. Action can also be taken manually on a threat(s).

5.2.3 Check for any Malfunction of Software/Hardware

The first step to check for any malfunction of software or hardware is to learn what hardware and software is deployed in the computer. Over a period of time, when a number of software are deployed into the system, the hardware starts malfunctioning due to wear and tear. Generally, hardware malfunctioning can be identified with a prolonged error sound from the computer while booting. The computer may otherwise simply refuse to start up.

If the computer stops responding to commands (it hangs) or it is unable to launch a software/program or the program crashes, this may indicate software malfunction. Problems in the computer's operating system can be easily determined with error messages being displayed automatically on the system.

If the computer is performing slower than usual, then there is some hardware or software problem. Generally, the problem of a slow computer is nothing more than a software issue. Hardware issues shouldn't cause a computer to slow down. The problem can be because of opening heavy files (videos, photo editing software), or unnecessary programs running in the start-up. A proper diagnosis into the program setup can reveal the problem. An issue of a computer behaving indifferently (slower than usual, or making unnecessary noise) could be a hardware failure. Since hardware issue will most certainly occur within the computer (highly unlikely unless the computer is old or it was knocked down accidentally), it is advised to check the computer for software issues. Generally, such errors will be caused by drivers installed in the system.

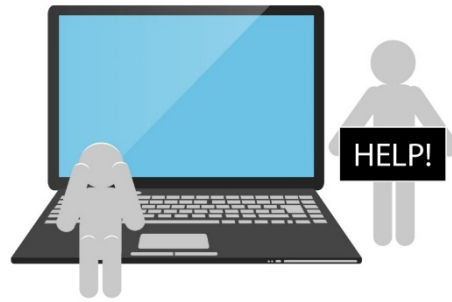


Fig. 5.2.4: Checking for any Malfunction of Software/Hardware

5.2.4 Update Latest Versions of Important Software

Updating an antivirus does not take much time. It's a simple step-by-step process, as detailed below:

- Start by opening the antivirus menu. Double click on the antivirus icon.
- Go to settings.
- Select and click update.

To avoid having to update the antivirus manually every time – set automatic updates:

Set Automatic Updates	Open the antivirus menu
	Go to settings
	Click on Automatic update in 'how to update' – choices in dropdown:
	Automatic update Ask when an update is available Manual update

Fig. 5.2.5: Set Automatic Updates

How to Update Computer's Operating Software?

The steps to Update Windows operating system:

- Click on Windows icon (it will pop up Start Menu)
- Select All Programs in the Start Menu
- Click on Windows Update and 'check for updates'
- If update is available, click Install



5.2.5 Avoid Piracy

As software prices are rising, there is a large demand for pirated software copies. While pirated ones may be free, they come with associated dangers. Software are protected by copyright law and using them without a license in schools is unlawful. Generally, schools purchase one license for a software (Adobe Photoshop for example) and then upload it onto multiple computers. It is like purchasing one textbook and photocopying it into multiple books. The law prohibits such use of software, and a school can be held liable for cheating under copyright act. Pirated software is a theft and therefore illegal. While it is well known that using pirated software is illegal, most of us use them and feel confident of never landing into trouble. This may not be the case always. Everything that is downloaded from the internet can be tracked. Companies are spending heavily on putting flags into the legitimate software, so they know if an application or software being used is licensed or not.

Pirated software/application are generally malware and can potentially damage the computer. A malware can cause damage to the computer; therefore, it's the last thing required on the system. Malware can slow down the computer, or even send out your personal information – bank details, passwords and so on, all of which can be exploited by identity thieves.

Pirated software can stop working at any time, without notice, as they do not support updates. Since companies can check a software registration license on any computer, pirated software do not receive updates unless they are purchased and licensed. If pirated copy is updated, it can cause the system to behave indifferently.

Exercise

Match the following IT activities given in Column A with their function given in Column B.

	Column A		Column B
1.	E-waste Management	a.	Hardware testing
2.	Resource Monitor	b.	Surge Control
3.	Hardware Maintenance	c.	Corporate Recycling
4.	Task Scheduler	d.	System Scan
5.	Antivirus	e.	Administrative Tool

Practical



Perform the steps to set automatic updates for an antivirus.

Requirements:

- Desktop/laptop
- An older version of antivirus software installed

Practical

Perform steps to update a laptop's Windows 8 operating software.

Requirements:

- Laptop
- Windows 8
- Internet connection

Hint:

Check the System and Security option

Unit 5.3: Coordinate with Customer Care/ Repair Centre

Unit Objectives

1. Identify hardware issues that can occur
2. Troubleshoot problems and take decisions
3. Coordinate with customer support for solving hardware problems
4. Contact customer support centre
5. Communicate with technical experts and convey the issue
6. Enable live assistance from hardware technician and solve issues

5.3.1 Understand Hardware Related Concerns

When there is procurement of computer systems and peripherals in schools, after sales activities determine the quality of after sales support and warranty. It is the primary responsibility of IT coordinators to understand the computer hardware issues raised by the concerned department in the learning institution and address them at the earliest.

The issues can range from faulty hard drives, non-functioning printers or false keystroke registering keyboards. Whenever such issues arise, understand the problem and address it sequentially.

Use relevant reference sheets, manuals and documents at work. The first thing that an IT coordinator should refer to in case of hardware malfunction is the reference sheet, and then the hardware manual and other supporting documents. Most of the times, referring to the manual solves the issue, unless it is a serious one.

Moderate level issues include non-functioning of USB ports, printers, mouse or monitors due to faulty driver installation. Serious issues range from corrupt BIOS of the computer or motherboard issues resulting from surge of power.

The reference sheet also helps identify the root cause of any hardware glitch, so that communication with customer care centre is smooth. Following the protocol to test the faulty hardware equipment is important.

Making recommendations based on the complete analysis of the problem and the consequent solutions is an integral part of maintaining hardware systems in school.

As a protocol, for any issues related to school's IT equipment, use internal process software such as ERP for recording calls for technical support from a remote technician.

This document records the customer call for any future references and assistance in case of non-compliance by the repair centre and in case of replacements under warranty or repairs.

The requirement for any hardware troubleshooting needs to be addressed with complete transparency and understanding. Clearly understanding the requirement of teachers, assistants or other staff members solves half the problem and helps in coordinating with the hardware vendor/repair centre for customer support. By analysing the requirement put down by the school authorities, an IT coordinator makes the most economic and relevant recommendations. These suggestions should always be done keeping in mind the future upgrades and technological changes. Communicating with the customer care team requires good verbal English and knowledge about the local dialects. This ability puts across the requirements to the supporting team in a clear and timely way.

5.3.2 Analyse the Concerns and Perform Troubleshoot

Getting to the root of the problem solves half the battle and leads way for troubleshooting. Timely troubleshooting the hardware/software issue is important as it ensures smooth functioning of the IT department in schools. A typical hardware troubleshooting and fixing is shown in the following figure:

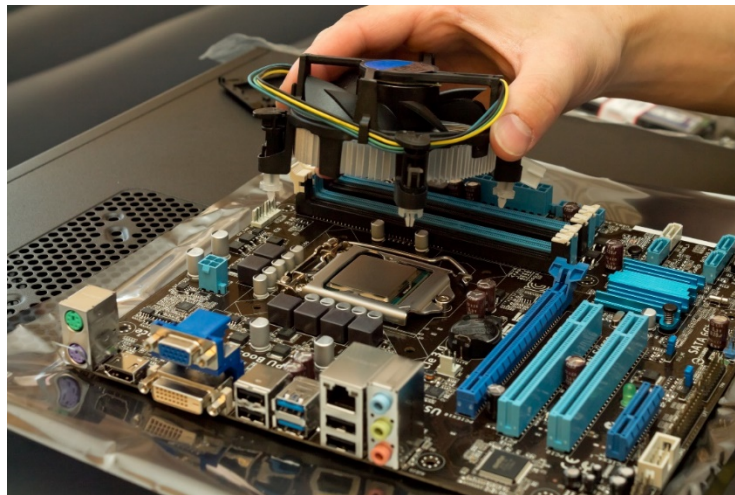


Fig 5.3.1 Troubleshoot root cause of the issue

Diagnosing basic problems in hardware involves performing all the tests and troubleshoots to identify the problem. For this step, run diagnostic tests in the operating system or individually test the computer systems and peripherals for any hardware issues/changes. Physical tools for hardware troubleshooting should also be used to determine any underlying issues that cannot be solved with software applications. Based on the detailed analysis of troubleshoot, an IT coordinator should suggest the best way to solve the issue. A particular issue can be solved in many ways, but choose the one which is economical, less time consuming and feasible.

5.3.3 Perform Steps to Inform Customer Care Centre

In most cases, the hardware issue is resolved by troubleshooting, but if the problem still persists, then it is time to contact customer care centre, as shown in the following figure:



Fig. 5.3.2: Get in contact with customer support

Getting in contact with the IT technician in customer care is important. Getting through the right channel in customer care service is vital as it saves a lot of time and effort. Moreover, it also makes sure the query is attended by the right technician. Once the right person is contacted, ask relevant questions pertaining to the hardware issue, so that he/she can grasp the exact problem. This helps in troubleshooting the problem in the best possible manner. Have a set of precise questions that will address the problem in the easiest way.

5.3.4 Inform Spares Centre for Replacements

In most cases for serious hardware issues, hardware replacements are required. Inform the spares centre for the same, so that they can arrange for replacements within the stipulated time frame.

Address any customer concerns regarding the hardware issue, which affects the E-learning procedure in the school, to the supervisor without delay. This is important since time delay can lead to other serious issues in connected hardware equipment and peripherals.

5.3.5 Arrange Alternative Systems to Avoid Disruptions

In a case of serious hardware issue which disrupts the functioning of computer systems, arrange for backup systems, so that the E-learning is not disrupted in the classes. Having alternative computer systems, peripherals and hardware components as backup ensures smooth proceeding of E-learning training programs in schools.

5.3.6 Coordinate with Remote Technical Helpdesk

Contacting the remote technical helpdesk team can solve any major hardware issue without disruption. Make it a point to contact the technical team and seek technical assistance on any kind of hardware malfunction.

Solving the problem is only possible if the point is communicated across to the technical team. Ask relevant questions and look for feedback from the experts. For example, any issue in the printer can be resolved by asking the questions pertaining to the solution and listening carefully to the input provided by the technician.

Another good example of a hardware issue is a loose hard disk cable which results in disk failure error on boot screen, or the system fan is working and this results in automatic shutdown of the computer. Both these problems can be easily solved with assistance from the technician.

5.3.7 Explain the Symptoms and Answer Queries

Explaining the probable symptoms of hardware malfunction wins half the battle as the technical expert at the other end gets a fair idea of the problem. This helps in solving the hardware glitch without wasting too much time.

The root cause of the problem needs to be identified as wrong diagnosis can complicate the task and lead to anomalies.

5.3.8 Take Necessary Action to Resolve Problems

Once the hardware problem is identified, the next step is to follow the instructions carefully. If the issue can be fixed by hardware troubleshoot using tools, then go ahead and perform the task under careful guidance by the technician.

In case the issue is beyond repair at IT coordinator's end, the consequent step, as shown in the following figure, is to send the hardware for replacement or repair at OEM's certified repair centre.

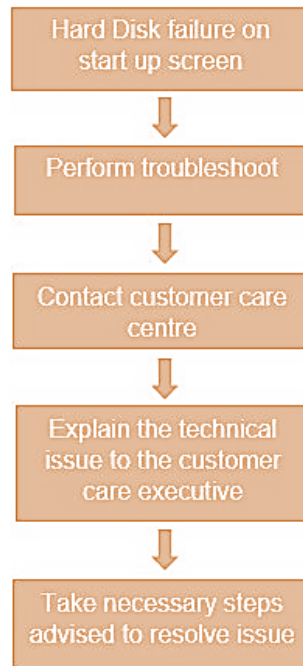


Fig 5.3.3: Coordinate with remote technician to troubleshoot hardware issue

Role Play



You just started one of the desktop computers' in the lab. The system beeps and then doesn't start. There is a blue screen displayed on the monitor.

You re started the system and again the same thing happens. You need to call the customer care and get help before the students arrive for their class.

One of the participant is the IT coordinator and another participant is the customer care technician.

Perform the role play for the preceding scenario.

Unit 5.4: Achieving Productivity and Quality

Unit Objectives

1. Improve productivity and quality
2. Diagnose problem in systems
3. Provide accurate solutions
4. Provide disruption-free teaching without hardware failures
5. Achieve 100% customer satisfaction



5.4.1 Improve productivity and quality

Given the pace with which education and methods to impart education are changing, teachers today feel they do not have enough time in the day to get everything done. In a traditional classroom setting, by the time, students have settled in and the agenda for the day is kicked off almost 10 minutes have passed. Often, discussions in class are interrupted by time constraints, and then continuing the discussion with the same enthusiasm on the succeeding day is impossible.

This is just one reason why most teachers complain about having to cut down some important lessons from the course, just to fit the syllabus into the year's curriculum.

Additionally, educators, these days, are submerged head down in work that must be completed each day. Besides the time in the classroom, teachers spend endless hours designing lesson plans, creation tests and assignments, attending meetings, seminars, and keeping up with grading and scoring of all students. This burdensome routine is diminishing teacher quality and productivity.

Therefore, using technology in teaching methodology to improve productivity and quality has become eminent. Improvement in learning facilities plays an important role in developing competence in teachers. It also makes learning fun for students. Students nowadays prefer to learn with a more active approach – a learning, which is not limited to the classroom only. This gives teachers slightly more time to create lessons and assignments that students can access over their computing devices.

It has become common for teachers to use multimedia tools to conduct learning sessions in the classroom and take them outside the class on different available platforms.

The teacher productivity and quality is enhanced with the availability of digital classroom and using software applications such as Office 365 and cloud-based services Using Office 365 on the computer, teachers can carry the class outside of the classroom. They can post important announcements about upcoming tests, important dates and assignment deadlines on the application, which all connected students can access anywhere.

Digital classroom are employed with modern technology and communication tools to impart information to students.

5.4.2 Diagnose the Problem in System Accurately

Diagnosing computer problems is not just about technical knowledge. It requires a lot of patience and a great eye for detail.

While technical knowledge grows with experience and extensive practice, an IT coordinator should possess effective troubleshooting skills and in-depth understanding of equipment to be used for fixing the identified problem.



Fig. 5.4.1: Fixing a computer

Numerous devices can be used to test problems and spot reasons for disruption and delay in computer performance. These devices include multimeters, oscilloscopes and other specific tools such as Network Protocol Analysers. An IT coordinator can solve most system problems with the help of these devices.

5.4.3 Provide an Accurate Solution

Troubleshooting a computer problem should be an IT coordinator's first step when faced with a software or hardware issue. Troubleshooting is a quick and easy way to pinpoint and understand where the fault lies. Once the fault is identified, a procedure can be carried out to test and accurately rectify the potential fault. Finding the correct problem can help provide accurate solution for a problem, which saves time and hassle, and allows a computer to be back in use at the earliest possible.

5.4.4 Ensure No Disruptions Due to Hardware Failure

A computer should at all times have an updated antivirus installed. The system should feature original hardware and licensed software to ensure malicious files cannot make way into the computer.

Scan the computer for malware once every week, if doing it manually. The antivirus can also be set on an automatic update to avoid the hassle of updating it manually.

Frequent cleaning of the computer fan and RAM is also advisable. This can be done once in every three months. Clean computer ensures better performance and noiseless functioning.

Regular care can increase a computer's functional life span. It also ensures the system does not end up shutting down or behave unwantedly during a lesson or training program. This translates in continuous, uninterrupted classes and learning session, which allows both students and teachers enhance their productivity and quality of information exchange.

5.4.5 Achieve 100% Customer Satisfaction

Customers are the most important aspect of any business policy. Achieving 100 percent customer satisfaction is, therefore, the goal of every business. But is it possible for an organization to achieve 100 percent customer satisfaction?



Fig. 5.4.2: Enhancing productivity and quality

Yes, there is a real possibility for organizations to achieve the magical number in customer satisfaction in schools. Many leading companies are achieving the number and they are doing so by following four key principles, as shown in the following figure:



Fig. 5.4.3: Four key principles

Getting it Right with Customers

It is not possible for any organization to please all its customers. Over the years, though, entrepreneurs have started interacting with customers to get their input and solve problems. This interaction between customers and business heads leads to the direct understanding of problems. The feedback also helps in developing better products.

Simple Products for Great Experience

It's not easy to design a simple product. But to achieve this, organizations are now adapting processes to speed up the product development cycle. Speeding the iteration cycle does not necessarily translate into a simple product for great experience. It takes a lot of talent to get the equation right.

Value for Customers

Many organizations have memorable philosophies and values that customers tend to relate with. The trust in the philosophies is built in such a manner that without actually seeing the values, customers can imagine what they mean to the company. A good example is Apple – think differently – a philosophy that the company translates into its products and hence the customers are loyal to the value.

Valuing Customer's Time

When a customer feels valued, a bias is developed for the particular organization. Most companies are trying to tap on this consumer mind-set. Companies are making purchase of products easier and providing better and swift customer support that in most cases runs round the clock.

Exercise

Look at the following figure.

Fill in the missing principles for ensuring customer satisfaction.

Get it right with _____

_____ products for _____ experience

Provide valuable services

Value customer's _____

6. Coordinate with the Learning Centre

Unit 6.1 – Role of Learning Centre

Unit 6.2 – Interacting with Learning Centre

Key Learning Outcomes



At the end of this module, you will be able to:

1. Understand about learning centres in detail
2. Identify advantages and disadvantages of learning centres
3. Identify common issues faced by an IT coordinator and teachers/assistants
4. Understand issues related content development

UNIT 6.1: Role of Learning Centre

Unit Objectives

At the end of this unit, you will be able to:

1. Identify the role of learning centre
2. Understand the Learning Management System (LMS)
3. Identify how an LMS helps an IT coordinator
4. Recognize the advantages of learning centres
5. Understand the limitations of learning centres

6.1.1 Role of Learning Centres in E-learning

A Learning Management System (LMS) is the software which has an automated administration for training. The learning centre, which supports the LMS, also performs the following functions:

1. Tracks courses
2. Registers new users – parents, teachers, IT coordinators, and students
3. Records students' data
4. Reports to the management

Training is offered in various ways including online training as well as classroom/instructor lead training. LMS helps in:

- Creation, administration, adoption and management of all activities that are E-learning/training related
- Acting as a supplement to classroom training techniques

Thus, the classroom experience goes a few notches higher, making the students' learning more powerful. This changed methodology has made learning more interactive, personal and above all, simpler.

Teachers always look for ways to help the students understand the learning content better. They also seek various channels to maximize their own understanding. The teachers/instructors may suggest a few improvements to the IT coordinator, who in turn escalates the suggestions to the learning resource centres.

The following image is an example of an LMS interface:



Fig. 6.1.1: An LMS interface

A learning management system interface primarily includes software that consists of courses and documents. The following figure represents the common components of an LMS:

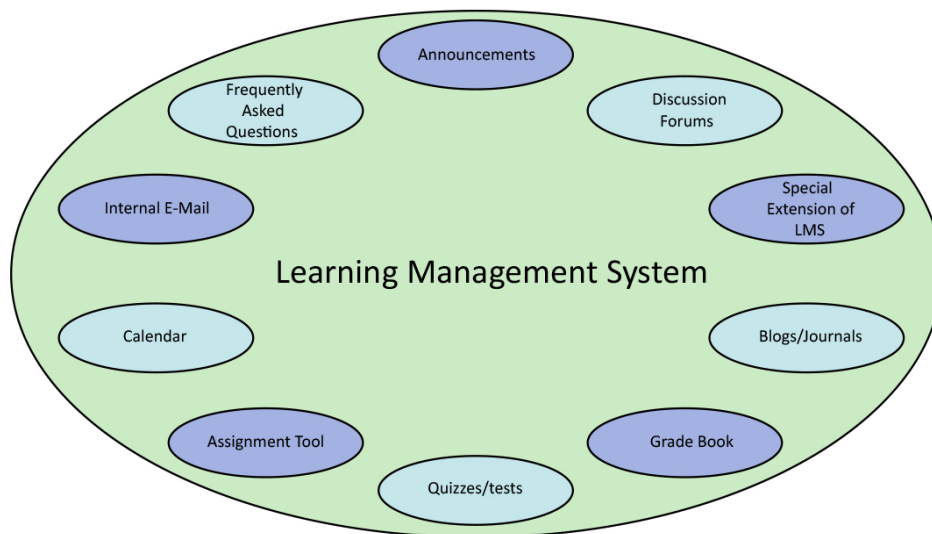


Fig. 6.1.2: Common components of an LMS

The components help in making navigation easy for the user. But what are their common components? The common components are:

- Announcements – Lists the latest information on the available courses or any addition of a new course/subject.

- Discussion Forums – Enable a user to interact with other users. The discussions are usually in the form of chat groups.
- Blogs and Journal – Provides the latest news about E-learning world/ product review/discussion topic posted by a user in the form of articles.
- Grade Book – Has E-learning courses segregated under different grade categories as per the subjects.
- Quizzes/Tests – Enables the users to check their understanding/learning of a particular topic they have completed and get an evaluation done for the same.
- Assignment Tool – Enables the users to complete their home-work assignment online and submit it on the portal itself.
- Calendar – Enables the users to mark important dates so that they can get notifications. This will help them in not missing out on important dates.
- Internal e-mails – Enables students to have their own id on the LMS portal which they can check on a daily basis. The teachers/instructors mail the assignments and extra study material on this id. Similarly, once the assignments are complete and checked, the teachers/instructors can notify the students of their grades as well.
- Frequently Asked Questions (FAQ) – Enables the IT coordinator and all the users of the portal to get solutions to problems faced by them.

The advantage of an E-learning course is that it can be tailored as per a student's calibre. A review cycle is carried out for the students with their teacher. The teacher performs an individual student review to understand the student's potential after which, groups are made. For example; in a class of twenty students, 10 students fall under the 'excellent' category, 6 students fall under 'average' category and the remaining 4 students fall under the 'need improvement' category. A new course plan is initiated which would be tailored as per the potential of each group. Finally, the students' progress is monitored and a feedback is given.

The following image shows an E-learning cycle:

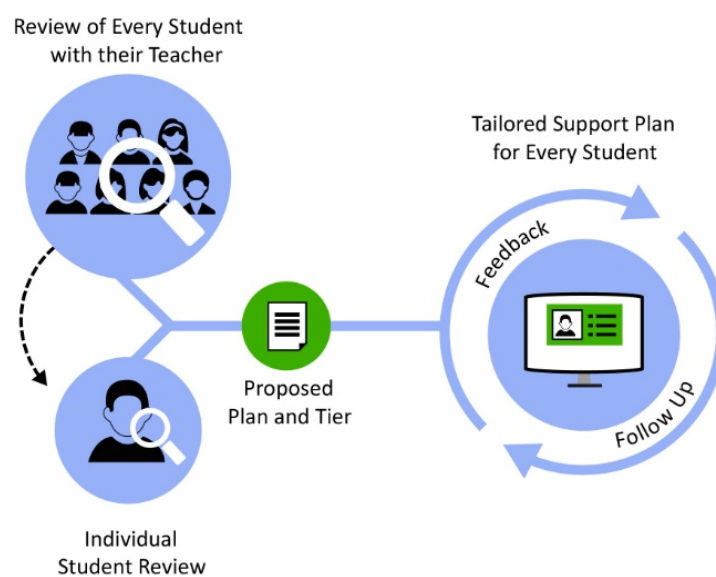


Fig. 6.1.3: E-learning cycle

As an IT coordinator, using an LMS can help in:

- Co-planning, co-assessment and co-teaching
- Suggesting improvises to the learning centre
- Calling the learning centre 24x7 for assistance
- Communicating with staff about various available learning techniques

In the following figure, with the learning centre's assistance, an IT coordinator can perform the listed steps:

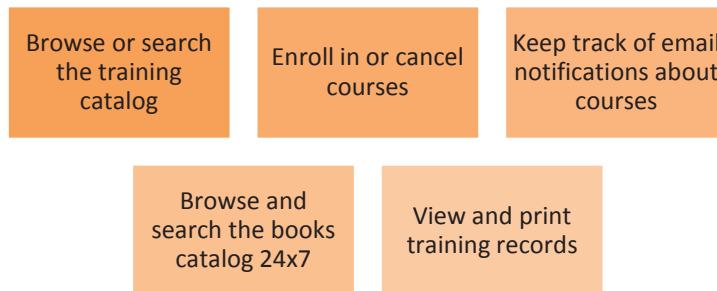


Fig. 6.1.4: Assistance provided by a learning centre

There are extensive benefits of having an LMS in a school. As an IT coordinator, a person can keep the necessary items in the LMS and put the other system requirements separate. Learning centres assist an IT coordinator to:

- Perform learner communication within the system. This can be customized as well as automated.
- Find out the duration of a course and its completion time and rate of students opting out.

There are various advantages of having the learning centre to assist a user. The following figure lists a few benefits:

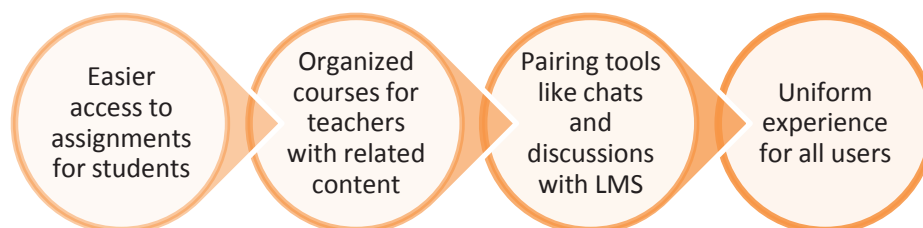


Fig. 6.1.5: Advantages of having learning centres

However, there are a few barriers that have been identified; the major barrier being attitudes of facilitators and teaching styles. Besides, there are a few more reasons which must be looked into by the IT coordinator, as listed in the following figure:

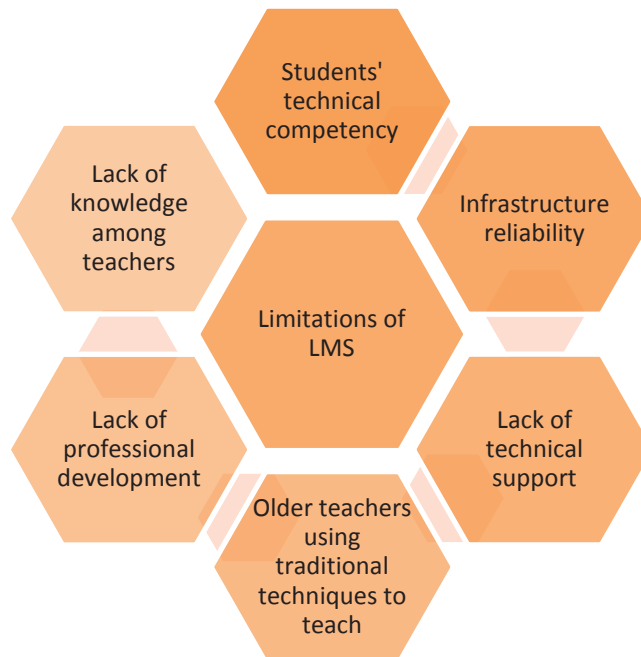


Fig. 6.1.6: Limitations of LMS

The Learning Centres help schools in various aspects, as shown in the following figure:

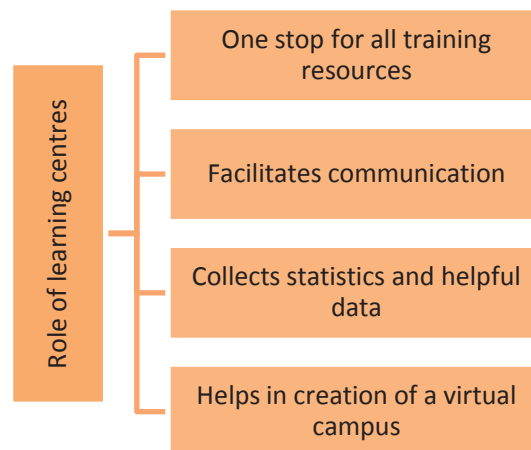


Fig. 6.1.7: Role of learning centres

One Stop for all Training Resources

The learning content management system is responsible for all the training material content uploaded on the LMS. It is learning content management system's liability to make sure that all the content to be uploaded is well organized, accessible to all and stored easily.

Facilitates Communication

The administrators are the people who can control the LMS from a centralized place and assist the users remotely. As an IT coordinator, a person must seek the administrator's assistance to take care of communication within the LMS. They also tell different ways of customizing the LMS as per the requirements. The administrator helps the IT coordinator

navigate through the course content so that the learners can seek answers to their questions. In this way, an IT

coordinator is able to answer basic questions that may be put across as he/she trains the teachers and students.

Collects Helpful Statistics and Data

The administrators at the learning centre also help an IT coordinator to understand how to track the usage of courses on the LMS. Several features are available on the LMS which an IT coordinator is introduced to, a few of them being:

- To find out, how quickly a course/module has been completed by the user
- To keep a track of dropout rates of users
- To record the grades of users

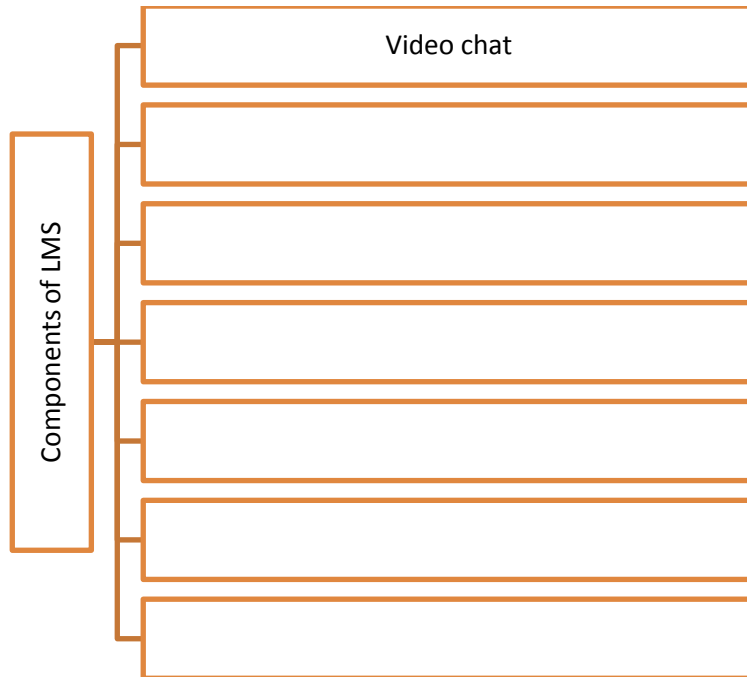
Helps in Creation of a Virtual Campus

The courses/modules uploaded on an LMS provides consistency and works in a similar way. This helps the IT coordinator to understand the overall format of the courses because all the courses/modules work on a similar format. Thus, there is usually no confusion and users do not waste time in adjusting themselves to a new format with every module. Besides, the 24x7 support does not bound a learner on the basis of time, ultimately making the learning experience more fruitful and interesting.

Exercise 

Fill in the blanks with common components that can be seen in an LMS.

One has been done for you.



UNIT 6.2: Interacting with the Learning Centre

Unit Objectives

At the end of this unit, you will be able to:

1. Identify common issues faced by an IT coordinator
2. Describe issues faced by teachers/assistants
3. Understand issues related to content development
4. Identify a feedback form
5. State the role of IT Coordinator while interaction with learning centre

6.2.1 Common Issues in Learning Centre

Assistance and advice from the learning centre can be sought at any stage. There are formal and informal issues that may be raised in some circumstances. Some issues can be resolved at a lower management level, whereas others may require intervention of the Principal/Chairman/Board of Directors. The following figure lists the common issues that may require intervention of top management for the purpose of decision making:

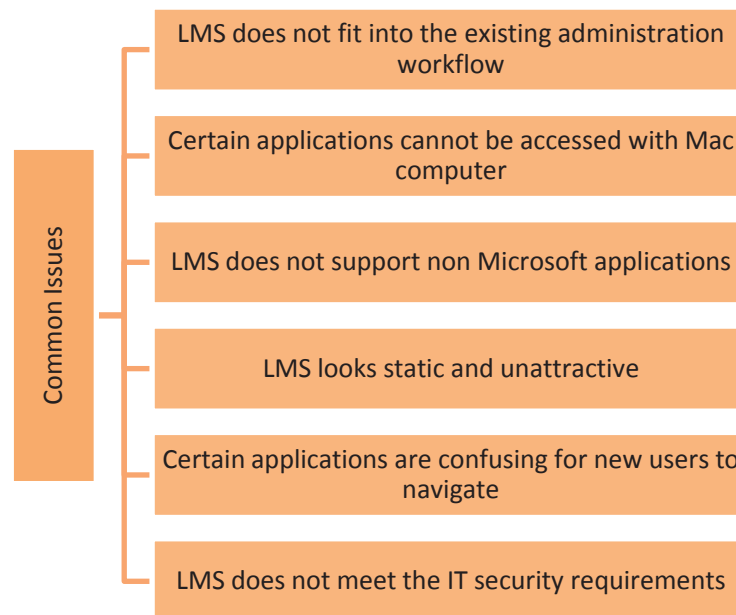


Fig. 6.2.1: Common issues that may require intervention of top management

At the teachers'/assistants' and students' level, there is a common set of problems that is faced. An IT coordinator is required to cater to such issues along with the learning centre's assistance.

The following figure lists the five main issues:

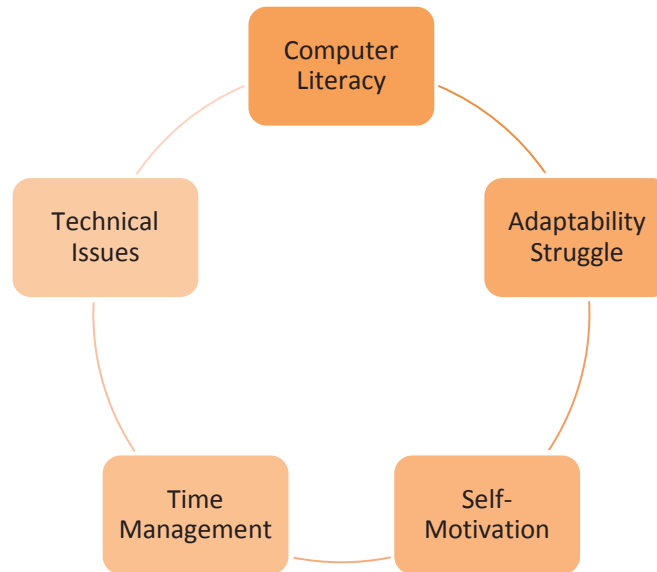


Fig. 6.2.2: Common issues faced by teachers/assistants

Computer Literacy

Usually the students are tech savvy, which enables them to manage the computers well. But, there might be students who may not know the basic applications like MS Word or MS PowerPoint. It is essential for students to have a basic knowledge of computers so that they can handle their assignments and navigate through their courses.

Adaptability Struggle

Most students find it difficult to switch from a traditional classroom approach to a differentiated classroom approach. It takes a good amount of time for such students to adapt to a new style of learning.

Self-Motivation

There might be a section of students who lack self-motivation. They may register for the online courses but they do not take the lessons online. It is the instructor's and facilitator's responsibility to keep such students engaged.

Time Management

Managing their time is a cumbersome task for students. Typically, E-learning modules consume a lot of time and require intensive work. Scheduled planner can help the students schedule time for their courses.

Technical Issues

The learning experience can become a problem due to low internet connection. Some students who do not have computers of their own seek Learning Resource Centre's help. The solution is to understand what exactly is the problem faced by the learner. There may be various other issues that would arise. The question arises, who should the queries be raised to?

The following table lists some basic issues related to content development which can arise, who it must be raised to and a relevant policy/procedure:

Type of Issue	Raise Issue With	Relevant Policy/Procedure
Issue with a teacher	Principal	Policy on Staff Conduct, Harassment and Discrimination at Work Policy and Procedures
Issue with taking suggestions or giving feedback	Principal	Policy on Staff Conduct, Harassment and Discrimination at Work Policy and Procedures
Workload	HR Advisor	Workload Policy and Procedures
Academic Issues	Academic In Charge, Principal	There are a range of policies impacting academics, for example, add on class policy
Protected Disclosures –Whistle blowing	Risk Manager, Principal	Privacy Policy, Official Information Policy and Protected Disclosures Policy

Fig. 6.2.3: Basic issues related to content development

As an IT coordinator, a person is bound to have a list of queries when it comes to raising issues. The following figure explains answers to such questions:

How to raise a matter?

- Usually a formal email is sent to the team leader/coordinator raising the concern to escalate the issue and get it resolved.

In what cases to raise a concern or issue?

- In case of lodging a complaint or personal grievance or employment relationship problem.

What is the process if a matter needs to be confidential?

- Formal investigations are confidential processes in which only those involved have access to information and the privacy of those involved is maintained.

What if no agreement on resolution is reached or a person is not satisfied with the outcome?

- If the staff is not happy with the outcome, consideration may need to be given to escalating the process to the Principal/Board of Directors.

Fig. 6.2.4: List of queries with answers

As an IT coordinator, a person needs to suggest modifications to the learning centre so that necessary amendments can be done in the LMS. Authoring tools can be accessed for creation of questions, tests and surveys enabling the users (instructors, teachers, and students, parents) to evaluate the LMS. The following table is an example of a feedback form:

Question	Agree	Strongly Agree	Disagree	Strongly Disagree
I cannot understand how to use the system				
LMS is confusing. I cannot navigate through it				
My parents do not want me to use this LMS				
I cannot seek assistance if I get stuck				
I cannot receive information about my grades				
The lessons are missing/incomplete				
I feel bored when I use the LMS				

Fig. 6.2.5: An example of a feedback form

Role of IT coordinator While Interacting with the Learning Centre

The idea of having IT resources is to undertake the responsibilities mentioned earlier in this unit, and to provide a course/module with an ad hoc to which a user can relate to easily.

The following image shows the role of an IT coordinator:

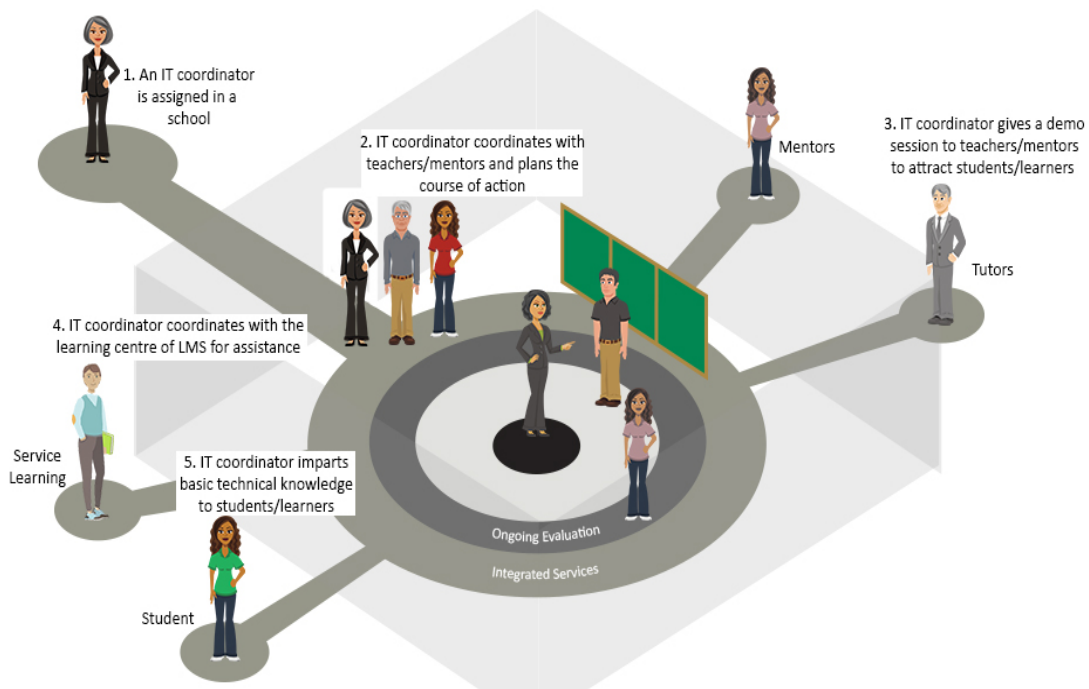


Fig. 6.2.6: Role of an IT coordinator

An IT coordinator is assigned to a school by an agency. The role of an IT coordinator is to coordinate with teachers and mentors as well as the learning centre of LMS to achieve the goals; according to which they plan a course of action. It is the responsibility of an IT coordinator to give a demo session to the teachers who will eventually help in spreading knowledge to students about the new courses. At the same time, the IT coordinator coordinates with the learning centre for assistance. Once, the IT coordinator is thorough with the technical know-how of LMS, they impart their knowledge to students and teachers.

The following figure represents a diagram about how an IT coordinator coordinates with teachers to achieve results:

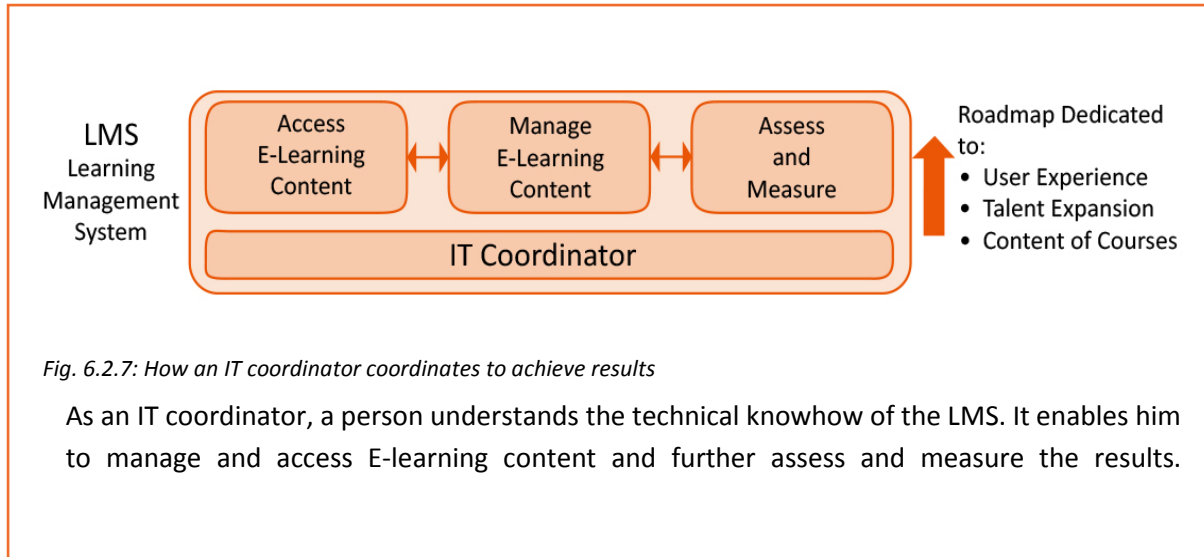


Fig. 6.2.7: How an IT coordinator coordinates to achieve results

As an IT coordinator, a person understands the technical knowhow of the LMS. It enables him to manage and access E-learning content and further assess and measure the results.

The following figure represents how an IT coordinator is connected to various people in a school:

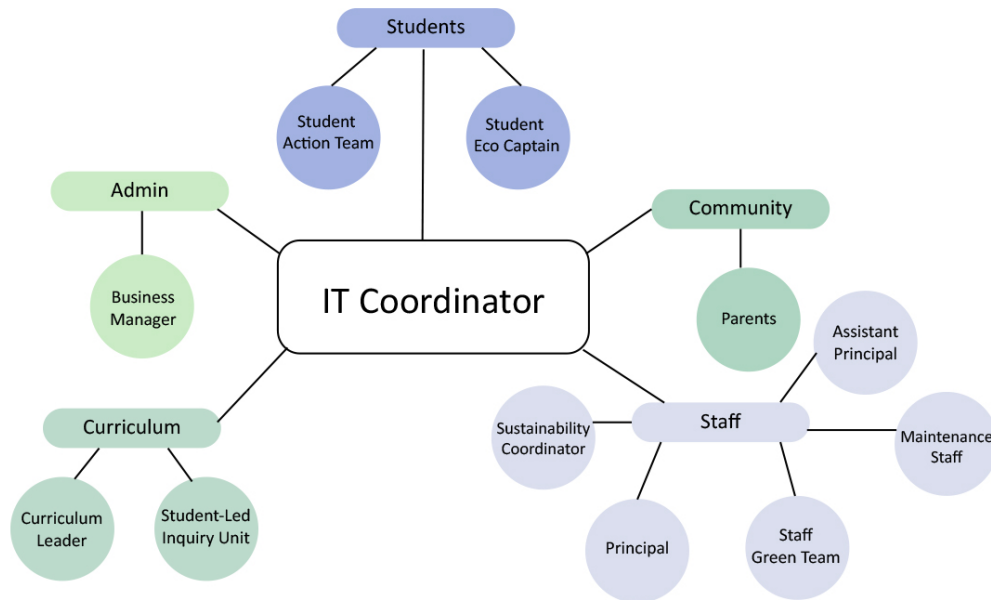


Fig. 6.2.8: Connection of an IT coordinator with various people in a school

As an IT coordinator, to provide a course/module with an ad hoc to which a user can relate to easily, a person must:

- Be thorough with the FAQ's, also known as Frequently Asked Questions, to answer administrative queries
- Consult an administrator at the learning centre to resolve unanswered questions
- Manage the resources adequately without compromising on the quality of the learner's experience
- Exchange opinions on the LMS and share feedback received from the users to the learning centre
- Understand new application updates and add them
- Suggest modifications or addition of new content to the content development team

Instructors/teachers play a pivotal role in influencing the students. As an IT coordinator, it is necessary for the instructors/teachers to be satisfied with the demo sessions presented for the courses/modules. It is only when the instructors/teachers themselves are satisfied that they will be able to help in generating the students' interest in the learning modules.

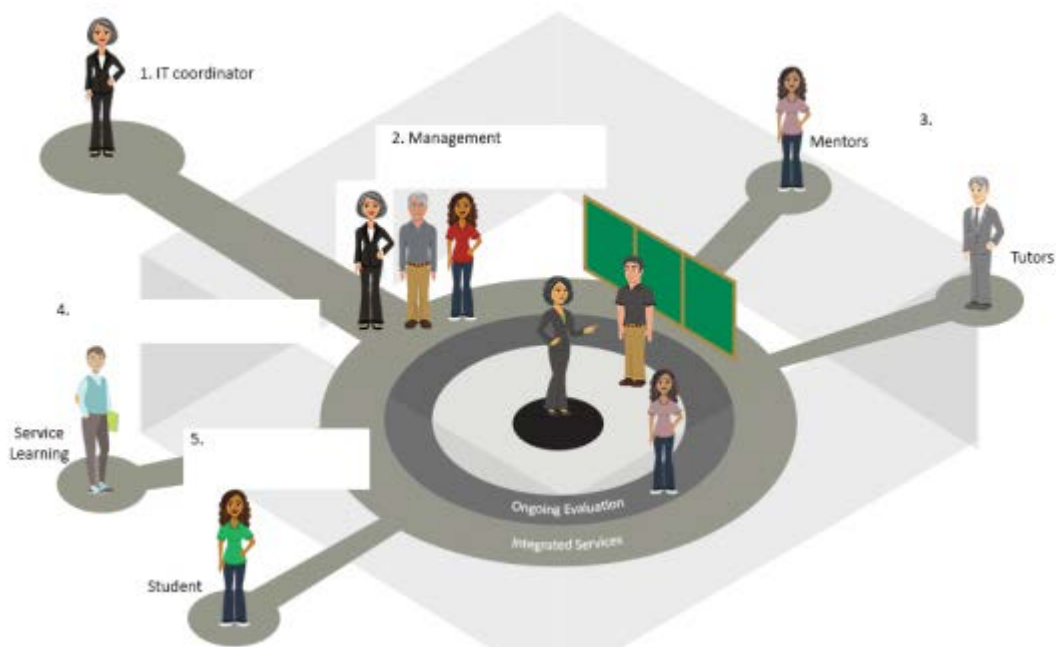
However, there are limitations that bound students from getting a direct access to technology. Some of these limitations may include:

- Drop rates in attendance
- Lack of motivation
- Technological backwardness
- Lack of/low internet connectivity

Exercise



Look at the following figure and describe the role of an IT coordinator while interacting with the following people.



- 1. _____

- 2. _____

- 3. _____

- 4. _____

- 5. _____

Practical



Perform the task of restoring a Windows 8 system using a recovery disk provided by the IT Support centre.

Requirements:

1. A desktop with windows operating system
2. Recovery disk

Hint:

Use the:

1. System File Checker
2. Boot menu

Practical



Draft mails for the following issues that need to be escalated to the Principal of the school:

1. Replacement of a monitor with a new one for one system in the classroom.
2. A teacher mishandling a projector in the classroom, in spite of you reputedly reminding her about the dos and don'ts for handling projectors.
3. Too much workload on you and requesting for a colleague to help in school or a teacher's assistant whom you can train to help you.



7. Coordinate with Others to Perform Work

Unit 7.1 – Interacting with Superiors

Unit 7.2 – Coordinating with Teachers and Students

Unit 7.3 – Coordinating with Customer Care Centre and Technical Helpdesk

Unit 7.4 – Coordinating with Repair and Spare Parts Centres

Unit 7.5 – Achieving Targets

Key Learning Outcomes

At the end of this module, you will be able to:

1. Identify work requirements
2. Manage work as per given responsibility
3. Handle materials correctly
4. Report as per schedule and maintain proper documentations
5. Follow the health and safety norms
6. Identify ways to improve the work process

UNIT 7.1: Interacting with Superiors

Unit Objectives

At the end of this unit, you will be able to:

1. Define work requirements
2. Identify the right work ethics
3. Identify what customer feedback is

7.1.1 Understanding Work Requirements

An IT coordinator needs to be well aware of the work requirements to be able to interact with colleagues and superiors at schools. To be able to clearly understand the requirements at work, there is a need to be well versed with several record keeping and maintenance documents. One such document is the enlisted norms and responsibilities in the work requirement.

Work requirement is a document which has the date, location and the details of a particular task which has to be done. It is the record of the task which has to be performed. A coordinator should be able to understand the assigned task and its requirements.

The following figure explains what understanding work requirement means:

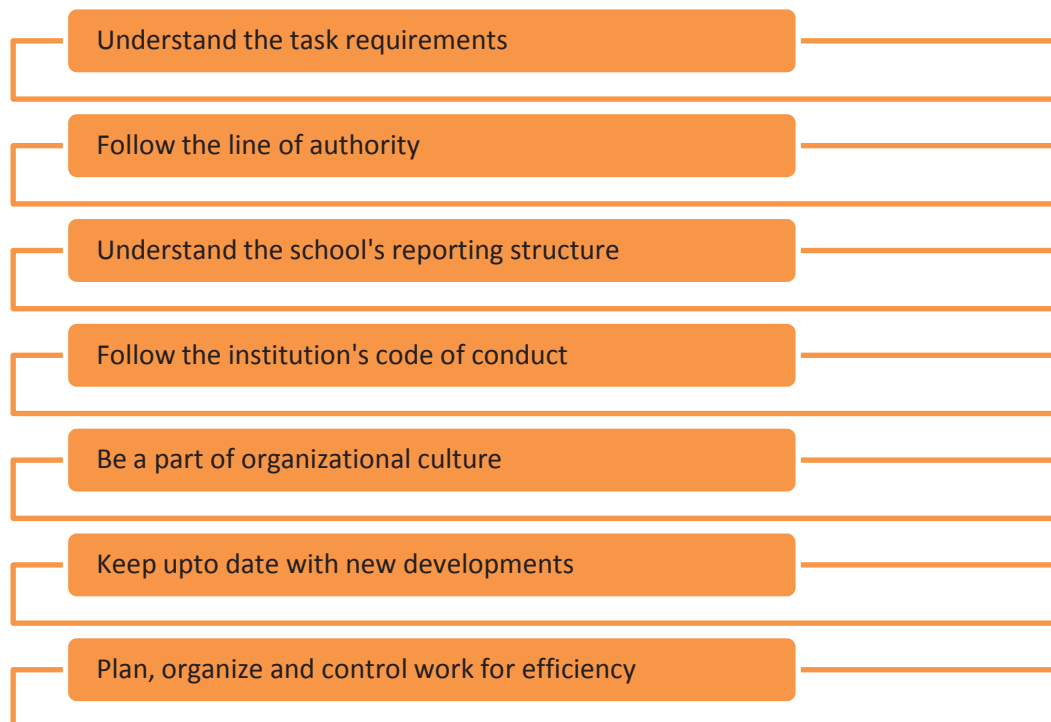


Fig. 7.1.1: Understanding work requirements

An IT coordinator has a few obligations towards the profession. The following figure lists the points to be kept in mind:

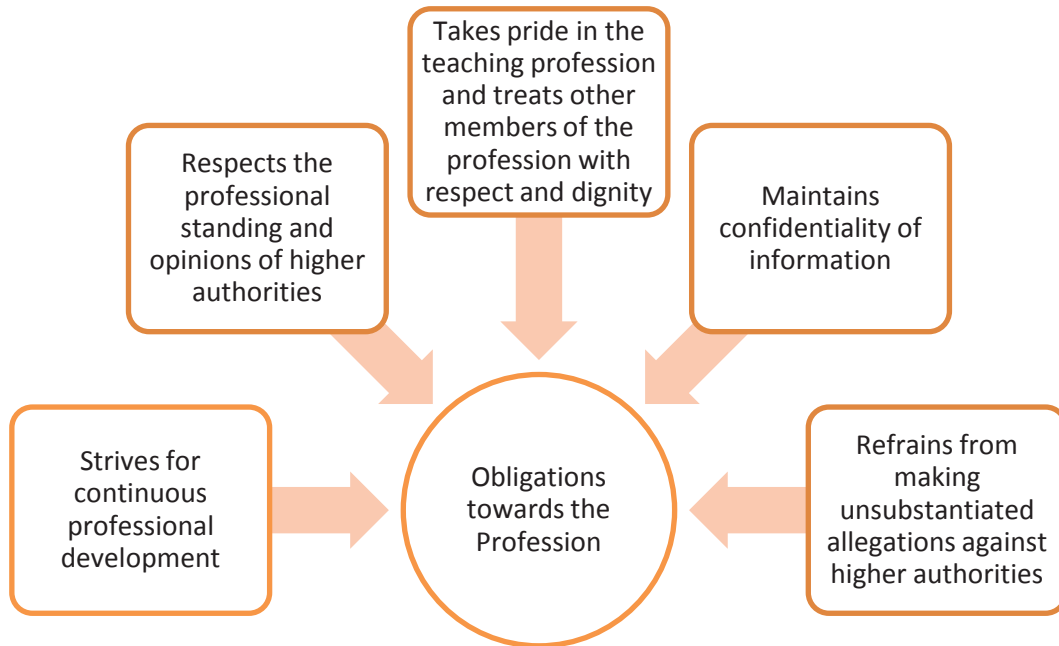


Fig. 7.1.2: Obligations towards the profession

An IT coordinator has a set of basic responsibilities to follow. The following figure highlights the points which an IT coordinator must be responsible for:

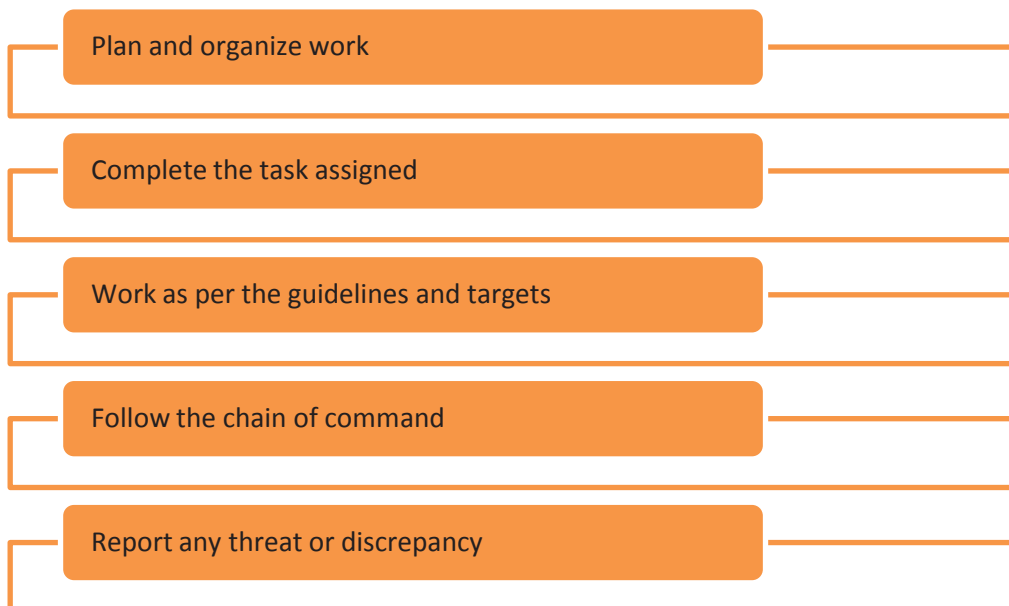


Fig. 7.1.3: Basic responsibilities of an IT coordinator

7.1.2 Understand Targets and Performance Evaluation

Performance standards help in motivating employees to use their time effectively and efficiently by setting attainable objectives/targets. The effectiveness of a person is calculated on the basis of targets achieved effectively and efficiently.

The following figure represents the three core concepts which involves achieving targets:

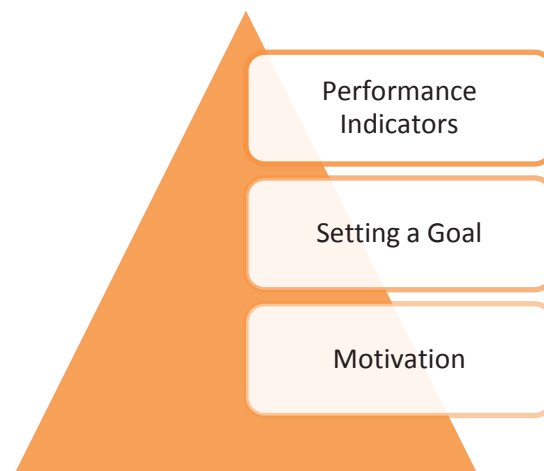


Fig. 7.1.4: Core concepts which involve achieving targets

Performance Indicators

To measure performances of employees, an organization uses a tool known as key performance indicator (KPI). It sets performance standards and assesses overall success of an organization. What is success? Success is the progress a person makes towards operational or strategic goals like profit margins, customer satisfaction level or zero defect. To succeed, an employee needs to achieve set targets which must be simple and clear to understand.

Goal Setting

Goal setting is the establishment of what an organization or an individual wants to achieve. It is important that the goals set for people to achieve must be clear and concise to meet performance standards.

Motivation

Motivation is crucial for employees. If there is no motivation, the efficiency and productivity of an employee would never come out.

Discussing Performance

As an IT coordinator, a procedure where the manager discusses the review is known as discussing performance. The manager hands over a copy of evaluation to the employee so that he/she can read it as a preparedness for discussion.

Exercise



Look at the following figures and identify the obligations towards the job role of an IT coordinator.









UNIT 7.2: Coordinating with Teachers and Students

Unit Objectives

At the end of this unit, you will be able to:

1. Explain the need to follow etiquettes in school
2. Identify the services provided by the IT coordinator to school
3. Identify the reasons of spot disruptions and delays

7.2.1 Behavioural Skills

Behavioural skills are skills for interaction with people at the workplace. An IT coordinator has certain responsibilities towards the students and teachers which must be adhered to.

The following figure lists responsibilities towards students:

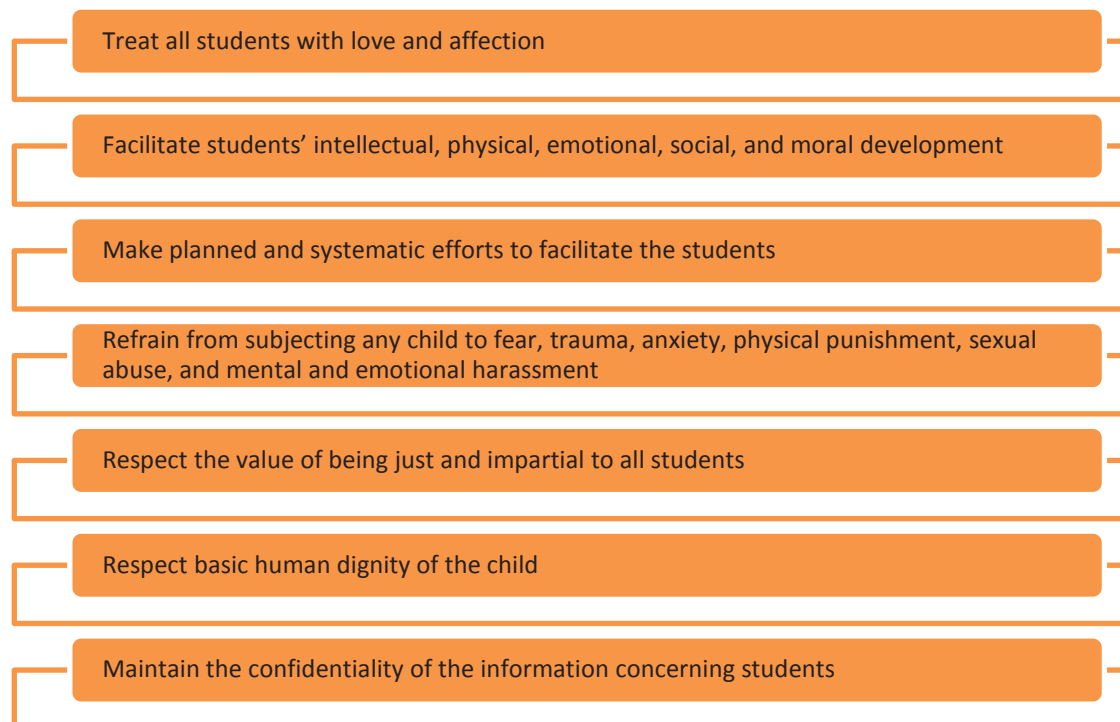


Fig. 7.2.1: Responsibilities towards students

The following figure lists responsibilities towards teachers:

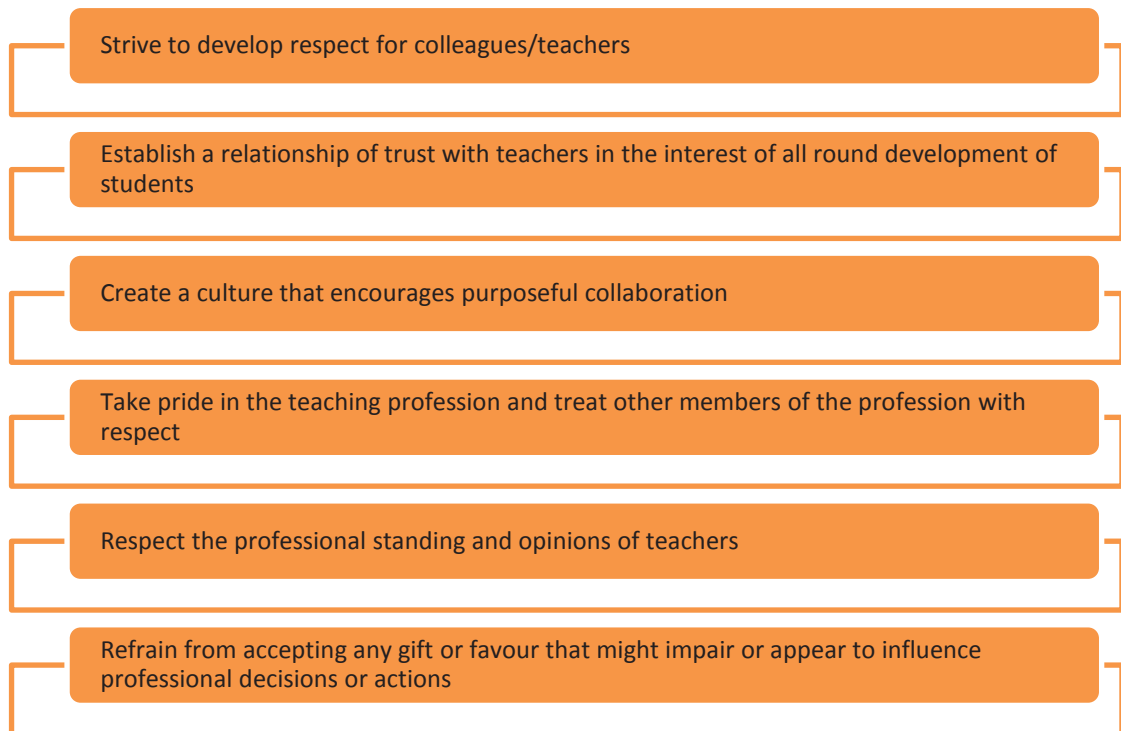


Fig. 7.2.2: Obligations towards teachers

An IT coordinator provides IT support services to students. The services are listed as follows:

- Network Administration Support
 - Provide automated tracking and software deployment
 - Provide students with security support like antivirus or firewalls
 - Create access groups and maintain them
- Hardware Support
 - Verify that all network connections are proper
 - Manage activation of MS
- Software Support
 1. Install and update software applications
 2. Troubleshoot applications

7.2.2 Work Process Improvement

To ensure work process improvement, an IT coordinator must adhere to the practices as shown in the following figure:

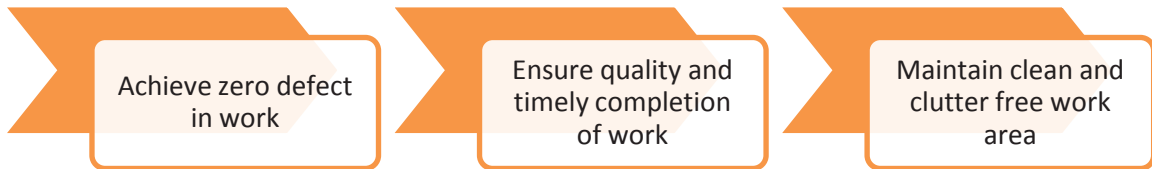


Fig. 7.2.3: Process for improving work

Zero defect in work can be achieved by the ways as shown in the following figure:

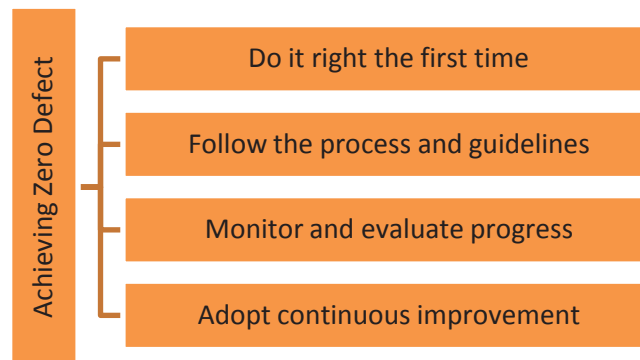


Fig. 7.2.4: Measures to achieve zero defect in work

An IT coordinator can maintain quality and timely completion of work in the following ways:

- Ensure whatever work is done is as per the guidelines and standard of the company
- Plan and organize the work for the day
- Follow the plan
- Inform the principal in case of any deviation or emergency

The supervisor shares a plan of action with the IT coordinators to ensure adherence to timelines and quality for the work assigned.

The following figures highlight (i) the points which help them in understanding the plan to achieve 100% quality and timely completion of work, and (ii) flexible planning:

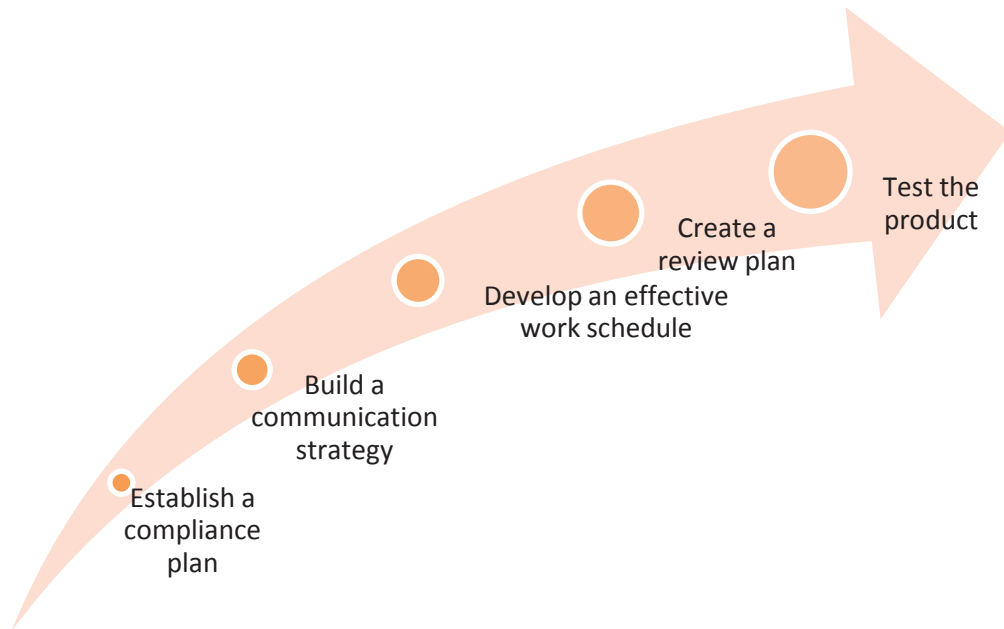


Fig 7.2.5: (i) Achieving quality and timely completion of work

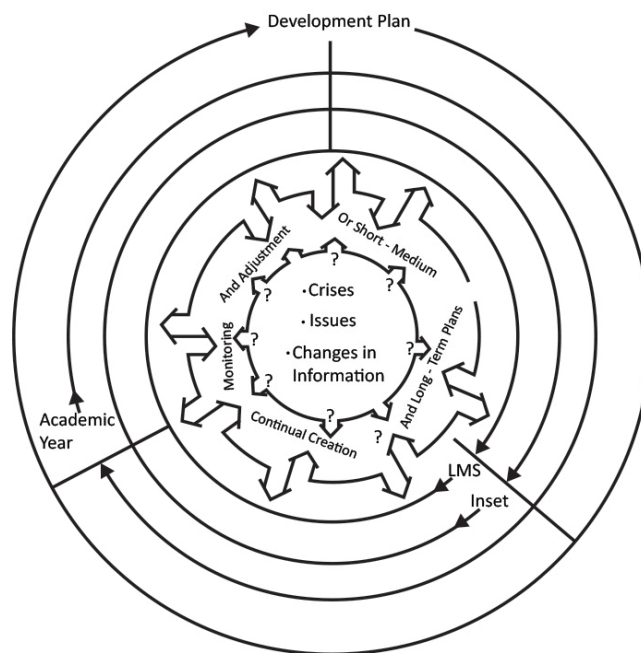


Fig 7.2.5: (ii) Flexible planning

7.2.3 Spot Process Disruptions and Delays

Delays and disruptions are common while working as an IT coordinator in schools. The following figure lists a few reasons for delays and disruptions:

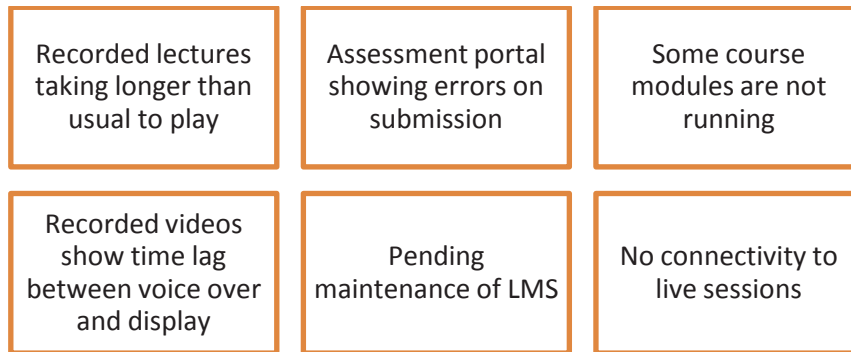


Fig. 7.2.6: Reasons of delays and disruptions

Certain guidelines must be followed to resolve issues in case of disruptions and delays.

The following figure lists the general guidelines to follow in such cases:

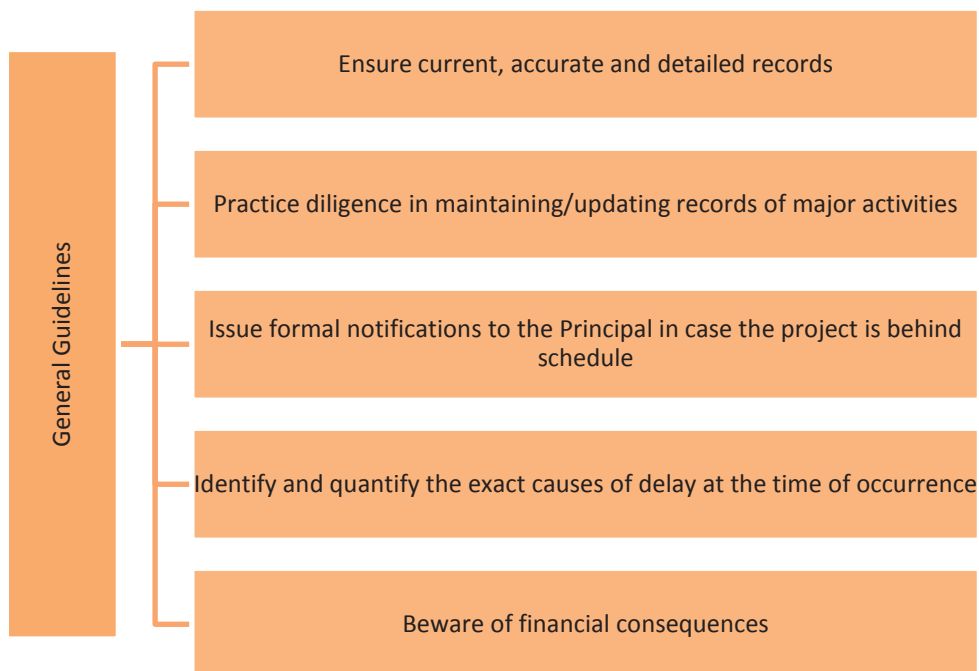


Fig. 7.2.7: General guidelines to follow in case of disruptions and delays

Exercise

Read the following statements and state whether they are true or false.

Statement	True/False
1. Realistic deadlines are designed to fulfil specific requirements.	_____
2. While working on a decided plan of action, communication is not needed.	_____
3. Communication, negotiation and decision making for future course of action is essential in case of any disruption in LMS.	_____
4. Verifying that all network connections are proper and fall under software support.	_____
5. Issue formal notifications to the Principal in case the project is behind schedule.	_____
6. Time lag between voice over and display cannot be termed as a cause for disruption in learning experience.	_____

UNIT 7.3: Coordinating with Customer Care Centre and Technical Helpdesk

Unit Objectives

At the end of this unit, you will be able to:

1. Define complaints and why are they important
2. Understand the terminology Control, Acknowledge, Refocus and Problem Solved (CARP)
3. Identify the role of customer care centres/technical helpdesk

7.3.1 Complaints

Often, claims of disruption and delays are related to LMS portal which result in delay and destructive learning. There are instances where projects do not support the use of an approved methodology for learning. The following figure lists some tips that an IT coordinator must consider while addressing issues:

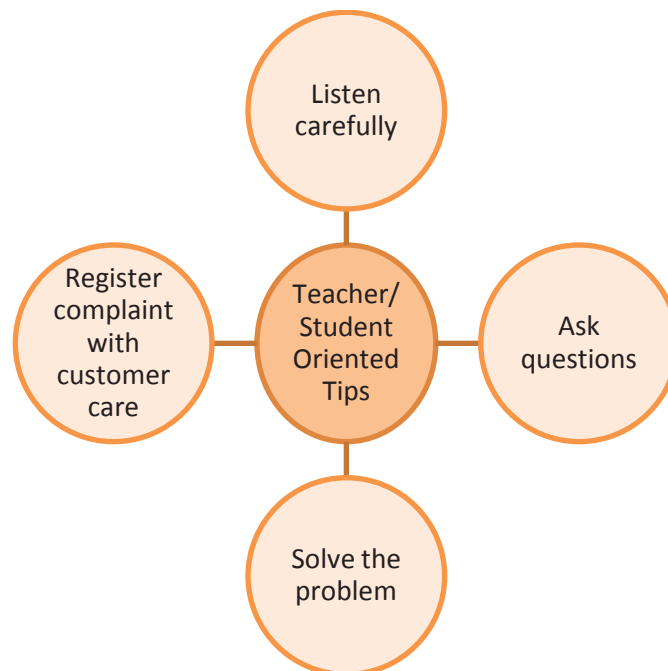


Fig. 7.3.1: Teacher/Student oriented tips

Why do Complaints Matter?

There are a few principles which justify the importance given to the received customer complaints. They are:

- **Look past the chaos to find the problem**

It's a misconception to assume that if a user is behaving in a difficult manner, the argument would not have any worth. Complaints, even irate ones, can give an insight. As an IT coordinator, finding the issue is a part of the job. A person may find it convenient to dismiss complainers, who may be very angry or over sensitive, but they may lose out on important feedback.

- 1. Scan, organize and record meaningful complaints**

There shall be multiple complaints from numerous customers stating recurring concerns. A red flag may be raised if the volume is high for a particular complaint. The strategy is to sort the complaints which can be resolved at the coordinator's end and the ones which would need the help of a technical helpdesk.

- 2. CARP Diem for resolution**

The CARP method is the most useful one. The following figure represents what CARP consists of:

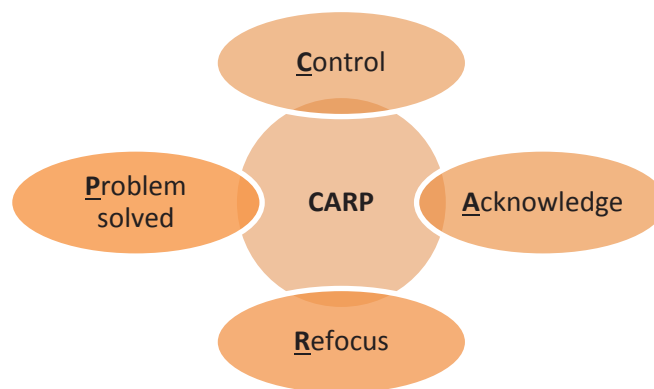


Fig. 7.3.2: CARP Diem

Customer Care Centre/Technical Helpdesk

The customer care centre is designed to meet the requirements, needs and expectations of the users. It is done by providing timely resolutions to queries and complaints. The goal is to minimize downtime and improve the learner's overall experience. The team comprises of experienced software personnel. They help a user by answering questions and guiding them about using the tools. They are solely committed to collaborating and communicating with the users.

The following figure lists the role of a technical helpdesk:

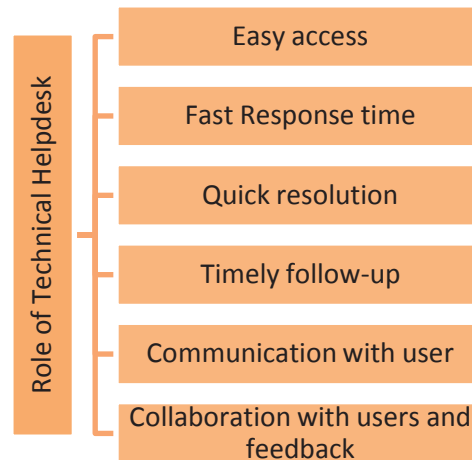


Fig. 7.3.3: Role of a technical helpdesk

Technical helpdesk/support is usually divided into four tiers so that it can help a business to serve its customer base more effectively and efficiently. The following figure shows the tiers of a technical helpdesk/support:

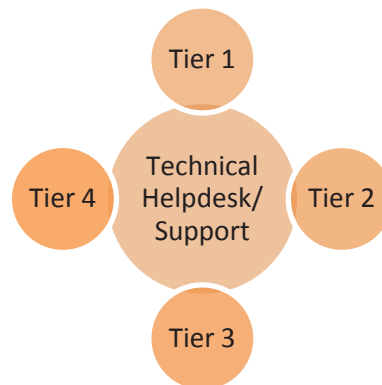
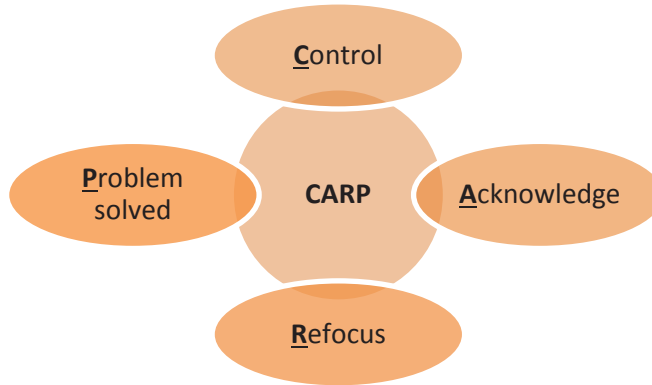


Fig. 7.3.4: Tiers of a helpdesk support

Activity 

Discuss in pairs and write a brief explanation of the following figure citing examples.



UNIT 7.4: Coordinating with Repair/Spare Parts Centres

Unit Objectives

At the end of this unit, you will be able to:

1. Define hardware and software services
2. Understand the concept of SLA
3. Identify the role of It coordinator while seeking assistance from repair and spare parts centres

7.4.1 Hardware and Software Services

Behavioural skills are skills for interaction with people at the workplace. An IT coordinator has certain responsibilities. All electronic/SMART products have a warranty period mentioned. A person may purchase an extended warranty as well. Extended warranty increases the existing warranty period by some time. There may be complaints related to the delivered product. The following figure lists the aspects which help a person decide about the department where the query must be transferred to:

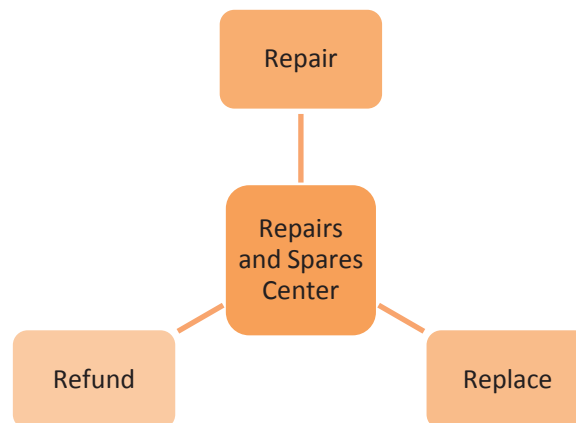


Fig. 7.4.1: Aspects which help a person decide about the department for query resolution

A repair and spare parts centre provides repair services for desktop, monitors, laptop and other hardware components that are under warranty time frame. These centres also provide repair services for components which are out of their warranty period. Usually there is no cost or fee involved if the components are under manufacturer's warranty. However, the repair centres do charge for components that are not in their manufacturer's warranty. The cost ranges from a nominal fee to a heavy amount, all depending on the type of the issue which needs to be fixed. A repair and spare parts centre provides hardware and software services.

The following figure highlights the hardware services given by repair and spare parts centres:

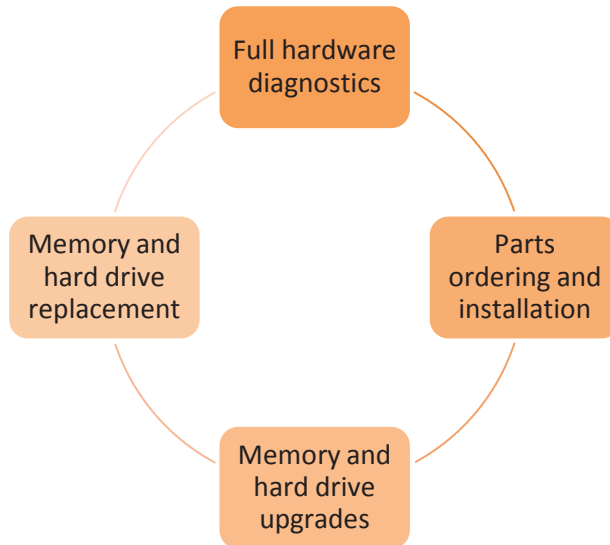


Fig. 7.4.2: (i) Hardware Services

The following figure highlights the software services given by a technical helpdesk and system repair centres:

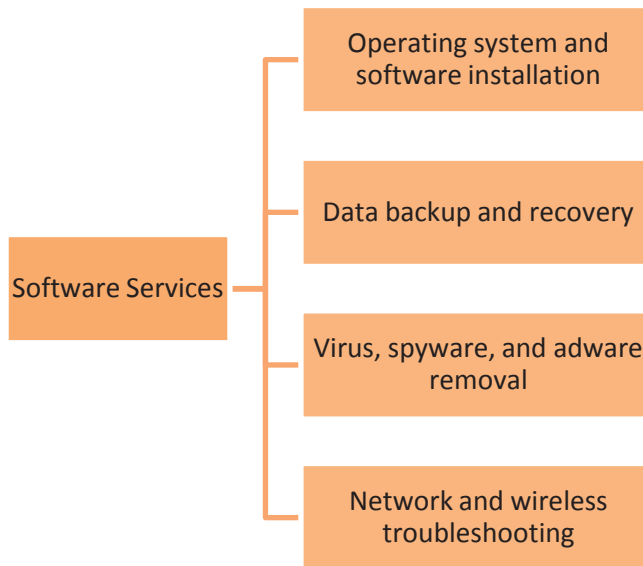


Fig. 7.4.2: (ii) Software Services

Service Level Agreement (SLA)

While interacting or taking assistance from the customer care, a person must be aware of the basic protocols these service centres follow. For example:

- Requests for hardware repair service are addressed in an order in which they are received
- The requests are based on priorities (critical, important, general), which are determined by urgency and level of impact
- Responses to requests for computer hardware repair service may be via phone or voice mail, e-mail or personal visit
- Examples of the forms of contact that are not covered under this SLA include:
 - Direct emails to individual computer repair service personnel
 - Direct phone calls to individual computer repair service personnel

As a customer, when seeking assistance from the service centre, an IT coordinator should:

- Request computer hardware repair assistance.
- Give a detailed and accurate description of the symptoms to indicate that hardware repair is required.
- Backup of data stored must be taken before handing over the equipment for repair.
- Respond to inquiries done by the repair centre staff in a timely and professional manner.

Exercise

Match the following descriptions to their respective categories.

Description	Category
1. Respond to inquiries done by the repair centre staff	A. No cost
2. Requests for hardware repair service are addressed in an order in which they are received	B. Department to transfer query
3. Virus, spyware, and adware removal	C. Hardware Services
4. Printer parts ordering and installation	D. Software services
5. Refund and replace	E. Service centre protocol
6. Repair of components under manufacturer's warranty	F. IT coordinator's responsibility

UNIT 7.5: Achieving Targets

Unit Objectives

At the end of this unit, you will be able to:

1. Explain the process for achievement of goals
2. Identify the types of risks involved
3. Identify ways to improve quality, productivity and process time

7.5.1 How to Achieve Set Goals?

Set goals and work towards it to make it happen. For example, a goal is set about evaluation strategy. The question to ask would be, 'what is the purpose of evaluation?' A coordinator must know that evaluation is done to achieve specific purposes.

The following figure describes the types of evaluation done for a project:

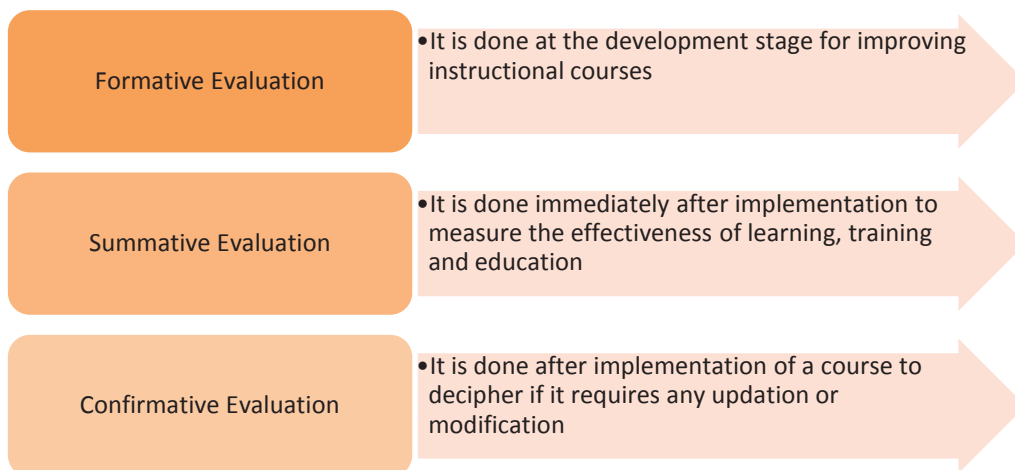


Fig. 7.5.1: Types of evaluation

In other words, first, it is important to decide on evaluation of a course during its development stage to make improvisations. Another option is to evaluate the course at its end stage, before it is finalized. This way, the course's effectiveness can be measured or a previously developed course can be examined to cross check the gaps.

7.5.2 Steps to be Followed in Case of Issues

As an IT coordinator, a person gets better at analysing and assessing risks in the process of achieving the goals.

The following figure represents five types of risks:



Fig. 7.5.2: Types of risks

7.5.3 Complete Work Effectively and Efficiently

There are skills that can be developed enabling a person to be more effective and efficient at work. The following figure lists the steps that can make a person more efficient at work:



Fig. 7.5.3: Steps that can make a person more efficient at work

As an IT school coordinator, if a person is disorganized, a lot of time will be wasted by looking out for lost items. The following figure lists the elements which help a person to be organized leading to more productivity at work:



Fig. 7.5.4: Elements which help a person to be organized

7.5.4 Ways to Improve Quality, Productivity & Process Time

For achieving productivity, extracting maximum from limited resources, such as equipment and manpower is essential. The challenge at workplace is to discover ways for increasing productivity as well as to keep the quality of production intact. The following figure lists the methods to improve quality and productivity:



Fig. 7.5.5: Methods to improve quality and productivity

Exercise



List the factors that can help/helped in improving quality and productivity of work at your workplace.

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____



8. Soft Skills and Work Ethics

- Unit 8.1 – Effective Communication and Coordination at Work
- Unit 8.2 – Working Effectively and Maintaining Discipline at Work
- Unit 8.3 – Maintaining Social Diversity at Work



Key Learning Outcomes



By the end of this unit, participants will be able to:

1. State the importance of work ethics and workplace etiquette
2. State the importance of effective communication and interpersonal skills
3. Explain ways to maintain discipline in the workplace
4. Discuss the common reasons for interpersonal conflict and ways of managing them effectively.

UNIT 8.1: Effective Communication and Coordination at Work

Unit Objectives

By the end of this unit, participants will be able to:

1. Work effectively at the workplace.
2. Demonstrate practices related to gender and PwD sensitization.

8.1.1 Importance of Work Ethics and Workplace Etiquette

Workplace ethics are a set of moral and legal guidelines that organizations follow. These guidelines influence the way customers and employees interact with an organization. Workplace ethics essentially guide how an organization serves its clients and treats its employees.

For example, if a company seeks to fulfil the promises it makes, it may develop processes and set up a robust support system to address this policy and build customer/client loyalty. To achieve this goal, the company may implement specific incentive programs for employees to encourage them to produce high-quality work and ensure the organization fulfils the promises it makes to its clients/ customers.

Many organizations, often the large ones, set detailed ethical codes to guide their operations and control how the organizational processes impact the stakeholders. These ethics usually help organizations maintain certain standards of responsibility, accountability, professionalism and among others, as they navigate through different challenges and day-to-day circumstances. By following these guidelines, organizations often experience several benefits that improve the lives of stakeholders, such as customers, employees, leaders, etc.

Examples of Common Workplace Ethics



Fig. 8.1.1 Examples of Common Workplace Ethics

Workplace ethics are essential for a successful organization with a satisfied and loyal team. High ethical standards help in ensuring all stakeholders, such as customers, investors, employees, and other individuals involved in the workplace operations, feel the organization is safeguarding their interests. By creating and implementing ethical guidelines, organizations can keep the best interests of their employees in mind while maintaining a positive influence on those they impact through their processes. As a result, employees maintain the organization's best interests by being ethical in their daily work duties. For example, fairly-treated employees of an organization who understand the organization's commitments to environmental sustainability are usually less likely to behave in a manner that causes harm to the environment. Thus, they help maintain a positive public image of the organization. It means that workplace ethics help in maintaining reciprocal relationships that benefit organizations at large and the individuals associated with and influenced by the organizational policies.

Benefits of Workplace Ethics

There are various benefits of implementing workplace ethics. When organizations hold themselves to high ethical standards, leaders, stakeholders, and the general public can experience significant improvements. Following are some of the key benefits of employing ethics in the workplace:



Fig. 8.1.2 Benefits of Workplace Ethics

8.1.2 Interpersonal Communication

Interpersonal communication is a process that involves sharing ideas and emotions with another person, both - verbally and non-verbally. It is essential to interact effectively with others in both personal and professional lives. In professional life or the workplace, strong interpersonal skills play a crucial role in achieving effective collaboration with colleagues.

Interpersonal Skills

Interpersonal skills, in other terms, are known as people skills, which are used to communicate and interact with others effectively. These are soft skills one uses to communicate with others and understand them. One uses these skills in daily life while interacting with people

Examples of Interpersonal Skills



Fig 8.1.3 Examples of Interpersonal Skills

Numerous interpersonal skills involve communication. Communication can be verbal, such as persuasion or tone of voice — or non-verbal, such as listening and body language.

Importance of Interpersonal Skills

Interpersonal skills are essential for communicating and collaborating with groups and individuals in both personal and professional life. People with strong interpersonal skills often are able to build good relationships and also tend to work well with others. Most people often enjoy working with co-workers who have good interpersonal skills.

Among other benefits of good interpersonal skills is the ability to solve problems and make the best decisions. One can use the ability to understand others and good interpersonal communication skills to find the best solution or make the best decisions in the interest of everyone involved. Strong interpersonal skills help individuals work well in teams and collaborate effectively. Usually, people who possess good interpersonal skills also tend to be good leaders, owing to their ability to communicate well with others and motivate the people around them.

Interpersonal communication is the key to working in a team environment and working collectively to achieve shared goals. Following are the interpersonal

Verbal Communication

The ability to speak clearly, appropriately and confidently can help one communicate effectively with others. It is vital to select the appropriate vocabulary and tone for the target audience.

For example – one should speak formally and professionally in the work environment, while informal language is acceptable in an intimate environment with close friends and family. Also, one should avoid using complex or technical language while communicating with an audience that may not be familiar with it. Using simple language in a courteous tone helps achieve better communication, irrespective of the audience.

Active Listening

Active listening is defined as the ability to pay complete or undivided attention to someone when they speak and understand what they are saying. It is important for effective communication because without understanding what the speaker is saying, it becomes difficult to carry forward a conversation. One should ensure to use appropriate verbal and non-verbal responses, e.g. eye contact, nodding, or smiling, to show interest in what the speaker says. Active listening is also about paying attention to the speaker's body language and visual cues. Asking and answering questions is one of the best ways to demonstrate an interest in conversing with the other person.

Active listening is critical for communicating effectively without ambiguity. It helps one understand the information or instructions being shared. It may also encourage co-workers to share their ideas, which ultimately helps achieve collaboration.

Body Language

One's expression, posture, and gestures are as important as verbal communication. One should practice open body language to encourage positivity and trust while communicating. Open body language includes - maintaining eye contact, nodding, smiling and being comfortable. On the other hand, one should avoid closed body language, e.g. crossed arms, shifting eyes and restless behaviour.

Empathy

Empathy is the ability to understand the emotions, ideas and needs of others from their point of view. Empathy is also known as emotional intelligence. Empathetic people are good at being aware of others' emotions and compassionate when communicating with them. Being empathetic in the workplace can be good to boost the morale of employees and improve productivity. By showing empathy, one can gain the trust and respect of others.

Conflict Resolution

One can use interpersonal communication skills to help resolve disagreements and conflicts in the workplace. This involves the application of negotiation and persuasion skills to resolve arguments between conflicting parties. It is also important to evaluate and understand both sides of the argument by listening closely to everyone involved and finding an amicable solution acceptable to all.

Good conflict resolution skills can help one contribute to creating a collaborative and positive work environment. With the ability to resolve conflicts, one can earn the trust and respect of co-workers. Interpersonal communication skills that are vital for success at work:



Employees who communicate and work well in a team often have better chances of achieving success and common goals. Being a team player can help one avoid conflicts and improve productivity. One can do this by offering to help co-workers when required and asking for their feedback and ideas. When team members give their opinions or advice, one should positively receive and react to the opinions/advice. One should be optimistic and encouraging when working in groups.

Improving Interpersonal Skills

One can develop interpersonal skills by practising good communication and setting goals for improvement. One should consider the following tips to improve their interpersonal skills:

- One should ask for feedback from co-workers, managers, family or friends to figure out what needs improvement concerning their interpersonal skills.
- One can identify the areas of interpersonal communication to strengthen by watching others.
- One can learn and improve interpersonal skills by observing co-workers, company leaders and professionals who possess good interpersonal skills. This includes watching and listening to them to note how they communicate and the body language used by them. It is vital to note their speed of speaking, tone of voice, and the way they engage with others. One should practice and apply such traits in their own interactions and relationships.
- One should learn to control their emotions. If stressed or upset, one should wait until being calm to have a conversation. One is more likely to communicate effectively and confidently when not under stress.
- One can reflect on their personal and professional conversations to identify the scope of improvement and learn how to handle conversations better or communicate more clearly. It helps to consider whether one could have reacted differently in a particular situation or used specific words or positive body language more effectively. It is also vital to note the successful and positive interactions to understand why they are successful.
- One should practice interpersonal skills by putting oneself in positions where one can build relationships and use interpersonal skills. For example, one can join groups that have organized meetings or social events. These could be industry-specific groups or groups with members who share an interest or hobby.
- Paying attention to family, friends and co-workers and making efforts to interact with them helps a lot. One should complement their family, friends and co-workers on their good ideas, hard work and achievements. Trying to understand someone's interests and showing interest in knowing them can help one build strong interpersonal skills. Offering to help someone, especially in difficult situations, helps build stronger and positive workplace relationships.
- One should avoid distractions, such as a mobile phone, while interacting with someone. Giving someone full attention while avoiding distractions helps achieve a clear exchange of ideas. By listening with focus, one can understand and respond effectively.

- One can attend appropriate courses on interpersonal skills or sign up for workshops at work to improve interpersonal skills. One can find many resources online also, such as online videos.
- For personal mentoring, one can approach a trusted family member, friend, co-worker, or current/former employer. A person one looks up to with respect and admires is often a good choice to be selected as a mentor. One can even hire a professional career or communication coach.

Interpersonal communication skills often help one boost their morale, be more productive in the workplace, complete team projects smoothly and build positive and strong relationships with co-workers.

UNIT 8.2: Working Effectely and Maintaining Discipline at Work

Unit Objectives

By the end of this unit, participants will be able to:

- Discuss the importance of following organizational guidelines for dress code, time schedules, language usage and other behavioural aspects
- Explain the importance of working as per the workflow of the organization to receive instructions and report problems
- Explain the importance of conveying information/instructions as per defined protocols to the authorised persons/team members
- Explain the common workplace guidelines and legal requirements on non-disclosure and confidentiality of business-sensitive information
- Describe the process of reporting grievances and unethical conduct such as data breaches, sexual harassment at the workplace, etc.
- Discuss ways of dealing with heightened emotions of self and others.

8.2.1 Discipline at Work

Discipline is essential for organizational success. It helps improve productivity, reduce conflict and prevent misconduct in the workplace. It is important to have rules concerning workplace discipline and ensure that all employees comply with them. In the absence of discipline, a workplace may experience conflicts, bullying, unethical behaviour and poor employee performance. An efficient workplace disciplinary process helps create transparency in the organization. Benefits of disciplinary standards:

All employees follow the same rules which helps establish uniformity and equality in the workplace

Managers and supervisors have defined guidelines on what actions to take while initiating disciplinary action

With well-defined and enforced disciplinary rules, an organization can avoid various safety, security, reputational risks

Fig 8.2.1 Benefits of Disciplinary Standards

Maintaining an organized and cohesive workforce requires maintaining discipline in both personal and professional behaviour. It is important to follow the appropriate measures to keep employees in line without affecting their morale.

Defining Discipline

The first and crucial step in maintaining workplace discipline is to define what is meant by discipline. It helps to evaluate common discipline problems and devise guidelines for handling them effectively.

Among a number of areas, discipline usually covers:

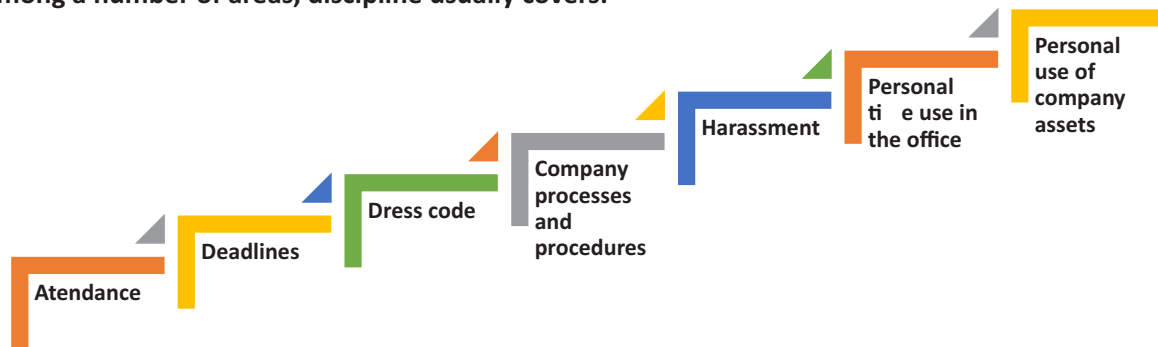


Fig 8.2.2 Examples of Workplace Discipline

According to demography and local issues, it may also include substance use and related issues.

It is vital for a workplace to have an employee handbook or company policy guide, to serve as a rulebook for employees to follow. The employee handbook/ company policy guide should be reviewed and updated periodically according to any issues or areas, or concerns identified concerning workplace discipline. Such manuals should also cover all the laws and regulations governing workplace behaviour.

Defining and documenting workplace rules aids in their implementation, ensuring little or no ambiguity. All employees in a workplace should also have easy access to the workplace guidelines so that they can refer to them to get clarity whenever required. To maintain discipline at work, it is also critical to ensure uniform application of workplace guidelines to all employees without exception.

8.2.2 Employee Code of Conduct

The employee code of conduct manual serves as a guide for employees to inform them regarding the behaviour expected from them at work. It helps create a good work environment with consistent behaviour from employees. The manual should list examples of acceptable and not acceptable behaviours at work. The code of conduct should be discussed with employees so that they have the clarifications required.

For example, an organization may create guidelines concerning the conduct with clients to ensure no contact is made with them except for business purposes, also prescribing the use of appropriate means of communication.

Employees should have a clear understanding concerning their job responsibilities and the behaviour expected from them with all stakeholders, e.g. company personnel, clients and associated third parties. It is critical to have documented guidelines for employees to follow concerning all aspects of work. It should also document the disciplinary action to be followed in case of non-compliance, e.g. verbal and

then written warning, temporary suspension or eventual termination of service in case of repeated non-compliance with the employee code of conduct. Employees should know what the company rules are and what will happen if they break the rules. However, disciplinary action should be initiated only when reasonably required to avoid its misuse for employee harassment.

There should also be an effective mechanism for employees to raise their concerns/ grievances and have them addressed while maintaining privacy, as required, e.g. raising concerns regarding the behaviour of a co-worker.

The employee code of conduct manual must be duly reviewed and approved by the concerned stakeholders, such as the Human Resources (HR) department and company executives.

8.2.3 Interpersonal Conflicts

Interpersonal conflict is any type of conflict between two or more people. These are found in both - personal and professional relationships - among friends, family, and co-workers. In the workplace, interpersonal conflict is often observed when a person or group of people interfere with another person's attempts at completing assignments and achieving goals. It is critical to resolve conflicts in the workplace to boost the morale of employees, repair working relationships among them, and improve customer satisfaction.

Reasons for Workplace Conflicts

Workplace conflicts are often observed when two or more people have different points of view. This can happen between managers, co-workers, or clients and customers. In general, interpersonal conflicts are caused by a lack of communication or unclear communication.

Some of the leading reasons for workplace conflicts are:

- Difference in values
- Personality clashes
- Poor communication

Example of poor communication – if a manager reassigns a task to another employee without communicating with the employee to whom it was originally assigned, interpersonal conflict can arise among them. This may potentially make the first employee, i.e. who was originally assigned the task, feel slighted and mistrusted by the manager. It may even cause animosity in the first employee toward the employee who has now been assigned the task.

Types of Interpersonal Conflict

Following are the four types of interpersonal conflicts:

a. Policy-related interpersonal conflict

When a conflict relates to a decision or situation that involves both parties, it can be called a policy-related interpersonal conflict. Example – two people or groups working on the same project, trying to adopt different approaches. To resolve policy-related interpersonal conflicts, the parties involved should try to look for a win-win situation or make a compromise. This is especially critical to resolve trivial issues so that work is not affected and common goals are achieved.

b. Pseudo-conflicts

Pseudo-conflict arises when two people or groups want different things and cannot reach an agreement. Pseudo-conflicts usually involve trivial disagreements that tend to hide the root of the issue.

c. Ego-related interpersonal conflicts

In ego conflicts, losing the argument may hurt or damage a person's pride. Sometimes ego conflicts arise when a number of small conflicts pile up on being left unresolved. To resolve ego-related conflicts, it's best to find the root of the issue and work towards a resolution.

d. Value-related interpersonal conflicts

Sometimes conflicts may occur between people when they have different value systems. Such conflicts can be difficult to identify initially, making the people involved think the other party is being disagreeable or stubborn, wherein they just have different values. Some co-workers may highly value their personal/ family time after office that they may be unreachable to clients during non-office hours, while others may place a high value on client satisfaction and may still be available for clients during non-office hours. Conflict may arise among such people when they may be required to coordinate to help a client during after-office hours. Value-related interpersonal conflicts are often difficult to settle since neither party likes to compromise.

Resolving Interpersonal Conflicts

Conflicts are usually likely in the workplace; they can, however, be prevented. Often resolving interpersonal conflicts through open communication helps build a stronger relationship, paving the way for effective coordination and success. Some ways to resolve interpersonal conflict:

- **Communication** - A great way to resolve interpersonal conflicts is for the opposing parties to listen to one another's opinions and understand their viewpoints. Meeting in person and keeping the conversation goal-oriented is important. One can have effective communication by following some measures, e.g. staying on the topic, listening actively, being mindful of the body language, maintaining eye contact, etc.

- **Active Listening** - One should patiently listen to what the other person is saying without interrupting or talking over them. It helps one display empathy and get to the root of the issue. Asking questions to seek clarification when required helps in clear communication and conveys to the other person that one is listening to them. Practising active listening is a great way to improve one's communication skills.
- **Displaying Empathy** - Listening attentively and identifying the anxieties/ issues of co-workers is a great way to show empathy and concern. It is essential to understand their feelings and actions to encourage honesty and avoid future conflict.
- **Not Holding Grudges** - With different types of people and personalities in a workplace, it is common for co-workers to have conflicts. It is best to accept the difference in opinions and move on. Being forgiving and letting go of grudges allows one to focus on the positive side of things and perform better at work.

Work-related interpersonal conflicts can be complicated because different people have different leadership styles, personality characteristics, job responsibilities and ways in which they interact. One should learn to look above interpersonal conflicts, resolving them to ensure work goals and environment are not affected.

8.2.4 Importance of Following Organizational Guidelines

Policies and procedures or organizational guidelines are essential for any organization. These provide a road map for the operations of the organization. These are also critical in ensuring compliance with the applicable laws and regulations by guiding the decision-making process and business operations.

Organizational guidelines help bring uniformity to the operations of an organization, which helps reduce the risk of unwanted and unexpected events. These determine how employees are supposed to behave at work, which ultimately helps the business achieve its objectives efficiently.

However, organizational guidelines are ineffective and fail to serve their purpose if they are not followed. Many people don't like the idea of following and abiding by specific guidelines. Such people should be made to understand the benefits of following the organizational guidelines. Some of the key benefits are given below:

With well-defined organizational guidelines in place, no individual can act arbitrarily, irrespective of their position in the organization. All individuals will know the pros and cons of taking certain actions and what to expect in case of unacceptable behaviour. Benefits of following organizational guidelines:

- Consistent processes and structures - Organization guidelines help maintain consistency in operations, avoiding any disorder. When all employees follow the organizational guidelines, an organization can run smoothly. These ensure that people in different job roles operate as they are supposed to, knowing what they are responsible for, what is expected of them, and what they can expect from their supervisors and co-workers. With clarity in mind, they can do their jobs with confidence and excellence. With every person working the way intended, it's easy to minimise errors.

With all the staff following organizational guidelines, the organization has a better scope of using time and resources more effectively and efficiently. This allows the organization to grow and achieve its objectives.

- **Better quality service** - By following organizational guidelines, employees perform their duties correctly as per the defined job responsibilities. It helps enhance the quality of the organization's products and services, helping improve the organization's reputation. Working with a reputable organization, employees can take pride in their work and know they are contributing to the reputation.
- **A safer workplace** - When all employees follow organizational guidelines, it becomes easy to minimise workplace incidents and accidents. It reduces the liabilities associated with risks for the organization and limits the interruptions in operations. Employees also feel comfortable and safe in the workplace, knowing their co-workers are ensuring safety at work by following the applicable guidelines.

Different organizations may have different guidelines on dress code, time schedules, language usage, etc. For example – certain organizations in a client-dealing business requiring employees to meet clients personally follow a strict dress code asking their employees to wear formal business attire. Similarly, organizations operating in specific regions may require their employees to use the dominant regional language of the particular region to build rapport with customers and serve them better. Certain organizations, such as banks, often give preference to candidates with knowledge of the regional language during hiring.

Working hours may also differ from one organization to another, with some requiring employees to work extra compared to others. One should follow the organizational guidelines concerning all the aspects of the employment to ensure a cohesive work environment.

8.2.5 Workflow

Workflow is the order of steps from the beginning to the end of a task or work process. In other words, it is the way a particular type of work is organised or the order of stages in a particular work process.

Workflows can help simplify and automate repeatable business tasks, helping improve efficiency and minimise the room for errors. With workflows in place, managers can make quick and smart decisions while employees can collaborate more productively.

Other than the order that workflows create in a business, these have several other benefits, such as:

- Identifying Redundancies - Mapping out work processes in a workflow allows one to get a clear, top-level view of a business. It allows one to identify and remove redundant or unproductive processes.

Workflow gives greater insights into business processes. Utilizing such useful insights, one can improve work processes and the bottom line of the business. In many businesses, there are many unnecessary and redundant tasks that take place daily. Once an organization has insight into its processes while preparing workflow, it can determine which activities are really necessary.

Identifying and eliminating redundant tasks creates value for a business. With redundant tasks and processes eliminated, an organization can focus on what's important to the business.

- Increase in Accountability and Reduction in Micromanagement - Micromanagement often causes problems in a business setting as most employees don't like being micromanaged, and even many managers don't like the practice. Micromanagement is often identified as one of the reasons why people quit their job.

However, the need for micromanagement can be minimized by clearly mapping out the workflow. This way, every individual in a team knows what tasks need to be completed and by when and who is responsible for completing them. This makes employees more accountable also.

With clearly defined workflow processes, managers don't have to spend much time micromanaging their employees, who don't have to approach the manager to know what the further steps are. Following a workflow, employees know what is going on and what needs to be done. This, in turn, may help increase the job satisfaction of everyone involved while improving the relationships between management and employees.

- Improved Communication - Communication at work is critical because it affects all aspects of an organization. There are instances when the main conflict in an organization originates from miscommunication, e.g. the management and employees disagreeing on an aspect, despite pursuing the same objectives. Poor communication is a common workplace issue that is often not dealt with.
- This highlights why workflow is important. Workplace communication dramatically can increase with the visibility of processes and accountability. It helps make the daily operations smoother overall.

- **Better Customer Service** - Customers or clients are central to a business. Therefore, it is imperative to find and improve ways to improve customer experience. Relying on outdated manual systems may cause customer requests or complaints to be overlooked, with dissatisfied customers taking their business elsewhere. However, following a well-researched and defined workflow can help improve the quality of customer service.

By automating workflows and processes, an organization can also reduce the likelihood of human error. This also helps improve the quality of products or services over time, resulting in a better customer experience.

8.2.6 Following Instructions and Reporting Problems

All organizations follow a hierarchy, with most employees reporting to a manager or supervisor. For organizational success, it is vital for employees to follow the instructions of their manager or supervisor. They should ensure they perform their duties as per the given instructions to help achieve the common objectives of the organization and deliver quality service or products. This consequently helps maintain the reputation of the organization.

It is also important to be vigilant and identify problems at work or with the organizational work processes. One should deal with the identified within their limits of authority and report out of authority problems to the manager/ supervisor or the concerned person for a prompt resolution to minimise the impact on customers/clients and business.

8.2.7 Information or Data Sharing

Information or data is critical to all organizations. Depending on the nature of its business, an organization may hold different types of data, e.g. personal data of customers or client data concerning their business operations and contacts. It is vital to effective measures for the appropriate handling of different types of data, ensuring its protection from unauthorized access and consequent misuse.

One should access certain data only if authorised to do so. The same is applicable when sharing data which must be shared only with the people authorised to receive it to use it for a specific purpose as per their job role and organizational guidelines. For example – one should be extra cautious while sharing business data with any third parties to ensure they get access only to the limited data they need as per any agreements with them. It is also critical to monitor how the recipient of the data uses it, which should strictly be as per the organizational guidelines. It is a best practice to share appropriate instructions with the recipient of data to ensure they are aware of the purpose with which data is being shared with them and how they are supposed to use and handle it. Any misuse of data must be identified and reported promptly to the appropriate person to minimise any damage arising out of data misuse.

These days most organizations require their employees and business partners or associated third parties to sign and accept the relevant agreement on the non-disclosure of business-sensitive information. In simple terms, business-sensitive information is confidential information. It is proprietary business information collected or created during the course of conducting business, including information about the business, e.g. proposed investments, intellectual property, trade secrets, or plans for a merger and information related to its clients. Business-sensitive information may sometimes also include information regarding a business's competitors in an industry.

The release of business-sensitive information to competitors or the general public poses a risk to a business. For example, information regarding plans for a merger could be harmful to a business if a competitor gets access to it.

8.2.8 Reporting Issues at Work

Most organizations have defined guidelines on appropriate reporting processes to be followed for reporting different types of issues. For example – one can report any grievances or dissatisfaction concerning co-workers to their manager/supervisor, e.g. data breaches or unethical conduct. If the concern is not addressed, then the employee should follow the organizational guidelines and hierarchy for the escalation of such issues that are not addressed appropriately.

For example – any concern related to sexual harassment at the workplace should be escalated to the concerned spokesperson, such as Human Resources (HR) representative, and if not satisfied with the action taken, it should be reported to the senior management for their consideration and prompt action.

8.2.9 Dealing with Heightened Emotions

Humans are emotional beings. There may be occasions when one is overwhelmed by emotions and is unable to suppress them. However, there may be situations when one must manage emotions well, particularly at work.

Stress in one's personal and professional life may often cause emotional outbursts at work. Managing one's emotions well, particularly the negative ones, is often seen as a measure of one's professionalism. Anger, dislike, frustration, worry, and unhappiness are the most common negative emotions experienced at work.

Ways to manage negative emotions at work:

- **Compartmentalisation** – It's about not confining emotions to different aspects of one's life. For example, not letting negative emotions from personal life affect work-life and vice versa. One should try to leave personal matters and issues at home. One should train their mind to let go of personal matters before reaching work. Similarly, one can compartmentalise work-related stresses so that negative emotions from work don't affect one's personal life.

- **Deep breathing and relaxation** – Deep breathing helps with anxiety, worry, frustration and anger. One should take deep breaths, slowly count to ten - inhaling and exhaling until one calms down. One can also take a walk to calm down or listen to relaxing music. Talking to someone and sharing concerns also helps one calm down.
- **The 10-second rule** - This is particularly helpful in controlling anger and frustration. When one feels their temper rising, they should count to 10 to calm down and recompose. If possible, one should move away to allow temper to come down.
- **Clarify** - It is always good to clarify before reacting, as it may be a simple case of misunderstanding or miscommunication.
- **Physical activity** - Instead of losing temper, one should plan to exercise, such as running or going to the gym, to let the anger out. Exercise is also a great way to enhance mood and release any physical tension in the body.
- **Practising restraint** - One should avoid replying or making a decision when angry, not allowing anger or unhappiness to cloud one's judgement. It may be best to pause any communication while one is angry, e.g. not communicating over email when angry or upset.
- **Knowing one's triggers** - It helps when one is able to recognise what upsets or angers them. This way, one can prepare to remain calm and plan their reaction should a situation occur. One may even be able to anticipate the other party's reaction.
- **Be respectful** - One should treat their colleagues the same way one would like to be treated. If the other person is rude, one need not reciprocate. It is possible to stay gracious, firm and assertive without being aggressive. Sometimes, rude people back away when they don't get a reaction from the person they are arguing with.
- **Apologise for any emotional outburst** – Sometimes, one can get overwhelmed by emotions, reacting with an emotional outburst. In such a case, one should accept responsibility and apologise immediately to the affected persons without being defensive.
- **Doing away with negative emotions** - It is recommended to let go of anger, frustration and unhappiness at the end of every workday. Harboring negative emotions affects one emotionally, affecting their job performance also. Engaging in enjoyable activities after work is a good stress reliever.

UNIT 8.3: Maintaining Social Diversity at Work

Unit Objectives

By the end of this unit, participants will be able to:

1. Explain the concept and importance of gender sensitivity and equality.
2. Discuss ways to create sensitivity for different genders and Persons with Disabilities (PwD).

8.3.1 Gender Sensitivity

Gender sensitivity is the act of being sensitive towards people and their thoughts regarding gender. It ensures that people know the accurate meaning of gender equality, and one's gender should not be given priority over their capabilities.



Fig 8.3.1 Gender Equality

Women are an important source of labour in many sectors, yet they have limited access to resources and benefits. Women should receive the same benefits and access to resources as men. A business can improve its productivity and quality of work by providing better support and opportunities to women.

Important Terms

- **Gender Sensitivity-** Gender sensitivity is the act of being sensitive to the ways people think about gender.
- **Gender Equality** - It means persons of any gender enjoy equal opportunities, responsibilities, and rights in all areas of life.
- **Gender Discrimination** – It means treating an individual unequally or disadvantageously based on their gender, e.g. paying different wages to men and women for similar or equal job positions.

Strategies for Enhancing Gender Equity

To enhance gender equity, one should:

- Follow gender-neutral practices at all levels at work.
- Participate together in decision-making.
- Help in promoting women's participation in different forums.
- Assist women in getting exposure to relevant skills and practices.
- Assist women in capacity building by mentoring, coaching or motivating them, as appropriate.
- Assist in the formation and operation of women support groups.
- Assist in the implementation of women-centric programmes.
- Combine technical training with reproductive health and nutrition for coffee farming households.
- Assist in making a work environment that is healthy, safe, and free from discrimination.

Bridging Gender Differences

Men and women react and communicate very differently. Thus, there are some work differences as both genders have their style and method of handling a situation.

Although, understanding and maturity vary from person to person, even between these genders, based on their knowledge, education, experience, culture, age, and upbringing, as well as how one's brain functions over a thought or problem.

In order to bridge the gap, one should:

- Not categorize all men and women in one way.
- Be aware of the verbal and non-verbal styles of communication of every gender to avoid any miscommunication and work better.
- Be aware of partial behaviour and avoid it.
- Encourage co-workers of different genders to make room by providing space to others.

Ways to reduce Gender Discrimination

- Effective steps against sexual harassment by the concerned authorities and general public.
- Gender stereotypes are how society expects people to act based on their gender. This can only be reduced by adopting appropriate behaviour and the right attitude.
- Objectification of females must be abolished.

Ways to Promote Gender Sensitivity in the Workplace

Practices that promote gender diversity should be adopted and promoted.

- All genders should receive equal responsibilities, rights, and privileges.
- All genders should have equal pay for similar or the same job roles/ positions.
- Strict and effective workplace harassment policies should be developed and implemented.
- An open-minded and stress-free work environment should be available to all the employees, irrespective of their gender.
- Women should be encouraged to go ahead in every field of work and assume leadership roles.
- Follow appropriate measures for women's empowerment.
- Men should be taught to be sensitive to women and mindful of their rights.

8.3.2 PwD Sensitivity

Some individuals are born with a disability, while others may become disabled due to an accident, illness or as they get old. People with Disabilities (PwD) may have one or more areas in which their functioning is affected. A disability can affect hearing, sight, communication, breathing, understanding, mobility, balance, and concentration or may include the loss of a limb. A disability may contribute to how a person feels and affect their mental health

Important Terms

• **Persons with Disabilities (PwD)** – Persons with Disabilities means a person suffering from not less than 40% of any disability as certified by a medical authority.

•Types of Disability:

- a. Blindness – Visually impaired
- b. Low Vision
- c. Leprosy Cured
- d. Hearing impairment
- e. Locomotor disability
- f. Mental retardation
- g. Mental illness

PwD Sensitivity

PwD sensitivity promotes empathy, etiquette and equal participation of individuals and organizations while working with individuals with a disability, e.g. sensory, physical or intellectual.

Ways to be PwD Sensitive

To be sensitive to PwD, one should:

- Be respectful to all Persons with Disabilities (PwD) and communicate in a way that reflects PwD sensitivity.
- Always be supportive and kind towards a PwD with their daily chores.
- Be ready to assist a PwD to help them avail of any benefit/ livelihood opportunity/ training or any kind that helps them grow.
- Encourage and try to make things easier and accessible to PwD so that they can work without or with minimum help.
- Protest where feasible and report any wrong act/behaviour against any PwD to the appropriate authority.
- Learn and follow the laws, acts, and policies relevant to PwD.

Appropriate Verbal Communication

As part of appropriate verbal communication with all genders and PwD, one should:

- Talk to all genders and PwD respectfully, maintaining a normal tone of voice with appropriate politeness. It is important to ensure one's tone of voice does not have hints of sarcasm, anger, or unwelcome affection.
- Avoid being too self-conscious concerning the words to use while also ensuring not to use words that imply one's superiority over the other.
- Make no difference between a PwD and their caretaker. Treat PwD like adults and talk to them directly.
- Ask a PwD if they need any assistance instead of assuming they need it and offering assistance spontaneously.

Appropriate Non-verbal Communication

Non-verbal communication is essentially the way someone communicates through their body language.

These include:

- **Facial expressions** - The human face is quite expressive, capable of conveying many emotions without using words. Facial expressions must usually be maintained neutral and should change according to the situation, e.g. smile as a gesture of greeting.
- **Body posture and movement** - One should be mindful of how to sit, stand, walk, or hold their head. For example - one should sit and walk straight in a composed manner. The way one moves and carries self, communicates a lot to others. This type of non-verbal communication includes one's posture, bearing, stance, and subtle movements.

- **Gestures** - One should be very careful with their gestures, e.g. waving, pointing, beckoning, or using one's hands while speaking. One should use appropriate and positive gestures to maintain respect for the other person while being aware that a gesture may have different meanings in different cultures.
- **Eye contact** - Eye contact is particularly significant in non-verbal communication. The way someone looks at someone else may communicate many things, such as interest, hostility, affection or attraction. Eye contact is vital for maintaining the flow of conversation and for understanding the other person's interest and response. One should maintain appropriate eye contact, ensuring not to stare or look over the shoulders. To maintain respect, one should sit or stand at the other person's eye level to make eye contact.
- **Touch** - Touch is a very sensitive type of non-verbal communication. Examples are - handshakes, hugs, pat on the back or head, gripping the arm, etc. A firm handshake indicates interest, while a weak handshake indicates the opposite. One should be extra cautious not to touch others inappropriately and avoid touching them inadvertently by maintaining a safe distance.

Rights of PwD

PwD have the right to respect and human dignity. Irrespective of the nature and seriousness of their disabilities, PwD have the same fundamental rights as others, such as:

- Disabled persons have the same civil and political rights as other people
- Disabled persons are entitled to the measures designed to enable them to become as self-dependent as possible
- Disabled persons have the right to economic and social security
- Disabled persons have the right to live with their families or foster parents and participate in all social and creative activities.
- Disabled persons are protected against all exploitation and treatment of discriminatory and abusive nature.

Making Workplace PwD Friendly

- One should not make PwD feel uncomfortable by giving too little or too much attention
- One should use a normal tone while communicating with a PwD and treat them as all others keeping in mind their limitations and type of disability
- Any help should be provided only when asked for by a PwD
- One should help in ensuring the health and well-being of PwD.

Expected Employer Behaviour

Some of the common behavioural traits that employees expect from their employers are:

- **Cooperation:** No work is successful without cooperation from the employer's side. Cooperation helps to understand the job role better and complete it within the given timeline.
- **Polite language:** Polite language is always welcomed at work. This is a basic aspect that everybody expects.
- **Positive Attitude:** Employers with a positive attitude can supervise the work of the employees and act as a helping hand to accomplish the given task. A person with a positive attitude looks at the best qualities in others and helps them gain success.
- **Unbiased behaviour:** Employers should always remain fair towards all their employees. One should not adopt practices to favour one employee while neglecting or ignoring the other. This might create animosity among co-workers.
- **Decent behaviour:** The employer should never improperly present oneself before the employee. One should always respect each other's presence and behave accordingly. The employer should not speak or act in a manner that may make the employee feel uneasy, insulted, and insecure.

Exercise

1. List down three examples of workplace ethics.
2. List down three examples of interpersonal skills.
3. Identify two reasons for workplace conflicts.
4. Identify two ways of resolving interpersonal conflicts
5. List down two ways of dealing with heightened emotions at work.
6. List down two types of non-verbal communication.



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9. Basic Health and Safety Practices

Unit 9.1 - Workplace Hazards

Unit 9.2 - Fire Safety

Unit 9.3 - First Aid

Unit 9.4 - Waste Management



Key Learning Outcomes

By the end of this module, participants will be able to:

1. Discuss job-site hazards, risks and accidents
2. Explain the organizational safety procedures for maintaining electrical safety, handling tools and hazardous materials
3. Describe how to interpret warning signs while accessing sensitive work areas
4. Explain the importance of good housekeeping
5. Describe the importance of maintaining appropriate postures while lifting heavy objects
6. List the types of fire and fire extinguishers
7. Describe the concept of waste management and methods of disposing of hazardous waste
8. List the common sources of pollution and ways to minimize them
9. Elaborate on electronic waste disposal procedures
10. Explain how to administer appropriate first aid to victims in case of bleeding, burns, choking, electric shock, poisoning and also administer first aid to victims in case of a heart attack or cardiac arrest due to electric shock

UNIT 9.1: Workplace Hazards

Unit Objectives

By the end of this unit, participants will be able to:

- Discuss job-site hazards, risks and accidents
- Explain the organizational safety procedures for maintaining electrical safety, handling tools and hazardous materials
- Describe how to interpret warning signs while accessing sensitive work areas
- Explain the importance of good housekeeping
- Describe the importance of maintaining appropriate postures while lifting heavy objects
- Explain safe handling of tools and Personal Protective Equipment to be used.

9.1.1 Workplace Safety

Workplace safety is important to be established for creating a safe and secure working for the workers. The workplace has to be administered as per the rules of the Occupational Safety and Health Administration (OSHA). It refers to monitoring the working environment and all hazardous factors that impact employees' safety, health, and well-being. It is important to provide a safe working environment to the employees to increase their productivity, wellness, skills, etc.

The benefits of workplace safety are:

- Employee retention increases if they are provided with a safe working environment.
- Failure to follow OSHA's laws and guidelines can result in significant legal and financial consequences.
- A safe environment enables employees to stay invested in their work and increases productivity.
- Employer branding and company reputation can both benefit from a safe working environment.

9.1.2 Workplace Hazards

A workplace is a situation that has the potential to cause harm or injury to the workers and damage the tools or property of the workplace. Hazards exist in every workplace and can come from a variety of sources. Finding and removing them is an important component of making a safe workplace.

Common Workplace Hazards

The common workplace hazards are:

·Biological: The threats caused by biological agents like viruses, bacteria, animals, plants, insects and also humans, are known as biological hazards.

- **Chemical:** Chemical hazard is the hazard of inhaling various chemicals, liquids and solvents. Skin irritation, respiratory system irritation, blindness, corrosion, and explosions are all possible health and physical consequences of these dangers.
- **Mechanical:** Mechanical Hazards comprise the injuries that can be caused by the moving parts of machinery, plant or equipment.
- **Psychological:** Psychological hazards are occupational hazards caused by stress, harassment, and violence.
- **Physical:** The threats that can cause physical damage to people is called physical hazard. These include unsafe conditions that can cause injury, illness and death.
- **Ergonomic:** Ergonomic Hazards are the hazards of the workplace caused due to awkward posture, forceful motion, stationary position, direct pressure, vibration, extreme temperature, noise, work stress, etc.

Workplace Hazards Analysis

A workplace hazard analysis is a method of identifying risks before they occur by focusing on occupational tasks. It focuses on the worker's relationship with the task, the tools, and the work environment. After identifying the hazards of the workplace, organisations shall try to eliminate or minimize them to an acceptable level of risk.

Control Measures of Workplace Hazards

Control measures are actions that can be taken to reduce the risk of being exposed to the hazard. Elimination, Substitution, Engineering Controls, Administrative Controls, and Personal Protective Equipment are the five general categories of control measures.

- **Elimination:** The most successful control technique is to eliminate a specific hazard or hazardous work procedure or prevent it from entering the workplace.
- **Substitution:** Substitution is the process of replacing something harmful with something less hazardous. While substituting the hazard may not eliminate all of the risks associated with the process or activity, it will reduce the overall harm or health impacts.
- **Engineering Controls:** Engineered controls protect workers by eliminating hazardous situations or creating a barrier between the worker and the hazard, or removing the hazard from the person.
- **Administrative Controls:** To reduce exposure to hazards, administrative controls limit the length of time spent working on a hazardous task that might be used in combination with other measures of control.
- **Personal Protective Equipment:** Personal protective equipment protects users from health and safety hazards at work. It includes items like safety helmets, gloves, eye protection, etc.

9.1.3 Risk for a Drone Technician

A drone technician may require to repair the propeller, motor and its mount, battery, mainboards, processor, booms, avionics, camera, sensors, chassis, wiring and landing gear. A technician may face some risks while repairing the drones' equipment.

- The technician is susceptible to being physically harmed by propellers.
- Direct contact with exposed electrical circuits can injure the person.
- If the skin gets in touch with the heat generated from electric arcs, it burns the internal tissues.
- Major electrical injuries can occur due to poorly installed electrical equipment, faulty wiring, overloaded or overheated outlets, use of extension cables, incorrect use of replacement fuses, use of equipment with wet hands, etc.

9.1.4 Workplace Warning Signs

A Hazard sign is defined as 'information or instruction about health and safety at work on a signboard, an illuminated sign or sound signal, a verbal communication or hand signal.'

There are four different types of safety signs:

- Prohibition / Danger Alarm Signs
- Mandatory Signs
- Warning Signs
- And Emergency

1. Prohibition Signs: A "prohibition sign" is a safety sign that prohibits behaviour that is likely to endanger one's health or safety. The colour red is necessary for these health and safety signs. Only what or who is forbidden should be displayed on a restriction sign.



Fig. 9.1.1. Prohibition Warning Signs

2. Mandatory Signs:

Mandatory signs give clear directions that must be followed. The icons are white circles that have been reversed out of a blue circle. On a white background, the text is black.



Fig. 9.1.2. Mandatory Signs

3. Warning Signs

Warning signs are the safety information communication signs. They are shown as a 'yellow colour triangle'.



Fig. 9.1.3. Warning Signs

4. Emergency Signs

The location or routes to emergency facilities are indicated by emergency signs. These signs have a green backdrop with a white emblem or writing. These signs convey basic information and frequently refer to housekeeping, company procedures, or logistics.



Fig. 9.1.4. Emergency Signs

9.1.5 Cleanliness in the Workplace

Workplace cleanliness maintenance creates a healthy, efficient and productive environment for the employees. Cleanliness at the workplace is hindered by some elements like cluttered desks, leftover food, waste paper, etc. A tidy workplace is said to improve employee professionalism and enthusiasm while also encouraging a healthy working environment.

Benefits of cleanliness in the workplace:

1. **Productivity:** Cleanliness in the workplace can bring a sense of belonging to the employees, also motivating and boosting the morale of the employees. This results in increasing their productivity.
2. **Employee Well-being:** Employee well-being can be improved by providing a clean work environment. Employees use fewer sick days in a workplace where litter and waste are properly disposed of, and surfaces are cleaned regularly, resulting in increased overall productivity.
3. **Positive Impression:** Cleanliness and orderliness in the workplace provide a positive impression on both employees and visitors.
4. **Cost saving:** By maintaining acceptable levels of cleanliness in the workplace, businesses can save money on cleaning bills and renovations, which may become necessary if the premises are not properly kept.

Reasons for Cleaning the Workplace

- Cleaning of dry floors, mostly to prevent workplace slips and falls.
- Disinfectants stop bacteria in their tracks, preventing the spread of infections and illness.
- Proper air filtration decreases hazardous substance exposures such as dust and fumes.
- Light fixture cleaning improves lighting efficiency.
- Using environmentally friendly cleaning chemicals that are safer for both personnel and the environment.
- Work environments are kept clean by properly disposing of garbage and recyclable items.

9.1.6 Lifting and Handling of Heavy Loads

Musculoskeletal Injuries (MSIs), such as sprains and strains, can occur while lifting, handling, or carrying objects at work. When bending, twisting, uncomfortable postures and lifting heavy objects are involved, the risk of injury increases. Ergonomic controls can help to lower the risk of injury and potentially prevent it.

Types of injuries caused while lifting heavy objects:

- Cuts and abrasions are caused by rough surfaces.
- Crushing of feet or hands.
- Strain to muscles and joints

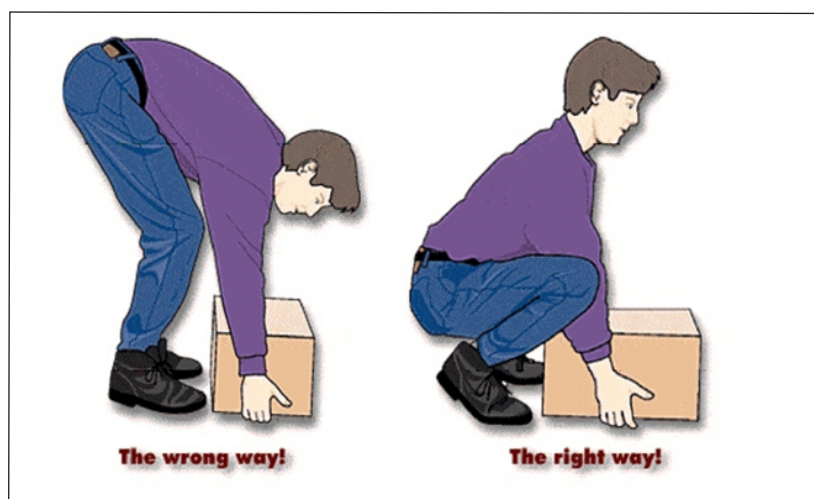


Fig. 9.1.5. Lifting loads technique

Preparing to lift

A load that appears light enough to bear at first will grow increasingly heavier as one carries it further. The person carrying the weight should be able to see over or around it at all times.



The amount of weight a person can lift, depends on their age, physique, and health. It also depends on whether or not the person is used to lifting and moving hefty objects.

Common Causes of Back Injuries

The Most Common Causes of Back Injuries are:

- 1) **Inadequate Training:** The individual raising the load receives no sufficient training or guidance.
- 2) **Lack of awareness of technique:** The most common cause of back pain is incorrect twisting and posture, which causes back strain.
- 3) **Load size:** The load size to consider before lifting. If the burden is too much for one's capacity or handling, their back may be strained and damaged.
- 4) **Physical Strength:** Depending on their muscle power, various persons have varied physical strengths. One must be aware of their limitations.
- 5) **Teamwork:** The operation of a workplace is all about working together. When opposed to a single person lifting a load, two people can lift it more easily and without difficulty. If one of two people isn't lifting it properly, the other or both of them will suffer back injuries as a result of the extra strain.

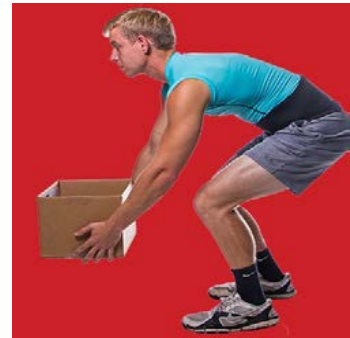
Techniques for Lifting Heavy Objects

Technique	Demonstraton
<p>1. Ensure one has a wide base of support before lifting the heavy object. Ensure one's feet are shoulder-width apart, and one foot is slightly ahead of the other at all times. This will help one maintain a good balance during the lifting of heavy objects. This is known as the Karate Stance.</p>	
<p>2. Squat down as near to the object as possible when one is ready to lift it, bending at the hips and knees with the buttocks out. If the object is really heavy, one may wish to place one leg on the floor and the other bent at a straight angle in front of them.</p>	

3. Maintain proper posture as one begin to lift upward. To do so, one should keep their back straight, chest out, and shoulders back while gazing straight ahead.



4. By straightening one's hips and knees, slowly elevate the thing (not the back). As one rises, they should extend their legs and exhale. Lift the heavy object without twisting the body or bending forward.



5. Do not lift bending forward.



6. Hold the load close to the body.






<p>7. Never lift heavy objects above the shoulder</p>	
<p>8. Use the feet (not the body) to change direction, taking slow, small steps.</p>	
<p>9. Set down the heavy object carefully, squatting with the knees and hips only.</p>	

Table 9.1.1 Techniques for lifting heavy objects

³Source: <https://www.braceability.com/blogs/articles/7-prop-heavy-lift-techniques>

9.1.7 Safe Handling of Tools




Workers should be trained on how to use tools safely. When tools are misplaced or handled incorrectly by workers, they can be dangerous. The following are some suggestions from the National Safety Council for safe tool handling when they are not in use:

- Never carry tools up or down a ladder in a way that makes it difficult to grip them. Instead of being carried by the worker, tools should be lifted up and down using a bucket or strong bag.
- Tools should never be tossed but should be properly passed from one employee to the next. Pointed tools should be passed with the handles facing the receiver or in their carrier.
- When turning and moving around the workplace, workers carrying large tools or equipment on their shoulders should pay particular attention to clearances.
- Pointed tools such as chisels and screwdrivers should never be kept in a worker's pocket. They can be carried in a toolbox, pointing down in a tool belt or pocket tool bag, or in hand with the tip always held away from the body.
- Tools should always be stored while not in use. People below are put in danger when tools are left sitting around on an elevated structure, such as a scaffold. In situations when there is a lot of vibration, this risk increases.

9.1.8 Personal Protective Equipment

Personal protective equipment, or "PPE," is equipment worn to reduce exposure to risks that might result in significant occupational injuries or illnesses. Chemical, radiological, physical, electrical, mechanical, and other job dangers may cause these injuries and diseases.

PPE used for protection from the following injuries are:

Injury Protection	Protection	PPE
Head Injury Protection	Falling or flying objects, stationary objects, or contact with electrical wires can cause impact, penetration, and electrical injuries. Hard hats can protect one's head from these injuries. A common electrician's hard hat is shown in the figure below. This hard hat is made of nonconductive plastic and comes with a set of safety goggles.	
Foot and Leg Injury Protection	In addition to foot protection and safety shoes, leggings (e.g., leather) can guard against risks such as falling or rolling objects, sharp objects, wet and slippery surfaces, molten metals, hot surfaces, and electrical hazards.	
Eye and Face Injury Protection	Spectacles, goggles, special helmets or shields, and spectacles with side shields can protect against the hazards of flying fragments, large chips, hot sparks, radiation, and splashes from molten metals. They also offer protection from particles, sand, dirt, mists, dust, and glare.	

<p>Protecton against Hearing Loss</p>	<p>Hearing protection can be obtained by wearing earplugs or earmuffs. High noise levels can result in permanent hearing loss or damage, as well as physical and mental stress. Self-forming earplugs composed of foam, waxed cotton, or fibreglass wool usually fit well. Workers should be fitted for moulded or prefabricated earplugs by a specialist.</p>	
<p>Hand Injury Protecton</p>	<p>Hand protection will aid workers who are exposed to dangerous substances by skin absorption, serious wounds, or thermal burns. Gloves are a frequent protective clothing item. When working on electrified circuits, electricians frequently use leather gloves with rubber inserts. When stripping cable with a sharp blade, Kevlar gloves are used to prevent cuts.</p>	
<p>Whole Body Protecton</p>	<p>Workers must protect their entire bodies from risks such as heat and radiation. Rubber, leather, synthetics, and plastic are among the materials used in whole-body PPE, in addition to fire-retardant wool and cotton. Maintenance staff who operate with high-power sources such as transformer installations and motor-control centres are frequently obliged to wear fire-resistant clothes.</p>	

Table 9.1.2. Personal protective equipment

UNIT 9.2: Fire Safety

Unit Objectives

By the end of this unit, participants will be able to:

1. List the types of fire and fire e extinguiss.

9.2.1 Fire Safety

Fire safety is a set of actions aimed at reducing the amount of damage caused by fire. Fire safety procedures include both those that are used to prevent an uncontrolled fire from starting and those that are used to minimise the spread and impact of a fire after it has started. Developing and implementing fire safety measures in the workplace is not only mandated by law but is also essential for the protection of everyone who may be present in the building during a fire emergency.

The basic Fire Safety Responsibilities are:

- To identify risks on the premises, a fire risk assessment must be carried out.
- Ascertain that fire safety measures are properly installed.
- Prepare for unexpected events.
- Fire safety instructions and training should be provided to the employees.

9.2.2 Respond to a Workplace Fire

- Workplace fire drills should be conducted on a regular basis.
- If one has a manual alarm, they should raise it.
- Close the doors and leave the fire-stricken area as soon as possible. Ensure that the evacuation is quick and painless.
- Turn off dangerous machines and don't stop to get personal items.
- Assemble at a central location. Ascertain that the assembly point is easily accessible to the employees.
- If one's clothing catches fire, one shouldn't rush about it. They should stop and descend on the ground and roll to smother the flames if their clothes catch fire.

9.2.3 Fire Extinguisher

Fire extinguishers are portable devices used to put out small flames or minimise their damage until fire-fighters arrive. These are maintained on hand in locations such as fire stations, buildings, workplaces, public transit, and so on. The types and quantity of extinguishers that are legally necessary for a given region are determined by the applicable safety standards.

Types of fire extinguishers are:

There are five main types of fire extinguishers:

1. Water.
2. Powder.
3. Foam.
4. Carbon Dioxide (CO₂).
5. Wet chemical.

1. Water: Water fire extinguishers are one of the most common commercial and residential fire extinguishers on the market. They're meant to be used on class-A flames.



2. Powder: The L2 powder fire extinguisher is the most commonly recommended fire extinguisher in the Class D Specialist Powder category, and is designed to put out burning lithium metal fires.



3. Foam: Foam extinguishers are identified by a cream rectangle with the word "foam" printed on it. They're mostly water-based, but they also contain a foaming component that provides a quick knock-down and blanketing effect on flames. It suffocates the flames and seals the vapours, preventing re-ignition.



4. Carbon Dioxide (CO₂): Class B and electrical fires are extinguished with carbon dioxide extinguishers, which suffocate the flames by removing oxygen from the air. They are particularly beneficial for workplaces and workshops where electrical fires may occur since, unlike conventional extinguishers, they do not leave any toxins behind and hence minimise equipment damage.



5. **Wet Chemical:** Wet chemical extinguishers are designed to put out fires that are classified as class F. They are successful because they can put out extremely high-temperature fires, such as those caused by cooking oils and fats.



UNIT 9.3: First Aid

Unit Objectives

By the end of this unit, participants will be able to:

1. Explain how to administer appropriate first aid to victims in case of bleeding, burns, choking, electric shock, poisoning
2. Explain how to administer first aid to victims in case of a heart attack or cardiac arrest due to electric shock.

9.3.1 First Aid

First aid is the treatment or care given to someone who has sustained an injury or disease until more advanced care can be obtained or the person recovers.

The aim of first aid is to:

- Preserve life
- Prevent the worsening of a sickness or injury
- If at all possible, relieve pain
- Encourage recovery
- Keep the unconscious safe.

First aid can help to lessen the severity of an injury or disease, and in some situations, it can even save a person's life.

9.3.2 Need for First Aid at the Workplace

- In the workplace, first aid refers to providing immediate care and life support to persons who have been injured or become unwell at work.
- Many times, first aid can help to lessen the severity of an accident or disease.
- It can also help an injured or sick person relax. In life-or-death situations, prompt and appropriate first aid can make all the difference.

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9.3.3 Treating Minor Cuts and Scapes

Steps to keep cuts clean and prevent infections and scars:

- **Wash Hands:** Wash hands first with soap and water to avoid introducing bacteria into the cut and causing an infection. One should use the hand sanitiser if one is on the go.
- **Stop the bleeding:** Using a gauze pad or a clean towel, apply pressure to the wound. For a few minutes, keep the pressure on.
- **Clean Wounds:** Once the bleeding has stopped, clean the wound by rinsing it under cool running water or using a saline wound wash. Use soap and a moist washcloth to clean the area around the wound. Soap should not be used on the cut since it may irritate the skin. Also, avoid using hydrogen peroxide or iodine, as these may aggravate the wound.
- **Remove Dirt:** Remove any dirt or debris from the area. Pick out any dirt, gravel, glass, or other material in the cut with a pair of tweezers cleaned with alcohol.

9.3.4 Heart Attack

When the blood flow carrying oxygen to the heart is blocked, a heart attack occurs. The heart muscle runs out of oxygen and starts to die.

Symptoms of a heart attack can vary from person to person. They may be mild or severe. Women, older adults, and people with diabetes are more likely to have subtle or unusual symptoms.

Symptoms in adults may include:

- Changes in mental status, especially in older adults.
- Chest pain that feels like pressure, squeezing, or fullness. The pain is most often in the centre of the chest. It may also be felt in the jaw, shoulder, arms, back, and stomach. It can last for more than a few minutes or come and go.
- Cold sweat.
- Light-headedness.
- Nausea (more common in women).
- Indigestion.

- Vomiting.
- Numbness, aching or tingling in the arm (usually the left arm, but the right arm may be affected alone, or along with the left).
- Shortness of breath
- Weakness or fatigue, especially in older adults and in women.

First Aid for Heart Attack

If one thinks someone is experiencing a heart attack, they should:

- Have the person sit down, rest, and try to keep calm.
- Loosen any tight clothing.
- Ask if the person takes any chest pain medicine, such as nitro-glycerine for a known heart condition, and help them take it.
- If the pain does not go away promptly with rest or within 3 minutes of taking nitro-glycerine, call for emergency medical help.
- If the person is unconscious and unresponsive, call 911 or the local emergency number, then begin CPR.
- If an infant or child is unconscious and unresponsive, perform 1 minute of CPR, then call 911 or the local emergency number.

UNIT 9.4: Waste Management

Unit Objectives

By the end of this unit, participants will be able to:

1. Describe the concept of waste management and methods of disposing of hazardous waste.
2. List the common sources of pollution and ways to minimize them.
3. Elaborate on electronic waste disposal procedures.

9.4.1. Waste Management and Methods of Waste Disposal

The collection, disposal, monitoring, and processing of waste materials is known as waste management. These wastes affect living beings' health and the environment. For reducing their effects, they have to be managed properly. The waste is usually in solid, liquid or gaseous form.

The importance of waste management is:

Waste management is important because it decreases waste's impact on the environment, health, and other factors. It can also assist in the reuse or recycling of resources like paper, cans, and glass. The disposal of solid, liquid, gaseous, or dangerous substances is the example of waste management.

When it comes to trash management, there are numerous factors to consider, including waste disposal, recycling, waste avoidance and reduction, and garbage transportation. Treatment of solid and liquid wastes is part of the waste management process. It also provides a number of recycling options for goods that aren't classified as garbage during the process.

9.4.2 Methods of Waste Management

Non-biodegradable and toxic wastes, such as radioactive remains, can cause irreversible damage to the environment and human health if they are not properly disposed of. Waste disposal has long been a source of worry, with population increase and industrialisation being the primary causes. Here are a few garbage disposal options.

1. **Landfills:** The most common way of trash disposal today is to throw daily waste/garbage into landfills. This garbage disposal method relies on burying the material in the ground.
2. **Recycling:** Recycling is the process of transforming waste items into new products in order to reduce energy consumption and the use of fresh raw materials. Recycling reduces energy consumption, landfill volume, air and water pollution, greenhouse gas emissions, and the preservation of natural resources for future use.

3. **Composting:** Composting is a simple and natural bio-degradation process that converts organic wastes, such as plant remnants, garden garbage, and kitchen waste, into nutrient-rich food for plants.
4. **Incineration:** Incineration is the process of combusting garbage. The waste material is cooked to extremely high temperatures and turned into materials such as heat, gas, steam, and ash using this technology.

9.4.3 Recyclable, Non-Recyclable and Hazardous Waste

1. **Recyclable Waste:** The waste which can be reused or recycled further is known as recyclable waste.
2. **Non-recyclable Waste:** The waste which cannot be reused or recycled is known as non-recyclable waste. Polythene bags are a great example of non-recyclable waste.
3. **Hazardous Waste:** The waste which can create serious harm to the people and the environment is known as hazardous waste.

9.4.4 Sources of Pollution

Pollution is defined as the harm caused by the presence of a material or substances in places where they would not normally be found or at levels greater than normal. Polluting substances might be in the form of a solid, a liquid, or a gas.

- **Point source of pollution:** Pollution from a point source enters a water body at a precise location and can usually be identified. Effluent discharges from sewage treatment plants and industrial sites, power plants, landfill sites, fish farms, and oil leakage via a pipeline from industrial sites are all potential point sources of contamination.

Point source pollution is often easy to prevent since it is feasible to identify where it originates, and once identified, individuals responsible for the pollution can take rapid corrective action or invest in longer-term treatment and control facilities.

- **Diffuse source of pollution:** As a result of land-use activities such as urban development, amenity, farming, and forestry, diffuse pollution occurs when pollutants are widely used and diffused over a large region. These activities could have occurred recently or in the past. It might be difficult to pinpoint specific sources of pollution and, as a result, take rapid action to prevent it because prevention often necessitates significant changes in land use and management methods.

Pollution Prevention

Pollution prevention entails acting at the source of pollutants to prevent or minimise their production. It saves natural resources, like water, by using materials and energy more efficiently.

Pollution prevention includes any practice that:

- Reduces the amount of any hazardous substance, pollutant, or contaminant entering any waste stream or otherwise released into the environment (including fugitive emissions) prior to recycling, treatment, or disposal;
- Reduces the hazards to public health and the environment associated with the release of such substances, pollutants, or contaminants (these practices are known as "source reduction");
- Improved efficiency in the use of raw materials, energy, water, or other resources, or Conservation is a method of safeguarding natural resources.
- Improvements in housekeeping, maintenance, training, or inventory management; equipment or technology adjustments; process or method modifications; product reformulation or redesign; raw material substitution; or improvements in housekeeping, maintenance, training, or inventory control.

9.4.5 Electronic Waste

Lead, cadmium, beryllium, mercury, and brominated flame retardants are found in every piece of electronic waste. When gadgets and devices are disposed of illegally, these hazardous compounds are more likely to contaminate the earth, pollute the air, and leak into water bodies.

When e-waste is dumped in a landfill, it tends to leach trace metals as water runs through it. The contaminated landfill water then reaches natural groundwater with elevated toxic levels, which can be dangerous if it reaches any drinking water bodies. Despite having an environmentally benign approach, recycling generally results in international shipment and dumping of the gadgets in pits.

Some eco-friendly ways of disposing of e-waste are:

- Giving back the e-waste to the electronic companies and drop-off points
- Following guidelines issued by the government
- Selling or donating the outdated technology-based equipment
- Giving e-waste to a certified e-waste recycler

Exercise

1. Name all five types of fire extinguishers.
2. Explain PPE in brief.
3. List the common workplace hazards.
4. Fill in the blanks:
 - i. A "_____ sign" is a safety sign that prohibits behaviour that is likely to endanger one's health or safety.
 - ii. _____ entails acting at the source of pollutants to prevent or minimise their production.
 - iii. _____ is the treatment or care given to someone who has sustained an injury or disease until more advanced care can be obtained or the person recovers.
 - iv. The threats caused by biological agents like viruses, bacteria, animals, plants, insects and also humans, are known as _____.
 - v. The workplace has to be administered as per the rules of the _____.

10. Employability & Entrepreneurship Skills



Unit 10.1 – Personal Strengths & Value Systems

Unit 10.2 – Digital Literacy: A Recap

Unit 10.3 – Money Matters

Unit 10.4 – Preparing for Employment & Self-Employment

Unit 10.5 – Understanding Entrepreneurship

Unit 10.6 – Preparing to be an Entrepreneur



Key Learning Outcomes



At the end of this module, you will be able to:

1. Explain the meaning of health
2. List common health issues
3. Discuss tips to prevent common health issues
4. Explain the meaning of hygiene
5. Discuss the purpose of Swachh Bharat Abhiyan
6. Explain the meaning of habit
7. Discuss ways to set up a safe work environment
8. Discuss critical safety habits to be followed by employees
9. Explain the importance of self-analysis
10. Discuss motivation with the help of Maslow's Hierarchy of Needs
11. Discuss the meaning of achievement motivation
12. List the characteristics of entrepreneurs with achievement motivation
13. List the different factors that motivate you
14. Discuss the role of attitude in self-analysis
15. Discuss how to maintain a positive attitude
16. List your strengths and weaknesses
17. Discuss the qualities of honest people
18. Describe the importance of honesty in entrepreneurs
19. Discuss the elements of a strong work ethic
20. Discuss how to foster a good work ethic
21. List the characteristics of highly creative people
22. List the characteristics of highly innovative people
23. Discuss the benefits of time management
24. List the traits of effective time managers
25. Describe effective time management technique
26. Discuss the importance of anger management
27. Describe anger management strategies
28. Discuss tips for anger management
29. Discuss the causes of stress
30. Discuss the symptoms of stress
31. Discuss tips for stress management
32. Identify the basic parts of a computer
33. Identify the basic parts of a keyboard
34. Recall basic computer terminology
35. Recall the functions of basic computer keys
36. Discuss the main applications of MS Office
37. Discuss the benefits of Microsoft Outlook
38. Discuss the different types of e-commerce
39. List the benefits of e-commerce for retailers and customers
40. Discuss how the Digital India campaign will help boost e-commerce in India

41. Describe how you will sell a product or service on an e-commerce platform
42. Discuss the importance of saving money
43. Discuss the benefits of saving money
44. Discuss the main types of bank accounts
45. Describe the process of opening a bank account
46. Differentiate between fixed and variable costs
47. Describe the main types of investment options
48. Describe the different types of insurance products
49. Describe the different types of taxes
50. Discuss the uses of online banking
51. Discuss the main types of electronic funds transfers
52. Discuss the steps to prepare for an interview
53. Discuss the steps to create an effective Resume
54. Discuss the most frequently asked interview questions
55. Discuss how to answer the most frequently asked interview questions
56. Discuss basic workplace terminology
57. Discuss the concept of entrepreneurship
58. Discuss the importance of entrepreneurship
59. Describe the characteristics of an entrepreneur
60. Describe the different types of enterprises
61. List the qualities of an effective leader
62. Discuss the benefits of effective leadership
63. List the traits of an effective team
64. Discuss the importance of listening effectively
65. Discuss how to listen effectively
66. Discuss the importance of speaking effectively
67. Discuss how to speak effectively
68. Discuss how to solve problems
69. List important problem-solving traits
70. Discuss ways to assess problem solving skills
71. Discuss the importance of negotiation
72. Discuss how to negotiate
73. Discuss how to identify new business opportunities
74. Discuss how to identify business opportunities within your business
75. Explain the meaning of entrepreneur
76. Describe the different types of entrepreneurs
77. List the characteristics of entrepreneurs
78. Recall entrepreneur success stories
79. Discuss the entrepreneurial process
80. Describe the entrepreneurship ecosystem
81. Discuss the purpose of the Make in India campaign
82. Discuss key schemes to promote entrepreneurs

83. Discuss the relationship between entrepreneurship and risk appetite
84. Discuss the relationship between entrepreneurship and resilience
85. Describe the characteristics of a resilient entrepreneur
86. Discuss how to deal with failure
87. Discuss how market research is carried out
88. Describe the 4 Ps of marketing
89. Discuss the importance of idea generation
90. Recall basic business terminology
91. Discuss the need for CRM
92. Discuss the benefits of CRM
93. Discuss the need for networking
94. Discuss the benefits of networking
95. Discuss the importance of setting goals
96. Differentiate between short-term, medium-term and long-term goals
97. Discuss how to write a business plan
98. Explain the financial planning process
99. Discuss ways to manage your risk
100. Describe the procedure and formalities for applying for bank finance
101. Discuss how to manage your own enterprise
102. List important questions that every entrepreneur should ask before starting an enterprise

UNIT 10.1: Personal Strengths & Value Systems

Unit Objectives

At the end of this unit, participant will be able to:

1. Explain the meaning of health
2. List common health issues
3. Discuss tips to prevent common health issues
4. Explain the meaning of hygiene
5. Discuss the purpose of Swachh Bharat Abhiyan
6. Explain the meaning of habit
7. Discuss ways to set up a safe work environment
8. Discuss critical safety habits to be followed by employees
9. Explain the importance of self-analysis
10. Discuss motivation with the help of Maslow's Hierarchy of Needs
11. Discuss the meaning of achievement motivation
12. List the characteristics of entrepreneurs with achievement motivation
13. List the different factors that motivate you
14. Discuss the role of attitude in self-analysis
15. Discuss how to maintain a positive attitude
16. List your strengths and weaknesses
17. Discuss the qualities of honest people
18. Describe the importance of honesty in entrepreneurs
19. Discuss the elements of a strong work ethic
20. Discuss how to foster a good work ethic
21. List the characteristics of highly creative people
22. List the characteristics of highly innovative people
23. Discuss the benefits of time management
24. List the traits of effective time managers
25. Describe effective time management technique
26. Discuss the importance of anger management
27. Describe anger management strategies
28. Discuss tips for anger management
29. Discuss the causes of stress
30. Discuss the symptoms of stress
31. Discuss tips for stress management

10.1.1 Health, Habits, Hygiene: What is Health?

As per the World Health Organization (WHO), health is a “State of complete physical, mental, and social well-being, and not merely the absence of disease or infirmity.” This means being healthy does not simply mean not being unhealthy – it also means you need to be at peace emotionally and feel fit physically. For example, you cannot say you are healthy simply because you do not have any physical ailments like a cold or cough. You also need to think about whether you are feeling calm, relaxed and happy.

Common Health Issues

Some common health issues are:

- Allergies
- Asthma
- Skin Disorders
- Depression and Anxiety
- Diabetes
- Cough, Cold, Sore Throat
- Difficulty Sleeping
- Obesity

10.1.1.1 Tips to Prevent Health Issues

Taking measures to prevent ill health is always better than curing a disease or sickness. You can stay healthy by:

- Eating healthy foods like fruits, vegetables and nuts
- Cutting back on unhealthy and sugary foods
- Drinking enough water everyday
- Not smoking or drinking alcohol
- Exercising for at least 30 minutes a day, 4-5 times a week
- Taking vaccinations when required
- Practicing yoga exercises and meditation

How many of these health standards do you follow? Tick the ones that apply to you.

1. Get minimum 7-8 hours of sleep every night.
2. Avoid checking email first thing in the morning and right before you go to bed at night.
3. Don't skip meals – eat regular meals at correct meal times.
4. Read a little bit every single day.
5. Eat more home cooked food than junk food.
6. Stand more than you sit.
7. Drink a glass of water first thing in the morning and have at least 8 glasses of water through the day.
8. Go to the doctor and dentist for regular check-ups.
9. Exercise for 30 minutes at least 5 days a week.
10. Avoid consuming lots of aerated beverages.

10.1.1.2 What is Hygiene?

As per the World Health Organization (WHO), “Hygiene refers to conditions and practices that help to maintain health and prevent the spread of diseases.” In other words, hygiene means ensuring that you do whatever is required to keep your surroundings clean, so that you reduce the chances of spreading germs and diseases.

For instance, think about the kitchen in your home. Good hygiene means ensuring that the kitchen is always spick and span, the food is put away, dishes are washed, and dustbins are not overflowing with garbage. Doing all this will reduce the chances of attracting pests like rats or cockroaches, and prevent the growth of fungus and other bacteria, which could spread disease.

How many of these health standards do you follow? Tick the ones that apply to you.

1. Have a bath or shower every day with soap – and wash your hair with shampoo 2-3 times a week.
2. Wear a fresh pair of clean undergarments every day.
3. Brush your teeth in the morning and before going to bed.
4. Cut your fingernails and toenails regularly.
5. Wash your hands with soap after going to the toilet.
6. Use an anti-perspirant deodorant on your underarms if you sweat a lot.
7. Wash your hands with soap before cooking or eating.
8. Stay home when you are sick, so other people don't catch what you have.
9. Wash dirty clothes with laundry soap before wearing them again.
10. Cover your nose with a tissue/your hand when coughing or sneezing.

See how healthy and hygienic you are, by giving yourself 1 point for every ticked statement! Then take a look at what your score means.

Your Score

- **0-7/20:** You need to work a lot harder to stay fit and fine! Make it a point to practice good habits daily and see how much better you feel!
- **7-14/20:** Not bad, but there is scope for improvement! Try and add a few more good habits to your daily routine.
- **14-20/20:** Great job! Keep up the good work! Your body and mind thank you!

10.1.1.3 Swachh Bharat Abhiyan

We have already discussed the importance of following good hygiene and health practices for ourselves. But, it is not enough for us to be healthy and hygienic. We must also extend this standard to our homes, our immediate surroundings and to our country as a whole.

The 'Swachh Bharat Abhiyan' (Clean India Mission) launched by Prime Minister Shri Narendra Modi on 2nd October 2014, believes in doing exactly this. The aim of this mission is to clean the streets and roads of India and raise the overall level of cleanliness. Currently this mission covers 4,041 cities and towns across the country. Millions of our people have taken the pledge for a clean India. You should take the pledge too and do everything possible to keep our country clean!

10.1.1.4 What are Habits?

A habit is a behaviour that is repeated frequently. All of us have good habits and bad habits. Keep in mind the phrase by John Dryden: “We first make our habits, and then our habits make us.” Therefore, it is so important that you make good habits a way of life, and consciously avoid practicing bad habits.

Some good habits that you should make part of your daily routine are:

- Always having a positive attitude
- Making exercise a part of your daily routine
- Reading motivational and inspirational stories
- Smiling! Make it a habit to smile as often as possible
- Making time for family and friends
- Going to bed early and waking up early

Some bad habits that you should quit immediately are:

- Skipping breakfast
- Snacking frequently even when you are not hungry
- Eating too much fattening and sugary food
- Smoking, drinking alcohol and doing drugs
- Spending more money than you can afford
- Worrying about unimportant issues
- Staying up late and waking up late

Tips



- Following healthy and hygienic practices every day will make you feel good mentally and physically.
- Hygiene is two-thirds of health – so good hygiene will help you stay strong and healthy!

10.1.2: Safety: Tips to Design a Safe Workplace

Every employer is obligated to ensure that his workplace follows the highest possible safety protocol. When setting up a business, owners must make it a point to:

- Use ergonomically designed furniture and equipment to avoid stooping and twisting
- Provide mechanical aids to avoid lifting or carrying heavy objects
- Have protective equipment on hand for hazardous jobs
- Designate emergency exits and ensure they are easily accessible
- Set down health codes and ensure they are implemented
- Follow the practice of regular safety inspections in and around the workplace
- Ensure regular building inspections are conducted
- Get expert advice on workplace safety and follow it

10.1.2.1 Negotiable Employee Safety Habits

Every employer is obligated to ensure that his workplace follows the highest possible safety protocol. When setting up a business, owners must make it a point to:

- Immediately report unsafe conditions to a supervisor
- Recognize and report safety hazards that could lead to slips, trips and falls
- Report all injuries and accidents to a supervisor
- Wear the correct protective equipment when required
- Learn how to correctly use equipment provided for safety purposes
- Be aware of and avoid actions that could endanger other people
- Take rest breaks during the day and some time off from work during the week

Tips



- Be aware of what emergency number to call at the time of a workplace emergency
- Practice evacuation drills regularly to avoid chaotic evacuations

10.1.3 Self-Analysis – Attitude, Achievement Motivation

To truly achieve your full potential, you need to take a deep look inside yourself and find out what kind of person you really are. This attempt to understand your personality is known as self-analysis. Assessing yourself in this manner will help you grow and will also help you to identify areas within yourself that need to be further developed, changed or eliminated. You can better understand yourself by taking a deep look at what motivates you, what your attitude is like, and what your strengths and weaknesses are.

10.1.3.1 What is Motivation?

Very simply put, motivation is your reason for acting or behaving in a certain manner. It is important to understand that not everyone is motivated by the same desires – people are motivated by many, many different things. We can understand this better by looking at Maslow's Hierarchy of Needs.

10.1.3.2 Maslow's Hierarchy of Needs

Famous American psychologist Abraham Maslow wanted to understand what motivates people. He believed that people have five types of needs, ranging from very basic needs (called physiological needs) to more important needs that are required for self-growth (called self-actualization needs). Between the physiological and self-actualization needs are three other needs – safety needs, belongingness and love need, and esteem needs.

These needs are usually shown as a pyramid with five levels and are known as Maslow's Hierarchy of Needs.

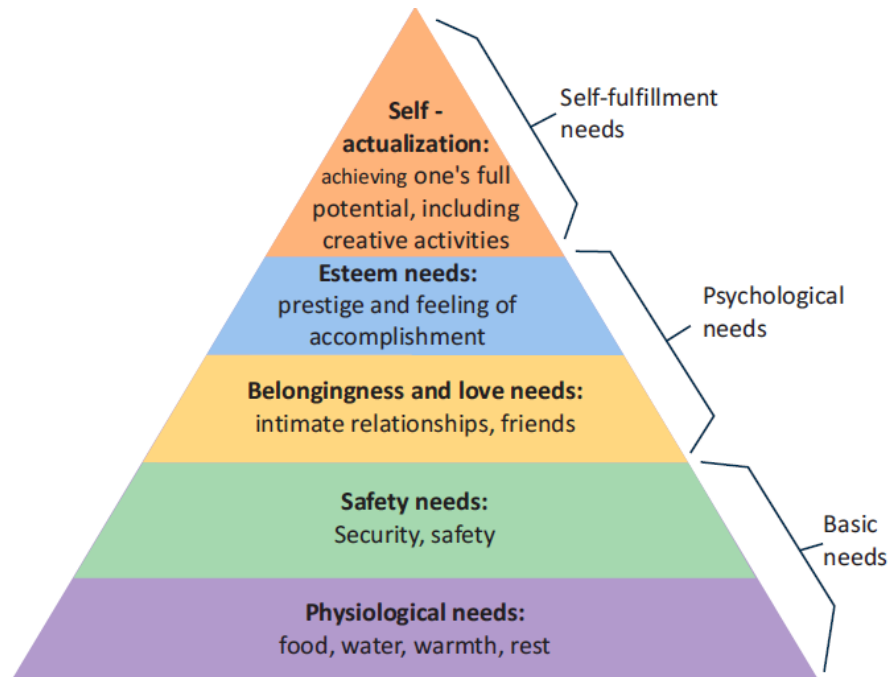


Fig. 10.1.1: Maslow's Hierarchy of Needs

The lowest level depicts the most basic needs. According to Maslow, our behaviour is driven by our basic needs, until those needs are fulfilled. Once they are fulfilled, we move to the next level and are motivated by the next level of needs. Let's understand this better with an example.

Rupa comes from a very poor family. She never has enough food, water, warmth or rest. According to Maslow, until Rupa is sure that she will get these basic needs, she will not even think about the next level of needs – her safety needs. But, once Rupa is confident that her basic needs will be met, she will move to the next level, and her behaviour will then be motivated by her need for security and safety. Once these new needs are met, Rupa will once again move to the next level, and be motivated by her need for relationships and friends. Once this need is satisfied, Rupa will then focus on the fourth level of needs – her esteem needs, after which she will move up to the fifth and last level of needs – the desire to achieve her full potential.

10.1.3.3 Understanding Achievement Motivation

We now know that people are motivated by basic, psychological and self-fulfillment needs. However, certain people are also motivated by the achievement of highly challenging accomplishments. This is known as Achievement Motivation, or 'need for achievement'.

The level of motivation achievement in a person differs from individual to individual. It is important that entrepreneurs have a high level of achievement motivation – a deep desire to accomplish something important and unique. It is equally important that they hire people who are also highly motivated by challenges and success.

10.1.3.4 How to Cultivate a Positive Attitude?

The good news is attitude is a choice. So, it is possible to improve, control and change our attitude, if we decide we want to!

The following tips help foster a positive mindset:

- Remember that you control your attitude, not the other way around
- Devote at least 15 minutes a day towards reading, watching or listening to something positive
- Avoid negative people who only complain and stop complaining yourself
- Expand your vocabulary with positive words and delete negative phrases from your mind
- Be appreciative and focus on what's good in yourself, in your life, and in others
- Stop thinking of yourself as a victim and start being proactive
- Imagine yourself succeeding and achieving your goals

10.1.3.5 What is Attitude?

Now that we understand why motivation is so important for self-analysis, let's look at the role our attitude plays in better understanding ourselves. Attitude can be described as your tendency (positive or negative), to think and feel about someone or something. Attitude is the foundation for success in every aspect of life. Our attitude can be our best friend or our worst enemy. In other words:

“The only disability in life is a bad attitude.”

When you start a business, you are sure to encounter a wide variety of emotions, from difficult times and failures to good times and successes. Your attitude is what will see you through the tough times and guide you towards success. Attitude is also infectious. It affects everyone around you, from your customers to your employees to your investors. A positive attitude helps build confidence in the workplace while a negative attitude is likely to result in the demotivation of your people.

10.1.3.6 What Are Your Strengths and Weaknesses?

Another way to analyse yourself is by honestly identifying your strengths and weaknesses. This will help you use your strengths to your best advantage and reduce your weaknesses. Note down all your strengths and weaknesses in the two columns below. Remember to be honest with yourself!

Strengths	Weaknesses

Tips

- Achievement motivation can be learned.
- Don't be afraid to make mistakes.
- Train yourself to finish what you start.
- Dream big.

10.1.4 Honesty & Work Ethics: What is Honesty?

Honesty is the quality of being fair and truthful. It means speaking and acting in a manner that inspires trust. A person who is described as honest is seen as truthful and sincere, and as someone who isn't deceitful or devious and doesn't steal or cheat. There are two dimensions of honesty – one is honesty in communication and the other is honesty in conduct.

Honesty is an extremely important trait because it results in peace of mind and builds relationships that are based on trust. Being dishonest, on the other hand, results in anxiety and leads to relationships full of distrust and conflict.

10.1.4.1 Qualities of Honest People

Honest individuals have certain distinct characteristics. Some common qualities among honest people are:

- They don't worry about what others think of them. They believe in being themselves – they don't bother about whether they are liked or disliked for their personalities.
- They stand up for their beliefs. They won't think twice about giving their honest opinion, even if they are aware that their point of view lies with the minority.
- They are thick-skinned. This means they are not affected by others judging them harshly for their honest opinions.
- They forge trusting, meaningful and healthy friendships. Honest people usually surround themselves with honest friends. They have faith that their friends will always be truthful and upfront with them.

They are trusted by their peers. They are seen as people who can be counted on for truthful and objective feedback and advice.

- **Honesty and employees:** When entrepreneurs build honest relationships with their employees, it leads to more transparency in the workplace, which results in higher work performance and better results.
- **Honesty and investors:** For entrepreneurs, being honest with investors means not only sharing strengths but also candidly disclosing current and potential weaknesses, problem areas and solution strategies. Keep in mind that investors have a lot of experience with start-ups and are aware that all new companies have problems. Claiming that everything is perfectly fine and running smoothly is a red flag for most investors.

- **Honesty with oneself:** The consequences of being dishonest with oneself can lead to dire results, especially in the case of entrepreneurs. For entrepreneurs to succeed, it is critical that they always remain realistic about their situation, and accurately judge every aspect of their enterprise for what it truly is.

10.1.4.2 Importance of Honesty in Entrepreneurs

One of the most important characteristics of entrepreneurs is honesty. When entrepreneurs are honest with their customers, employees and investors, it shows that they respect those that they work with. It is also important that entrepreneurs remain honest with themselves.

Let's look at how being honest would lead to great benefits for entrepreneurs.

- **Honesty and customers:** When entrepreneurs are honest with their customers it leads to stronger relationships, which in turn results in business growth and a stronger customer network.

10.1.4.3 What are Work Ethics?

Being ethical in the workplace means displaying values like honesty, integrity and respect in all your decisions and communications. It means not displaying negative qualities like lying, cheating and stealing.

Workplace ethics play a big role in the profitability of a company. It is as crucial to an enterprise as high morale and teamwork. Therefore, most companies lay down specific workplace ethic guidelines that must compulsorily be followed by their employees. These guidelines are typically outlined in a company's employee handbook.

10.1.4.4 Elements of a Strong Work Ethic

An entrepreneur must display strong work ethics, as well as hire only those individuals who believe in and display the same level of ethical behaviour in the workplace. Some elements of a strong work ethic are:

- **Professionalism:** This involves everything from how you present yourself in a corporate setting to the manner in which you treat others in the workplace.
- **Respectfulness:** This means remaining poised and diplomatic regardless of how stressful or volatile a situation is.
- **Dependability:** This means always keeping your word, whether it's arriving on time for a meeting or delivering work on time.
- **Dedication:** This means refusing to quit until the designated work is done and completing the work at the highest possible level of excellence.
- **Determination:** This means embracing obstacles as challenges rather than letting them stop you and pushing ahead with purpose and resilience to get the desired results.

- **Accountability:** This means taking responsibility for your actions and the consequences of your actions, and not making excuses for your mistakes.
- **Humility:** This means acknowledging everyone's efforts and hard work and sharing the credit for accomplishments.

10.1.4.5 How to Foster a Good Work Ethic?

As an entrepreneur, it is important that you clearly define the kind of behaviour that you expect from each and every team member in the workplace. You should make it clear that you expect employees to display positive work ethics like:

- **Honesty:** All work assigned to a person should be done with complete honesty, without any deceit or lies.
- **Good attitude:** All team members should be optimistic, energetic, and positive.
- **Reliability:** Employees should show up where they are supposed to be, when they are supposed to be there.
- **Good work habits:** Employees should always be well groomed, never use inappropriate language, always conduct themselves professionally and so on.
- **Initiative:** Doing the bare minimum is not enough. Every team member needs to be proactive and show initiative.
- **Trustworthiness:** Trust is non-negotiable. If an employee cannot be trusted, it's time to let that employee go.
- **Respect:** Employees need to respect the company, the law, their work, their colleagues and themselves.
- **Integrity:** Each and every team member should be completely ethical and must display above board behaviour at all times.
- **Efficiency:** Efficient employees help a company grow while inefficient employees result in a waste of time and resources.

Tips



- Don't get angry when someone tells you the truth and you don't like what you hear.
- Always be willing to accept responsibility for your mistakes.

10.1.5 Creativity & Innovation

What is Creativity?

Creativity means thinking outside the box. It means viewing things in new ways or from different perspectives, and then converting these ideas into reality. Creativity involves two parts: thinking and producing. Simply having an idea makes you imaginative, not creative. However, having an idea and acting on it makes you creative.

Characteristics of Highly Creative People

Some characteristics of creative people are:

- They are imaginative and playful
- They see issues from different angles
- They notice small details
- They have very little tolerance for boredom
- They detest rules and routine
- They love to daydream
- They are very curious

What is Innovation?

There are many different definitions of innovation. In simple terms, innovation means turning an idea into a solution that adds value. It can also mean adding value by implementing a new product, service or process, or significantly improving on an existing product, service or process.

Characteristics of Highly Innovative People

Some characteristics of highly innovative people are:

- They embrace doing things differently
- They don't believe in taking shortcuts
- They are not afraid to be unconventional
- They are highly proactive and persistent
- They are organized, cautious and risk-averse

Tips

- Take regular breaks from your creative work to recharge yourself and gain fresh perspective.
- Build prototypes frequently, test them out, get feedback, and make the required changes.

10.1.6 Time Management

Time management is the process organizing your time and deciding how to allocate your time between different activities. Good time management is the difference between working smart (getting more done in less time) and working hard (working for more time to get more done).

Effective time management leads to an efficient work output, even when you are faced with tight deadlines and high-pressure situations. On the other hand, not managing your time effectively results in inefficient output and increases stress and anxiety.

Benefits of Time Management

Time management can lead to huge benefits like:

- Greater productivity
- Higher efficiency
- Better professional reputation
- Reduced stress
- Higher chances for career advancement
- Greater opportunities to achieve goals

Not managing time effectively can result in undesirable consequences like:

- Missing deadlines
- Inefficient work output
- Substandard work quality
- Poor professional reputation
- Stalled career
- Increase in stress and anxiety

10.1.6.1 Traits of Effective Time Managers

Some traits of effective time managers are:

- They begin projects early
- They set daily objectives
- They modify plans if required, to achieve better results
- They are flexible and open-minded
- They inform people in advance if their help will be required
- They know how to say no
- They break tasks into steps with specific deadlines
- They continually review long term goals
- They think of alternate solutions if and when required
- They ask for help when required
- They create backup plans

10.1.6.2 Effective Time Management Techniques

You can manage your time better by putting into practice certain time management techniques. Some helpful tips are:

- **Plan out your day as well as plan for interruptions.** Give yourself at least 30 minutes to figure out your time plan. In your plan, schedule some time for interruptions.
- **Put up a “Do Not Disturb” sign** when you absolutely have to complete a certain amount of work.
- **Close your mind to all distractions.** Train yourself to ignore ringing phones, don't reply to chat messages and disconnect from social media sites.
- **Delegate your work.** This will not only help your work get done faster but will also show you the unique skills and abilities of those around you.
- **Stop procrastinating.** Remind yourself that procrastination typically arises due to the fear of failure or the belief that you cannot do things as perfectly as you wish to do them.
- **Prioritize.** List each task to be completed in order of its urgency or importance level. Then focus on completing each task, one by one.
- **Maintain a log of your work activities.** Analyse the log to help you understand how efficient you are, and how much time is wasted every day.
- **Create time management goals** to reduce time wastage.

Tips



- Always complete the most important tasks first.
- Get at least 7 – 8 hours of sleep every day.
- Start your day early.
- Don't waste too much time on small, unimportant details.
- Set a time limit for every task that you will undertake.
- Give yourself some time to unwind between tasks.

10.1.7 Anger Management

Anger management is the process of:

1. Learning to recognize the signs that you, or someone else, is becoming angry
2. Taking the best course of action to calm down the situation in a positive way

Anger management does not mean suppressing anger.

Importance of Anger Management

Anger is a perfectly normal human emotion. In fact, when managed the right way, anger can be considered a healthy emotion. However, if it is not kept in check, anger can make us act inappropriately and can lead to us saying or doing things that we will likely later regret.

Extreme anger can:

- **Hurt you physically:** It leads to heart disease, diabetes, a weakened immune system, insomnia, and high blood pressure.
- **Hurt you mentally:** It can cloud your thinking and lead to stress, depression and mental health issues.
- **Hurt your career:** It can result in alienating your colleagues, bosses, clients and lead to the loss of respect.
- **Hurt your relationships:** It makes it hard for your family and friends to trust you, be honest with you and feel comfortable around you.

Therefore, anger management, or managing anger appropriately, is so important.

10.1.7.1 Anger Management Strategies

Here are some strategies that can help you control your anger:

Strategy 1: Relaxation

Something as simple as breathing deeply and looking at relaxing images works wonders in calming down angry feelings. Try this simple breathing exercise:

1. Take a deep breath from your diaphragm (don't breathe from your chest)
2. Visualize your breath coming up from your stomach
3. Keep repeating a calming word like 'relax' or 'take it easy' (remember to keep breathing deeply while repeating the word)
4. Picture a relaxing moment (this can be from your memory or your imagination)

Follow this relaxation technique daily, especially when you realize that you're starting to feel angry.

Strategy 2: Cognitive Restructuring

Cognitive restructuring means changing the manner in which you think. Anger can make you curse, swear, exaggerate and act very dramatically. When this happens, force yourself to replace your angry thoughts with more logical ones. For instance, instead of thinking 'Everything is ruined' change your mindset and tell yourself 'It's not the end of the world and getting angry won't solve this'.

Strategy 3: Problem Solving

Getting angry about a problem that you cannot control is a perfectly natural response. Sometimes, try as you may, there may not be a solution to the difficulty you are faced with. In such cases, stop focusing on solving the problem, and instead focus on handling and facing the problem. Remind yourself that you will do your best to deal with the situation, but that you will not blame yourself if you don't get the solution you desire.

Strategy 4: Better Communication

When you're angry, it is very easy to jump to inaccurate conclusions. In this case, you need to force yourself to stop reacting, and think carefully about what you want to say, before saying it. Avoid saying the first thing that enters your head. Force yourself to listen carefully to what the other person is saying. Then think about the conversation before responding.

Strategy 5: Changing Your Environment

If you find that your environment is the cause of your anger, try and give yourself a break from your surroundings. Make an active decision to schedule some personal time for yourself, especially on days that are very hectic and stressful. Having even a brief amount of quiet or alone time is sure to help calm you down.

10.1.7.2 Tips for Anger Management

The following tips will help you keep your anger in check:

- Take some time to collect your thoughts before you speak out in anger.
- Express the reason for your anger in an assertive, but non-confrontational manner once you have calmed down.
- Do some form of physical exercise like running or walking briskly when you feel yourself getting angry.
- Make short breaks part of your daily routine, especially during days that are stressful.
- Focus on how to solve a problem that's making you angry, rather than focusing on the fact that the problem is making you angry.

10.1.8 Stress Management

We say we are 'stressed' when we feel overloaded and unsure of our ability to deal with the pressures placed on us. Anything that challenges or threatens our well-being can be defined as a stress. It is important to note that stress can be good and bad. While good stress keeps us going, negative stress undermines our mental and physical health. Therefore, it is so important to manage negative stress effectively.

Causes of Stress

Stress can be caused by internal and external factors.

Internal causes of stress

- Constant worry
- Rigid thinking
- Unrealistic expectations
- Pessimism
- Negative self-talk
- All in or all out attitude

External causes of stress

- Major life changes
- Difficulties with relationships
- Having too much to do
- Difficulties at work or in school
- Financial difficulties
- Worrying about one's children and/or family

10.1.8.1 Symptoms of Stress

Stress can manifest itself in numerous ways. Take a look at the cognitive, emotional, physical and behavioural symptoms of stress.

Cognitive Symptoms	Emotional Symptoms
<ul style="list-style-type: none"> • Memory problems • Concentration issues • Lack of judgement • Pessimism • Anxiety • Constant worrying 	<ul style="list-style-type: none"> • Depression • Agitation • Irritability • Loneliness • Anxiety • Anger

Physical Symptoms	Behavioural Symptoms
<ul style="list-style-type: none"> • Aches and pain • Diarrhoea or constipation • Nausea • Dizziness • Chest pain and/or rapid heartbeat • Frequent cold or flu like feelings 	<ul style="list-style-type: none"> • Increase or decrease in appetite • Over sleeping or not sleeping enough • Withdrawing socially • Ignoring responsibilities • Consumption of alcohol or cigarettes • Nervous habits like nail biting and pacing

10.1.8.2 Tips to Manage Stress

The following tips can help you manage your stress better:

- Note down the different ways in which you can handle the various sources of your stress.
- Remember that you cannot control everything, but you can control how you respond.
- Discuss your feelings, opinions and beliefs rather than reacting angrily, defensively or passively.
- Practice relaxation techniques like meditation, yoga or tai chi when you start feeling stressed.
- Devote a part of your day towards exercise.
- Eat healthy foods like fruits and vegetables. Avoid unhealthy foods especially those containing large amounts of sugar.
- Plan your day so that you can manage your time better, with less stress.
- Say no to people and things when required.
- Schedule time to pursue your hobbies and interests.
- Ensure you get at least 7-8 hours of sleep.
- Reduce your caffeine intake.
- Increase the time spent with family and friends.

UNIT 10.2: Digital Literacy: A Recap

Unit Objectives

At the end of this unit, you will be able to:

1. Identify the basic parts of a computer
2. Identify the basic parts of a keyboard
3. Recall basic computer terminology
4. Recall the functions of basic computer keys
5. Discuss the main applications of MS Office
6. Discuss the benefits of Microsoft Outlook
7. Discuss the different types of e-commerce
8. List the benefits of e-commerce for retailers and customers
9. Discuss how the Digital India campaign will help boost e-commerce in India
10. Describe how you will sell a product or service on an e-commerce platform

10.2.1 Computer and Internet basics

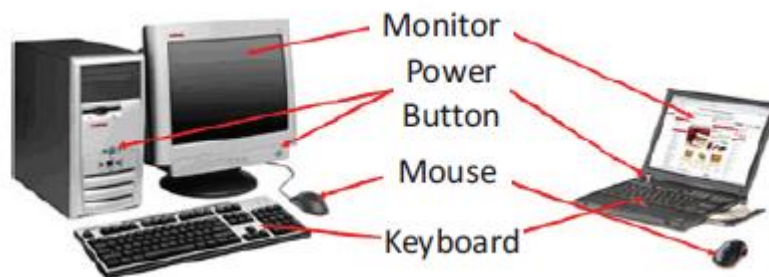


Fig.10.2.1. Parts of a Computer



Fig.10.2.2. Parts of a Keyboard

Basic Parts of a Computer

1. **Central Processing Unit (CPU):** The brain of the computer. It interprets and carries out program instructions.
2. **Hard Drive:** A device that stores large amounts of data.
3. **Monitor:** The device that contains the computer screen where the information is visually displayed.

4. **Desktop:** The first screen displayed after the operating system loads.
5. **Background:** The image that fills the background of the desktop.
6. **Mouse:** A hand-held device used to point to items on the monitor.
7. **Speakers:** Devices that enable you to hear sound from the computer.
8. **Printer:** A device that converts output from a computer into printed paper documents.
9. **Icon:** A small picture or image that visually represents something on your computer.
10. **Cursor:** An arrow which indicates where you are positioned on the screen.
11. **Program Menu:** A list of programs on your computer that can be accessed from the Start menu.
12. **Taskbar:** The horizontal bar at the bottom of the computer screen that lists applications that are currently in use.
13. **Recycle Bin:** A temporary storage for deleted files.

Basic Internet Terms

- **The Internet:** A vast, international collection of computer networks that transfers information.
- **The World Wide Web:** A system that lets you access information on the Internet.
- **Website:** A location on the World Wide Web (and Internet) that contains information about a specific topic.
- **Homepage:** Provides information about a website and directs you to other pages on that website.
- **Link/Hyperlink:** A highlighted or underlined icon, graphic, or text that takes you to another file or object.
- **Web Address/URL:** The address for a website.
- **Address Box:** A box in the browser window where you can type in a web address.

Basic Computer Keys

- **Arrow Keys:** Press these keys to move your cursor.
- **Space bar:** Adds a space.
- **Enter/Return:** Moves your cursor to a new line.
- **Shift:** Press this key if you want to type a capital letter or the upper symbol of a key.
- **Caps Lock:** Press this key if you want all the letters you type to be capital letters. Press it again to revert to typing lowercase letters.
- **Backspace:** Deletes everything to the left of your cursor

Tips

- When visiting a .com address, there no need to type http://or even www. Just type the name of the website and then press Ctrl + Enter. (Example: Type 'apple' and press Ctrl + Enter to go to www.apple.com)
- Press the Ctrl key and press the + or - to increase and decrease the size of text.
- Press F5 or Ctrl + R to refresh or reload a web page.

10.2.2 MS Office and Email

About MS Office

MS Office or Microsoft Office is a suite of computer programs developed by Microsoft. Although meant for all users, it offers different versions that cater specifically to students, home users and business users. All the programs are compatible with both, Windows and Macintosh.

Most Popular Office Products

Some of the most popular and universally used MS Office applications are:

- **Microsoft Word:** Allows users to type text and add images to a document.
- **Microsoft Excel:** Allows users to enter data into a spreadsheet and create calculations and graphs.
- **Microsoft PowerPoint:** Allows users to add text, pictures and media and create slideshows and presentations.
- **Microsoft Outlook:** Allows users to send and receive email.
- **Microsoft OneNote:** Allows users to make drawings and notes with the feel of a pen on paper.
- **Microsoft Access:** Allows users to store data over many tables.

Why Choose Microsoft Outlook?

A popular email management choice especially in the workplace, Microsoft Outlook also includes an address book, notebook, web browser and calendar. Some major benefits of this program are:

- **Integrated search function:** You can use keywords to search for data across all Outlook programs.
- **Enhanced security:** Your email is safe from hackers, junk mail and phishing website email.
- **Email syncing:** Sync your mail with your calendar, contact list, notes in One Note and...your phone!
- **Offline access to email:** No Internet? No problem! Write emails offline and send them when you're connected again.

Tips



- Press Ctrl+R as a shortcut method to reply to email.
- Set your desktop notifications only for very important emails.
- Flag messages quickly by selecting messages and hitting the Insert key.
- Save frequently sent emails as a template to reuse again and again.
- Conveniently save important emails as files.

10.2.3 E-Commerce

What is E-Commerce?

E-commerce is the buying or selling of goods and services, or the transmitting of money or data, electronically on the internet. E-Commerce is the short form for “electronic commerce.”

Examples of E-Commerce

Some examples of e-commerce are:

- Online shopping
- Online auctions
- Online ticketing
- Electronic payments
- Internet banking

Types of E-Commerce

E-commerce can be classified based on the types of participants in the transaction. The main types of e-commerce are:

- **Business to Business (B2B):** Both the transacting parties are businesses.
- **Business to Consumer (B2C):** Businesses sell electronically to end-consumers.
- **Consumer to Consumer (C2C):** Consumers come together to buy, sell or trade items to other consumers.
- **Consumer-to-Business (C2B):** Consumers make products or services available for purchase to companies looking for exactly those services or products.
- **Business-to-Administration (B2A):** Online transactions conducted between companies and public administration.
- **Consumer-to-Administration (C2A):** Online transactions conducted between individual and public administration.

10.2.3.1 Benefits of E-Commerce

The e-commerce business provides some benefits for retailers and customers.

Benefits for retailers

- Establishes an online presence
- Reduces operational costs by removing overhead costs
- Increases brand awareness through the use of good keywords
- Increases sales by removing geographical and time constraints

Benefits for customers

- Offers a wider range of choice than any physical store
- Enables goods and services to be purchased from remote locations
- Enables consumers to perform price comparisons

10.2.3.2 Digital India Campaign

Prime Minister Narendra Modi launched the Digital India campaign in 2015, with the objective of offering every citizen of India access to digital services, knowledge and information. The campaign aims to improve the country's online infrastructure and increase internet connectivity, thus boosting the e-commerce industry.

Currently, the majority of online transactions come from tier 2 and tier 3 cities. Once the Digital India campaign is in place, the government will deliver services through mobile connectivity, which will help deliver internet to remote corners of the country. This will help the e-commerce market to enter India's tier 4 towns and rural areas.

E-Commerce Activity

Choose a product or service that you want to sell online. Write a brief note explaining how you will use existing e-commerce platforms, or create a new e-commerce platform, to sell your product or service.

Tips

- Before launching your e-commerce platform, test everything.
- Pay close and personal attention to your social media.

UNIT 10.3: Money Matters

Unit Objectives

At the end of this unit, you will be able to:

1. Discuss the importance of saving money
2. Discuss the benefits of saving money
3. Discuss the main types of bank accounts
4. Describe the process of opening a bank account
5. Differentiate between fixed and variable costs
6. Describe the main types of investment options
7. Describe the different types of insurance products
8. Describe the different types of taxes
9. Discuss the uses of online banking
10. Discuss the main types of electronic funds transfers

10.3.1 Personal Finance – Why to Save?

Importance of Saving

We all know that the future is unpredictable. You never know what will happen tomorrow, next week or next year. That's why saving money steadily through the years is so important. Saving money will help improve your financial situation over time. But more importantly, knowing that you have money stashed away for an emergency will give you peace of mind. Saving money also opens the door to many more options and possibilities.

Benefits of Saving

Inculcating the habit of saving leads to a vast number of benefits. Saving helps you:

- **Become financially independent:** When you have enough money saved up to feel secure you can start making your choices, from taking a vacation whenever you want, to switching careers or starting your own business.
- **Invest in yourself through education:** Through saving, you can earn enough to pay up for courses that will add to your professional experience and ultimately result in higher paying jobs.
- **Get out of debt:** Once you have saved enough as a reserve fund, you can use your savings to pay off debts like loans or bills that have accumulated over time.
- **Be prepared for surprise expenses:** Having money saved enables you to pay for unforeseen expenses like sudden car or house repairs, without feeling financially stressed.
- **Pay for emergencies:** Saving helps you deal with emergencies like sudden health issues or emergency trips without feeling financially burdened.

- **Afford large purchases and achieve major goals:** Saving diligently makes it possible to place down payments towards major purchases and goals, like buying a home or a car.
- **Retire:** The money you have saved over the years will keep you comfortable when you no longer have the income you would get from your job.

Tips



- Break your spending habit. Try not spending on one expensive item per week, and put the money that you would have spent into your savings.
- Decide that you will not buy anything on certain days or weeks and stick to your word.

10.3.2 Types of Bank Accounts

In India, banks offer four main types of bank accounts. These are:

1. Current Accounts
2. Savings Accounts
3. Recurring Deposit Accounts
4. Fixed Deposit Accounts

Current Accounts

Current accounts offer the most liquid deposits and thus, are best suited for businessmen and companies. As these accounts are not meant for investments and savings, there is no imposed limit on the number or amount of transactions that can be made on any given day. Current account holders are not paid any interest on the amounts held in their accounts. They are charged for certain services offered on such accounts.

Saving Accounts

Savings accounts are meant to promote savings and are therefore the number one choice for salaried individuals, pensioners and students. While there is no restriction on the number and amount of deposits made, there are usually restrictions on the number and amount of withdrawals. Savings account holders are paid interest on their savings.

Recurring Deposit Accounts

Recurring Deposit accounts, also called RD accounts, are the accounts of choice for those who want to save an amount every month but are unable to invest a large sum at one time. Such account holders deposit a small, fixed amount every month for a pre-determined period (minimum 6 months). Defaulting on a monthly payment results in the account holder being charged a penalty amount. The total amount is repaid with interest at the end of the specified period.

Fixed Deposit Accounts

Fixed Deposit accounts, also called FD accounts, are ideal for those who wish to deposit their savings for a long term in return for a high rate of interest. The rate of interest offered depends on the amount deposited and the time period, and also differs from bank to bank. In the case of an FD, a certain amount of money is deposited by the account holder for a fixed period of time. The money can be withdrawn when the period expires. If necessary, the depositor can break the fixed deposit prematurely. However, this usually attracts a penalty amount which also differs from bank to bank.

10.3.2.1 Opening a Bank Account

Opening a bank account is quite a simple process. Take a look at the steps to open an account of your own:

Step 1: Fill in the Account Opening Form

This form requires you to provide the following information:

- Personal details (name, address, phone number, date of birth, gender, occupation, address)
- Method of receiving your account statement (hard copy/email)
- Details of your initial deposit (cash/cheque)
- Manner of operating your account (online/mobile banking/traditional via cheque, slip books)
- Ensure that you sign wherever required on the form.

Step 2: Affix your Photograph

Stick a recent photograph of yourself in the allotted space on the form.

Step 3: Provide your Know Your Customer (KYC) Details

KYC is a process that helps banks verify the identity and address of their customers. To open an account, every individual need to submit certain approved documents with respect to photo identity (ID) and address proof. Some Officially Valid Documents (OVDs) are:

- Passport
- Driving License
- Voters' Identity Card
- PAN Card
- UIDAI (Aadhar) Card

Step 4: Submit All your Documents

Submit the completed Account Opening Form and KYC documents. Then wait until the forms are processed and your account has been opened!

Tips

- Select the right type of account.
- Fill in complete nomination details.
- Ask about fees.
- Understand the rules.
- Check for online banking – it's convenient!
- Keep an eye on your bank balance.

10.3.3 Costs: Fixed vs Variable

What are Fixed and Variable Costs?

Fixed costs and variable costs together make up a company's total cost. These are the two types of costs that companies have to bear when producing goods and services. A fixed cost does not change with the volume of goods or services a company produces. It always remains the same.

A variable cost, on the other hand, increases and decreases depending on the volume of goods and services produced. In other words, it varies with the amount produced.

Differences between Fixed and Variable Costs

Let's take a look at some of the main differences between fixed and variable costs:

Criteria	Fixed Costs	Variable Costs
Meaning	A cost that stays the same, regardless of the output produced.	A cost that changes when the
Nature	Time related.	Volume related.
Incurred	Incurred irrespective of units being produced.	Incurred only when units are produced
Unit cost	Inversely proportional to the number of units produced	Remains the same, per unit.
Examples	Depreciation, rent, salary, insurance and tax	Material consumed, wages, commission on sales and packing expenses

Tips

- When trying to determine whether a cost is fixed or variable, simply ask the following question: Will the particular cost change if the company stopped its production activities? If the answer is no, then it is a fixed cost. If the answer is yes, then it is probably a variable cost.

10.3.4 Investment, Insurance and Taxes

Investment

Investment means that money is spent today with the aim of reaping financial gains at a future time. The main types of investment options are as follows:

- **Bonds:** Bonds are instruments used by public and private companies to raise large sums of money – too large to be borrowed from a bank. These bonds are then issued in the public market and are bought by lenders.
- **Stocks:** Stocks or equity are shares that are issued by companies and are bought by the general public.
- **Small Savings Schemes:** Small Savings Schemes are tools meant to save money in small amounts. Some popular schemes are the Employees Provident Fund, Sukanya Samridhi Scheme and National Pension Scheme.
- **Mutual Funds:** Mutual Funds are professionally managed financial instruments that invest money in different securities on behalf of investors.
- **Fixed Deposits:** A fixed amount of money is kept aside with a financial institution for a fixed amount of time in return for interest on the money.
- **Real Estate:** Loans are taken from banks to purchase real estate, which is then leased or sold with the aim of making a profit on the appreciated property price.
- **Hedge Funds:** Hedge funds invest in both financial derivatives and/or publicly traded securities.
- **Private Equity:** Private Equity is trading in the shares of an operating company that is not publicly listed and whose shares are not available on the stock market.
- **Venture Capital:** Venture Capital involves investing substantial capital in a budding company in return for stocks in that company.

Insurance

There are two types of insurance, Life Insurance and General Insurance.

Life Insurance Products

The main life insurance products are:

- **Term Insurance:** This is the simplest and cheapest form of insurance. It offers financial protection for a specified tenure, say 15 to 20 years. In the case of your death, your family is paid the sum assured. In the case of your surviving the term, the insurer pays nothing.

- **Endowment Policy:** This offers the dual benefit of insurance and investment. Part of the premium is allocated towards the sum assured, while the remaining premium gets invested in equity and debt. It pays a lump sum amount after the specified duration or on the death of the policyholder, whichever is earlier.
- **Unit-Linked Insurance Plan (ULIP):** Here part of the premium is spent on the life cover, while the remaining amount is invested in equity and debt. It helps develop a regular saving habit.
- **Money Back Life Insurance:** While the policyholder is alive, periodic payments of the partial survival benefits are made during the policy tenure. On the death of the insured, the insurance company pays the full sum assured along with survival benefits.
- **Whole Life Insurance:** It offers the dual benefit of insurance and investment. It offers insurance cover for the whole life of the person or up to 100 years whichever is earlier.

General Insurance

General Insurance deals with all insurance covering assets like animals, agricultural crops, goods, factories, cars and so on.

General Insurance Products

The main general insurance products are:

- **Motor Insurance:** This can be divided into Four-Wheeler Insurance and Two-Wheeler insurance.
- **Health Insurance:** The main types of health insurance are individual health insurance, family floater health insurance, comprehensive health insurance and critical illness insurance.
- **Travel Insurance:** This can be categorised into Individual Travel Policy, Family Travel Policy, Student Travel Insurance and Senior Citizen Health Insurance.
- **Home Insurance:** This protects the house and its contents from risk.
- **Marine Insurance:** This insurance covers goods, freight and cargo against loss or damage during transit by rail, road, sea and/or air.

Taxes

There are two types of taxes:

1. Direct Taxes
2. Indirect Taxes.

Direct Tax

Direct taxes are levied directly on an entity or a person and are non-transferrable. Some examples of Direct Taxes are:

- **Income Tax:** This tax is levied on your earning in a financial year. It is applicable to both, individuals and companies.
- **Capital Gains Tax:** This tax is payable whenever you receive a sizable amount of money. It is usually of two types – short term capital gains from investments held for less than 36 months and long term capital gains from investments held for longer than 36 months.

- **Securities Transaction Tax:** This tax is added to the price of a share. It is levied every time you buy or sell shares.
- **Perquisite Tax:** This tax is levied is on perks that have been acquired by a company or used by an employee.
- **Corporate Tax:** Corporate tax is paid by companies from the revenue they earn.

Indirect Tax

Indirect taxes are levied on goods or services. Some examples of Indirect Taxes are:

- **Sales Tax:** Sales Tax is levied on the sale of a product.
- **Service Tax:** Service Tax is added to services provided in India.
- **Value Added Tax:** Value Added Tax is levied at the discretion of the state government. The tax is levied on goods sold in the state. The tax amount is decided by the state.
- **Customs Duty & Octroi:** Customs Duty is a charge that is applied on purchases that are imported from another country. Octroi is levied on goods that cross state borders within India.
- **Excise Duty:** Excise Duty is levied on all goods manufactured or produced in India

Tips



- Think about how quickly you need your money back and pick an investment option accordingly.
- Ensure that you are buying the right type of insurance policy for yourself.
- Remember, not paying taxes can result in penalties ranging from fines to imprisonment.

10.3.5 Online Banking, NEFT, RTGS etc.

What is Online Banking?

Internet or online banking allows account holders to access their account from a laptop at any location. In this way, instructions can be issued. To access an account, account holders simply need to use their unique customer ID number and password.

Internet banking can be used to:

- Find out an account balance
- Transfer amounts from one account to another
- Arrange for the issuance of cheques
- Instruct payments to be made
- Request for a cheque book
- Request for a statement of accounts
- Make a fixed deposit

Electronic Funds Transfers

Electronic funds transfer is a convenient way of transferring money from the comfort of one's own home, using integrated banking tools like internet and mobile banking.

Transferring funds via an electronic gateway is extremely convenient. With the help of online banking, you can choose transferring funds:

- Into your accounts of the same bank.
- Into other people's accounts of the same bank.
- Into accounts in different banks through NEFT.
- Into other bank accounts through RTGS.
- Into various accounts through IMPS.

NEFT

NEFT stands for National Electronic Funds Transfer. This money transfer system allows you to electronically transfer funds from your respective bank accounts to any other account, either in the same bank or belonging to any other bank. NEFT can be used by individuals, firms and corporate organizations to transfer funds between accounts.

In order to transfer funds via NEFT, two things are required:

- A transferring bank
- A destination banks

Before you can transfer funds through NEFT, you will need to register the beneficiary who will be receiving the funds. In order to complete this registration, you will require the following information:

- Recipient's name
- Recipient's account number
- Recipient's bank's name
- Recipient's bank's IFSC code

RTGS

RTGS stands for Real Time Gross Settlement. This is a real time funds transfer system which enables you to transfer funds from one bank to another, in real time or on a gross basis. The transferred amount is immediately deducted from the account of one bank, and instantly credited to the other bank's account. The RTGS payment gateway is maintained by the Reserve Bank of India. The transactions between banks are made electronically.

RTGS can be used by individuals, companies and firms to transfer large sums of money. Before remitting funds through RTGS, you will need to add the beneficiary and his bank account details via your online banking account.

In order to complete this registration, you will require the following information:

- Name of the beneficiary
- Beneficiary's account number
- Beneficiary's bank address
- Bank's IFSC code

IMPS

IMPS stand for Immediate Payment Service. This is a real-time, inter-bank, electronic funds transfer system used to transfer money instantly within banks across India. IMPS enable users to make instant electronic transfer payments using mobile phones through both, Mobile Banking and SMS. It can also be used through ATMs and online banking. IMPS is available 24 hours a day and 7 days a week. The system features a secure transfer gateway and immediately confirms orders that have been fulfilled.

To transfer money through IMPS, you need to:

- Register for IMPS with your bank
- Receive a Mobile Money Identifier (MMID) from the bank
- Receive a MPIN from the bank

Once you have both these, you can login or make a request through SMS to transfer an amount to a beneficiary.

In order for the beneficiary to receive the transferred money, he must:

- Link his mobile number with his respective account
- Receive the MMID from the bank

In order to initiate a money transfer through IMPS, you will need to enter the following information:

- The beneficiary's mobile number
- The beneficiary's MMID
- The transfer amount
- Your MPIN

As soon as money has been deducted from your account and credited into the beneficiary's account, you will be sent a confirmation SMS with a transaction reference number, for future reference.

10.3.5.1 Differences between NEFT, RTGS & IMPS

Criteria	NEFT	RTGS	IMPS
Settlement	Done in batches	Real-time	Real-time
Full form	National Electronic Fund Transfer	Real Time Gross Settlement	Immediate Payment Service
Timings on Monday – Friday	8:00 am – 6:30 pm	9:00 am – 4:30 pm	24x7
Timings on Saturday	8:00 am – 1:00 pm	9:00 am – 1:30 pm	24x7
Minimum amount of money transfer limit	₹1	₹2 lacs	₹1
Maximum amount of money transfer limit	₹10 lacs	₹10 lacs per day	₹2 lacs
Maximum charges as per RBI	Up to 10,000 – ₹2.5 above 10,000 – 1 lac - ₹5 above 1 – 2 lacs ₹15 above 2 – 5 lacs ₹25 above 5 – 10 lacs ₹25	above 2 – 5 lacs ₹25 above 5 – 10 lacs ₹50	Up to 10,000 – ₹5 above 10,000 – 1 lac – ₹5 above 1 – 2 lacs – ₹15

Fig.10.3.2: Differences Between NEFT, RTGS & IMPS

Tips



- Never click on any links in any e-mail message to access your online banking website.
- You will never be asked for your credit or debit card details while using online banking.
- Change your online banking password regularly.

UNIT 10.4: Preparing for Employment & Self-Employment

Unit Objectives

At the end of this unit, you will be able to:

1. Discuss the steps to prepare for an interview
2. Discuss the steps to create an effective Resume
3. Discuss the most frequently asked interview questions
4. Discuss how to answer the most frequently asked interview questions
5. Discuss basic workplace terminology

10.4.1 Interview Preparation: How to Prepare for an Interview?

The success of your getting the job that you want depends largely on how well your interview for that job goes. Therefore, before you go in for your interview, it is important that you prepare for it with a fair amount of research and planning. Take a look at the steps to follow in order to be well prepared for an interview:

1. Research the organization that you are having the interview with.

- Studying the company beforehand will help you be more prepared at the time of the interview. Your knowledge of the organization will help you answer questions at the time of the interview and will leave you looking and feeling more confident. This is sure to make you stand out from other, not as well informed, candidates.
- Look for background information on the company. Try and find an overview of the company and its industry profile.
- Visit the company website to get a good idea of what the company does. A company website offers a wealth of important information. Read and understand the company's mission statement. Pay attention to the company's products/services and client list. Read through any press releases to get an idea of the company's projected growth and stability.
- Note down any questions that you have after your research has been completed.

2. Think about whether your skills and qualifications match the job requirements.

- Carefully read through and analyse the job description.
- Make a note of the knowledge, skills and abilities required to fulfil the job requirements.
- Take a look at the organization hierarchy. Figure out where the position you are applying for fits into this hierarchy.

3. Go through the most typical interview questions asked, and prepare your responses.

- Remember, in most interviews a mix of resume-based, behavioural and case study questions are asked.
- Think about the kind of answers you would like to provide to typical questions asked in these three areas.
- Practice these answers until you can express them confidently and clearly.

4. Plan your attire for the interview.

- It is always safest to opt for formal business attire, unless expressly informed to dress in business casual (in which case you should use your best judgement).
- Ensure that your clothes are clean and well-ironed. Pick neutral colours – nothing too bright or flashy.
- The shoes you wear should match your clothes and should be clean and suitable for an interview.
- Remember, your aim is to leave everyone you meet with the impression that you are a professional and highly efficient person.

5. Ensure that you have packed everything that you may require during the interview.

- Carry a few copies of your resume. Use a good quality paper for your resume print outs.
- Always take along a notepad and a pen.
- Take along any information you may need to refer to, in order to fill out an application form.
- Carry a few samples of your work, if relevant.

6. Remember the importance of non-verbal communication.

- Practice projecting confidence. Remind yourself to smile and make eye contact. Practice giving a firm handshake.
- Keep in mind the importance of posture. Practice sitting up straight. Train yourself to stop nervous gestures like fidgeting and foot-tapping.
- Practice keeping your reactions in check. Remember, your facial expressions provide a good insight into your true feelings. Practice projecting a positive image.

7. Make a list of questions to end the interview with.

- Most interviews will end with the interviewer(s) asking if you have any questions. This is your chance to show that you have done your research and are interested in learning more about the company.
- If the interviewer does not ask you this question, you can inform him/her that you have some queries that you would like to discuss. This is the time for you to refer to the notes you made while studying the company.
- Some good questions to ask at this point are:
 - What do you consider the most important criteria for success in this job?
 - How will my performance be evaluated?
 - What are the opportunities for advancement?
 - What are the next steps in the hiring process?
- Remember, never ask for information that is easily available on the company website.

Tips

- Ask insightful and probing questions.
- When communicating, use effective forms of body language like smiling, making eye contact, and actively listening and nodding. Don't slouch, play with nearby items, fidget, chew gum, or mumble.

10.4.2 Preparing an Effective Resume

A resume is a formal document that lists a candidate's work experience, education and skills. A good resume gives a potential employer enough information to believe the applicant is worth interviewing. That's why it is so important to create a résumé that is effective. Take a look at the steps to create an effective resume:

Step 1: Write the Address Section

The Address section occupies the top of your resume. It includes information like your name, address, phone number and e-mail address. Insert a bold line under the section to separate it from rest of your resume.

Example:

Jasmine Watts
Breach Candy, Mumbai – India
Contact No: +91 2223678270
Email: jasmine.watts@gmail.com

Step 2: Add the Profile Summary Section

This part of your resume should list your overall experiences, achievements, awards, certifications and strengths. You can make your summary as short as 2-3 bullet points or as long as 8-10 bullet points.

Example:

Profile Summary

- A Content Writer graduated from University of Strathclyde having 6 years of experience in writing website copy.
- Core expertise lies in content creation for e-learning courses, specifically for the K-12 segment.

Step 3: Include Your Educational Qualifications

When listing your academic records, first list your highest degree. Then add the second highest qualification under the highest one and so on. To provide a clear and accurate picture of your educational background, it is critical that include information on your position, rank, percentage or CPI for every degree or certification that you have listed.

If you have done any certifications and trainings, you can add a Trainings & Certifications section under your Educational Qualifications section.

Example:

Educational Qualifications

- Masters in International Management (2007) from Columbia University with 8.8 CPI.
- Bachelor of Management Studies (2004) from Mumbai University with 87% marks.
- 10+2 with Math, Stats (2001) from Maharashtra Board with 91% marks.
- High School (1999) from Maharashtra Board with 93% marks.

Step 4: List Your Technical Skills

When listing your technical skills, start with the skills that you are most confident about. Then add the skills that you do not have as good a command over. It is perfectly acceptable to include just one skill, if you feel that particular skill adds tremendous value to your résumé. If you do not have any technical skills, you can omit this step.

Example:

Technical Skills

- Flash
- Photoshop

Step 5: Insert Your Academic Project Experience

List down all the important projects that you have worked on. Include the following information in this section:

- | | | |
|-----------------|----------------|-----------------|
| • Project title | • Organization | • Platform used |
| • Contribution | • Description | |

Example:

Academic Projects

Project Title: Different Communication Skills

Organization: True Blue Solutions

Platform used: Articulate

Contribution: Content writing and graphic visualization

Description: Development of storyboards for corporate induction & training programs

Step 10: List Your Strengths

This is where you list all your major strengths. This section should be in the form of a bulleted list.

Example:**Strengths**

- Excellent oral, written and presentation skills
- Action-oriented and result-focused
- Great time management skills

Step 7: List Your Extracurricular Activities

It is very important to show that you have diverse interests and that your life consists of more than academics. Including your extracurricular activities can give you an added edge over other candidates who have similar academic scores and project experiences. This section should be in the form of a bulleted list.

Example:**Extracurricular Activities**

- Member of the Debate Club
- Played tennis at a national level
- Won first prize in the All India Camel Contest, 2010

Step 8: Write Your Personal Details

The last section of your résumé must include the following personal information:

- Date of birth
- Gender & marital status
- Nationality
- Languages known

Example:**Personal Details**

- Date of birth: 25th May, 1981
- Gender & marital status: Female, Single
- Nationality: Indian
- Languages known: English, Hindi, Tamil, French

Tips

- Keep your resume file name short, simple and informational.
- Make sure the resume is neat and free from typing errors.
- Always create your resume on plain white paper.

10.4.3 Interview FAQs

Take a look at some of the most frequently asked interview questions, and some helpful tips on how to answer them.

Q1. Can you tell me a little about yourself?

Tips to answer:

- Don't provide your full employment or personal history.
- Offer 2-3 specific experiences that you feel are most valuable and relevant.
- Conclude with how those experiences have made you perfect for this specific role.

Q2. How did you hear about the position?

Tips to answer:

- Tell the interviewer how you heard about the job – whether it was through a friend (name the friend), event or article (name them) or a job portal (say which one).
- Explain what excites you about the position and what in particular caught your eye about this role.

Q3. What do you know about the company?

Tips to answer:

- Don't recite the company's About Us page.
- Show that you understand and care about the company's goals.
- Explain why you believe in the company's mission and values.

Q4. Why do you want this job?

Tips to answer:

- Show that you are passionate about the job.
- Identify why the role is a great fit for you.
- Explain why you love the company.

Q5. Why should we hire you?

Tips to answer:

- Prove through your words that you can not only do the work, but can definitely deliver excellent results.
- Explain why you would be a great fit with the team and work culture.
- Explain why you should be chosen over any other candidate.

Q6. What are your greatest professional strengths?

Tips to answer:

- Be honest – share some of your real strengths, rather than give answers that you think sound good.
- Offer examples of specific strengths that are relevant to the position you are applying for.
- Provide examples of how you've demonstrated these strengths.

Q7. What do you consider to be your weaknesses?**Tips to answer:**

- The purpose of this question is to gauge your self-awareness and honesty.
- Give an example of a trait that you struggle with, but that you're working on to improve.

Q8. What are your salary requirements?**Tips to answer:**

- Do your research beforehand and find out the typical salary range for the job you are applying for.
- Figure out where you lie on the pay scale based on your experience, education, and skills.
- Be flexible. Tell the interviewer that you know your skills are valuable, but that you want the job and are willing to negotiate.

Q9. What do you like to do outside of work?**Tips to answer:**

- The purpose of this question is to see if you will fit in with the company culture.
- Be honest – open up and share activities and hobbies that interest and excite you.

Q10. If you were an animal, which one would you want to be?**Tips to answer:**

- The purpose of this question is to see if you are able to think on your feet.
- There's no wrong answer – but to make a great impression try to bring out your strengths or personality traits through your answer.

Q11: What do you think we could do better or differently?**Tips to answer:**

- The purpose of this question is to see if you have done your research on the company, and to test whether you can think critically and come up with new ideas.
- Suggest new ideas. Show how your interests and expertise would help you execute these ideas.

Q12: Do you have any questions for us?**Tips to answer:**

- Do not ask questions to which the answers can be easily found on the company website or through a quick online search.
- Ask intelligent questions that show your ability to think critically.

Tips 

- Be honest and confident while answering.
- Use examples of your past experiences wherever possible to make your answers more impactful.

10.4.4 Work Readiness – Terms & Terminologies

Every employee should be well versed in the following terms:

- **Annual leave:** Paid vacation leave given by employers to employees.
- **Background Check:** A method used by employers to verify the accuracy of the information provided by potential candidates.
- **Benefits:** A part of an employee's compensation package.
- **Breaks:** Short periods of rest taken by employees during working hours.
- **Compensation Package:** The combination of salary and benefits that an employer provides to his/her employees.
- **Compensatory Time (Comp Time):** Time off in lieu of pay.
- **Contract Employee:** An employee who works for one organization that sells said employee's service to another company, either on a project or time basis.
- **Contract of Employment:** When an employee is offered work in exchange for wages or salary, and accepts the offer made by the employer, a contract of employment exists.
- **Corporate Culture:** The beliefs and values shared by all the members of a company, and imparted from one generation of employees to another.
- **Counter Offer/Counter Proposal:** A negotiation technique used by potential candidates to increase the amount of salary offered by a company.
- **Cover Letter:** A letter that accompanies a candidate's resume. It emphasizes the important points in the candidate's resume and provides real examples that prove the candidate's ability to perform the expected job role.
- **Curriculum Vitae (CV)/Resume:** A summary of a candidate's achievements, educational work experience, skills and strengths.
- **Declining Letter:** A letter sent by an employee to an employer, turning down the job offer employer to the employee.
- **Deductions:** Amounts subtracted from an employee's pay and listed on the employee's pay slip.
- **Discrimination:** The act of treating one person not as favourably as another person.
- **Employee:** A person who works for another person in exchange for payment.
- **Employee Training:** A workshop or in-house training that an employee is asked to attend by his or her superior, for the benefit of the employer.
- **Employment Gaps:** Periods of unemployed time between jobs.
- **Fixed-Term Contract:** A contract of employment which gets terminated on an agreed-upon date.
- **Follow-Up:** The act of contacting a potential employer after a candidate has submitted his or her resume.
- **Freelancer/Consultant/Independent Contractor:** A person who works for him or herself for temporary jobs and projects with different employers.
- **Holiday:** Paid time-off from work.
- **Hourly Rate:** The amount of salary or wages paid for 60 minutes of work.

- **Internship:** A job opportunity offered by an employer to a potential employee, called an at the employer's company for a fixed, limited time period.
- **Interview:** A conversation between a potential employee and a representative of an order to determine if the potential employee should be hired.
- **Job Application:** A form which asks for a candidate's information like the candidate's name, details and work experience. The purpose of a candidate submitting a job application, is to show that candidate's interest in working for a particular company.
- **Job Offer:** An offer of employment made by an employer to a potential employee.
- **Job Search Agent:** A program that enables candidates to search for employment opportunities by selecting criteria listed in the program, for job vacancies. background, made by the and pitches intern, to work employer, in address, contact
- **Lay Off:** A lay off occurs when an employee is temporarily let go from his or her job, due to the employer not having any work for that employee.
- **Leave:** Formal permission given to an employee, by his or her employer, to take a leave of absence from work.
- **Letter of Acceptance:** A letter given by an employer to an employee, confirming the offer of employment made by the employer, as well as the conditions of the offer.
- **Letter of Agreement:** A letter that outlines the terms of employment.
- **Letter of Recommendation:** A letter written for the purpose of validating the work skills of a person.
- **Maternity Leave:** Leave taken from work by women who are pregnant, or who have just given birth.
- **Mentor:** A person who is employed at a higher level than you, who offers you advice and guides you in your career.
- **Minimum wage:** The minimum wage amount paid on an hourly basis.
- **Notice:** An announcement made by an employee or an employer, stating that the employment contract will end on a particular date.
- **Offer of Employment:** An offer made by an employer to a prospective employee that contains important information pertaining to the job being offered, like the starting date, salary, working conditions etc.
- **Open-Ended Contract:** A contract of employment that continues till the employer or terminates it.
- **Overqualified:** A person who is not suited for a particular job because he or she has too many years of work experience, or a level of education that is much higher than required for the job or is currently or was previously too highly paid.
- **Part-Time Worker:** An employee who works for fewer hours than the standard number of hours normally worked.
- **Paternity Leave:** Leave granted to a man who has recently become a father.
- **Recruiters/Head-hunters/Executive Search Firms:** Professionals who are paid by employers to search for people to fill particular positions.
- **Resigning/Resignations:** When an employee formally informs his or her employer that he or she is quitting his or her job.

- **Self-Employed:** A person who has his or her own business and does not work in the capacity of an employee.
- **Time Sheet:** A form that is submitted to an employer, by an employee, that contains the number of hours worked every day by the employee.

UNIT 10.5: Understanding Entrepreneurship

Unit Objectives

At the end of this unit, you will be able to:

1. Discuss the concept of entrepreneurship
2. Discuss the importance of entrepreneurship
3. Describe the characteristics of an entrepreneur
4. Describe the different types of enterprises
5. List the qualities of an effective leader
6. Discuss the benefits of effective leadership
7. List the traits of an effective team
8. Discuss the importance of listening effectively
9. Discuss how to listen effectively
10. Discuss the importance of speaking effectively
11. Discuss how to speak effectively
12. Discuss how to solve problems
13. List important problem-solving traits
14. Discuss ways to assess problem solving skills
15. Discuss the importance of negotiation
16. Discuss how to negotiate
17. Discuss how to identify new business opportunities
18. Discuss how to identify business opportunities within your business
19. Understand the meaning of entrepreneur
20. Describe the different types of entrepreneurs
21. List the characteristics of entrepreneurs
22. Recall entrepreneur success stories
23. Discuss the entrepreneurial process
24. Describe the entrepreneurship ecosystem
25. Discuss the government's role in the entrepreneurship ecosystem
26. Discuss the current entrepreneurship ecosystem in India
27. Understand the purpose of the Make in India campaign
28. Discuss the relationship between entrepreneurship and risk appetite
29. Discuss the relationship between entrepreneurship and resilience
30. Describe the characteristics of a resilient entrepreneur
31. Discuss how to deal with failure

10.5.1 Concept Introduction

Anyone who is determined to start a business, no matter what the risk, is an entrepreneur. Entrepreneurs run their own start-up, take responsibility for the financial risks and use creativity, innovation and vast reserves of self-motivation to achieve success. They dream big and are determined to do whatever it takes to turn their idea into a viable offering. The aim of an entrepreneur is to create an enterprise. The process of creating this enterprise is known as entrepreneurship.

10.5.1.1 Importance of Entrepreneurship

Entrepreneurship is very important for the following reasons:

1. It results in the creation of new organizations
2. It brings creativity into the marketplace
3. It leads to improved standards of living
4. It helps develop the economy of a country

10.5.1.2 Characteristics of Entrepreneurs

All successful entrepreneurs have certain characteristics in common.

They are all:

- Extremely passionate about their work
- Confident in themselves
- Disciplined and dedicated
- Motivated and driven
- Highly creative
- Visionaries
- Open-minded
- Decisive

Entrepreneurs also have a tendency to:

- Have a high-risk tolerance
- Thoroughly plan everything
- Manage their money wisely
- Make their customers their priority
- Understand their offering and their market in detail
- Ask for advice from experts when required
- Know when to cut their losses

10.5.1.3 Examples of Famous Entrepreneurs

Some famous entrepreneurs are:

- Bill Gates (Founder of Microsoft)
- Steve Jobs (Co-founder of Apple)
- Mark Zuckerberg (Founder of Facebook)
- Pierre Omidyar (Founder of eBay)

10.5.1.4 Types of Enterprises

As an entrepreneur in India, you can own and run any of the following types of enterprises:

Sole Proprietorship

In a sole proprietorship, a single individual owns, manages and controls the enterprise. This type of business is the easiest to form with respect to legal formalities. The business and the owner have no separate legal existence. All profit belongs to the proprietor, as do all the losses the liability of the entrepreneur is unlimited.

Partnership

A partnership firm is formed by two or more people. The owners of the enterprise are called partners. A partnership deed must be signed by all the partners. The firm and its partners have no separate legal existence. The profits are shared by the partners. With respect to losses, the liability of the partners is unlimited. A firm has a limited life span and must be dissolved when any one of the partners dies, retires, claims bankruptcy or goes insane.

Limited Liability Partnership (LLP)

In a Limited Liability Partnership or LLP, the partners of the firm enjoy perpetual existence as well as the advantage of limited liability. Each partner's liability is limited to their agreed contribution to the LLP. The partnership and its partners have a separate legal existence.

Tips



- Learn from others' failures.
- Be certain that this is what you want.
- Search for a problem to solve, rather than look for a problem to attach to your idea.

10.5.2 Leadership & Teamwork: Leadership and Leaders

Leadership means setting an example for others to follow. Setting a good example means not asking someone to do something that you wouldn't willingly want to do yourself. Leadership is about figuring out what to do in order to win as a team, and as a company.

Leaders believe in doing the right things. They also believe in helping others to do the right things. An effective leader is someone who:

- Creates an inspiring vision of the future.
- Motivates and inspires his team to pursue that vision.

10.5.2.1 Leadership Qualities That All Entrepreneurs Need

Building a successful enterprise is only possible if the entrepreneur in charge possesses excellent leadership qualities. Some critical leadership skills that every entrepreneur must have are:

1. **Pragmatism:** This means having the ability to highlight all obstacles and challenges, in order to resolve issues and reduce risks.
2. **Humility:** This means admitting to mistakes often and early and being quick to take responsibility for your actions. Mistakes should be viewed as challenges to overcome, not opportunities to point blame.
3. **Flexibility:** It is critical for a good leader to be very flexible and quickly adapt to change. It is equally critical to know when to adapt and when not to.
4. **Authenticity:** This means showing both, your strengths and your weaknesses. It means being human and showing others that you are human.
5. **Reinvention:** This means refreshing or changing your leadership style when necessary. To do this, it's important to learn where your leadership gaps lie and find out what resources are required to close them.
6. **Awareness:** This means taking the time to recognize how others view you. It means understanding how your presence affects those around you.

10.5.2.2 Benefits of Effective Leadership

Effective leadership results in numerous benefits. Great leadership leads to the leader successfully:

- Gaining the loyalty and commitment of the team members
- Motivating the team to work towards achieving the company's goals and objectives
- Building morale and instilling confidence in the team members
- Fostering mutual understanding and team-spirit among team members
- Convincing team members about the need to change when a situation requires adaptability

10.5.2.3 Teamwork and Teams

Teamwork occurs when the people in a workplace combine their individual skills to pursue a common goal. Effective teams are made up of individuals who work together to achieve this common goal. A great team is one who holds themselves accountable for the end result.

10.5.2.4 Importance of Teamwork in Entrepreneurial Success

For an entrepreneurial leader, building an effective team is critical to the success of a venture. An entrepreneur must ensure that the team he builds possesses certain crucial qualities, traits and characteristics. An effective team is one which has:

1. **Unity of purpose:** All the team members should clearly understand and be equally committed to the purpose, vision and goals of the team.
2. **Great communication skills:** Team members should have the ability to express their concerns, ask questions and use diagrams, and charts to convey complex information.
3. **The ability to collaborate:** Every member should feel entitled to provide regular feedback on new ideas.
4. **Initiative:** The team should consist of proactive individuals. The members should have the enthusiasm to come up with new ideas, improve existing ideas, and conduct their own research.
5. **Visionary members:** The team should have the ability to anticipate problems and act on these potential problems before they turn into real problems.
6. **Great adaptability skills:** The team must believe that change is a positive force. Change should be seen as the chance to improve and try new things.
7. **Excellent organizational skills:** The team should have the ability to develop standard work processes, balance responsibilities, properly plan projects, and set in place methods to measure progress and ROI.

Tips

- Don't get too attached to your original idea. Allow it to evolve and change.
- Be aware of your weaknesses and build a team that will complement your shortfalls.
- Hiring the right people is not enough. You need to promote or incentivize your most talented people to keep them motivated.
- Earn your team's respect.

10.5.3 Communication Skills

Listening is the ability to correctly receive and understand messages during the process of communication. Listening is critical for effective communication. Without effective listening skills, messages can easily be misunderstood. This results in a communication breakdown and can lead to the sender and the receiver of the message becoming frustrated or irritated.

It's very important to note that listening is not the same as hearing. Hearing just refers to sounds that you hear. Listening is a whole lot more than that. To listen, one requires focus. It means not only paying attention to the story, but also focusing on how the story is relayed, the way language and voice is used, and even how the speaker uses their body language. The ability to listen depends on how effectively one can perceive and understand both, verbal and non-verbal cues.

10.5.3.1 How to Listen Effectively?

To listen effectively you should:

- Stop talking
- Stop interrupting
- Focus completely on what is being said
- Nod and use encouraging words and gestures
- Be open-minded
- Think about the speaker's perspective
- Be very, very patient
- Pay attention to the tone that is being used
- Pay attention to the speaker's gestures, facial expressions and eye movements
- Not try and rush the person
- Not let the speaker's mannerisms or habits irritate or distract you

10.5.3.2 The Importance of Speaking Effectively

How successfully a message gets conveyed depends entirely on how effectively you are able to get it through. An effective speaker is one who enunciates properly, pronounces words correctly, chooses the right words and speaks at a pace that is easily understandable. Besides this, the words spoken out loud need to match the gestures, tone and body language used.

What you say, and the tone in which you say it, results in numerous perceptions being formed. A person who speaks hesitantly may be perceived as having low self-esteem or lacking in knowledge of the discussed topic. Those with a quiet voice may very well be labelled as shy. And those who speak in commanding tones with high levels of clarity, are usually considered to be extremely confident. This makes speaking a very critical communication skill.

10.5.3.3 How to Speak Effectively?

To speak effectively you should:

- Incorporate body language in your speech like eye contact, smiling, nodding, gesturing etc.
- Build a draft of your speech before actually making your speech.
- Ensure that all your emotions and feelings are under control.
- Pronounce your words distinctly with the correct pitch and intensity. Your speech should be crystal clear at all times. Use a pleasant and natural tone when speaking. Your audience should not feel like you are putting on an accent or being unnatural in any way.
- Use precise and specific words to drive your message home. Ambiguity should be avoided at all costs.
- Ensure that your speech has a logical flow.
- Be brief. Don't add any unnecessary information.
- Make a conscious effort to avoid irritating mannerisms like fidgeting, twitching etc.

- Choose your words carefully and use simple words that the majority of the audience will have no difficulty understanding.
- Use visual aids like slides or a whiteboard.
- Speak slowly so that your audience can easily understand what you're saying. However, be careful not to speak too slowly because this can come across as stiff, unprepared or even condescending.
- Remember to pause at the right moments.

Tips



- If you're finding it difficult to focus on what someone is saying, try repeating their words in your head.
- Always maintain eye contact with the person that you are communicating with, when speaking as well as listening. This conveys and also encourages interest in the conversation.

10.5.4 Problem Solving & Negotiation Skills

As per The Concise Oxford Dictionary (1995), a problem is, "A doubtful or difficult matter requiring a solution"

All problems contain two elements:

1. Goals
2. Obstacles

The aim of problem solving is to recognize the obstacles and remove them in order to achieve the goals.

10.5.4.1 How to Solve Problems?

Solving a problem requires a level of rational thinking. Here are some logical steps to follow when faced with an issue:

- **Step 1:** Identify the problem
- **Step 2:** Study the problem in detail
- **Step 3:** List all possible solutions
- **Step 4:** Select the best solution
- **Step 5:** Implement the chosen solution
- **Step 6:** Check that the problem has really been solved

10.5.4.2 Important Traits for Problem Solving

Highly developed problem-solving skills are critical for both, business owners and their employees. The following personality traits play a big role in how effectively problems are solved:

- Being open minded
- Asking the right questions
- Being proactive
- Not panicking
- Having a positive attitude
- Focusing on the right problem

10.5.4.3 How to Assess for Problem Solving Skills?

As an entrepreneur, it would be a good idea to assess the level of problem solving skills of potential candidates before hiring them. Some ways to assess this skill are through:

1. **Application forms:** Ask for proof of the candidate's problem-solving skills in the application form.
2. **Psychometric tests:** Give potential candidates logical reasoning and critical thinking tests and see how they fare.
3. **Interviews:** Create hypothetical problematic situations or raise ethical questions and see how the candidates respond.
4. **Technical questions:** Give candidates examples of real life problems and evaluate their thought process.

10.5.4.4 What is Negotiation?

Negotiation is a method used to settle differences. The aim of negotiation is to resolve differences through a compromise or agreement while avoiding disputes. Without negotiation, conflicts are likely to lead to resentment between people. Good negotiation skills help satisfy both parties and go a long way towards developing strong relationships.

Why Negotiate?

Starting a business requires many, many negotiations. Some negotiations are small while others are critical enough to make or break a start-up. Negotiation also plays a big role inside the workplace. As an entrepreneur, you need to not only know how to negotiate yourself, but also how to train employees in the art of negotiation.

How to Negotiate?

Take a look at some steps to help you negotiate:

- **Step 1:** Pre-Negotiation Preparation: Agree on where to meet to discuss the problem, decide who all will be present and set a time limit for the discussion.
- **Step 2:** Discuss the problem: This involves asking questions, listening to the other side, putting your views forward and clarifying doubts.
- **Step 3:** Clarify the Objective: Ensure that both parties want to solve the same problem and reach the same goal.
- **Step 4:** Aim for a Win-Win Outcome: Try your best to be open minded when negotiating. Compromise and offer substitute solutions to arrive at an outcome where both wins.
- **Step 5:** Clearly Define the Agreement: When an agreement has been reached, the details of the agreement should be crystal clear to both sides, with no scope for misunderstandings.
- **Step 6:** Implement the Agreed Upon Solution: Agree on a course of action to set the solution in motion.

Tips

- Know exactly what you want before you work towards getting it
- Give more importance to listening and thinking, than speaking
- Focus on building a relationship rather than winning
- Remember that your people skills will affect the outcome
- Know when to walk away – sometimes reaching an agreement may not be possible

10.5.5 Business Opportunities Identification

“The entrepreneur always searches for change, responds to it and exploits it as an opportunity.”

Peter Drucker

The ability to find good business opportunities is an important characteristic of an entrepreneur.

What is an Opportunity?

The word opportunity suggests a good chance or a favourable situation to do something offered by circumstances.

A business opportunity is typically a good/favourable change that can be used to run a business in a given environment, at a given point of time.

Common Questions Faced by Entrepreneurs

A critical question that all entrepreneurs face is how to go about finding the business opportunity that is right for them.

Some common questions that entrepreneurs constantly think about are:

- Should the new enterprise introduce a new product or service based on an unmet need?
- Should the new enterprise select an existing product or service from one market and offer it in another where it may not be available?
- Should the enterprise be based on a tried and tested formula that has worked elsewhere?

It is therefore extremely important that entrepreneurs must learn how to identify new and existing business opportunities and evaluate their chances of success.

When is an Idea an Opportunity?

An idea is an opportunity when:

- It creates or adds value to a customer
- It solves a significant problem, removes a pain point or meets a demand
- Has a robust market and profit margin
- Is a good fit with the founder and management team at the right time and place

Factors to Consider When Looking for Opportunities

Consider the following when looking for business opportunities:

- Economic trends
- Changes in funding
- Changing relationships between vendors, partners and suppliers
- Market trends
- Changes in political support
- Shift in target audience

Ways to Identify New Business Opportunities

- **Identify Market Inefficiencies:** When looking at a market, consider what inefficiencies are present in the market. Think about ways to correct these inefficiencies.
- **Remove Key Hassles:** Rather than create a new product or service, you can innovatively improve a product, service or process.
- **Create Something New:** Think about how you can create a new experience for customers, based on existing business models.
- **Pick a Growing Sector/Industry:** Research and find out which sectors or industries are growing and think about what opportunities you can tap in the same.
- **Think About Product Differentiation:** If you already have a product in mind, think about ways to set it apart from the existing ones.

Ways to Identify Business Opportunities within Your Business

1. SWOT Analysis

An excellent way to identify opportunities inside your business is by creating a SWOT analysis. The acronym SWOT stands for strengths, weaknesses, opportunities, and threats. SWOT analysis framework:



Fig.10.5.1. SWOT Analysis

Consider the following when looking for business opportunities:

By looking at yourself and your competitors using the SWOT framework, you can uncover opportunities that you can exploit, as well as manage and eliminate threats that could derail your success.

2. Establishing Your USP

Establish your USP in such a way that positions you differently from your competitors. Identify the uniqueness about your product that will motivate customers to buy from you and then promote that reason.

Opportunity Analysis

Once you have identified an opportunity, you need to analyse it. To analyse an opportunity, you must:

- Focus on the idea
- Focus on the market of the idea
- Talk to industry leaders in the same space as the idea
- Talk to players in the same space as the idea

Tips

- Remember, opportunities are situational.
- Look for a proven track record.
- Avoid the latest craze.
- Love your idea.

10.5.6 Entrepreneurship Support Eco-System

An entrepreneur is a person who:

- Does not work for an employee
- Runs a small enterprise
- Assumes all the risks and rewards of the enterprise, idea, good or service

Types of Entrepreneurs

There are four main types of entrepreneurs:

1. **The Traditional Entrepreneur:** This type of entrepreneur usually has some kind of skill – they can be a carpenter, mechanic, cook etc. They have businesses that have been around for numerous years like restaurants, shops and carpenters. Typically, they gain plenty of experience in a particular industry before they begin their own business in a similar field.
2. **The Growth Potential Entrepreneur:** The desire of this type of entrepreneur is to start an enterprise that will grow, win many customers and make lots of money. Their ultimate aim is to eventually sell their enterprise for a nice profit. Such entrepreneurs usually have a science or technical background.
3. **The Project-Oriented Entrepreneur:** This type of entrepreneur generally has a background in the Arts or psychology. Their enterprises tend to be focus on something that they are very passionate about.
4. **The Lifestyle Entrepreneur:** This type of entrepreneur has usually worked as a teacher or a secretary. They are more interested in selling something that people will enjoy, rather than making lots of money.

Characteristics of an Entrepreneur

Successful entrepreneurs have the following characteristics:

- They are highly motivated
- They are creative and persuasive
- They are mentally prepared to handle each and every task
- They have excellent business skills – they know how to evaluate their cash flow, sales and revenue

- They are willing to take great risks
- They are very proactive – this means they are willing to do the work themselves, rather than wait for someone else to do it
- They have a vision – they are able to see the big picture
- They are flexible and open-minded
- They are good at making decisions

10.5.6.1 Entrepreneur Success Stories

Dhiru Bhai Ambani

Dhirubhai Ambani began his entrepreneurial career by selling “bhajias” to pilgrims in Mount Girnar on weekends. At 16, he moved to Yemen where he worked as a gas-station attendant, and as a clerk in an oil company. He returned to India with Rs. 50,000 and started a textile trading company. Reliance went on to become the first Indian company to raise money in global markets and the first Indian company to feature in Forbes 500 list.

Dr. Karsanbhai Patel

Karsanbhai Patel made detergent powder in the backyard of his house. He sold his product door-to door and offered a money back guarantee with every pack that was sold. He charged Rs.3 per kg when the cheapest detergent at that time was Rs.13 per kg. Dr. Patel eventually started Nirma which became a whole new segment in the Indian domestic detergent market.

10.5.6.2 The Entrepreneurial Process

Let’s take a look at the stages of the entrepreneurial process.

- **Stage 1:** Idea Generation. The entrepreneurial process begins with an idea that has been thought of by the entrepreneur. The idea is a problem that has the potential to be solved.
- **Stage 2:** Germination or Recognition. In this stage a possible solution to the identified problem is thought of.
- **Stage 3:** Preparation or Rationalization. The problem is studied further, and research is done to find out how others have tried to solve the same problem.
- **Stage 4:** Incubation or Fantasizing. This stage involves creative thinking for the purpose of coming up with more ideas. Less thought is given to the problem areas.
- **Stage 5:** Feasibility Study: The next step is the creation of a feasibility study to determine if the idea will make a profit and if it should be seen through.
- **Stage 6:** Illumination or Realization. This is when all uncertain areas suddenly become clear. The entrepreneur feels confident that his idea has merit.
- **Stage 7:** Verification or Validation. In this final stage, the idea is verified to see if it works and if it is useful.

Take a look at the diagram below to get a better idea of this process.

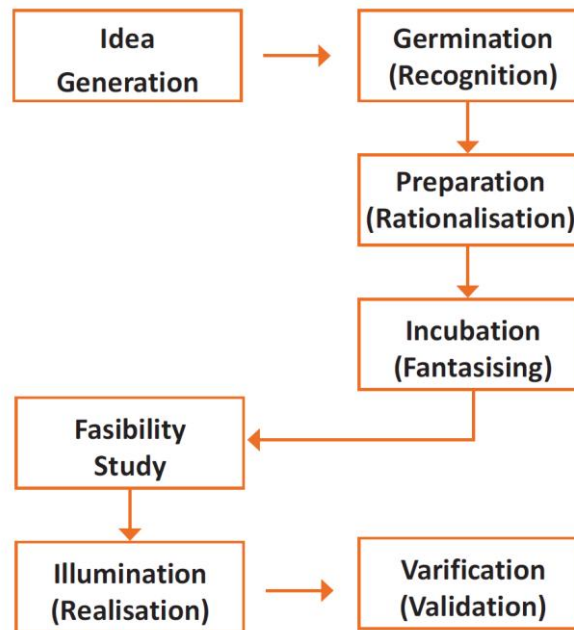


Fig.10.5.2: Stages of the entrepreneurial process

10.5.6.3 What is an Entrepreneur?

The entrepreneurship support ecosystem signifies the collective and complete nature of entrepreneurship. New companies emerge and flourish not only because of the courageous, visionary entrepreneurs who launch them, but they thrive as they are set in an environment or 'ecosystem' made of private and public participants. These players nurture and sustain the new ventures, facilitating the entrepreneurs' efforts. An entrepreneurship ecosystem comprises of the following six domains:

1. **Favourable Culture:** This includes elements such as tolerance of risk and errors, valuable networking and positive social standing of the entrepreneur.
2. **Facilitating Policies & Leadership:** This includes regulatory framework incentives and existence of public research institutes.
3. **Financing Options:** Angel financing, venture capitalists and micro loans would be good examples of this.
4. **Human Capital:** This refers to trained and untrained labour, entrepreneurs and entrepreneurship training programmes, etc.
5. **Conducive Markets for Products & Services:** This refers to an existence or scope of existence of a market for the product/service.
6. **Institutional & Infrastructural Support:** This includes legal and financing advisers, telecommunications, digital and transportation infrastructure, and entrepreneurship networking programmes.

These domains indicate whether there is a strong entrepreneurship support ecosystem and what actions should the government put in place to further encourage this ecosystem.

The six domains and their various elements have been graphically depicted.

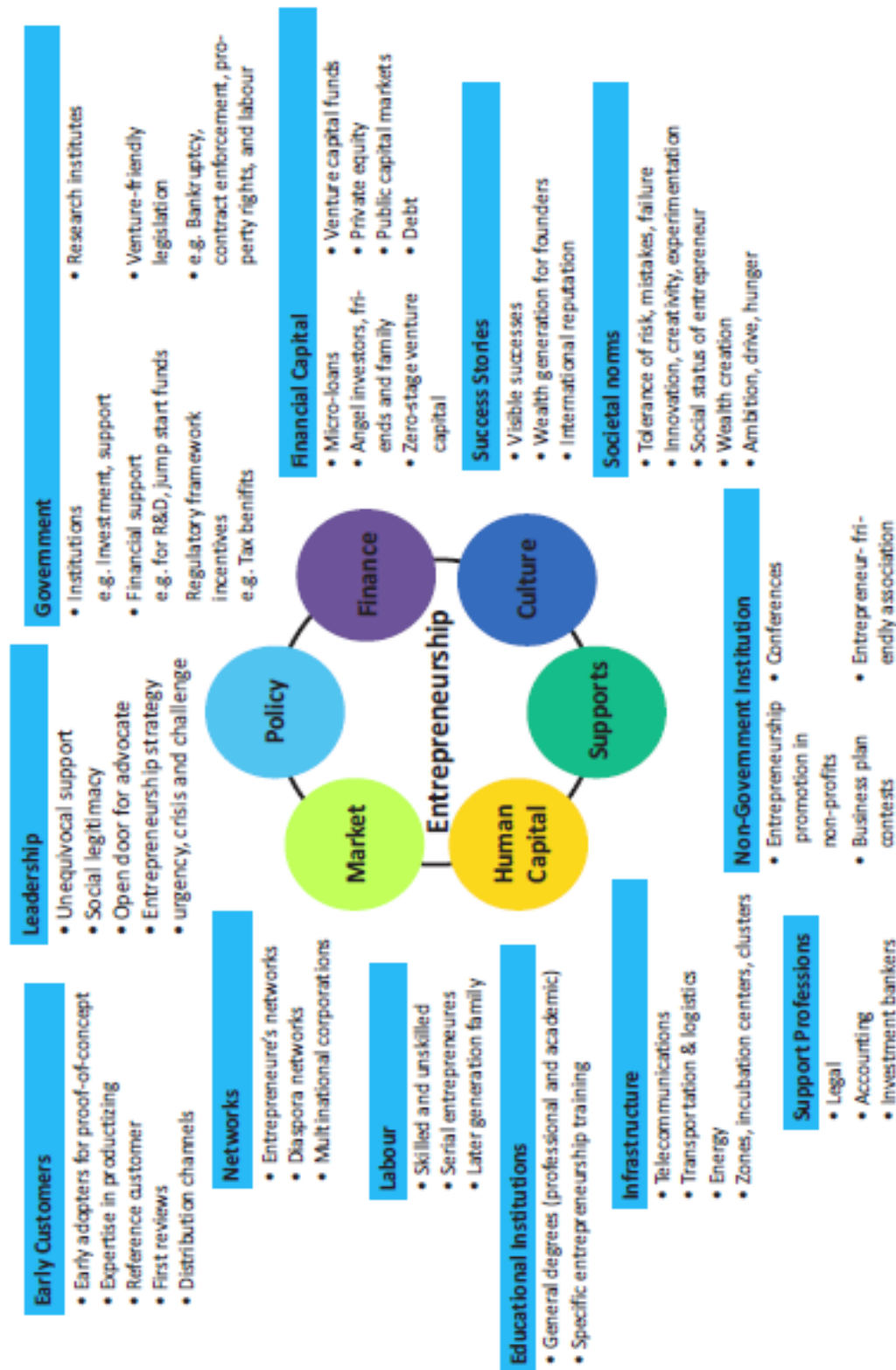


Fig.10.5.3. Entrepreneurship at a Glance

Every entrepreneurship support ecosystem is unique and all the elements of the ecosystem are interdependent. Although every region's entrepreneurship ecosystem can be broadly described by the above features, each ecosystem is the result of the hundred elements interacting in highly complex and particular ways.

Entrepreneurship ecosystems eventually become (largely) self-sustaining. When the six domains are resilient enough, they are mutually beneficial. At this point, government involvement can and should be significantly minimized. Public leaders do not need to invest a lot to sustain the ecosystem. It is imperative that the entrepreneurship ecosystem incentives are formulated to be self-liquidating, hence focusing on sustain ability of the environment.

10.5.6.4 Government's Role in the Entrepreneurship Ecosystem

Encouraging new ventures is a major focus for policymakers. Governments across the world are recognizing that new businesses flourish in distinctive types of supportive environments. Policymakers should study the scenario and take into account the following points whilst they formulate policies and regulations that enable successful entrepreneurship support ecosystems.

- Policymakers should avoid regulations that discourage new entrants and work towards building efficient methods for business start-ups. Policies and regulations which help existing, leading firms over entrepreneurial ventures, limit competition and obstruct growth/formation of new companies.
- Therefore, in place of developing policies that are intended to improve market failures, policymakers should interact with entrepreneurs and understand the challenges faced by them. The feedback is used to develop policies which encourage exploring ideas, developing new products and increase the rates of deal flow.
- Entrepreneurial supporters ideally need to create a database that enables identifying who the members in the ecosystem are and how they are connected. The ecosystem database are useful tools in developing engagement strategies.
- Disruptions are inevitable in economic as well as social life. However, it's important to note that economic disruption gives rise to entrepreneurial opportunities. Architects of the entrepreneurship ecosystems (entrepreneurs, mentors, policymakers and consumers,) should anticipate these dips, thus capitalizing on the opportunities they create.

10.5.6.5 Snapshot of the Entrepreneurship Ecosystem in India

Entrepreneurship has earned a newfound respect in India. Many Indians, with exposure to the world of business, who traditionally would have opted for a job, are setting up their own ventures. Many elements of the entrepreneurship ecosystem are beginning to come together. For example, increase in venture capitalists, government schemes and incubators, academia industry linkages, and emerging clusters and support to rural economy.

All these initiatives are effective but there is a need to scale up and enrich the ecosystem further in the following ways:

1. We need to review our attitude towards failures and accept them as learning experiences.
2. We must encourage the educated to become entrepreneurs and provide students in schools and colleges with entrepreneurship skills.
3. Universities, research labs and the government need to play the role of enablers in the entrepreneurship support ecosystem.
4. Policymakers need to focus on reducing the obstacles such as corruption, red tape and bureaucracy.
5. We need to improve our legal systems and court international venture capital firms and bring them to India.
6. We must devise policies and methods to reach the secondary and tertiary towns in India, where people do not have access to the same resources available in the cities.

Today, there is a huge opportunity in this country to introduce innovative solutions that are capable of scaling up and collaborating within the ecosystem as well as enriching it.

10.5.6.6 Make in India Campaign

Every entrepreneur has certain needs. Some of their important needs are:

- To easily get loans
- To easily find investors
- To get tax exemptions
- To easily access resources and good infrastructure
- To enjoy a procedure that is free of hassles and is quick
- To be able to easily partner with other firms

The Make in India campaign, launched by Prime Minister Modi aims to satisfy all these needs of young, aspiring entrepreneurs. Its objective is to:

- Make investment easy
- Support new ideas
- Enhance skill development
- Safeguard the ideas of entrepreneurs
- Create state-of-the-art facilities for manufacturing goods

Tips

- Research the existing market, network with other entrepreneurs, venture capitalists, angel investors, and thoroughly review the policies in place to enable your entrepreneurship.
- Failure is a stepping stone and not the end of the road. Review yours and your peers' errors and correct them in your future venture.
- Be proactive in your ecosystem. Identify the key features of your ecosystem and enrich them to ensure self-sustainability of your entrepreneurship support ecosystem.

10.5.7 Risk Appetite & Resilience

Entrepreneurship and Risk

Entrepreneurs are inherently risk takers. They are path-makers not path-takers. Unlike a normal, cautious person, an entrepreneur would not think twice about quitting his job (his sole income) and taking a risk on himself and his idea.

An entrepreneur is aware that while pursuing his dreams, assumptions can be proven wrong and unforeseen events may arise. He knows that after dealing with numerous problems, success is still not guaranteed. Entrepreneurship is synonymous with the ability to take risks. This ability, called risk-appetite, is an entrepreneurial trait that is partly genetic and partly acquired.

What is Risk Appetite?

Risk appetite is defined as the extent to which a company is equipped to take risk, in order to achieve its objectives. Essentially, it refers to the balance, struck by the company, between possible profits and the hazards caused by changes in the environment (economic ecosystem, policies, etc.). Taking on more risk may lead to higher rewards but have a high probability of losses as well. However, being too conservative may go against the company as it can miss out on good opportunities to grow and reach their objectives.

The levels of risk appetite can be broadly categorized as “low”, “medium” and “high.” The company’s entrepreneur(s) need to assess all possible alternatives and choose the option most likely to succeed. Companies have varying levels of risk appetites for different objectives. The levels depend on:

- The type of industry
- Market pressures
- Company objectives

For example, a start-up with a revolutionary concept will have a very high-risk appetite. The start-up can afford short term failures before it achieves longer term success. This type of appetite will not remain constant and will be adjusted to account for the present circumstances of the company.

Risk Appetite Statement

Companies have to define and articulate their risk appetite in sync with decisions made about their objectives and opportunities. The point of having a risk appetite statement is to have a framework that clearly states the acceptance and management of risk in business. It sets risk taking limits within the company. The risk appetite statement should convey the following:

- The nature of risks the business faces.
- Which risks the company is comfortable taking on and which risks are unacceptable.
- How much risk to accept in all the risk categories.
- The desired trade-off between risk and reward.
- Measures of risk and methods of examining and regulating risk exposures.

Entrepreneurship and Resilience

Entrepreneurs are characterized by a set of qualities known as resilience. These qualities play an especially large role in the early stages of developing an enterprise. Risk resilience is an extremely valuable characteristic as it is believed to protect entrepreneurs against the threat of challenges and changes in the business environment.

What is Entrepreneurial Resilience?

Resilience is used to describe individuals who have the ability to overcome setbacks related to their life and career aspirations. A resilient person is someone who is capable of easily and quickly recovering from setbacks. For the entrepreneur, resilience is a critical trait. Entrepreneurial resilience can be enhanced in the following ways:

- By developing a professional network of coaches and mentors
- By accepting that change is a part of life
- By viewing obstacles as something that can be overcome

Characteristics of a Resilient Entrepreneur

The characteristics required to make an entrepreneur resilient enough to go the whole way in their business enterprise are:

- A strong internal sense of control
- Ability to diversify and expand
- Strong social connections
- Survivor attitude
- Skill to learn from setbacks
- Cash-flow conscious habits
- Ability to look at the bigger picture
- Attention to detail

Tips

- Cultivate a great network of clients, suppliers, peers, friends and family. This will not only help you promote your business, but will also help you learn, identify new opportunities and stay tuned to changes in the market.
- Don't dwell on setbacks. Focus on what you need to do next to get moving again.
- While you should try, and curtail expenses, ensure that it is not at the cost of your growth.

10.5.8 Success & Failures

Understanding Successes and Failures in Entrepreneurship

Shyam is a famous entrepreneur, known for his success story. But what most people don't know, is that Shyam failed numerous times before his enterprise became a success. Read his interview to get an idea of what entrepreneurship is really about, straight from an entrepreneur who has both, failed and succeeded.

Interviewer: Shyam, I have heard that entrepreneurs are great risk-takers who are never afraid of failing. Is this true?

Shyam: Ha ha, no of course it's not true! Most people believe that entrepreneurs need to be fearlessly enthusiastic. But the truth is, fear is a very normal and valid human reaction, especially when you are planning to start your own business! In fact, my biggest fear was the fear of failing. The reality is, entrepreneurs fail as much as they succeed. The trick is to not allow the fear of failing to stop you from going ahead with your plans. Remember, failures are lessons for future success!

Interviewer: What, according to you, is the reason that entrepreneurs fail?

Shyam: Well, there is no one single reason why entrepreneurs fail. An entrepreneur can fail due to numerous reasons. You could fail because you have allowed your fear of failure to defeat you. You could fail because you are unwilling to delegate (distribute) work. As the saying goes, "You can do anything, but not everything!" You could fail because you gave up too easily – maybe you were not persistent enough. You could fail because you were focusing your energy on small, insignificant tasks and ignoring the tasks that were most important. Other reasons for failing are partnering with the wrong people, not being able to sell your product to the right customers at the right time at the right price... and many more reasons!

Interviewer: As an entrepreneur, how do you feel failure should be looked at?

Shyam: I believe we should all look at failure as an asset, rather than as something negative. The way I see it, if you have an idea, you should try to make it work, even if there is a chance that you will fail. That's because not trying is failure right there, anyway! And failure is not the worst thing that can happen. I think having regrets because of not trying and wondering 'what if' is far worse than trying and actually failing.

Interviewer: How did you feel when you failed for the first time?

Shyam: I was completely heartbroken! It was a very painful experience. But the good news is, you do recover from the failure. And with every subsequent failure, the recovery process gets a lot easier. That's because you start to see each failure more as a lesson that will eventually help you succeed, rather than as an obstacle that you cannot overcome. You will start to realize that failure has many benefits.

Interviewer: Can you tell us about some of the benefits of failing?

Shyam: One of the benefits that I have experienced personally from failing is that the failure made me see things in a new light. It gave me answers that I didn't have before. Failure can make you a lot stronger. It also helps keep your ego in control.

Interviewer: What advice would you give entrepreneurs who are about to start their own enterprises?

Shyam: I would tell them to do their research and ensure that their product is something that is actually wanted by customers. I'd tell them to pick their partners and employees very wisely and cautiously. I'd tell them that it's very important to be aggressive – push and market your product as aggressively as possible. I would warn them that starting an enterprise is very expensive and that they should be prepared for a situation where they run out of money. I would tell them to create long term goals and put a plan in action to achieve that goal. I would tell them to build a product that is truly unique. Be very careful and ensure that you are not copying another start-up. Lastly, I'd tell them that it's very important that they find the right investors.

Interviewer: That's some really helpful advice, Shyam! I'm sure this will help all entrepreneurs to be more prepared before they begin their journey! Thank you for all your insight!

Tips

- Remember that nothing is impossible.
- Identify your mission and your purpose before you start.
- Plan your next steps – don't make decisions hastily.

UNIT 10.6: Preparing to be an Entrepreneur

Unit Objectives

At the end of this unit, you will be able to:

1. Discuss how market research is carried out
2. Describe the 4 Ps of marketing
3. Discuss the importance of idea generation
4. Recall basic business terminology
5. Discuss the need for CRM
6. Discuss the benefits of CRM
7. Discuss the need for networking
8. Discuss the benefits of networking
9. Discuss the importance of setting goals
10. Differentiate between short-term, medium-term and long-term goals
11. Discuss how to write a business plan
12. Explain the financial planning process
13. Discuss ways to manage your risk
14. Describe the procedure and formalities for applying for bank finance
15. Discuss how to manage your own enterprise
16. List important questions that every entrepreneur should ask before starting an enterprise

10.6.1 Market Study/The 4 Ps of Marketing/Importance of an IDEA

Understanding Market Research

Market research is the process of gathering, analysing and interpreting market information on a product or service that is being sold in that market. It also includes information on:

- Past, present and prospective customers
- Customer characteristics and spending habits
- The location and needs of the target market
- The overall industry
- Relevant competitors

Market research involves two types of data:

- **Primary information.** This is research collected by yourself or by someone hired by you.
- **Secondary information.** This is research that already exists and is out there for you to find and use.

Primary research

Primary research can be of two types:

- **Exploratory:** This is open-ended and usually involves detailed, unstructured interviews.
- **Specific:** This is precise and involves structured, formal interviews. Conducting specific

Secondary research

Secondary research uses outside information. Some common secondary sources are:

- **Public sources:** These are usually free and have a lot of good information. Examples are government departments, business departments of public libraries etc.
- **Commercial sources:** These offer valuable information but usually require a fee to be paid. Examples are research and trade associations, banks and other financial institutions etc.
- **Educational institutions:** These offer a wealth of information. Examples are colleges, universities, technical institutes etc.

10.6.1.1 The 4 Ps of Marketing

The 4 Ps of marketing are Product, Price, Promotion and Place.

Let's look at each of these 4 Ps in detail.

Product

A product can be tangible, like a good or intangible, like a service.

Whatever your product is, it is critical that you have a clear understanding of what you are offering, and what its unique characteristics are, before you begin with the marketing process.

Some questions to ask yourself are:

- What need does the customer have for the product/service?
- What needs does it satisfy?
- Are there any more features that can be added?
- Does it have any expensive and unnecessary features?
- How will customers use it?
- What should it be called?
- How is it different from similar products?
- How much will it cost to produce?
- Can it be sold at a profit?

Price

Once all the elements of Product have been established, the Price factor needs to be considered. The Price of a Product will depend on several factors such as profit margins, supply, demand and the marketing strategy.

Some typical questions to ask yourself include:

- What is the value of the product/service to customers?
- Do local products/services have established price points?
- Is the customer price sensitive?
- Should discounts be offered?
- How is your price compared to that of your competitors?

Promotion

Once you are certain about your Product and your Price, the next step is to look at ways to promote it. Some key elements of promotion are advertising, public relations, social media marketing, email marketing, search engine marketing, video marketing and more.

Some questions to ask yourself are:

- Where should you promote your product or service?
- What is the best medium to use to reach your target audience
- When would be the best time to promote your product?
- How are your competitors promoting their products?

Place

According to most marketers, the basis of marketing is about offering the right product, at the right price, at the right place, at the right time. For this reason, selecting the best possible location is critical for converting prospective clients into actual clients.

Some questions to ask yourself are:

- Will your product or service be looked for in a physical store, online or both?
- What should you do to access the most appropriate distribution channels?
- Will you require a sales force?
- Where are your competitors offering their products or services?
- Should you follow in your competitors' footsteps?
- Should you do something different from your competitors?

Importance of an IDEA

Ideas are the foundation of progress. An idea can be small or ground-breaking, easy to accomplish or extremely complicated to implement. Whatever the case, the fact that it is an idea gives it merit. Without ideas, nothing is possible. Most people are afraid to speak out their ideas, out for fear of being ridiculed. However, if are an entrepreneur and want to remain competitive and innovative, you need to bring your ideas out into the light.

Some ways to do this are by:

- Establishing a culture of brainstorming where you invite all interested parties to contribute
- Discussing ideas out loud so that people can add their ideas, views, opinions to them

- Being open minded and not limiting your ideas, even if the idea who have seems ridiculous
- Not discarding ideas that you don't work on immediately, but instead making a note of them and shelving them so they can be revisited at a later date.

Tips

- Keep in mind that good ideas do not always have to be unique.
- Remember that timing plays a huge role in determining the success of your idea.
- Situations and circumstances will always change, so be flexible and adapt your idea accordingly.

10.6.2 Business Entity Concepts: Basic Business Terminology

If your aim is to start and run a business, it is crucial that you have a good understanding of basic business terms. Every entrepreneur should be well versed in the following terms:

- **Accounting:** A systematic method of recording and reporting financial transactions.
- **Accounts payable:** Money owed by a company to its creditors.
- **Accounts Receivable:** The amount a company is owed by its clients.
- **Assets:** The value of everything a company owns and uses to conduct its business.
- **Balance Sheet:** A snapshot of a company's assets, liabilities and owner's equity at a given moment.
- **Bottom Line:** The total amount a business has earned or lost at the end of a month.
- **Business:** An organization that operates with the aim of making a profit.
- **Business to Business (B2B):** A business that sells goods or services to another business.
- **Business to Consumer (B2C):** A business that sells goods or services directly to the end user.
- **Capital:** The money a business has in its accounts, assets and investments. The two main types of capital are debt and equity.
- **Cash Flow:** The overall movement of funds through a business each month, including income and expenses.
- **Cash Flow Statement:** A statement showing the money that entered and exited a business during a specific period of time.
- **Contract:** A formal agreement to do work for pay.
- **Depreciation:** The degrading value of an asset over time.
- **Expense:** The costs that a business incurs through its operations.
- **Finance:** The management and allocation of money and other assets.
- **Financial Report:** A comprehensive account of a business' transactions and expenses.
- **Fixed Cost:** A one-time expense.

- **Income Statement (Profit and Loss Statement):** Shows the profitability of a business during a period of time.
- **Liabilities:** The value of what a business owes to someone else.
- **Marketing:** The process of promoting, selling and distributing a product or service.
- **Net Income/Profit:** Revenues minus expenses.
- **Net Worth:** The total value of a business.
- **Payback Period:** The amount of time it takes to recover the initial investment of a business.
- **Profit Margin:** The ratio of profit, divided by revenue, displayed as a percentage.
- **Return on Investment (ROI):** The amount of money a business gets as return from an investment.
- **Revenue:** The total amount of income before expenses are subtracted.
- **Sales Prospect:** A potential customer.
- **Supplier:** A provider of supplies to a business.
- **Target Market:** A specific group of customers at which a company's products and services are aimed.
- **Valuation:** An estimate of the overall worth of the business.
- **Variable Cost:** Expenses that change in proportion to the activity of a business.
- **Working Capital:** Calculated as current assets minus current liabilities.

10.6.3 CRM & Networking

What is CRM?

CRM stands for Customer Relationship Management. Originally the expression Customer Relationship Management meant managing one's relationship with customers. However, today it refers to IT systems and software designed to help companies manage their relationships.

The Need for CRM

The better a company can manage its relationships with its customers, the higher the chances of the company's success. For any entrepreneur, the ability to successfully retain existing customers and expand the enterprise is paramount. Therefore, IT systems that focus on addressing the problems of dealing with customers on a daily basis are becoming more and more in demand.

Customer needs change over time, and technology can make it easier to understand what customers really want. This insight helps companies to be more responsive to the needs of their customers. It enables them to modify their business operations when required, so that their customers are always served in the best manner possible. Simply put, CRM helps companies recognize the value of their clients and enables them to capitalize on improved customer relations.

Benefits of CRM

CRM has a number of important benefits:

- It helps improve relations with existing customers which can lead to:
 - Increased sales
 - Identification of customer needs
 - Cross-selling of products
- It results in better marketing of one's products or services
- It results in better marketing of one's products or services
- It enhances customer satisfaction and retention
- It improves profitability by identifying and focusing on the most profitable customers

10.6.3.1 What is Networking?

In business, networking means leveraging your business and personal connections in order to bring in a regular supply of new business. This marketing method is effective as well as low cost. It is a great way to develop sales opportunities and contacts. Networking can be based on referrals and introductions, or can take place via phone, email, and social and business networking websites.

The Need for Networking

Networking is an essential personal skill for business people, but it is even more important for entrepreneurs. The process of networking has its roots in relationship building. Networking results in greater communication and a stronger presence in the entrepreneurial ecosystem. This helps build strong relationships with other entrepreneurs.

Business networking events held across the globe play a huge role in connecting like-minded entrepreneurs who share the same fundamental beliefs in communication, exchanging ideas and converting ideas into realities. Such networking events also play a crucial role in connecting entrepreneurs with potential investors. Entrepreneurs may have vastly different experiences and backgrounds but they all have a common goal in mind – they all seek connection, inspiration, advice, opportunities and mentors. Networking offers them a platform to do just that.

Benefits of Networking

Networking offers numerous benefits for entrepreneurs. Some of the major benefits are:

- Getting high quality leads
- Increased business opportunities
- Good source of relevant connections
- Advice from like-minded entrepreneurs
- Gaining visibility and raising your profile
- Meeting positive and enthusiastic people

- Increased self-confidence
- Satisfaction from helping others
- Building strong and lasting friendships

Tips



- Use social media interactions to identify needs and gather feedback.
- When networking, ask open-ended questions rather than yes/no type questions.

10.6.4 Business Plan: Why Set Goals?

Setting goals is important because it gives you long-term vision and short-term motivation. Goals can be short term, medium term and long term.

Short-Term Goals

- These are specific goals for the immediate future.

Example: Repairing a machine that has failed.

Medium-Term Goals

- These goals are built on your short-term goals.
- They do not need to be as specific as your short-term goals.

Example: Arranging for a service contract to ensure that your machines don't fail again.

Long-Term Goals

These goals require time and planning.

They usually take a year or more to achieve.

Example: Planning your expenses so you can buy new machinery

Why Create a Business Plan?

A business plan is a tool for understanding how your business is put together. It can be used to monitor progress, foster accountability and control the fate of the business. It usually offers a 3-5-year projection and outlines the plan that the company intends to follow to grow its revenues. A business plan is also a very important tool for getting the interest of key employees or future investors.

A business plan typically comprises of eight elements.

10.6.4.1 Elements of a Business Plan

Executive Summary

The executive summary follows the title page. The summary should clearly state your desires as the business owner in a short and business-like way. It is an overview of your business and your plans. Ideally this should not be more than 1-2 pages.

Your Executive Summary should include:

- **The Mission Statement:** Explain what your business is all about.

Example: Nike's Mission Statement

Nike's mission statement is "To bring inspiration and innovation to every athlete in the world."

- **Company Information:** Provide information like when your business was formed, the names and roles of the founders, the number of employees, your business location(s) etc.
- **Growth Highlights:** Mention examples of company growth. Use graphs and charts where possible.
- **Your Products/Services:** Describe the products or services provided.
- **Financial Information:** Provide details on current bank and investors.
- **Summarize future plans:** Describe where you see your business in the future.

Business Description

The second section of your business plan needs to provide a detailed review of the different elements of your business. This will help potential investors to correctly understand your business goal and the uniqueness of your offering.

Your Business Description should include:

- A description of the nature of your business
- The market needs that you are aiming to satisfy
- The ways in which your products and services meet these needs
- The specific consumers and organizations that you intend to serve
- Your specific competitive advantages

Market Analysis

The market analysis section usually follows the business description. The aim of this section is to showcase your industry and market knowledge. This is also the section where you should lay down your research findings and conclusions.

Your Market Analysis should include:

- Your industry description and outlook
- Information on your target market
- The needs and demographics of your target audience
- The size of your target market

- The amount of market shares you want to capture
- Your pricing structures
- Your competitive analysis
- Any regulatory requirements

Organization & Management

This section should come immediately after the Market Analysis. Your Organization & Management section should include:

- Your company's organizational structure
- Details of your company's ownership
- Details of your management team
- Qualifications of your board of directors
- Detailed descriptions of each division/department and its function
- The salary and benefits package that you offer your people

Service or Product Line

The next section is the service or product line section. This is where you describe your service or product, and stress on their benefits to potential and current customers. Explain in detail why your product of choice will fulfil the needs of your target audience.

Your Service or Product Line section should include:

- A description of your product/service
- A description of your product or service's life cycle
- A list of any copyright or patent filings
- A description of any R&D activities that you are involved in or planning

Marketing & Sales

Once the Service or Product Line section of your plan has been completed, you should start on the description of the marketing and sales management strategy for your business.

Your Marketing section should include the following strategies:

- **Market penetration strategy:** This strategy focuses on selling your existing products or services in existing markets, in order to increase your market share.
- **Growth strategy:** This strategy focuses on increasing the amount of market share, even if it reduces earnings in the short-term.
- **Channels of distribution strategy:** These can be wholesalers, retailers, distributors and even the internet.
- **Communication strategy:** These can be written strategies (e-mail, text, chat), oral strategies (phone calls, video chats, face-to-face conversations), non-verbal strategies (body language, facial expressions, tone of voice) and visual strategies (signs, webpages, illustrations).

Your Sales section should include the following information:

- **A salesforce strategy:** This strategy focuses on increasing the revenue of the enterprise.
- **A breakdown of your sales activities:** This means detailing out how you intend to sell your products or services – will you sell it offline or online, how many units do you intend to sell, what price do you plan to sell each unit at, etc.

Funding Request

This section is specifically for those who require funding for their venture. The Funding Request section should include the following information:

- How much funding you currently require.
- How much funding you will require over the next five years. This will depend on your long-term goals.
- The type of funding you want and how you plan to use it. Do you want funding that can be used only for a specific purpose, or funding that can be used for any kind of requirement?
- Strategic plans for the future. This will involve detailing out your long-term plans – what these plans are and how much money you will require to put these plans in motions.
- Historical and prospective financial information. This can be done by creating and maintaining all your financial records, right from the moment your enterprise started, to the present day. Documents required for this are your balance sheet which contains details of your company's assets and liabilities, your income statement which lists your company's revenues, expenses and net income for the year, your tax returns (usually for the last three years) and your cash flow budget which lists the cash that came in, the cash that went out and states whether you had a cash deficit (negative balance) or surplus (positive balance) at the end of each month.

Financial Planning

Before you begin building your enterprise, you need to plan your finances. Take a look at the steps for financial planning:

- **Step 1:** Create a financial plan. This should include your goals, strategies and timelines for accomplishing these goals.
- **Step 2:** Organize all your important financial documents. Maintain a file to hold your investment details, bank statements, tax papers, credit card bills, insurance papers and any other financial records.
- **Step 3:** Calculate your net worth. This means figure out what you own (assets like your house, bank accounts, investments etc.), and then subtract what you owe (liabilities like loans, pending credit card amounts etc.) the amount you are left with is your net worth.
- **Step 4:** Make a spending plan. This means write down in detail where your money will come from, and where it will go.
- **Step 5:** Build an emergency fund. A good emergency fund contains enough money to cover at least 6 months' worth of expenses.
- **Step 6:** Set up your insurance. Insurance provides long term financial security and protects you against risk.

Risk Management

As an entrepreneur, it is critical that you evaluate the risks involved with the type of enterprise that you want to start, before you begin setting up your company. Once you have identified potential risks, you can take steps to reduce them. Some ways to manage risks are:

- Research similar business and find out about their risks and how they were minimized.
- Evaluate current market trends and find out if similar products or services that launched a while ago are still being well received by the public.
- Think about whether you really have the required expertise to launch your product or service.
- Examine your finances and see if you have enough income to start your enterprise.
- Be aware of the current state of the economy, consider how the economy may change over time, and think about how your enterprise will be affected by any of those changes.
- Create a detailed business plan.

Tips



- Ensure all the important elements are covered in your plan.
- Scrutinize the numbers thoroughly.
- Be concise and realistic.
- Be conservative in your approach and your projections.
- Use visuals like charts, graphs and images wherever possible.

10.6.5 Procedure and Formalities for Bank Finance

The Need for Bank Finance

For entrepreneurs, one of the most difficult challenges faced involves securing funds for start-ups. With numerous funding options available, entrepreneurs need to take a close look at which funding methodology works best for them. In India, banks are one of the largest funders of start-ups, offering funding to thousands of start-ups every year.

10.6.5.1 What Information Should Entrepreneurs Offer Banks for Funding?

When approaching a bank, entrepreneurs must have a clear idea of the different criteria that banks use to screen, rate and process loan applications. Entrepreneurs must also be aware of the importance of providing banks with accurate and correct information. It is now easier than ever for financial institutions to track any default behaviour of loan applicants. Entrepreneurs looking for funding from banks must provide banks with information relating to their general credentials, financial situation and guarantees or collaterals that can be offered.

General Credentials

This is where you, as an entrepreneur, provide the bank with background information on yourself. Such information includes:

- **Letter(s) of Introduction:** This letter should be written by a respected business person who knows you well enough to introduce you. The aim of this letter is set across your achievements and vouch for your character and integrity.
- **Your Profile:** This is basically your resume. You need to give the bank a good idea of your educational achievements, professional training, qualifications, employment record and achievements.
- **Business Brochure:** A business brochure typically provides information on company products, clients, how long the business has been running for etc.
- **Bank and Other References:** If you have an account with another bank, providing those bank references is a good idea.
- **Proof of Company Ownership or Registration:** In some cases, you may need to provide the bank with proof of company ownership and registration. A list of assets and liabilities may also be required.

Financial Situation

Banks will expect current financial information on your enterprise. The standard financial reports you should be prepared with are:

- Balance Sheet
- Cash-Flow Statement
- Business Plan
- Profit-and-Loss Account
- Projected Sales and Revenues
- Feasibility Study

Guarantees or Collaterals

Usually banks will refuse to grant you a loan without security. You can offer assets which the bank can seize and sell off if you do not repay the loan. Fixed assets like machinery, equipment, vehicles etc. are also considered to be security for loans.

10.6.5.2 The Lending Criteria of Banks

Your request for funding will have a higher chance of success if you can satisfy the following lending criteria:

- Good cash flow
- Adequate shareholders' funds
- Adequate security
- Experience in business
- Good reputation

The Procedure

To apply for funding the following procedure will need to be followed.

- Submit your application form and all other required documents to the bank.
- The bank will carefully assess your credit worthiness and assign ratings by analysing your business information with respect to parameters like management, financial, operational and industry information as well as past loan performance.
- The bank will make a decision as to whether or not you should be given funding.

Tips



- Get advice on funding options from experienced bankers.
- Be cautious and avoid borrowing more than you need, for longer than you need, at an interest rate that is higher than you are comfortable with.

10.6.6 Enterprise Management - An Overview

To manage your enterprise effectively you need to look at many different aspects, right from managing the day-to-day activities to figuring out how to handle a large-scale event. Let's take a look at some simple steps to manage your company effectively.

Step 1: Use your leadership skills and ask for advice when required.

Let's take the example of Ramu, an entrepreneur who has recently started his own enterprise. Ramu has good leadership skills – he is honest, communicates well, knows how to delegate work etc. These leadership skills definitely help Ramu in the management of his enterprise. However, sometimes Ramu comes across situations that he is unsure how to handle. What should Ramu do in this case? One solution is for him to find a more experienced manager who is willing to mentor him. Another solution is for Ramu to use his networking skills so that he can connect with managers from other organizations, who can give him advice on how to handle such situations.

Step 2: Divide your work amongst others – realize that you cannot handle everything yourself.

Even the most skilled manager in the world will not be able to manage every single task that an enterprise will demand of him. A smart manager needs to realize that the key to managing his enterprise lies in his dividing all his work between those around him. This is known as delegation. However, delegating is not enough. A manager must delegate effectively if he wants to see results. This is important because delegating, when done incorrectly, can result in you creating even more work for yourself. To delegate effectively, you can start by making two lists. One list should contain the things that you know you need to handle yourself. The second list should contain the things that you are confident can be given to others to manage and handle.

Besides incorrect delegation, another issue that may arise is over-delegation. This means giving away too many of your tasks to others. The problem with this is, the more tasks you delegate, the more time you will spend tracking and monitoring the work progress of those you have handed the tasks to. This will leave you with very little time to finish your own work.

Step 3: Hire the right people for the job.

Hiring the right people goes a long way towards effectively managing your enterprise. To hire the best people suited for the job, you need to be very careful with your interview process. You should ask potential candidates the right questions and evaluate their answers carefully. Carrying out background checks is always a good practice. Running a credit check is also a good idea, especially if the people you are planning to hire will be handling your money. Create a detailed job description for each role that you want filled and ensure that all candidates have a clear and correct understanding of the job description. You should also have an employee manual in place, where you put down every expectation that you have from your employees. All these actions will help ensure that the right people are approached for running your enterprise.

Step 4: Motivate your employees and train them well.

Your enterprise can only be managed effectively if your employees are motivated to work hard for your enterprise. Part of being motivated involves your employees believing in the vision and mission of your enterprise and genuinely wanting to make efforts towards pursuing the same. You can motivate your employees with recognition, bonuses and rewards for achievements. You can also motivate them by telling them about how their efforts have led to the company's success. This will help them feel pride and give them a sense of responsibility that will increase their motivation. Besides motivating your people, your employees should be constantly trained in new practices and technologies. Remember, training is not a one-time effort. It is a consistent effort that needs to be carried out regularly.

Step 5: Train your people to handle your customers well.

Your employees need to be well-versed in the art of customer management. This means they should be able to understand what their customers want, and also know how to satisfy their needs. For them to truly understand this, they need to see how you deal effectively with customers.

This is called leading by example. Show them how you sincerely listen to your clients and the efforts that you put into understand their requirements. Let them listen to the type of questions that you ask your clients, so they understand which questions are appropriate.

Step 6: Market your enterprise effectively.

Also, hire a marketing agency if you feel you need help in this area. Now that you know what is required to run your enterprise effectively, put these steps into play, and see how much easier managing your enterprise becomes!

Tips

- Get advice on funding options from experienced bankers.
- Be cautious and avoid borrowing more than you need, for longer than you need, at an interest rate that is higher than you are comfortable with.

10.6.7 Considering Entrepreneurship

Questions to ask yourself before considering entrepreneurship.

1. Why am I starting a business?
2. What problem am I solving?
3. Have others attempted to solve this problem before? Did they succeed or fail?
4. Do I have a mentor¹ or industry expert that I can call on?
5. Who is my ideal customer²?
6. Who are my competitors³?
7. What makes my business idea different from other business ideas?
8. What are the key features of my product or service?
9. Have I done a SWOT⁴ analysis?
10. What is the size of the market that will buy my product or service?
11. What would it take to build a minimum viable product⁵ to test the market?
12. How much money do I need to get started?
13. Will I need to get a loan?
14. How soon will my products or services be available?
15. When will I break even⁶ or make a profit?
16. How will those who invest in my idea make a profit?
17. How should I set up the legal structure⁷ of my business?
18. What taxes will I need to pay?
19. What kind of insurance⁹ will I need?
20. Have I reached out to potential customers for feedback

Tips

- It is very important to validate your business ideas before you invest significant time, money and resources into it.
- The more questions you ask yourself, the more prepared you will be to handle to highs and lows of starting an enterprise.

Footnotes:

1. A mentor is a trusted and experienced person who is willing to coach and guide you.
2. A customer is someone who buys goods and/or services.
3. A competitor is a person or company that sells products and/or services similar to your products and/or services.
4. SWOT stands for Strengths, Weaknesses, Opportunities and Threats. To conduct a SWOT analysis of your company, you need to list down all the strengths and weaknesses of your company, the opportunities that are present for your company and the threats faced by your company.
5. A minimum viable product is a product that has the fewest possible features, that can be sold to customers, for the purpose of getting feedback from customers on the product.
6. A company is said to break even when the profits of the company are equal to the costs.
7. The legal structure could be a sole proprietorship, partnership or limited liability partnership.
8. There are two types of taxes – direct taxes payable by a person or a company, or indirect taxes charged on goods and/or services.
9. There are two types of insurance – life insurance and general insurance. Life insurance covers human life while general insurance covers assets like animals, goods, cars etc.



