

Module 5

Methods, media and technology in facilitating learning

Where are you in the process?

MODULE 1:
The context of Education, Training and Development Practices

MODULE 2:
Training Needs Assessment

MODULE 3:
Planning and Design of Outcomes-based Learning

MODULE 4:
Facilitating and assessing learning

MODULE 5:
Methods, media and technology in facilitating learning

MODULE 6:
Management and Evaluation of ETD practices

MODULE 7:
Continuous occupational expertise development

Module 5:

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Learning outcomes

After completing this module, you should be able to:

- ◆ Define an education or training method
- ◆ List factors to take into account when deciding on the training methods to use
- ◆ List some common training methods and their advantages and disadvantages
- ◆ Select training methods and techniques appropriate for the training outcomes, training venue, group size and the learners
- ◆ Explain some basic ideas about media and visual and audio-visual aids
- ◆ Know how to choose appropriate media and use these to enhance your training
- ◆ List some guidelines on using visuals
- ◆ Explore how print materials can help facilitation and how to choose print materials
- ◆ List some guidelines on designing print materials
- ◆ Use some common training technologies appropriately
- ◆ Discuss basic features of the Internet and the World Wide Web
- ◆ List some guidelines on using the overhead projector, newsprint and the data projector
- ◆ Avoid inappropriate use of presentation packages.

Aim of the Module

The aim of **Module 5** is to examine explore how you can increase your effectiveness as a trainer by choosing and using appropriate training methods, educational media, materials, and technological resources to facilitate learning. This module builds on the previous two modules on the design of the training and on the facilitation and assessment of the training.

The module tries to help you answer the questions:

- ◆ What training methods and techniques will work best for these specific learners?
- ◆ What media will assist and consolidate their learning?
- ◆ What technologies can assist in presentation of learning material and in interactive learning?

Introduction to methods and media

The primary purpose of training methods is to help the learner to learn better and faster. All methods and media (including various technologies that support the use of these methods and media) are useful only insofar as they make learning happen more effectively and efficiently.

Successful method and media use is heavily dependent on adequate preparation and practice.

Curzon (1990, p. 166) argues that planning training requires the trainer to make a number of decisions based on answers to the following questions:

1. What ought to be the *content* of my teaching scheme?
2. What ought to be the *shape* of that scheme?
3. What should be my precise *objectives*, the attainment of which will ensure that the syllabus, as I have chosen to interpret it, is largely covered?
4. What *modes of instruction* are necessitated by my choice of objectives?
5. What *modes of assessment* are necessitated by the type of instruction I have selected?
6. What *allocation of course time* is to be made for each part of the syllabus?

From the list of questions by Curzon, you will note that the mode of instruction is reliant on the objectives that have been set. This is a vital point. The use of particular training methods and teaching aids should be determined by whether they actually help the learners achieve the desired learning outcomes.

Choosing and using training methods

What is a training method?

A **training method** is a way in which people are organised in order to conduct an **training activity**, which will contribute towards the achievement of the learning outcomes. (The term training or instructional **technique** is often used as a synonym for **method**.)

Methods can take various forms :

- ◆ individual methods (e.g. face-to-face tutorial)
- ◆ group methods (e.g. lectures)
- ◆ mass/community methods (e.g. using radio or TV).

It is useful to think of an training method as a highway which leads to cities (objectives or learning outcomes) and the training materials (visual aids, etc.) as the signposts along the highways. Learners may need to travel several highways in order to reach a given city. Some learners may progress slowly if they use the discussion highway, while others may learn more rapidly via a programmed self-instructional text (Laird, 1978, p. 128). For other objectives, there may be other more appealing highways to take with different signposts.

Thus the key questions facing you, the educator, must surely be: which highway do I take to reach the chosen city? How do I decide which highway to choose?

Steps for choosing training methods

The following steps are one way of selecting training methods:

Step	Action
1	From your objectives determine whether you have to: a. get across information or knowledge b. develop skills or performance c. change attitudes or values d. combine a., b. or c.
2	For each objective determine what kind or level of knowledge, skill or attitude must be learned.
3	Decide, having done steps 1 and 2, whether exposition or discovery methods are most suitable.
4	Consider any constraints such as: target population group size time expectations and norms resources budget etc.
5	Decide on instructional method and group size .

The following questions can help you decide on whether the method is suitable to your learning outcomes or objectives:

- ◆ What do you want to accomplish by using it?
- ◆ Is it to entertain, relax, impress, arouse, stimulate, or inform your learners?
- ◆ Are you planning to have the learners acquire new skills and new information, or are you exploring attitudes and feelings?

Remember that learning can be categorised into three domains :

1. **Cognitive**, which deals with the recall or recognition of knowledge and the development of intellectual abilities and skills
2. **Affective**, which describes changes in attitude and values, and the development of appreciations and adequate adjustments
3. **Psychomotor**, which has to do with the development of manipulative skills, involving tools, machinery, procedures and techniques.

These domains are also important factors to consider when choosing the training method to use. You should note that most modes of training may be acceptable for the cognitive and affective domains, while the 'practical lesson' (e.g. demonstration, models, machines, etc.) may be more useful for the psychomotor domain.

Renner (1983, p. 11) suggests four factors to take into account when determining the educational method to use:

What can you do well?

Base your instruction on your strengths! Stick to techniques that you are comfortable with and venture into new ones with caution.

Can your students use the technique?

Do they know how to make the best use of this teaching technique? Have they ever been exposed to it? Was their previous experience a good one?

What are your learners' expectations?

Are your learners comfortable with the methods that you want to use? Do they have other ideas or expectations of the educational event and hence of the educational methods to use?

What are your physical restraints?

It is virtually impossible to use group discussions in a fixed lecture room. But it is possible to ask two people to turn around to the two behind them and to form a 'buzz group'.

The learners' general ability and attitude is of importance in the selection of the training method. Some students prefer the 'permissive style' of tuition (e.g. discussions, directed private study and projects) while others tend to prefer the more directive styles (e.g. the formal lecture/lesson).

This is another reason why it is important to develop a profile of who your learners are and to use this as one of the factors to determine the most suitable training methods to use.

Another factor to consider in the choice of methods is the need for lifelong learning which will and must take place out of the formal education or training situation. Hence an important function of contemporary training should be to teach people how to learn independently in a non-formal or informal way.

The issue of group size

Practical and economic considerations about groups

Staff/student ratio

This may be fixed by tradition, by politics or by financial constraints. Sometimes an unfavourable staff/student ratio may be ameliorated by the use of other resources and structures, such as self-instruction, resource-based learning, monitors and peer teaching systems, team teaching, etc. This will release trainers from certain functions, enabling them to operate within smaller groups for at least part of the time.

Available learning space

This may be unsuitable for small group work. Usually such restrictions might be at least partly overcome by inventive planning and lobbying.

Available time

As small group learning methods are generally discovery-based, they usually require extra time. This is not always available. A mixture of group structures must take this into consideration and use small group methods where they will give the best pay-off.

Structures for large groups

Large groups may be divided into two size categories:

- ◆ Very large (mass instruction); groups of over 50 members
- ◆ Medium-large (class instruction); groups of 20 to 50 members.

The larger the group, the more difficult it is to generate effective two-way communication and the more learners need to have the skills of learning independently. However, some group structures may provide opportunities for cooperation or competition for at least part of the session's time.

Structures for medium to small groups

These groups may also be divided into:

- ◆ Medium/small (group instruction); groups of 5 to 20 members
- ◆ Very small/individual; groups of one to five members

Below about 20 members there is really no excuse for using only one-way or even two-way communication patterns. Whenever feasible, one should attempt to promote interactions between the group members, so that learners learn from each other.

Methods that can be used for various group sizes

Very large (mass instruction)	
<i>One-way communication</i> lecture panel symposium colloquy demonstration	<i>Two-way communication</i> debate forum panel forum symposium forum colloquy forum
Medium large (class instruction)	
Similar to mass instruction	
Medium/small (group instruction)	
demonstration seminar workshop simulation role play case study	
Very small group or individual instruction	
group discussion buzz group individual project tutorial	

There is a huge variety of training methods. On the following pages we present some of the more common ones.

Descriptions of common training methods

Some trainer centred methods

Demonstration

These can save time and talk. It is often easier to watch a demonstration than to listen to a verbal description. Explanations given are more concrete when linked to a demonstration. During the demonstration there is usually no learner participation. Demonstrations can be used with a variety of group sizes.

There are two main approaches to demonstrations:

- ◆ Perform the demonstration at regular speed and then repeat it slowly (or part by part)
- ◆ Do it part by part, then the entire demonstration at a normal rate.

Students may be told what to watch for during the demonstration and the action may be stopped and their attention directed at critical points of the demonstration.

If a way **not** to do something is demonstrated, it should immediately be followed with the correct procedure.

There should be immediate learner practice after the demonstration (or part of the demonstration) and the encouragement of student questions and answers. Demonstrations provide models and standards for learner performance. They give the learner confidence when he or she performs adequately.

Effective demonstrations have to be prepared for and frequently rehearsed. Skilled demonstrators and assistants are required to watch the learners practise.

Lecture

Formal lectures usually have one-way communication, that is, one person (the lecturer) talks to a group (the learners) for the duration of the lesson. All responsibility for the communication of information rests on the lecturer and the learners have no say in what is communicated or how it is communicated.

Presentation is pre-planned and usually content-orientated rather than objective-orientated (unless the objective is to inform the learners of the content). The trainer decides on what to emphasize. A lecture is usually given in a fixed time period..

Lectures are efficient for passing on factual knowledge and simple conceptual learning. They are excellent for background information. They are very economic in terms of staff use and time. Facts and ideas are presented rapidly. Hence lectures are particularly popular if a lot of material has to be got through.

There is no limit to the size of the audience. Lectures can easily be recorded.

The effectiveness of lectures depends on the skill and personality of the lecturer. Difficulties for the lecturer are adjusting to individual speeds of comprehension, preparing for unknown audiences, and maintaining attention and interest when there is little learner participation or activity to maintain such interest.

Because of the mostly one-way communication, formal lectures make it difficult for the learners to give feedback to the lecturer (except through body language, e.g. going to sleep, looking bored, etc.) and hence there is little direct check on what learning is taking place.

Formal lectures do not usually make people think or problem solve. Problem solving means using information and hence formal lectures should always be followed by discussion or tests or practical work in which knowledge can be applied. Alternatively, variations of the lecture form can be substituted – questions, quizzes with answer keys, buzz groups, seminars or forums. Formal lectures can be enhanced by visual aids, outlines, summaries, handouts, etc.

Lectures are very poor at changing attitudes and values compared with active group discussion.

Symposium

A single event consisting of a number of short lectures from 2 to 6 speakers, who are chosen because of their knowledge about a subject. No feedback is given and learning is done independently.

Panel discussion

A conversation between 3 to 6 persons, chosen for their knowledge and interest in a particular subject, in front of an audience. There is little feedback to the panel and learners learn independently.

Colloquy

A modified panel discussion consisting both of persons with expert knowledge and of learners. Often used at the end of a conference to enable the learners to bring up some outstanding issues for open discussion with the resource persons.

It builds up the confidence of the learners (or terrifies them) by encouraging them to put their questions and comment publicly to the experts.

The learners chosen to join the panel should be confident and able and have consulted the others learners about points to raise.

Forum

A lecture followed by open discussion. There is limited amount of group interaction, but mainly speaker-listener exchanges. Hence mainly independent learning takes place.

Panel, symposium, debate and colloquy forums are also possible. All of these encourage some two-way communication.

Tutorial

Tutorials can be for individual or groups. Usually it is a small group of students meeting with their tutor to engage in some discussion. Effective tutorials are based on prior learning that the student is expected to have achieved, on his or her own or in a group. New learning may take place during the tutorial by reinforcement or by restructuring of previous learning. Tutorials can be very effective but are costly in time and staff.

Even in the one-to-one situation, it is still the learner who does the learning. The teacher can only guide, inform, evaluate, provide feedback, etc. The benefits of the tutorial situation do **not** rest on the use of the teacher as a medium of primary communication. This is extremely wasteful.

Mentoring

Mentoring, is a one-to-one situation in which the mentor will work with the mentee to assist the student to reflect on his or her practice and to improve it. Usually a long term arrangement is implied, with regular meetings between a student and the mentor.

Mentoring is clearly becoming a more significant teaching method in training. There are three major components to consider when mentoring:

Support - which consists of listening, providing structure to the interaction, providing positive feedback and encouragement to the mentee (i.e. the student or learner), sharing as much as possible with the mentee, and ensuring that the whole mentor process is seen as special.

Challenge - consists of setting tasks for the mentee to follow, engaging in discussion and debate, requiring the mentee to meet high standards that are set.

Vision - ensures that the mentee is able to see the full picture of their development and of the field and is provided with an inspiring role model.

Within mentoring, there are two schools of thought. One suggests that any mentor relationship needs to be defined and structured so that the mentor and mentee have a mapped out set of interactions. The other suggests that any mentor relationships can only happen if the chemistry between the two people is right.

Some learner centred methods

Brainstorming

The rules for brainstorming are simple:

- ◆ Agree on a period of time to 'brainstorm' ideas on a particular issue or problem
- ◆ All members of the group to offer their ideas
- ◆ All ideas are to be noted
- ◆ No idea is to be criticised, rejected or debated
- ◆ At the end of an agreed period of time, all the ideas are analysed
- ◆ Group to reach agreement on some of the ideas that seem most appropriate for the particular issue.

From these rules, you will gather that this method is ideal for a group which wishes collectively to generate ideas or solutions to a problem. It is a method that offers a quantity of ideas and does not consider their quality until after the brainstorm.

The next phase is that of processing the ideas generated and reflecting on their appropriateness for the particular issue or problem.

You need to note that the strength of this method is that it encourages all members of the group to offer their ideas, not in the superiority of the ideas collected by this method. There is little empirical evidence to suggest that the quality of ideas collected by brainstorming is superior to those made by individuals working on their own!

Buzz groups

Usually a group of 2 or 3 people seated next to each other in a formal setting, e.g. a lecture, who briefly discuss some point.

Buzz groups are especially useful in a lecture when there is often little response to a request for questions. Buzz groups are formed to discuss the lecture for a brief period and decide on what questions to ask.

They can be used to break up long sessions and learners tend to listen to lectures more attentively if they know they will go into buzz groups.

Case study

This is usually run as a kind of discussion group and focuses on problems common to the group. A 'case', real, or invented or simplified, is presented to the group and they must provide a solution. It aims to give experience in the sort of decision making that the learner will have to do later.

It is often useful to abbreviate a real case, in order to present the aspect of interest uncluttered by other irrelevant information. If this is not possible, one may invent a simple case in order to illustrate one's point. The problem is to decide what to leave out in order to simplify the case study for the learners. There are dangers, however, in the oversimplification of a case, which may lead to loss of realism. An oversimplified case will appear to have a unique 'best' solution whereas in reality other factors complicate the issue, so that there is no 'best' solution but merely positive and negative aspects to any one of several reasonable solutions. If real life demands the taking of decisions on the basis of incomplete data and in the face of uncertainties, the case study should simulate this incompleteness and uncertainty.

Discussion may be free or guided by the trainer, often according to some formal pattern (which may have been outlined before) e.g. identification of problem, statement of problem, possible solutions, examination of solutions, selection of solutions, implementation and evaluation methods, etc.

The trainer has the role of presenting the basic case description and some of the data. The trainer may withhold other data, in certain cases, until the learners discover the need and ask for it.

Though the trainer may intervene to review progress, prompting or questioning the approach adopted by the learners, he or she should not suggest an approach or assist in actually solving the case. The trainer acts more as data bank, referee and critic than instructor.

The debriefing session is very important and should engage the learners in self analysis: 'We have considered the case presented to us and come to certain conclusions; now let us consider the case of ourselves. How did we attack the problem? How could we have attacked it? What can we learn of general application concerning our approach to case studies?'

Debate

This is a useful method of presenting learners with opposing views on a particular issue. It is also useful in that it can offer participants who express opinions some protection by virtue of the debate being a staged performance.

Fishbowl

The standard format for this method is to have a group of learners in the centre debating and discussing an issue. There is another group of learners that sit around them on the outside. They keep silent and observe the debate. The outer group observe the interaction of the inner group and provide feedback during the general plenary discussion. This method is useful for observing group dynamics.

A variation of this method allows the members of the outer circle to become part of the discussion. They can tap the shoulder of their fellow learner (who is within the circle)

and exchange places. This is a useful variation in that it allows many people to participate as wish to while all learners are close to the process to follow the debate.

With this method, it is useful to place a time limit. This will allow the learners to discuss some of the insights that they might have gained from observing the interaction and/or by participating.

Group discussion

Two things have to be considered when deciding on a group discussion. These are:

- ◆ Group size (how many learners work together)
- ◆ Group interactions (how the learners work together) in free or directed discussion.

The group size is dictated both by the interaction desired and by a host of practical and economic factors, many of which might be beyond the control of the trainer.

Usually the decision to have group discussions is a trade-off between the theoretically desirable and the practically feasible.

The main point of group discussion is that learning occurs through the interchange among the group members. The learner can check his or her ideas with those of others.

Discussion encourages learner activity and gives the learner a sense of responsibility for learning. It helps students to feel free to take the initiative and participate and can build up their self-esteem of the participants because each person's contribution is potentially worthwhile. It allows the experiences of advanced students to be shared. It can also have the opposite effect and be intimidating to learners.

The trainer can lead the group or simply be a group member (though such participation must be genuine and accepted as valid by the group).

A trainer who leads group discussion needs to be skilled in group dynamics, who encourages cooperative rather than competitive interactions. He or she needs to be able to summarize skilfully, remembering who contributed the main points, be able to think quickly, adapt, accommodate, be able to predict student response and build upon this, and to be prepared to learn the background of the students.

A problem for trainers is the desire to intervene when false information is introduced and accepted by the group. Ideally such intervention is best done not by a 'lecture' but by subtle questions.

Although group discussion maintains interest and avoids monotony it is very time consuming and may require lengthy preparation of questions, handouts, and back up aids in case discussion lags.

Role playing

Role playing, or socio-drama, is most commonly used for social and human relations education. The purpose of role play is to put learners in a simulated social relationship with a view to:

- ◆ Widening their understanding of a particular problem or situation, or
- ◆ Changing their attitudes, or
- ◆ Practice skills.

They are related to case studies, but they involve individual human beings and their behaviour or interaction is dramatised. The learners may participate as role players or as observers, depending on the objectives of the particular role play. Each role player temporarily assumes and plays the role of another individual. In assuming the role the learner tries to feel like, act like, and sound like the individual the learner is attempting to portray. To add realism and entertainment, each player may be given a description of the character they are playing, e.g. You are a very efficient public servant but bad tempered.

The trainer presents a situation, e.g. a conflict between a public servant and a member of the public. Participants then act and each player reacts as he or she thinks fit.

The learners may, by contrasting different role-plays, see a subordinate person reacting rebelliously to bullying by a senior, or they may see respect from a junior in response to respectful behaviour by another senior person. Such an experience is more likely to change attitudes and behaviour than a lecture on how to treat one's subordinates.

The purpose of the role play is not in itself to solve problems, but to provide data for subsequent group discussion or identification of behaviour. Also, the aim of role playing is not to develop expertise in acting and, generally speaking, as many learners as possible should be given the chance to go through a role play.

Three common patterns are:

Single role play: The majority of learners observe whilst the play is enacted. This is characteristic of socio-drama, aimed at forming attitudes and values.

Multiple role play: The learners are divided into groups. Each group enacts the play so that all learners are participants in one role or another.

Role repetition: The key role (say of an interviewer in an interviewing skills exercise) is taken by all learners in turn. Learning occurs through performing, observing and comparing performances. Good for interactive skills.

The trainer has an important function to play at the beginning of the exercise, explaining the roles and the precise objectives of the exercise. The leader should also try to dispel nervousness and create the right climate for playing without embarrassment.

Role play should always be followed by discussion to explain and thus provide reinforcement to the experience gained in the role playing exercise. The trainer may supply feedback of a constructive nature and lead the debriefing towards useful generalised conclusions.

It is essential that players be de-roled. This is particularly important on emotive issues. Unless de-roled, participants may level destructive criticism at each other. The participants must be brought out of their role. Sometimes this needs to be done in a ritualistic way.

Simulation

A simulation is an imitation or a representation of an actual physical or social situation reduced to manageable proportions to serve a specific purpose. Simulations are usually also games, involving many of the elements which we associate with other kinds of games: there are goals to be achieved, rules to be observed, usually some form of competition - and they are fun to play!

It is not always possible or convenient to let learners experience 'the real thing', at least in the early stages of a programme, e.g. a new system in a government department. It is often necessary to simulate real life conditions so that the learner can experience the result of his or her mistakes and errors of judgement (and learn to avoid them) without damaging him or herself or others. Another benefit of simulations is that although the characteristics of the real life situation are retained, 'time' may be compressed so that results of discussions which normally appear after weeks or months may be examined in a few hours.

The two essential elements of simulation games are that they are simulations and that they are games. .

Hence a simulation game is a series of activities in a sequence in which players participate in a "simulation" which has stated rules, usually involves competition, and leads towards some objective.

Simulations are useful for problem-solving, planning and decision making tasks. Real or invented situations and data are presented to the learners, who adopt the roles of the decision makers or planners.

Examples of simulations are board games (such as *Monopoly*), role play games, case studies, and psycho-motor simulations such as flight simulators and computer games. Some games combine various of these techniques.

The most vital part of the learning process in simulation games is the evaluation at the end; the 'debriefing', 'de-roling' (the period at the end of the game when players drop their roles and become themselves again), or postmortem period. It is at this point that most of the real learning takes place.

The two key questions are:

- ◆ What decisions were taken during the game?
- ◆ What were the effects of these decisions on the game?

In all simulation games, the game director (the trainer in charge of the game and responsible for its proper functioning) plays an important part. He or she must be thoroughly conversant with all phases of the game being played; its purpose, its schedule (that is, what happens next), the roles of the players, the type of interaction that will take place, the points at which conflict is to be expected, the likely outcomes, the probable learning.

It is important that the director remain 'outside' the game in the sense that he or she does not take part as a player (although in some games the director may be required to act as banker or messenger). The functions of the director are to direct, and to be aware, at all times, of what is going on.

Seminar

The learners should have previously researched and prepared a topic. The topic, usually chosen by the teacher or at least approved by the teacher, is then presented in the form of a mini lecture to the group by the researchers. It may be an individual or cooperative project.

Group discussion then follows and the group, guided by the teacher, comes to a conclusion. Much of the responsibility for learning and instruction is delegated to the learners themselves.

T-groups and Encounter groups

This educational method is based on individual group members discussing their interaction and relationship with each other and using this to become aware of interpersonal relations, individual awareness, sensitivity training, self-awareness and leadership functions in the group..

Such groups stress openness and emotional honesty. They are a very powerful educational (and at times therapeutic) method. However, this very power can result in disharmony within groups and this can lead to serious problems between learners, even after the group has broken up. It can also be very damaging to the individual's self-esteem and therefore the method needs to be handled with extreme caution. It requires a skilled and ethical trainer.

Visits

Taking learners on visits, tours and field trips are an important part of many training events. They provide the learner with personal experience of real situations, and also provides the group with a common learning experience and this can become a resource for further learning. After such trips, a debriefing session is necessary.

Workshops

Workshops generally have a practical applications aspect. The workshop leader or leaders may present information, procedures and principles by any instructional methods. Under supervision the participants apply the new information to a real task. The skill is practised on problems or tasks of special interest to each individual member or sub-group. The atmosphere is informal and an important objective is that participants learn from each other. Report backs are usually required so that all the participants may share their results and receive reinforcement for their new learning. The leader is also responsible for arranging materials, support services and equipment.

Computer-aided instruction

The use of computers as a training method is becoming increasingly popular. Often adults find using computers a daunting task as they have not been introduced to it at an early age. At present, there is a proliferation of programmes that offer learners a chance to learn a variety of subjects. However, the lack of personalised contact with tutors may prove a hindrance to the expansion of Computer Aided Instruction (CAL).



Activity 5.2: Training methods and techniques

- (a) Explain in your own words, what is the purpose of each of the following training methods or techniques.
- (b) Explain when you would use each of them in your own training situation. situation.

	Purpose	When to use
Buzz groups		
Demonstration		
Group discussion		
Case study		
Games		
Role play		
Forum		
Simulation		

	Purpose	When to use
Brainstorm		
Ice-breaker		
Lecture		
Seminar		
Tutorial		
Mentoring		

The relationship between methods and venues

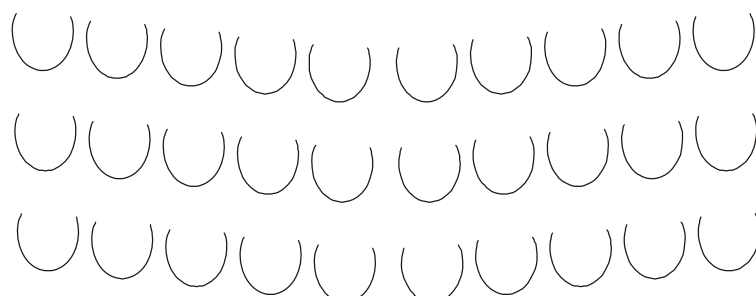
Clearly, the spaces in which training methods are used will be affected by the characteristics of those spaces. Indeed in some cases the venues will make the use of some methods impossible.

Different room layouts and their advantages and disadvantages

Assembly room

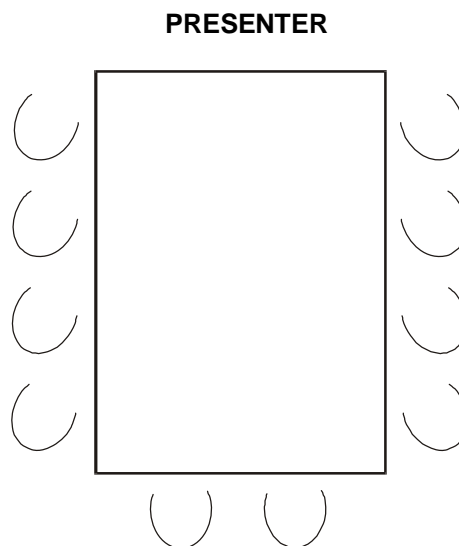
<i>Advantages</i>	<i>Disadvantages</i>
<ul style="list-style-type: none"> • Everyone is facing the front. • Can be set up relatively cheaply and quickly using existing facilities (large room and chairs). • Large numbers (up to 70-80) can be accommodated. • Puts trainer in total control and the focus of attention 	<ul style="list-style-type: none"> • After about five rows it becomes difficult to see over the people in front. • There is not usually surfaces on which to write or make notes. • People at the back may find it difficult to see and hear you. • Visuals need to be big (OHPs and data projectors, not a flipchart). • The presenter and audience may feel cut off from one another. • A sea of faces can be intimidating for the presenter.

PRESENTER



Boardroom

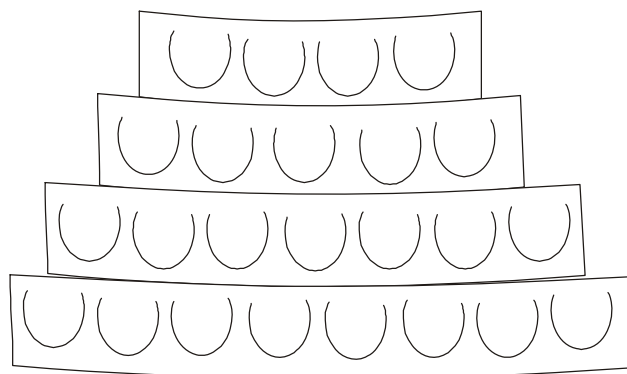
<i>Advantages</i>	<i>Disadvantages</i>
<ul style="list-style-type: none"> • Everyone has access to a table for writing. • For small numbers (up to 16-18), everyone is in close proximity to the presenter. • The table acts as a barrier, making the audience feel more secure. • The layout adds formality to a presentation. • Used when long sessions are planned and everyone needs to see each other and has a lot of papers to manage. 	<ul style="list-style-type: none"> • Once numbers exceed 18, the distance from the presenter becomes too great, the expanse of table is threatening and the space it takes up is huge. • People furthest away from the presenter may have difficulty in hearing what is said and in seeing any visuals. • It impedes eye-contact and interaction, particularly with those people sitting out of the presenter's line of vision. • The table acts as a barrier, and is a disadvantage if the presenter wants a more informal atmosphere.



Lecture-theatre

Advantages	Disadvantages
<ul style="list-style-type: none"> • The seating is tiered as in a theatre or cinema, so large numbers can be seated with an excellent view. • It is very impressive. • The style allows for audio-visual projection equipment to be used to greatest effect. • There are often individual writing facilities incorporated into the seating provision. • Puts trainer in total control and the focus of attention. 	<ul style="list-style-type: none"> • This style cannot usually be set up where you need it – you have to go to a lecture theatre. • Often expensive to hire. • The style gives the presentation a very grand image, which needs to be lived up to. A presentation in a lecture theatre needs to be extremely slick and professional just to meet the audience's expectations which will have been built up by the setting. • Does not encourage participation.

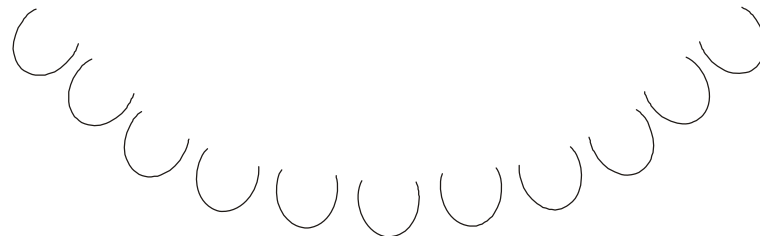
PRESENTER



Horse shoe

<i>Advantages</i>	<i>Disadvantages</i>
<ul style="list-style-type: none"> • There is no physical barrier. This enables the presenter to be more informal with the audience. • The participants are close enough to see and hear well. • Examples can be 'walked round' the audience for them all to see without the presenter letting go of the item. • The audience can see things easily and closely. 	<ul style="list-style-type: none"> • Once numbers exceed 12-14 the horseshoe becomes too big. Eye contact is lost and the audience gets too far away. • The absence of a barrier may be threatening to some of the participants, and make them feel uncomfortable. • There is nothing for the presenter to 'hide' behind. The presenter is open to scrutiny in everything he or she does.

PRESENTER

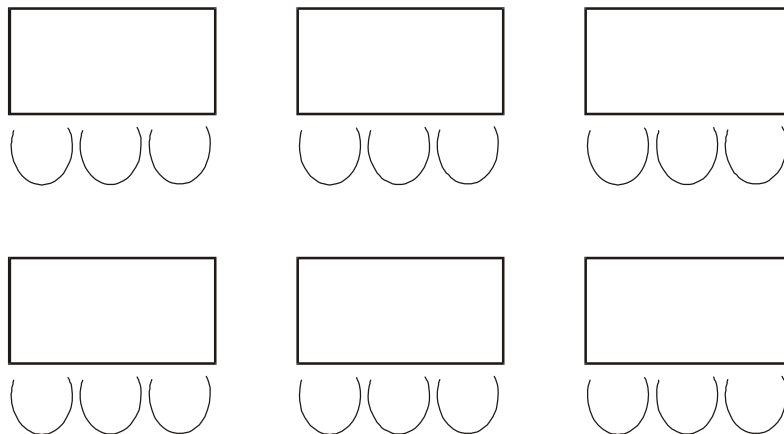


A full **circle** allows everyone to make contact with each other and is very good for free discussion..

Schoolroom

Advantages	Disadvantages
<ul style="list-style-type: none"> • Everyone is facing the front, and everyone has extensive writing facilities. • Spacing between the rows makes visibility good for visuals, like an OHP or data projector. • The venue gives a presentation a conference-like formality. • Useful when people have a lot of papers to manage. 	<ul style="list-style-type: none"> • It takes up a lot of room. • Access into and out of the rows needs to be carefully planned. • Special narrow tables are required, or it takes up even more room. These can be expensive if they have to be hired.

PRESENTER



Inspecting and preparing the venue

Always try to inspect the training room, preferably the day before you do your training. If that is not possible, allow yourself sufficient time before the training to re-arrange the furniture and equipment if you need to. After this inspection you will know whether you will need someone's assistance, for example to switch the lights on or off, or to turn them down, help you arrange the tables, put out water and glasses, sweets, distribute learning material, etc. Arriving early gives you opportunity to get focused, look over your notes and programme, run a few last minute checks before the trainees arrive.

Things you need to look at in the venue are:

Size

Ensure the room is large enough for your audience. Windows should be screened to prevent passers-by looking in or learners finding the outside world more interesting than the training session.

Furniture

Check that there are enough suitable chairs. Establish whether the tables and chairs are fixtures or if you can re-arrange them in such a way that you can see the audience clearly and maximise participation. Remember all the participants must be able to see the trainer(s).

Temperature

Make sure the temperature is acceptable to all the learners (assuming an air conditioner is available). Often you need to find out where the air conditioner controls are located.

Acoustics and noise

The room should not be near to a road, lift or canteen as the noise could distract. Try to avoid noisy rooms and noisy groups. Get rid of noisy air conditioners and heaters. Make sure acoustics are good. All learners should be able to hear what you are saying. Establish whether it will be necessary to use a microphone and loudspeaker. If so, make sure about the type – hand held microphone, lapel microphone or a fixed microphone. Make sure that the loudspeakers are placed in appropriate positions.

Equipment and plugs

Check that any provided equipment works. Check that any equipment you will bring to the venue will work with the equipment already there. Check that there are sufficient plug sockets for equipment, including for trainees with laptop computers (you may need to bring extension cords and multiplugs).

Lighting

Make sure there is enough lighting for all learners to see well (remember that older adults need more light than young people). Lighting must be kept in mind when you choose your visual aids. You must establish whether the room can be dimmed should you want

to use an overhead projector, video or data projector. You should also keep in mind that sufficient light is necessary for delegates to be able to read and take notes. Avoid glare at all costs as it causes tiredness and headaches. You should avoid switching all lights off when you use visual aids because the trainer becomes "a voice in the dark" and cannot see the reactions of the learners.

Catering and timing

Are breaks for tea and lunch fixed or adjustable?. Does your training group's timetable have to fit in with that of other groups using nearby venues? Food

Keep meals light. Finger (snack type) lunches are usually best. Forbid alcohol at lunchtime. If you training takes place at a hotel, ask for special snack-type lunches instead of a full buffet.

Music

You could consider playing music, to create a relaxed atmosphere within your training room. The rule of thumb is to make a selection of music that is pleasing but not distracting.

You could play music not prior to the first session in the morning but also during breaks, at lunch, and while the trainees are working on small group exercises. It will help to keep them focused and keep them from hearing what the other groups are discussing.

Media, materials and technology

There are many different training media, training aids and technologies that support training. In order to make the best selection of these it is important to understand the nature of the media as well as when to use them.

This section will introduce you to the terms ‘media’ and ‘medium’ so that you can understand these in relation to materials, training aids and instructional technology. We will also explore some of the various media available for training.

Understanding the terminology

What are media?

When we talk about ‘the media’, we are usually referring to radio, television, magazines and newspapers. **Media** is the plural of **medium**. In this context, a medium is a means or a method of communication. Radio is a medium of communication. Television is a medium of communication. Printed material is a medium of communication. So when we talk here about media we are talking about the various forms of communication available to us.

The examples I have mentioned are all known as **mass media**. In other words, they are all ways of communicating information and messages to large groups of people at once.

Different media work in different ways and need different kinds of attentive skills from the audience. ‘Attentive skills’ are the skills of listening, observing, noticing, and paying attention.

- ◆ When a person *watches* television, the television shows the person everything. There is sound and pictures, and sometimes even words on the screen. The person watching does not have to put much effort into understanding what is happening on the television.
- ◆ When a person *listens* to the radio, they listen and think about what the person on the radio is saying. The listener can use her or his imagination to make a picture in her or his mind of what is happening.
- ◆ When a person *reads* a book or newspaper, he or she has to look carefully at the words on the paper and think before he or she can understand what the words say. There might be pictures or diagrams which will help the reader to know what the words are about, but the reader still has to put some effort into finding out what the message is.

When somebody watches television, they are *passive*. That is, they just listen and receive the information in sound and moving pictures.

When somebody listens to the radio, they are still *quite passive*. Because a listener only gets sound, not pictures, they have to do some work to imagine what is happening on the radio.

When a person reads, they are *active*. There is no sound, and any pictures are 'flat' on the page, and do not move. The reader has to have skills and put in some effort to get to the meaning of what is on the paper.

Although **television** may be exciting and easy to watch, and can reach thousands or even millions of people at once, it is an expensive medium. It costs a lot to produce anything that goes on television, and time on television is very expensive to buy.

Radio programmes are a lot cheaper to make and to broadcast, and can also reach thousands or even millions of people at once.

Print, the oldest kind of mass media, is still the most used for education and training. There are many reasons for this.

Digital media are linked to computers and may replicate some of the characteristics of visual, audio and print media (seen for example in a computer-based training course that has text, sound clips and short video clips and which is distributed via the Internet or on a DVD).

What are audio-visual aids?

Audio-visual aids are training materials which use a combination of vision and sound to aid learning, e.g. a video or DVD. **Visual aids** can be still pictures (drawings, paintings, photographs, maps, graphs, posters) or moving pictures (films, television, videos, computer animations) all of which can also be used together with **audio aids** such as sound recordings (audio-tapes, CDs, DVDs) to make **audio-visual aids**. Nowadays, people often use the term audio-visual aids for any form of training and communications media including, for example, printed handouts and audio cassettes or CDs and DVDs.

What are print materials?

Print materials are the most common form of training materials, for example: books, easy readers for adults, newspapers, magazines, newsletters, posters, text books and manuals. In training the most common print materials are training workshop 'handouts'. Sometimes these are carefully prepared, often simply pages photocopied from books.

What can visual aids do?

A visual aid can make something small look larger

A large *model* or a *picture* of the something can help students to study the small parts. The converse is also true – a diagram such as an organisational chart can make something big be simplified and reduced in scale so that we can make sense of it.

A visual aid can help us to compare the similarities and differences between two things

Show your learners pictures of two similar objects side by side. They can identify which things are the same and which are different. For example: photographs or drawings of a workplace before and after a successful rebuilding of the plant.

A visual aid is an excellent way to show the steps to follow in doing a task

A trainer uses a flowchart diagram or a set of pictures to show how a set of processes are followed. This kind of visual aid is also known as a *picture set*. A good example might be a set of pictures showing the various steps in voting in an election.

Pictures can show how something changes or grows

One picture can show all the changes which take place. These kinds of pictures are good for showing how something happens. Good example would be a poster used by the Department of Health to show how a particular disease is spread..

Visual aids can help learning by providing a basis for discussion

Most of the time, you want to be sure that everyone who looks at your visual aid will understand the same message. However, sometimes it is valuable to use a visual aid which can be interpreted in more than one way.

You can use visuals to start discussions in which learners explore their own assets, needs, attitudes feelings and expectations. Discussing interpretations of pictures encourages people to observe, think and question carefully and critically.

You as trainer can present the visual to the group. You could then ask the following:

1. Describe what you see (What is she doing? What is he doing?)
2. What are they thinking?
3. What are they feeling?
4. What has happened before this moment?
5. What will happen next?
6. How does this make you feel?
7. Is there anything in your own work that this makes you think of?
8. If you could change this situation what would you change?
9. How would you change it?
10. What might the possible consequences of this change be?

Using audio-visual aids – are the audio-visual media being used as aids or are they integrated into instruction?

Audio-visual aids, like training methods, are important components of any training interaction. They can be used to increase the effectiveness of any teaching method.

Sometimes audio-visual are used simply as aids to other more conventional means of instruction. The common term 'audio-visual aids' indicates the commonness of such use.

A typical audio-visual aid use would be to illustrate a lecture with an overhead transparency or project a slide or play a tape or DVD to emphasise some point, though you could also show pictures, posters, models, real objects, and use the chalkboard or write on newsprint. If you are demonstrating you could use models, pictures, posters or real objects. Even in role-plays and simulations, visual aids such as real objects (tables, chairs, brooms, hats, jackets, computers, etc) can be used. However, while using a variety of aids can help the learning process, using too many aids during a learning event can be detrimental to learning. Trainers should avoid using a teaching aid just because it is available.

As with all training activities, you need to know **why** you are using a particular method or using equipment. The point of calling something an audio-visual **aid** is precisely that it is an **aid** to the main means of instruction. It is an aid, not the main thing and, in principle, could be done without. This does not mean that an aid is not an extremely useful thing and that it cannot enhance learning. Generally audio-visual aids are most useful as a means of adding concreteness to an otherwise abstract or complicated message.

Trainers have a responsibility to ensure they know what aids are available to them and how they can be used appropriately and effectively. They also need to encourage the learners to handle and experiment with your visual aids. As with all media use, even using add-on aids requires prior planning. Even aids do not work effectively when simply added on as an afterthought. Good audio-visual aids need to be thought about in advance.

However, if audio-visual media are to be used not as aids but as a core means of instruction, the need for prior thought becomes all the more important. If these media are thoroughly integrated into the course of instruction their characteristics need to be thoroughly understood. An audio-visual aid can be dropped if it is not effective or usable. A course built on audio-visual media is a failure if the medium is in practice inappropriate.

To summarise: using audio-visual media demands a careful and thorough analysis which takes into account the particular requirements of the specific training situation. For audio-visual media to be genuinely integrated into instruction they have to be considered in the earliest stages of course or lesson or materials design.

Some general rules for visuals

When you use any visual aid in your teaching, remember the following:

Make sure everyone can see the visual aid

- Words and pictures easy to see?
- Is it large enough for the whole group to see? (Never present a visual that you have not checked out for visibility in a venue of the same size.)
- Are you standing in front of the visual aid?
- Is anything blocking the view of anyone?

Words and pictures should be simple and easy to understand

- Is the visual aid easy to understand?
- Have charts and graphs been simplified as much as possible?
- If it requires a lot of explanation is it really necessary or useful?
- Never use more words on a visual than you would on a T-shirt! Eliminate unnecessary words.



Information should be presented clearly and simply

- Is the visual aid well organised?
- The viewer's attention should be directed to the important information.

Show the visual aid while you are talking on the topic it illustrates

- Show it long enough for everyone to look at it.
- Put it aside when you have finished talking about that topic.
- If your visual aid has a lot of text, allow for enough time for people to read (and if necessary copy it down)

Hold the visual aid still

- Moving it around can confuse or distract the people looking at it.
- Do not move a pointer unnecessarily either. It can be very distracting.

Explain any pictures or symbols or words that may be unfamiliar

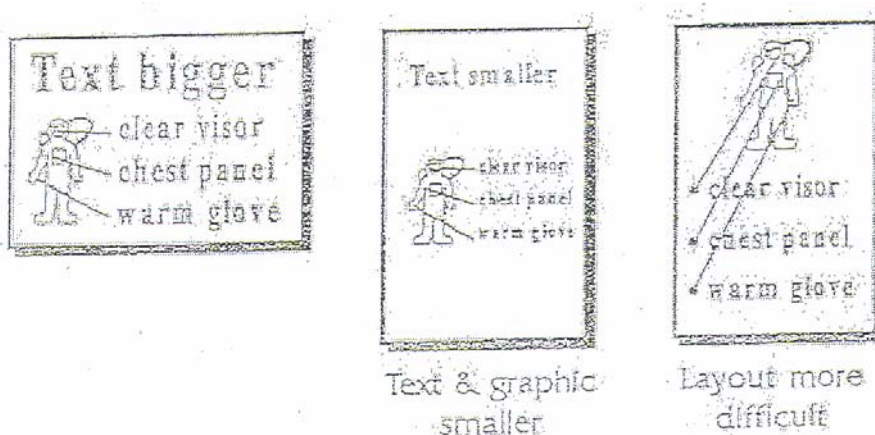
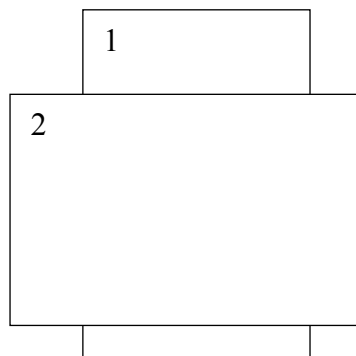
- This is very important with people who are not used to learning in this way.
- Explain all new visual symbols.
- Explain colour codes.

Visual must be appropriate for the visual literacy level of the viewers

- Many people who can read text fluently are not very visually literate and may not know some of the conventions of visual literacy used in modern industrial society such as seeing objects and figures against a background or field within an outline or window, seeing depth in pictures on the basis of cues such as perspective and relative size, seeing shading to represent form, volume or roundness as well as shadow, seeing movement in 'frozen movement', and using various conventional symbols for such things as rain, impact ('seeing stars') and that arrows 'point' and that speech bubbles represent speech and thought bubbles inner unexpressed thoughts and that series of small pictures can represent a sequential story in time.
- Take care to check that all participants can "read" the visuals

Generally try and avoid mixing horizontal (landscape) and vertical (portrait) visuals

- Most screens are best suited for horizontal visuals.



Print materials

Print is the oldest kind of mass media and also, until recently, the most commonly used visual aids.

Choosing print materials for training

When you choose materials to use with your trainees, you need to think about:

Who are the learners (the target audience)

- What level are they at?
- How old are they?
- What are they interested in? (What will help to get their attention?)

What is the material about (content or subject)?

- Is it appropriate for them?
- Is it up-to-date?
- Does it give the learners new information, or does it tell them more about something they already know about from other sources?

Is the material well structured?

- Is the message clear?
- Does the conclusion summarise the message??
- Is the material arranged logically?
- Is the material complete?

What language should be used?

- Must the material be written in a particular language?
- Is the language easy to understand, or is it difficult?

Is it readable?

- Will the potential user want to read it and be able to?

What do the pages look like?

- Are there any pictures or diagrams?
- Are the words small and close together, or are they big, with lots of space in between the rows?
- Is there a lot of open space on the page, or are there a lot of words and pictures squashed closely together?
- Is the page attractive? (Do you want to read it?)
- Will you be able to photocopy the page?
- Is the material durable so that you could keep it to use again?

The answers to these questions will give you an idea of what sort of material you are looking for. When you find material you think you can use, ask these questions again, to help you decide how to use the material.

Testing readability with the SMOG formula

As we all know, many official documents are often not very readable. Can one avoid the training materials one chooses or produces from being over difficult and unreadable. One of the easy and quick tests for readability is the so-called SMOG (Simple Measure of Gobbledegook) grading created by McLaughlin in 1969.

Use the SMOG grading formula as an easy way to see if print materials for the trainees are likely to be too difficult for them to read with ease.

To calculate the SMOG reading grade level, begin with the entire written work that is to be assessed, and follow these four steps:

1. Count off 10 consecutive sentences near the beginning, in the middle, and near the end of the text.
2. From this sample of 30 sentences, circle all the words containing three or more syllables, including repetitions of the same word. Add up the number of circled words.

A few additional guidelines are:

- hyphenated words are considered as one word
 - abbreviated words and numerals should be read as unabbreviated
 - proper nouns, if polysyllabic, should be counted too.
3. Estimate the square root of the total number of words circled using a calculator. This is done by finding the nearest perfect square, and taking its square root.
 4. Finally add a constant of 3 to the square root. This number gives the SMOG grade, or the reading grade level (based on North American school grade norms) that a person must have reached if he or she is to fully understand the text being assessed.

A simplified SMOG procedure is presented on the next page.

Simplified way of calculating SMOG

1. Select a text.
2. Count 10 sentences.
3. Count the number of words which have three or more syllables.

4. Multiply this number by 3.

5. Mark the number closest to your answer.

Number												
1	4	9	16	25	36	49	64	81	100	121	144	169
1	2	3	4	5	6	7	8	9	10	11	12	13
Reading grade level - 3												

6. Note the 'Reading grade level - 3' number below the marked number
7. Add 3 to this number.

8. This answer is the Readability level (in grade years of schooling normally required).

9. Repeat the procedure with two other representative ten sentence portions of text and average the three results.

Layout: why does it matter what the pages look like?

How a page looks can really affect how easy it is to read. Some general guidelines for the layout of training texts include:

Fonts

- Use a big enough font size (preferably at least 12 point for text).
- Use a standard serif font such as Times New Roman for texts.
- Use a clear sans serif font such as Arial or Helvetica for headings.
- Except for very special purposes do not use a large variety of fonts.
- If the printed pages are going to be photocopied and rephotocopied, is the font clear and big enough to stand this without degradation.

Text

- Text is easier to read when it is bigger and there is sufficient space between lines.
- CAPITAL LETTERS ARE MUCH HARDER TO READ than lower case letters. Heading should **not** be in capital letters.
- Long lines are harder to read than short lines.
- So-called justified text is harder and takes longer to read than lines of unjustified text.
- Have a good balance between text and white space - allow the text to 'breathe' (this also means margins of sufficient size and spaces between paragraphs).
- Use bulleted lists with caution. Readers will soon stop reading endless bulleted lists and lists which are too long.

Pictures and diagrams in the texts

- Ensure that the diagrams or pictures reproduce well.
- Use captions and explanatory notes for diagrams and pictures.
- Often a few large diagrams and pictures are better than many small ones.
- Consider the visual literacy competencies of the readers.

Training media technology

Technology is the result of the application of scientific knowledge for practical purposes. In the world of training scientific knowledge has led to the development of equipment and tools to assist trainer and learner. Some of the technology is old – think of chalk and chalkboard, pencil and paper. Other technology was related to the camera and film – films, slide projectors, video tape. More recently a whole range of devices have arisen from the digital revolution with computers, CDs, DVDs, data projectors, magic boards and the Internet. However, as with all past technology, the questions has to be asked of new technologies: "Does the technology make training more effective and efficient?" and "Are there possible negative consequences of using this technology?"

In Module we looked at some the the ways in which the world is changing and impacting on education and training. Technology partly drives these changes and is also used to help us keep pace with the changes. As an example, Reinhardt (1995) offers the following table to illustrate how changing educational paradigms and practices have implications for the kinds of technological aids we use in training.

Technology implications of changing education paradigms		
Old model	New model	Technology implications
Classroom lectures	Individual exploration	Networked Personal Computers with access to information
Passive absorption	Apprenticeship	Requires skills development and simulations
Individual work	Team learning	Benefits from collaborative tools and electronic mail
Omniscient teacher	Teacher as guide	Relies on access to experts over network
Stable content	Fast-changing content	Requires networks and publishing tools
Homogeneity	Diversity	Requires a variety of access tools and methods

Source: Reinhardt, A. *New ways to learn. Byte*, Vol. 20, No. 3, March 1995, p. 52

In the new globally influenced environment training has to be much more responsive and "just in time" in a way that differs greatly from the past when training for a particular job or function could often be a one off with a lifetime warranty! Nowadays, training is part of a lifelong learning revolution where we have to be continually retraining ourselves. To do that it really helps to be fluent and critical users of the new technologies so that we can use them as tools rather than being driven by them.

Some new and recent technologies

The Internet

Like many inventions, the Internet was originally a military development. In 1968, during the period of the Cold War between the West and the Communist countries, with the threat of nuclear warfare an ever present reality, the military in the United States of America commissioned the design of a “bomb-proof” communications system between computers spread across the country.

In essence the system was a combination of the ordinary telephone lines and specialised software programs that would break up the original message into tiny parts (packages) and send the parts through a variety of different routes to the recipient where the parts would all be recombined into the original message. If atomic bombs destroyed large areas of the country, the messages could still get through by going around the devastated areas through the remaining telephone line connections.

The original network connected big supercomputers at research institutions. With time, more and more institutions were connected to it. South African universities were connected to what we today call the Internet in 1989. After 1990 more and more computers and networks were connected to it and the general public has had access since mid-1993. In most countries the telecommunications infrastructure of the Internet is now in the hands of commercial firms.

Since 1993 the Internet has expanded with stunning rapidity and is now of interest not only to people seeking or wishing to send out information but also to commercial interests who see it as a key advertising and marketing channel of the future.

The World Wide Web

The World Wide Web (WWW) is a particular set of rules and protocols that make it easier to use the Internet. The World Wide Web was developed at a research centre in Switzerland (The European Centre for Nuclear Research (CERN)) and became available for use in South Africa from mid-1993.

The WWW makes the Internet more accessible in two ways:

Firstly, it enables Internet users to use operating systems such as Microsoft Windows and Linux that have what is called a Graphical User Interface (GUI) that can display pictures and icons as well as text.

Secondly, it enables users to jump from one Internet document to another following what

are called hypertext links.

World Wide Web (WWW)

A network within the Internet that obeys certain rules and allows the use of graphics and a graphical user interface (GUI) such as Microsoft Windows

Hypertext

Any text that allows you to jump from a particular reference or word in a text to an associated text.

Hyper Text Mark-up Language (HTML)

A special programming language that is used to put codes into normal computer ASCII text to define the way that text will appear on the screen , be indexed, etc.

Hyper Text Transfer Protocol (HTTP)

A set of rules governing the transfer over the Internet of hypertext documents.

Browser

A program that makes it easier to use and search for information on the Internet and particularly the WWW. The best known ones at present are *Firefox*, *Netscape* and *Internet Explorer*.

E-mail address

Customarily takes the form of:

name@location.organisation.type.country

Thus SAMDI's address is: info@samdi.gov.za

name (information contact) @ South African Management Development Institute .
Government institution . South Africa

Common organisation types in e-mail addresses are:

ac	academic
arts	cultural
com	commercial
co	commercial
edu	education
firm	businesses
gov	government
info	information service
mil	military
net	network
nom	personal
org	non-profit organisation
rec	recreational
store	business offering goods
web	sites emphasising the WWW

Search engine

A world wide web based software programme that locates web sites according to chosen

words. The best known example is Google. These are becoming increasingly important as ways of finding information from the enormous range of sites linked to the world wide web. Search engines (such as Google Desktop) can also be used on your own computer to find information in your own computer files.

Server

This is a computer attached to the Internet that you can get information from.

Uniform Resource Locator (URL)

This is the World Wide Web equivalent of an e-mail address that may also provide the equivalent of a pathname on the server's hard disk.

It provides your browser with the address of the server and in addition may provide the sub-address of a section within that server.

Thus: http://www.samdi.gov.za/about_samdi/mandate.htm/

Using the HyperText Transfer Protocol ([http:](http://))
find the server address on the World Wide Web ([//www.](http://www.))
at South African Management Development Institute [samdi], a government institution
[gov] in South Africa [za] (samdi.gov.za/)
and go to the directory About SAMDI ([about_samdi/](http://samdi.gov.za/about_samdi/))
open the page of html code called mandate.htm ([mandate.htm](http://samdi.gov.za/about_samdi/mandate.htm))

With the increasing use of the internet and so-called e-government, public servants have to become fluent, skilled users of the internet. This includes the development of skills in creating and updating web-sites.

The Overhead Projector

The Overhead Projector (OHP) is still the standby of many training venues and will continue to be used because of its simplicity and robustness. High quality transparencies can now also be made on most photocopiers and laser printers..

When using the OHP to illustrate a talk, presentation or report-back by means of overhead projector (OHP) transparencies, pay attention to the following:

Face your audience.

One of the great advantages in using the OHP is that it allows you to have eye-contact with your audience. Don't break that link by turning your back on them to point to things on the screen. Use a pointer (a pencil will do) on the light table.

Stop talking

Listeners need to be given time to study a new visual. It has been found that people cannot simultaneously concentrate on two signals, even if they are versions of the same message.

Don't leave the visual on the screen.

As long as you are actually saying something about the content of the visual message, the transparency must obviously remain exposed, but when you move on to another aspect of the topic the projector should be switched off and the visual removed. The habit of leaving the projector switched on even though there is no picture is also distracting: the audience's eyes keep on looking at the square of light *expecting* something to appear.

Stand well clear

Be careful not to get your shoulder or upper arm in the way of the light beam. Also make sure that you do not stand in the audience's line of sight. The screen should be placed as high as possible, and angled to counteract the 'keystone effect' (the top of the image on the screen being wider than the bottom, resulting in part of it being out of focus).

Reveal only what you are talking about.

Sometimes it may be best to cover up those parts of the transparency you will be talking about at a later stage. Use sheets of paper to cover the unwanted bits on the light table.

Don't point with your hands on the light table.

If you need to point at something, place a pencil on the transparency and leave it lying still. Vaguely pointing at a detail usually results in a distracting blur on the screen.

Limit the amount of information.

In the case of text, about 100 words — about 10 to 12 lines — is the maximum 'visual load'. Where a lot of detail has to be shown, start off by showing the whole, focus down on a part (by drawing a circle or box round it), and then use another transparency of this part enlarged. Afterwards 'put it all together' by showing the first (detailed) transparency again.

Newsprint

Newsprint on a flip chart or stuck to a wall with masking tape is also a standby of many training situations and can still be used to great effect (especially with relatively small groups of people).

Using newsprint when administering training events first consider what you need to take:

- how much newsprint?
- how many koki pens?
- masking tape and/or presstik
- prepared newsprint, questions, objectives, agenda, etc.
- what else?

What do you need for displaying the newsprint?

- a flip chart?
- a lot of wall space if you need to display several sheets at once?

When using newsprint:

- use strong, dark coloured kokis
- always use a backing sheet (especially on other people's walls)
- replace the lids (hold the lid in the other hand!)
- write: **clearly, boldly, large** (at least size of first joint on your thumb) with a maximum of 15-20 lines per page
- to write straight, aim for the edge or have pre-ruled pencil lines or prepared folds
- move your body not just your arm
- stand to one side so all participants can see
- use clear, bold headings
- underline rather than use CAPITALS (it may be easier to use wavy lines when underlining)
- leave plenty of white space
- use short sentences and key words
- help to make separate ideas clear with: numbers, dots, asterisks, points, arrows, blocks
- always write up participants' own words
- summarize rather than recording everything reported
- use diagrams and drawings for variety
- to reveal prepared material, place a blank sheet on top with tape at side edges, and gradually move it down
- when working with several sheets, move them so that they can be read in the right

order

- number your pages.

The data projector

Because the data projector (and laptop computer) are becoming such a dominant means of presenting information in training, this section will look at the principles involved in audio-visual presentations in some detail.

The use of visual aids to reinforce and complement information given verbally

There are four common ways in which information given verbally is reinforced or complemented by some kind of visual aid or media presentation:

- ◆ A diagram or map or flowchart is explained with the presenter pointing out the important features on the illustration. This is particularly useful where explaining everything verbally would be lengthy and confusing (imagine explaining where a country was located in relation to other countries only using words and with no map to point to).
- ◆ A summary text is displayed that highlights the key points of a much more detailed lecture or presentation. It helps the viewer to see what is important and what the shape or schema of the presented information is.
- ◆ Visual and auditory stimuli are presented simultaneously (as in a documentary film or training video). This connects to the suggestions that different parts of the brain process visual and auditory stimuli and that having them both together therefore provides more of a whole.
- ◆ A text is displayed using a projector and read out word for word (as in many presentations using PowerPoint and other computerised presentation packages). This is known to be ineffective and may actually harm learning.

The concept of cognitive load

Nowadays learning is often defined as that which is stored in our long term memory. Therefore effective learning processes ensure that our working or short term memory is able to handle (understand) the incoming information and store it in a more permanent form in the long term memory.

Understanding complex information requires the working memory to be able to **simultaneously** process all the elements to be learned that **necessarily** interact. The fewer interacting elements the easier the learning. The more elements the heavier the

cognitive load. Because the working memory has limited capacity and duration new complex information is hard to process and other mental structures have to be called upon to assist in the process. These include the long term memory, schemas, and automation. **Schemas** allow elements of information to be categorised (Sweller (2007) gives the example of the schema we have for the letter “a” which allows us to treat all variants of “a” in an identical fashion). Problem solving in complex areas demands the acquisition of thousands of domain-specific schemas. Sweller believes that cognitive load theory has implications for instruction and he notes a number of instructional effects:

The split-attention effect

This refers to what happens when, before we can start to work on a problem, we have to deploy a lot of short term memory resources to see what the actual problem is. Sweller gives an example of a geometry problem with a text and diagram. We can only understand the actual problem task when we integrate some of the text into the diagram and see what is actually being referred to. “Looking at an already solved problem reduces the working memory load and allows you to learn. It means the next time you come across a problem like that, you have a better chance at solving it.” (Sweller quoted in Patty, 2007)

The modality effect

The next, the **modality effect**, is about gaining different information simultaneously of a visual and auditory nature. Thus, for example, it may be better to provide a diagram and spoken explanation (one visual and one auditory) rather than a diagram and written text (both visual). It may be difficult to process information if it is coming to you in written and spoken form at the same time. “It is effective to speak to a diagram, because it presents information in a different form. But it is not effective to speak the same words that are written, because it is putting too much load on the mind and decreases your ability to understand what is being presented.” (Sweller quoted in Patty, 2007)

The redundancy effect

The **redundancy effect** means that if two forms of presentation (say diagram and text) give **identical** fully intelligible information, the one is redundant and is simply using up short-term memory. An obvious example of this is when a presenter reads a displayed text word for word. This may seem counter intuitive because of our idea that repetition improves remembering. It is not so much that repetition is not useful (it usually is) but that repetition in different modes simultaneously has a negative consequence for learning.

Sweller notes that these effects are particularly important when the learning is complex. If the learning is not complex these effects may not come into play.

Another effect, the so-called **imagination effect** refers to the use of **already gained** schemas that enable the learner to mentally “run through” learned procedures in the imagination until they become automatic. Again, counter intuitively, this is more effective than continuing to study the original material. If the learners did not already have the required schemas, then “study” of the original was more efficient.

The perils of PowerPoint

With modern computer technology and data projectors, increasing use is being made by trainers of software packages such as Microsoft PowerPoint, Corel Presentations and OpenOffice Impress.

There is some evidence that these presentations tend (because they are usually well prepared) to give the (possibly false) impression of completeness, finality and authority. Certainly the use of these visual presentations encourages early planning and preparation for instruction or meeting. Because preparing visuals gives the impression of the presenter being well prepared and authoritative, they may impress participants and make even poor presenters seem better than good presenters who do not use visuals.

So if one wishes to appear prepared, professional, persuasive, credible and interesting – preparing a good visual presentation may help. A similar phenomenon makes those using new technology (data projector versus overhead projector or chalkboard) seem more professional.

An interesting contrary effect is that poor visuals may create the false impression that a really good presenter is inferior.

Audio-visual equipment salespeople constantly refer to studies which they claim shows their equipment to improve communication. A typical example of this was the 1981 *A study of the effects of the use of overhead transparencies on business meetings* conducted at Wharton School of the University of Pennsylvania and funded by 3M company (the major manufacturer of overhead projectors and supplies in the United States of America) about which many exaggerated, distorted and inaccurate information is often given. The study, whose methods have been queried, found that presenters who use visuals (OHP transparencies in this case) were seen as better prepared, more professional, more persuasive, more highly credible and more interesting and the meetings they presented to reached a group consensus or decision faster. However most of the study's findings were not statistically significant

Bartsch and Cohen found that with multi-media presentations in education that pictures related to the content helped but that unrelated pictures (example logos on each slide) hindered.

Vogel (1986) looked at how presentation messages could become more persuasive and move the participant through the stages of **attention, comprehension, yielding/agreement**, and **retention** to the desired **action**. He compared the impact of different types of visuals on this process – colour versus black and white, text based versus graphics-enhanced images, projected 35mm slides versus OHP transparencies.

Vogel found that presentations using visual aids were more effective, colour is better than black and white, but enhanced graphics were not more persuasive than text images alone, and that OHP using presenters are seen as more interesting but less professional than the slides users. In a subsidiary study Vogel found that better presenters are seen as such when no visuals are used, but that an average presenter using visuals is seen as more effective than a better presenter using none and even more so when both used hand drawn transparencies. This suggests that the better a presenter is the better his or her visuals need to be.

When to use a presentation package

Presentation packages such as Microsoft PowerPoint or WordPerfect Presentations or Open Office Impress are useful in a few situations, such as :

- ◆ when you want your audience to silently read and possibly copy down what you have written (such as a key quote or text)
- ◆ to display a diagram or flowchart which you want to talk about or explain
- ◆ when you want to present a set of headings that show the structure and key points of your presentation
- ◆ as a set of speaker notes that only you, the presenter, see.

It is bad practice:

- ◆ to put a text (bulleted or not) on the screen and then, instead of allowing participants to read it silently, read it out word for word. It is also wrong to put a slide up, make a few comments and move on before the viewers have time to read it or make notes.
- ◆ to use it for technical reports or for the presentation of complex statistical material or information with subtle relationships (because, before, consequently) or qualifications (however, but, if). Because the screen is one layer of information it is impossible to “stack” information.



Activity 5.4: Advantages/disadvantages of training media

Explain in your own words, what you see as the advantages and disadvantages of each of the following training media:

Training Media	Advantages	Disadvantages
Video tape cassettes/ DVDs		
Computer programmes		
Overhead Projector		
Slide projector		
Audio tape cassettes		
Posters/ charts		
Flipcharts and newsprint		
Models		
Real objects		

Training Media	Advantages	Disadvantages
Whiteboard		
Chalkboard		
Data projector and presentation software		
Television programme		
Printed manual or workbook		
Internet		



Activity 5.5: Review of Module 5

Review what you have learned against the outcomes of the module.

What were the significant learnings for you?

What will you apply?

How will the be the first practical steps you take in applying them?



Activity 5.6: *Group discussion on applying your learnings*

In groups discuss how you will apply what you have learned in this module in your own training activities and workplace and what further actions you can take to increase your knowledge, understanding and skills regarding training needs assessment?

Actions I can take	Who can assist me?	When should I review my progress?	Comments

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Checklist for Competencies

Module 5: Methods, media and technology in facilitating learning

Name: _____

Assess your own skills by indicating with a ✓ how you rate yourself on each aspect mentioned.

<i>I can ...</i>	<i>Poor</i>	<i>Fair</i>	<i>Excellent</i>
Define a training method			
List some common training methods and their advantages and disadvantages			
Decide on which training methods to use depending on training outcomes, training venue, group size and the learner characteristics			
Explain some basic ideas about media and visual and audio-visual aids			
Know how to choose appropriate media and use these in training			
Choose good visuals			
Choose and design good print materials			

<i>I can ...</i>	<i>Poor</i>	<i>Fair</i>	<i>Excellent</i>
Use some common training technologies appropriately			
Use the Internet, overhead projector, newsprint, and the data projector effectively			
Avoid inappropriate use of presentation packages			



Evaluation of Module 5

What did you like about the module?

What did you not like?

What would you like to change?

Any other comments

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