ASIST Training and Information Services

International Course on
Training of Trainers in Labour-Based Road Construction and Maintenance

Trainer's Toolbox of Training Techniques

compiled by

David J Mason

International Labour Organisation
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Training and Information Services
ASIST Project
PO Box 60598
Nairobi
Kenya
Tel +254-2-560902
Fax +254-2-566234
Tlx 22486 ASIST KE

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The Swiss Development Cooperation
Eigerstrasse 73
Berne
Switzerland
Tel +41-31-613195
Fax +41-31-459605

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Contents

Action plans

What is an action plan?

An action plan is a list of what the participant intends to do as a result of his training, when he is going to do it, and who else will be involved.

How to use action plans

There are two phases in action planning:

briefing (up to 5 minutes)
writing (up to 45 minutes)

Use a group phase (up to 20 minutes) when possible actions involve overcoming resistance back at work, or require a high degree of confidence to implement.

Briefing

- Recap on the main content being reviewed. Refer to action points from previous summaries
- Hand out prepared action plan sheets. See example action plan
- Explain reasons for working alone

Writing

- Leave them alone
- As plans are completed, give individuals support and encouragement
- Take a copy for follow-up evaluation

Group

- When individuals have completed their action plans, brief the group on the value of sharing plans and looking for ways to overcome problems in implementing good ideas
- Put participants into groups of three. Allow five minutes for each individual to outline their plan and discuss the problems they may face
- Stay outside the groups. Let them control this phase

Timing

Good action planning demands sufficient time. Allow up to 25 minutes, or 45 minutes with a group phase.

When to use action plans

- at the end of a training course

Why use action plans

- to focus attention on the practical applications of course learning
- to get a commitment from the participants
- to place the course objectives in the context of the work situation back home

Example action plan

As a result of this course, I intend to do the following:

WHAT	BY WHEN	WHO IS INVOLVED
1		
2		
3		
4		
5		
6		

Beneficiary meetings

Description

This briefly describes how you can design and plan one of your regular meetings with beneficiaries.

Objective

Decide on the message. What do you want the beneficiaries to be able to do after you have left? To help you identify the objective, write it out as follows: ‘By the end of the meeting, the beneficiaries will be able to ....’ Make sure the objective can be expressed as a result that can be measured.

Location and timing

Consult with your beneficiaries to choose a location and time suitable to them. Put yourself in the beneficiaries’ situation when you make a suggestion:

- Is it likely to be wet, cold, hot or windy?
- Will it be a holiday?
- Do you need a particular place to be able to demonstrate a certain technique?
- Does everyone know the place?

Design

Do not try to achieve too much in one meeting. Keep your message solid and simple. Your meeting should contain the following elements:

- Introduction - set the scene
- Objective - focus attention on what you want to do
- Agreement - make sure the beneficiaries know what you intend to do and how
- Review - go over the previous meeting and focus on its messages
- Link - to previous meeting or experience
- Motivation - generate interest in the topic; show the need for the message
- Message - the information you wish to put over to the beneficiaries; keep it simple; parcel it up in small amounts so that the beneficiaries can grasp it
- Decision - get the beneficiaries to commit themselves to appropriate action
- Summary - review the meeting by getting feedback from the beneficiaries, and draw conclusions
- Next Step - look ahead to the next meeting or activity

Preparation

- Write a detailed timetable for the meeting under the headings 'time, activity, method/aids'
- Make a list of things to be done before the meeting and when, and list the resources required
- Assemble resources and prepare flipcharts
- Test equipment
- Test the meeting design by showing it to colleagues and asking their opinion
- Contact the beneficiaries, to make them aware of the meeting, and to ensure site facilities are available
- Oil your bike, feed your mule
- Get there early and set up the equipment before the beneficiaries arrive

Guidelines

Your meeting should be characterised by:

- Variety - a change of presentation technique should take place about every 20 minutes
- Activity - the audience should be guided to do something physically active at some stage
- Participation - the audience should be encouraged to contribute at all times
- Logical - your meeting should flow easily from step to step and follow a path that can be understood by the beneficiaries
- Flexibility - your programme should include alternatives for when unexpected changes have to be made
- Enjoyment - your audience should enjoy your meeting
- Comfort - your audience should be physically comfortable, and feel that they can participate

Afterwards

- Write up your diary, making a note of any questions you could not answer, or items you need to follow up
- Make any changes to the meeting notes to make the presentation better next time

The betting ring

What is a betting ring?

An opportunity to ask a question which is answered by everyone in the group. A question is asked. A response is recorded from each participant. A prize is awarded to the person with the most correct answer.

How to use a betting ring

- Select a question on a subject that is familiar to the participants but to which they are unlikely to know the correct answer
- Choose a question for which there is a measurable answer: weight, volume, area, number etc
- Don't guess the answer - if you can't work out the correct answer, don't ask that question
- Make sure everyone understands the question and give them time to do a rule of thumb calculation
- Ask each participant in turn to give his answer and record it where everyone can see. If possible, make a rule that no two people can give the same answer
- Reveal the correct answer
- Award a prize for nearest correct answer - something small and consumable, for example sweets, that anybody would be pleased to receive
- Explain the reason for the answer

When to use a betting ring

- At a time in the day when teaching is difficult, for example after lunch or when people are hot and tired
- As a finale to a topic
- To illustrate the importance of a subject

Why use a betting ring

- To introduce excitement and competition
- To encourage the audience to think
- To get individual participation

Brainstorm

What is brainstorm?

A topic is written up on a flip. Participants call out their ideas on the topic. These are listed on the flip. The ideas are then sorted and linked to each main subject area of the topic.

How to use brainstorm - *BRAINSTORM*

- Write up a one or two-word topic on the flipchart. For example: 'compacting pavements'
- Ask participants for one or two word contributions. Don't question what is called out; just write it up as fast as you can
- Encourage unusual or fanciful ideas
- By picking on particular words already written up, focus participants' attention
- Stop when you feel you have enough material on the flip

How to use brainstorm - *LINK*

- Introduce the main subject areas that are to follow
- Ask participants to identify items on the list that link with each main subject area
- Use coloured pens or different highlighting techniques to identify links to each item
- Draw a conclusion which focuses down from the width of the subject to the need for exploring particular parts in depth

When to use brainstorm

- At the start of a new topic

Why use brainstorm

- To switch the course from one subject and focus attention on the next
- To examine the width of a subject
- To create a lively atmosphere
- To get 30-40 ideas quickly

Buzz groups

What are buzz groups?

A question or statement is displayed on a flipchart and participants generate their responses in small groups. Responses are listed and common responses are selected for discussion by the participants as a whole.

How to use buzz groups - *BUZZ*

- Write a carefully-phrased question or statement on a flip. For example:
  "Maintaining roads in good condition depends on ..."
  "Make a list of the benefits of compaction"
- Divide the participants into small groups; three people to a group is ideal
- Have each group discuss the question/statement for about 10 minutes to produce a list of ideas
- Get the ideas from each group and write them on flipcharts so that everybody can see

How to use buzz groups - *DISCUSSION*

- Tell the participants to scan the lists
- Ask what items are common to all lists. After one has been suggested, underline it on each list
- Invite nominated participants to explain the item:
  "What do you mean by ...?"
  "Can you give me an example from your own experience?"
- Repeat the process for the next item
- When the discussion is well established, you can pick on particular items on any list and request explanation
- At the end of the discussion, summarise briefly and make a positive link with what happens next

When to use buzz groups

- At the start of a presentation
- After a break
- To change the subject

Why use buzz groups

- To establish current levels of knowledge and understanding within the group
- To establish previous experience

Case study

What is a case study?

A case study is where a real-life situation is summarised in the form of a story so that participants can identify the causes of problems in it and suggest appropriate courses of action.

How to use a case study

There are three phases:

preparation
briefing
discussion

Preparation

- Identify the training need which you want a case study to meet, for example analysing a problem, evaluating a range of alternative courses of action, and selecting the best option; or highlighting the problems of introducing changes in an organisation and achieving acceptance
- decide what you want the case study to achieve. For example:
  to look at a practical case as a prelude to relevant theory
  to exercise the understanding of newly-learned theory
  to stimulate research into an aspect
  to provide a vehicle for useful information
  to give experience of a stress situation in a game context so that they can cope better in real life
  to improve the skills of problem analysis and communication/listening skills
  to cause the group to appraise their own attitudes.
- Select the best and most relevant case study you can find

Briefing

- Introdue the story
- Clarify aspects of the story and any common assumptions which it would be helpful to make
- Focus their attention to particular aspects of the story for special consideration
- Send them away to study the background material

Discussion

Be flexible with the timing and sequence of the discussion phases.

- Reconvene the meeting
- Identify the problems
- Identify the causes
- Identify how the problems could have been avoided
- Identify possible solutions

When to use a case study

- Introduce the case study towards the end of an afternoon and ask the group to read the material and prepare themselves, if possible that evening
- Conduct the case study during the morning of the following day

Why use a case study

- To gain experience in analytical methods of diagnosis and decision making
- To develop knowledge, insight and understanding
- To examine the problems of failure in any aspect of management

Timing

- Allow 20 minutes the previous day for briefing, and 75 minutes for the main session

Course assessment

What is a course assessment?

A course assessment is an evaluation of the course by the participants themselves

How to use a course assessment

There are three phases:
preparation
conduction
analysis

Preparation

- Identify what aspects of the course you want feedback on. For example:
  course organisation
  accommodation and domestic arrangements
  difficulty and number of topics
  pace of presentation
  level of understanding
  achievement of objectives
  suggestions for improvement
- Prepare a questionnaire and duplicate it:
  keep it simple
  use check boxes
  keep the need for sentence writing to a minimum

Conduction

- Brief the participants: they are to work alone; it is individual opinions that you want. The assessment is anonymous; they should not write their names on the questionnaires
- Hand out the questionnaires
- Leave them alone to write
- Collect in the questionnaires

Analysis

- Scrutinise each questionnaire and extract the data in tabular form
- Summarise the results for presentation to management
- Note the main conclusions and decide upon action for future course design and organisation

When to use course assessment

- At the very end of the course

Why use course assessment

- To get feedback from course participants on how well the course satisfied their needs and expectations

Debates

What is a debate?

An opportunity for a group of participants to discuss in public the advantages and disadvantages of a particular idea

How to use a debate

- Only use a debate when you have a group of participants who know each other and can discuss ideas objectively
- Decide on a topic. Only choose subjects that are related to road construction & maintenance or development topics
- Phrase the subject as a statement, not a question, and make sure that two points of view are possible. For example: '*Compaction is the most important factor for road durability*'
- Select the two speakers beforehand and discuss separately with each the points you will want them to make
- *You* should act as chairman and explain the statement to the group. Set a time for each speaker (say 5 minutes) and don't let them over-run. Also, don't allow any interruptions
- After the main speakers, allow other participants to make comments of up to one minute each
- You should then summarise what has been said on both sides
- Take a vote on the subject from the group as a whole

When to use a debate

- After a subject has been taught
- After a number of participants have had an opportunity to adopt a new practice and others have decided not to

Why use a debate

- To pass on good ideas from a small group of participants to the majority
- To convince the majority that a new practice is worthwhile
- To pass on first-hand knowledge of new practices

Demonstrations

What is a demonstration?

You show the participants a practical example of how something happens or how something is done.

How to use demonstrations

- Assemble your apparatus (materials, equipment, gadgets, models etc)
- Practise beforehand to make sure the demonstration will work properly
- Arrange the participants so that they can all see what is going on
- Explain clearly what you are going to demonstrate
- Perform the demonstration. If things start going badly wrong, stop the demonstration and prepare it again for a later session. Explain what is happening while you perform the demonstration
- Draw a conclusion from the demonstration
- Ask for questions and answer them
- Put aside the apparatus, and regroup the participants

When to use demonstrations

- At any time during the middle of a presentation
- After a discussion of the theory

Why use demonstrations

- To aid understanding by enabling participants to see for themselves how something happens, eg water infiltrating into the road surface
- To show participants how to perform a task, eg texturing soil by feel

Flipchart preparation and use

What are flipcharts?

A flipchart is a sequence of large, simple pictures to provide visual support for your talk

Design and preparation

Look at the main training messages you wrote when you planned this particular participants' session. Assemble any relevant pre-prepared flipcharts from your collection of training aids and put them in the correct story sequence. Are there any gaps?

If you need to create any additional flipcharts:

- Make a preliminary sketch on a small piece of paper (say A5 - 21 cm x 15 cm) - with one or two pictures for each message
- Use only one or two essential words on each flipchart
- Try to standardise your use of images, eg for rain you could draw a cloud with raindrops falling from it
- Keep the pictures simple - do not add too much detail

When you have decided on the final design:

- Use A3 paper (42cm x 30cm)
- Leave a blank border of 2 cm around the edge of the paper
- Leave a top margin of 5 cm so that the flipcharts can be bound together
- Use a spirit-based thick felt-tip marker pen
- Write words 2-3 cm high clearly and level
- Be careful that the ink does not stain through the top sheet onto the one below

How to use a flipchart

If you have the use of a table, prop up the flipchart on this using a wooden or stiff cardboard backing. If you don't have a table, hang up the set of charts with string (eg on a tree) so you can flip them over.

Make sure that:
- everyone can see the flipchart
- you speak to your *audience*, not to the *flipchart*
- you do not stand next to your flipchart all the time, but move around to interact with your audience
- you vary your presentation by using the flipcharts in different ways:
  conceal parts of the picture with blank paper. Then remove them during your talk to complete the picture
  get participants to come forward and pin parts of the picture onto the flipchart
  use prepared transparent overlays to change pictures
  use blank transparent overlays for adding to a picture during your talk
  use a blank transparent overlay to write on participants' responses

When to use flipcharts

- At any time during a presentation
- When you do not have access to more sophisticated aids such as filmstrips or slides
- Make sure you have adequate lighting conditions
- Be prepared to move quickly under cover if it is windy or wet
- The size of audience is limited by the number who can see the flipchart clearly from where they are sitting

Why use flipcharts

- To provide a logical sequence of material which will guide your talk
- To focus participants' attention on the topic
- To reinforce your talk with visual material
- Remember the sayings:
  ‘*A picture is worth a thousand words*’
  ‘*I hear, I forget; I see, I understand*’

Games or competitions

What are games or competitions?

A competition between two or more teams which involves making choices or decisions relating to real life technical problems

How to use games or competitions

There are a number of alternative games you could design, and we describe two here. First divide the group into teams.

- Make up a background village story and relate it to the group, interspersed with questions
- As you tell the story, ask simple or multiple choice questions. Arrange that the more difficult the question the more marks or points the team receives for a correct answer. Ask each team a question in turn and ask the same number of questions to each team.
- The winner is the team which scores the most points after a certain number of rounds; can you arrange a prize for the winning team?

- Alternatively, make up a board game. In this a group of individuals progress around a set route depicted on a board, dependent upon the throw of a dice. Each space on the board is allocated a question. Players move around the board depending on how they answer the question.
- Remember that the objective of the game is to reinforce learning. If one person gets the wrong answer, let someone else answer and explain the reason for the correct answer to the group. If everyone gets the question wrong, perhaps you need to repeat the teaching topic - they don't understand the message!

When to use games or competitions

- At the end of a piece of learning
- When you visit a group of beneficiaries on a saint's day when they are not working

Why use games or competitions

- To discover how much learning has taken place as a result of your teaching
- To allow the farmers to practise their knowledge in an informal atmosphere

Group instruction

What is group instruction?

Group instruction is a method of conveying facts and ensuring their assimilation and retention

How to use group instruction

There are five stages:

preparation
presentation
summary
recapitulation
test

Preparation

This is the same as for the *lecture or talk*

Presentation

This is the same as for the *lecture or talk*

Summary

This is the same as for the *lecture or talk*

Recapitulation

- The aim is to give the participants the mental exercise of recalling what has been covered
- Use the question and answer technique, with overhead nominated questions
- Distribute the questions among the participants
- Prepare the questions carefully beforehand, avoiding questions with too many possible answers
- If someone gives you the wrong answer, let him down lightly, but make sure he and the group know the correct reply

Test

- The aim of a test is to find out exactly how much each person remembers
- The main points of the learning element should be summarised in question form
- Ask each participant to write down the answers and when the test is over, let each person mark his own paper
- Afterwards, ask anyone who has all the answers correct to raise his hand. Then one wrong, two wrong and so on until you have accounted for the score of the whole group

When to use group instruction

- At any time

Why use group instruction

- To communicate facts which you want participants to retain completely

Handouts and reference material

What are handouts?

Handouts are duplicated pieces of paper containing notes, diagrams, or abstracts from articles or textbooks. The information in a handout can be a summary of the content of a training session or learning element, or background reference material, or both

How to use handouts

There are two stages:

preparation
presentation

Preparation

- Identify the main points you want to cover
- Make notes on each of the points
- Select or compose diagrams, line drawings, charts, tables to illustrate your points
- Edit your material into a coherent message or series of messages
- Decide on a paper format and layout (you may need help with this). Normally, A4 size paper is used
- Type up your material, assemble your illustrations, and paste them together onto the page. This is known as 'camera-ready copy'
- Duplicate the material
- Make sure you have more than enough copies to go round

Presentation

- Let the participants know in good time that you have a handout available for that particular session/topic
- If you believe that the handout contains all the material that the participants need to know, you may want to advise them not to take notes. However, you should not prevent anyone from taking notes if he wants to
- You should decide in advance when you are going to distribute the handout
- It is a natural tendency for participants to become engrossed in a document they have just been given. This can either be to your advantage or disadvantage, depending upon how you handle the situation
- If you distribute the handout at the beginning of your session, you can go through it, directing participants' attention to salient points. They can make any additional notes on the handout itself if they wish
- On the other hand, you run the risk that they may prefer to read the handout privately rather than paying attention to you
- If your handout is a summary of the session, and you do not intend to refer to it during the session, it may be better to distribute it at the end

When to use a handout

- At any appropriate time during a session

Why use a handout

- To provide a summary of the information which you want the participants to retain
- To build up a collection of relevant material for the participants to refer to back home

Hum groups

What are hum groups?

A question is displayed on a flipchart and pairs of participants produce a list of their ideas. Selected ideas are discussed and summarised one by one

How to use hum groups - *HUM*

- Put a carefully-phrased question onto a flipchart
- Brief the participants to work in pairs
- Have each pair produce a list of ideas (for about 5 minutes) - prompt those who need help

How to use hum groups - *FEEDBACK*

- Write up on a flipchart one point from each pair until you have a list covering the points you want

How to use hum groups - *DISCUSSION*

- From the list of points, mentally select which are the most important
- Indicate a point and ask who suggested it
- Start the discussion by asking:
  ‘*What made you say this?*’
  ‘*Can you give me an example?*’
- Ask for other examples, or points of view
- When the point has been explored sufficiently, summarise briefly
- Indicate the next point and repeat the process
- At the end of the discussion, link positively with what comes next

When to use hum groups

- At the start of a presentation
- After a break
- To change the subject

Why use hum groups

- To establish current levels of knowledge and understanding within the group
- To establish previous experience

Interpersonal interviews

What are interpersonal interviews?

An interpersonal interview is where each participant interviews his neighbour in order to introduce him to the group

How to use interpersonal interviews

- Split the group into pairs and ask each participant to interview the other member of the pair
- Write up a brief agenda for this self-introduction exercise. For example:

  name
  where he comes from
  company/organisation/project
  business/objective of his organisation
  position/function
  area of special interest in his job
  brief personal history
  hobbies and pastimes

- Call upon each participant in turn to introduce his partner to the rest of the group

When to use interpersonal interviews

- During the introductory session of a course

Why use interpersonal interviews

- To find out who is who
- To discover what each participant can contribute
- To help the group to communicate amongst themselves

Introduction

What is an introduction?

An introduction is the initial period at the beginning of a course when you welcome the participants, make introductions and outline what they can expect from the course

How to use an introduction

When the group assembles:

- During the introduction you should aim to build bridges of contact with the participants
- Make sure that someone is ready to greet them at the door with a smile
- Show them to their places and give them something to look at while the others are assembling
- Distribute name cards (A4 cards cut in half lengthways) and marker pens, and ask each participant to write his name in clear capital letters on both sides of the card

Explain the administrative arrangements:

- Timetable
- Refreshments
- Toilets
- Where to go or whom to see if they have any particular questions, problems, or requests

Explain the Learning Method

- This will be *participative* — in other words, group members will be expected to contribute to the proceedings

Breaking the ice

- Introduce yourself
- Ask each participant to interview his neighbour, using the *Interpersonal Interview* technique
- Have each participant introduce his neighbour to the group

Explain what is going to happen

- Tell the participants what they will be doing during the next few days
- Begin each session with an explanation of the sequence of events which are about to take place

Find out their expectations

- Using the *Question and Answer* technique, produce and display a list of what the participants expect to get out of the course

Course objectives

- Go through and explain the objectives of the course

When to use an introduction

- At the very beginning of a course

Why use an introduction

- To put participants at their ease
- To let participants know what to expect from the course

MetaCards

What are MetaCards?

MetaCards are used as a method of visualising ideas on a pinboard using cards attached by pins. These cards present a synopsis of ideas for all to see and to discuss

How to use MetaCards

MetaCards come in various shapes, sizes and colours. The most common and widely used shape is the rectangle.

Preparation

- Set up a pinboard (for size, see below) and cover its entire face with a sheet of brown paper, pinned along its edges
- Collect together your MetaCards, markers, glue and pins, and have them readily accessible. Scissors are also useful for changing the size and shape of cards

Collection of ideas

- As participants think of an idea they write the idea on a card, and immediately pin it onto the board for everybody to see. In this way many ideas can be collected very quickly
- During a plenary session, or with large groups, the trainer or an assistant will have to write the cards, but this should only be done in extreme situations. It is always better for the participants to write and pin up the cards themselves
- Each card can then be explained by the writer, and discussed by the group. Cards can be amended, replaced or discarded as the discussion continues, since they are only pinned to the board and not permanently fixed to it
- Cards are moved around the board until the structure of the discussion is clearly ordered and displayed

Recording ideas

- Once the discussion is complete and a final outcome agreed upon, the cards can be glued permanently to the brown paper. This then becomes the report of the discussion. In this way, typing up written notes and duplicating them is avoided

Basic rules of operation

There are three basic rules:

- Only one idea per card
- A maximum of three lines of writing per card
- Writing should be done using a chisel point marker, in clear capital letters

Materials and equipment required

- Pinboards measuring 1.5m by 1.2m mounted on stands
- Rolls of brown paper with a width of 1.2m, or sheets cut to the size of the pinboard
- A supply of MetaCards in different colours:
  many rectangles 210mm by 100mm; a few ovals 190mm long and 110mm wide; a few circles of various radii (95mm, 140mm, 195mm)
- A supply of map pins with round heads 20mm long. You will need hundreds of these. A pin cushion to hold these pins is very useful, but not essential
- A supply of chisel tip permanent marker pens. You should have various colours, mainly black, with some red and blue. The number required depends upon the size of the group you are going to work with. Allow two per person
- A roll of masking tape
- A supply of glue sticks
- A pair of scissors
- A stout box to keep everything in

When to use MetaCards

- During any group or plenary discussion
- When you want to collect a large number of ideas quickly
- When you want to create an ordered list from a collection of random elements
- To keep track of any discussion, presentation or instruction

Why use MetaCards

- To visualise a discussion as it proceeds and to keep everybody on the same level and at the same place
- To ensure that a group decision is reached and that every individual feels he or she has contributed to the result
- To provide an immediate report of a discussion for presentation to a larger group or to dignitaries

Models

What are models?

A replica of the real thing which is designed to explain how something is done, or how a natural phenomenon works in principle

How to use models

Models can be scale replicas of real pieces of road construction or maintenance equipment, or can be built up with natural materials at the participant meeting. For example, a road layout can be modelled in clay on the ground.

- Prepare the materials/equipment in the same way as you would for a demonstration or practical, and practice before the event to ensure that nothing goes wrong
- Make sure that all the participants can see the model when you use it
- Pass the model around the group so they can see individually for themselves
- If you are using a working model, allow as many participants as possible to have a go at operating it
- If it is something like a section of road dug out of the ground, let everyone have a go at adding side and mitre drains for example
- Always explain how the model relates to the real thing. This is important when there are big differences in sizes so that the participants will recognise the real thing when they back home

When to use models

- If the real thing is too large (eg a road network), or just not available locally (eg a piece of construction machinery)
- When you are not able to transport the real thing to the training session
- When the real thing covers too large an area for you to easily use as a teaching aid. Use a small scale replica which all the participants can see and practice on

Why use models

- As a demonstration to your participant group to explain a learning point

Outside specialists

What are outside specialists?

You arrange for someone with specialist skills to come and talk to your participant group to support what you have been telling them

How to use an outside specialist

- A specialist joins you on one of your regular scheduled visits
- Brief him/her on what you have told the group and what demonstrations and practical training sessions you have conducted
- Estimate for the specialist how many participants have been convinced by your presentation and what they are doing to introduce the new ideas
- Tell the participants in advance that the specialist will be accompanying you so that they can prepare questions
- Discuss with the specialist what form of presentation he/she is going to make to the group. If this includes a demonstration then make sure you arrange the meeting at a convenient site and have the necessary equipment available
- Try and keep the specialist's presentation short and to the point
- Allow plenty of time for participants' questions
- Record any positive answers for use in future presentations to other groups of participants
- Also record any unanswered questions so that the specialist can take them back to for discussion
- If you visit a participant's holding with the specialist ensure that praise is given where it is due and that any criticism is tempered
- Summarise the results of the meeting and arrange for one of the participants to thank the specialist for visiting them

When to use outside specialists

- When you have come to the end of a series of learning sessions with a participant group
- When you are having difficulty convincing a group of participants to adopt a new practice

Why use outside specialists

- To provide someone from ‘officialdom’ to support your ideas
- When you want to give extra authority to a topic you have introduced as a non-specialist
- By having someone else telling the same message your participants are more likely to follow your recommendations

Overhead projector

What is an overhead projector?

An overhead projector (OHP) is an electrically-powered device for projecting images drawn on transparent plastic sheets (called transparencies) onto a screen behind the presenter.

Features

- The light source is a powerful halogen lamp. It is expensive to buy and needs careful handling when being installed
- The platter on top is a glass lens. This should be kept clean
- The OHP magnifies about 30 times. It enlarges both your intended message and your mistakes
- You can either use single-sheet transparencies or an acetate roll, or both
- You can chose between water-based pens or spirit-based pens. Words and diagrams drawn with water-based pens can be erased, but spirit-based drawings are permanent
- The screen should be square in shape, and tilted slightly towards the front in order to reduce distortion of the image

How to prepare OHP transparencies

Add impact to your message with:
- humour
- line drawings
- simple graphs
- pictures and cartoons

Add impact with colour
- for coding and identification
- for content and background
- for emphasis of key words

Add impact with the layout
- group or box items
- simplify diagrams
- use rulers for lines
- don't overcrowd the space

Add impact with lettering
- use capitals for titles
- use a template beneath the transparency as a writing guide
- use a maximum of 8 lines per transparency, and 6 words per line
- keep your writing horizontal

How to use an overhead projector

Switch on:
- The bright screen draws eyes and attention

Switch off to:
- return attention to you
- remove or replace transparencies
- prevent distraction
- reduce noise

Reveal one line at a time to:
- create interest in what is to come
- give information step by step
- simplify your presentation of information
- add impact
- control the pace of discussion

Pointing
- Use a pencil on top of the transparency, rather than a baton pointing at the screen

Use an acetate roll over a transparency to
- allow you to annotate the transparency without changing it permanently
- as an overlay which adds features to the original

Positioning
- The OHP itself should not be so high that it blocks the participants' view of the screen
- You can either stand to use the OHP, or you can sit, depending upon the physical setup in the training room
- If the screen is positioned high up, you can place the OHP on a desk or table, and stand behind it. Make sure that your own body does not block any part of the screen
- If the screen is rather low, you may have to place the OHP on a coffee table or chair, and sit behind it

When to use an overhead projector

- At any time during a presentation

Why use an overhead projector

- To add visual impact to your presentation
- To present information in a controlled way
- To enable visual information to be prepared beforehand
- As a substitute for a conventional writing surface

Photographs

What are photographs?

Colour photographs are passed among the participants to create discussion and interest

How to use photographs

- Select up to six colour prints which clearly illustrate points you want to get over to the participants
- Mount them on stiff card to protect them, and to make them easier to handle
- Distribute them among the participants and explain that they should pass the photographs around so that everyone has a chance to see them
- Explain what the photographs are about
- Tell the participants what they should look for in each photograph
- Pass the photographs around the participants. Make sure no participant keeps a photograph too long
- Ask questions to focus attention on specific parts of the picture. For example:
  '*What type of culvert is that?*'
  '*What is that person doing?*'
  '*How wide do you estimate the carriageway is?*'

When to use photographs

- During the presentation of a new topic

Why use photographs

- To stimulate interest in the subject
- To show participants things they cannot be taken to see easily
- To support new ideas or ways of doing things which have not been seen before

Practicals

What are practicals?

A practical or an exercise is where you have the participants learn a manual skill, either as individuals or in groups.

How to conduct practicals

There are three phases:

Brief
Supervision
Review

Brief

- Explain the details of the exercise:
  time available
  result and method of working required
- Allocate individuals to groups
- Explain how you want the groups to report back

Supervision

- Issue materials
- Demonstrate the exercise to all the participants
- Get the groups started and then leave them alone
- If participants get into difficulty, encourage them to resolve problems without your doing the exercise for them
- Check the progress of each group

Review

- Use reviews to highlight the learning that has taken place
- Ask groups to consider what went well and how performance could be improved next time
- Conclude the review by making links to the positive effects of doing the job back at home

When to use practicals

- When there is a skill or technique to be learned

Why use practicals

- To gain participants' acceptance of new techniques
- To achieve learning by doing
- To show participants that you have the required skills

Presentation attributes

What are presentation attributes?

Presentation attributes are those personal qualities you bring to your presentation, such as your appearance, demeanour, voice and mannerisms.

How to improve presentation attributes

Overcoming nerves

- Prepare well so that you are confident of your material
- Recognise that nerves are normal and if you did not have a feeling of being keyed-up, you probably would not sparkle as a speaker
- Take a few deep breaths before you speak
- Have a glass of water handy
- Begin your session in an unhurried manner, and do not start speaking until your audience is quiet
- Find a friendly face in the audience and start talking as if to that person (but do not fix your attention on him for more than a moment)
- Learn the opening four sentences by heart
- Until you have gained confidence, make only short speeches, of say five minutes at the most
- Concentrate on the subject matter of what you are saying and *forget the audience*
- The audience *wants* you to succeed. They are on your side. So accept their goodwill

Personal appearance

- Dress appropriately. You should take your lead from the participants. Aim to be just a little smarter than they are
- Be clean and tidy

Voice

- Speak slowly and clearly, and pause often
- Aim you voice slightly over the heads of the participants
- Make sure that your voice carries to the back of the group

Demeanour

- Smile at your audience; be cheerful
- Be deferential but maintain a quiet authority
- Look as though you are enjoying yourself, even if you feel terrified!

Mannerisms

- Avoid distracting mannerisms such as scratching your nose
- Don't smoke while giving your presentation
- Avoid sudden changes of position. This is distracting to your audience

When to consider presentation attributes

- All the time

Why are presentation attributes important?

- To make yourself clearly understood
- To create a good impression with your audience
- To gain your participants' respect and attention

Lecture assessment

Lecturer: Topic:

Assess: A (very good), B (good), C (average), D (poor)

Attribute	*Assessment*
Did the speaker know his subject really well?	
Had he something meaningful to say about it?	
In preparing his talk, had he taken into account the age, background, and attitudes of the audience?	
Had he researched and checked his facts?	
Did he present the information in a logical sequence?	
Had he anticipated the questions he might be asked?	
Did he fit the subject into the time available, allowing time for questions?	
Did he provide enough copies of any handouts?	
Did he make good use of visual aids?	
Was his speech clear?	
Were his voice and delivery interesting?	
Did he show enthusiasm?	
Was he confident?	
Was he sincere?	
Did he avoid using distracting mannerisms which may have diverted attention from what he was saying?	
Did he avoid unnecessary often-repeated words or phrases?	
What was your overall assessment?	

General comments:

Question and answer

What is question and answer?

You ask the questions and the participants answer. When they are involved in either listening or answering questions, they are thinking.

How to use question and answer

There are three 'styles' of asking questions:

- **Overhead** Literally 'over the heads' of the group. You direct a question to the group as a whole. The 'leaders' will tend to answer first, and this is a good way to start off a training session. Those who know will answer first. Those who don't answer will be the ones you have to direct questions to later. This you do by using:
- **Overhead and nominated** Ask a question of the group, pause, and then choose an individual to answer. By putting a pause between the question and the name, everyone will try to think of the answer. Through a series of questions like this, you can keep everyone involved.
- **Nominated** Identify the individual participant, and then ask the question:
  '*Mr Makongo, can you tell me ...*'
  The problem here is that as soon as you say the participant's name, the rest of the participants may stop paying attention, because they know they do not have to answer the question. However, you can use this type of question where one or two participants have specific knowledge or experience you want the others to hear.
- Remember, whichever way you use to get a participant to participate, if he doesn't get the answer correct the first time, don't forget him. Try again with an easier question or help him towards the right answer with a hint. Also, don't let the better ones butt in. Keep the nervous participant talking.

There are a range of ways of phrasing a question:

- A **closed** question is one that can only be answered 'yes' or 'no'. You can use this type of question with participants whom you haven't worked with before, or at the start of a new topic. It is better to get some response rather than none at all. For example:
  '*Did you repair your road last year?*'
- An **open** question is where you leave participant to reply as he likes. For example:
  '*Can you tell me why...?*' '*Could you describe how...?*'
  To get into the habit of using open questions, use the words 'what', 'when', 'where', 'why', 'how' or 'which'.
- A **leading** question is where you direct the group towards the answer you want. For example:
  '*Clearly, what we have to do is ... ... don't we?*'
  This does not give the participants much opportunity to think. A better way is to use:
- A **reflective** question. This relates back to a previous occasion. For example:
  '*A little while ago you mentioned .... can you elaborate on ....?*'
- A **prompt** is where you encourage a participant to keep talking and to expand his answer. For example:
  '*And then what?*' '*And so...?*'

When to use question and answer

- Whenever you are talking to a group of participants and want to keep everyone involved and thinking
- To introduce a new topic

Why use question and answer

- To maintain interest in a topic
- To find out about the experience of the group
- To check understanding
- To help someone come to a conclusion

Question and discussion

What is question and discussion?

Participants are encouraged to find answers to problems through discussion with you and amongst themselves. You need to use carefully-prepared questions to guide the discussion, to draw upon participants' own experiences, and to reach firm conclusions.

How to use question and discussion

To make the discussion work, follow this approach:

- Make sure you know where you want the discussion to lead
  Identify clearly the result you want. This might be:
  a list of benefits
  a statement of what to do; when, where and how to do it
  a list of how to avoid problems
- Have the first question you will ask clearly written into your notes, for example:
  '*How can we reduce the number of potholes forming in a road?*'
- Use supplementary questions and names
  Make sure that as many participants as possible participate by directing questions to individual participants by name:
  '*How do you think we can reduce the cost of maintenance, Mr Makongo?*'
- If the participants start talking amongst themselves, ensure they stay on the topic. If not, stop it
- Ask additional questions to keep the discussion on track
  Do not let the discussion wander. Focus the participants' attention. For example:
  '*Let us concentrate on what happens to the water which falls onto the road surface*'
- Get the participants to summarise regularly
- Bring the main points of the discussion together by linking to the result you have previously identified. For example:
  '*Good. It seems we all agree. The best ways to avoid a road breaking up are ....*'

When to use question and discussion

- To introduce a topic
- To change to a new topic

Why use question and discussion

- To allow participants to discuss the topic in the context of their own experience

Quiz

What is a quiz?

The participants are divided into two or more teams. A series of questions is asked by the trainer, and the teams compete against each other to answer them

How to hold a quiz

- Design a series of straight-forward questions that increase in difficulty and are related directly to the learning topic of the day
- Divide the participants into two or more teams and explain that this is competition
- Ask a question to each team in turn (either to one individual or the team as a whole) and give them time to decide on the answer
- Identify the correct answer and explain the reason
- Record the result for each team. The winner is the team which scores the most points after a certain number of rounds
- If appropriate, arrange a prize for the winning team
- Have a sufficient number of questions prepared so that everyone has an opportunity to have a go. If you have divided your participants into two teams, have an even number of questions (6, 8 or 10) and if you have three teams, have multiples of three questions
- Alternatively, you can arrange for the teams to ask each other the questions, with you acting as the scorer and judge on the quality and correctness of the answers

When to use a quiz

- At a time of the day when teaching is difficult. For example, after lunch or when people are hot and tired
- As a conclusion to a learning session
- When you want to check learning before moving on to another subject

Why use a quiz

- To introduce excitement and competition
- To encourage the participants to think
- To get individual participation

Review, link and summary

What are review, link and summary?

Techniques of talking to your participants that you can use to check on individual learning

How to use review, link and summary

- By questioning at the beginning, during and end of learning sessions
- Don't just tell your participants - ask questions
- For instance, at the beginning of a session, ask one of the participants to *review* the main points of the last meeting. Use the techniques of question and answer to ensure that all the main points are voiced
- When you reach the end of a learning topic, *summarize* the main points with your group. Don't repeat the information you have just told them. Ask them questions to get them to tell you. Use open and overhead-nominated questions, asking each member in turn to contribute
- At the end of the day or at the end of a topic, tell your participants what is going to happen next and why. *Link* your current information with the next topic. This is where you, the trainer, will do the talking. At the end, check that your participants have understood

When to use review, link and summary

- At the beginning of a session, use a *review* to pick up the points of the previous session, then *link* to the current session
- At the end of a learning point, use a *summary* to check on learning and understanding
- At the end of the session, use a *link* to motivate your participants about what is going to happen next

Why use review, link and summary

- You, the trainer, are a teacher, but a teacher of adults. They must be treated differently from children. You cannot tell, tell, tell
- You must ask their opinions, allow them to question your ideas and check by questioning that they understand

Role play

What is role play?

Role playing is a method whereby participants assume an identity other than their own in order to cope with real or hypothetical problems in human relations and other areas

How to use role play

Define the goal

- Define the result you want to achieve as the result of the role play. This may be:

  to create awareness of the factors influencing a situation
  to create sensitivity to other people's feelings and attitudes

Describe the situation

- Set the scene by describing the situation and the players involved
- The situation should be carefully selected. It should be of a challenging nature and of concern to the participants. Conflict situations are typically chosen

Chose the players

- Ask for volunteers to play the roles. Alternatively, you and your colleague(s) could play the roles as a demonstration
- The role players should understand the purpose of the role play and be agreeable to play the parts
- You should assign an *alter ego* to each of the players to closely observe their feelings

Brief the players

- This should cover the general situation, the type of person to be portrayed and his/her emotional state and attitudes
- The actual words spoken in the role play are decided spontaneously by the players
- The role players should be encouraged to get involved in the situation

Assign observer tasks

- Instruct each special observer (*alter ego*) to carefully observe the attitudes and feelings displayed by his partner so that he can report these to the audience afterwards
- Instruct the audience to observe the dynamics of the situation presented by the role players, what their attitudes and feelings are, and how they behave
- Instruct the audience to identify the problems presented by the players and examine the arguments put forward to solve these problems

Arrange the physical setup

- Set aside an area to be the 'stage', and seat the audience so that they can all see
- Seat the special observers at opposite ends of the front row of seats

Begin the role play

- You introduce the players to the audience and then start the role play

Stop the role play

- When you judge that the situation has been sufficiently developed and explored, or the players are becoming too heated or over-involved, you can stop the role play
- You can also stop the role play

  a) if the play is not fulfilling its purpose
  b) to explain the dynamics behind statements
  c) to interview the role players about their feelings

De-role the players

- Tell the players to remove their costumes, to step out of their roles and resume their normal selves
- Ask them to return to their seats, and clear the 'stage'

Evaluate player performance

- Ask the players how they found playing their roles in order to assess how well they coped with their tasks
- Observers should be guided to observe the dynamics and to understand them through discussion after the role play and through interviewing the players

Process and evaluate

- Use the *Question and Discussion* technique to assess the attainment of goals. For example:

  To the special observers: '*Please describe to the group what feelings you observed your partner to display in the course of this role play*'

  To the audience: '*Why do you think the players behaved the way they did? Was their behaviour justified? How would you have behaved in these circumstances?*'

  Then: '*What problems were raised in the role play by each character? What causes of the problems were put forward by each character? What explanation would you give for the causes of the problems?*

  Solutions: '*Identify solutions suggested by each character. Give your views on these solutions. What solutions can you suggest?*'

Possible variations

- You and your colleague(s) can role play and then come out of the role to explain the dynamics behind the role
- You and your colleague(s) can take the part of special observers
- Present a dramatised situation and then introduce role playing at a point of conflict
- If the participants are slow to adapt themselves to role playing, you and your colleagues may have to play the roles as a demonstration
- Ask participants who say they have difficulty in dealing with certain situations or individuals to act out these problem situations in role plays

When to use role play

- Effective role playing can take place in almost any setting
- Role playing is a very useful training technique which can be employed in almost any training context

Why use role play

- To allow a player to practise reacting to conflict and other stressful situations
- To gain insight into human interactions
- To help a participant modify his own behaviour patterns by getting feedback from others who have watched him play a role
- To open up communication channels and release some of the inhibitions which may otherwise hinder resolution of conflict situations

Talk or lecture

What is a talk or lecture?

A lecture is where you stand in front of your audience and deliver the material by talking to them.

How to give a talk or lecture

A talk consists of three parts:

preparation
presentation
summary

Preparation

- It takes at least twice as long to prepare a talk as it does to give it, even when you know your subject thoroughly
- Never plan to speak for more than 20 minutes. Break up longer sessions with other techniques and aids like films
- Grade your subject matter into these three categories:

  must know
  should know
  nice to know

- Make sure that in the time available, you can cover the first two categories. The last category is optional
- Do not pack too much information into one session
- Plan when you are going to allow questions
- Prepare your visual aids and the layout of your flipchart or writing surface
- Even if you have given your talk a number of times before, you should read your notes and recast your material each time to keep it fresh

Presentation

- Avoid reading out long passages word for word
- If you are speaking from a text, underline the main points as reminders, and then speak conversationally about them
- If you know your subject well, print headings on cards and use these to prompt your memory
- Allocate a time allowance against each point so that you achieve a good balance within your talk
- Maintain eye contact with your group so that they can receive non-verbal messages from you (such as gesture, stance, expression, enthusiasm), and you can receive such messages from them
- Decide whether the participants should be advised to take notes, or whether you will prepare a handout
- If you have prepared a handout, decide whether to give it out at the beginning or at the end. If you give it out first, you can go through it and the participants can make notes in the margins. However, they may decide to read it privately rather than listening to you.

Presentation - *AROUSING INTEREST*

Arouse interest by
- telling them at the beginning what is in it for them
- citing many personal examples and actual cases
- referring to previous meetings and tying in with them
- making challenging statements
- being personally alive and enthusiastic
- using visual aids

Presentation - *QUESTIONS*

- Let the participants know whether they can ask questions whenever they wish, or if they are to reserve them for a special time
- If the participants are shy to ask questions, use the Buzz Group technique to generate some
- If you have prepared well, you need not be afraid of questions
- You will learn from the questions how well you made your main points and how much interest you aroused
- Make sure you heard the question correctly; if necessary ask the questioner to repeat it
- If you do not know the answer, *either*

  maintain your poise and throw the question open for discussion, then summarise the points made, *or*

  promise that you will look it up and let them know

- Be brief - others may have queries
- If the question is a technical one, re-phrase it for the benefit of the uninitiated
- Make sure that everyone has understood the question

Summary

- They say that when you address an audience, you should tell them three times over:

  tell them what you are *going* to tell them

  tell them

  tell them what you have *told* them

  This is a good idea, because each participant's attention and comprehension rises and falls throughout a lecture

- A good summary enables them to fill in any missing pieces of information
- A good summary enables you to single out and stress 'must know' points
- A good summary reminds them how much they have learned
- Have a handout summary if possible. It is a waste of time making the participants copy down factual information and diagrams

When to use a talk or lecture?

- For introductory sessions

Why use a talk or lecture?

- The general rule is DON'T, since it lacks participation and gives you very little feedback
- For subjects of general interest
- To give an outline of a new subject or technique

Telling

What is telling?

Telling is giving information to someone by speaking directly to them.

How to use telling

You can make your telling more effective by:

- clearly identifying the difference between what your participants *must* know and what is *nice* for them to know. Restrict your telling to *must know* information
- finding out what your participants know already and link your new information to their existing knowledge
- giving information in small pieces. After each piece, check that the participants understand by using the *Question and Answer* training technique
- breaking up periods of telling by interspacing them between periods of showing and practising
- putting variety into your voice. Any change of speed, volume and tone to give emphasis will help the listener to concentrate
- remembering that it is much more difficult to listen and understand than it is to speak
- avoiding the use of jargon
- making sure your participants are comfortable and can hear you without strain

When to use telling

- During skills training

Why use telling

- When you are telling, only one of the senses of the participant is involved, that is hearing
- This makes telling the least effective method of skills instruction
- However, it is necessary to give information when instructing, and telling is the most obvious way to do it

Training visits

What is a training visit?

A training visit is a planned visit, with specific learning objectives, to a real situation.

How to use a training visit

There are three phases:

introduction
visit
discussion

Introduction

- Explain the purpose of the visit
- Hand out the visit sheet and explain each item to be examined. See example visit sheet
- Indicate how long they should take
- Emphasise the need to work individually
- Encourage each person to jot down any comments

Visit

- Move among the course members to answer queries and to give encouragement
- Keep them working individually

Discussion

- Collect individual scores, and enter them onto the score sheet. See example score sheet
- Using the score as a prompt, invite explanations. Ask those with widely differing scores to give reasons
- At each point, draw an actionable conclusion in *what*, *where*, *when* and *how* terms
- Do not leave the discussion as a criticism of the venue visited. It is an opportunity to explore what each course member should do, back home
- Keep the discussion moving down the list of points. Plan to have no more than three or four comments on each point
- Do a final summary to link the discussions with the overall objective of the course

When to use a training visit

- During the body of a course

Why use a training visit

- To help participants identify key points by examining a real situation
- To encourage discussion of practical situations
- To bring structure and point to a visit

Example visit sheet

Road bridge

Examine each of the following aspects. Score each on a scale of 1 to 10 (1 poor, 10 excellent). Comment on each aspect

	Aspect	*Score*	*Comment*
1	Suitability of materials		
2	Quality of construction work		
3	Adequacy of design		
4	Level of maintenance		
5	etc etc		

Example score sheet

	Aspect	*David*	*Mary*	*John*	*Peter*	*Jane*	*Luke*	*Susan*	*James*	*Mark*
1	Suitability of materials									
2	Quality of construction work									
3	Adequacy of design									
4	Level of maintenance									
5	etc etc									

Writing surfaces

What are writing surfaces?

Large flat areas of wood, metal, glass, plastic or paper which can be written on with crayon, chalk or maker pens.

What options are available?

medium	*made of*	*can be written on with*
Newsprint or flipchart paper	paper or cardboard	crayon water based marker pen spirit based marker pen
White board	metal or plastic	dry wipe pen water based pen
Chalkboard	wood, metal or frosted glass	plain chalk dust free chalk

Features - *NEWSPRINT*

- Is cheap when used with crayons or cheap pens
- Is very portable
- Is easy to write on
- Can be saved or hung on the walls for referring back
- Can be used as a flip

Features - *WHITEBOARD*

- Can give good colour contrasts
- Permanent drawings can be added to and then cleaned if drywipe or washable marker pens are used
- Are usually metal and can be used with magnets
- Are easy to move about
- Drywipe pens are expensive, short-lived and unreliable

Features - *CHALKBOARD*

- Can be very cheap, e.g. hardboard plus chalkboard paint (black or green)
- Will work well outside in wind or damp weather
- Are sometimes of metal and can be used with magnets
- Frosted-glass boards are easiest to clean, but are not portable
- Chalk can be unpleasant because of dust
- Adults may be demotivated by the idea of the chalkboard

How to use writing surfaces - *PREPARING*

- Always plan in advance what will appear on the board
- Practice writing in 'blocky' letters, large enough for all to see
- Ghost write complex procedures on layouts on the board before the session

How to use writing surfaces - *USING*

- Angle the board to maximise contact with the group as you write
- When facing the group, have the board to your left if you are right-handed so that you do not cover what you are writing
- Use colour and framing with different colours to add impact to individual items.
- The best colours for showing up are:
  on newsprint: black, red, blue - avoid yellow
  on whiteboards: black, red, blue - avoid yellow
  on chalkboards: yellow, white - avoid red

When to use writing surfaces

- At any time

Why use writing surfaces

- To show predrawn or prewritten charts
- To build up complex layouts with the group
- To capture important responses from the group
- To give emphasis to you main teaching points

Written exercises

What are written exercises?

Participants' knowledge is tested or consolidated by writing answers to questions on paper.

Options

You have four main options:

- Straight questions
- Multiple choice questions
- Filling in the blanks
- Calculations

Straight questions

- Compose a question. The question can address different kinds of 'knowledge': facts, opinions, judgements
- A question can expect a factual answer. For example:
  What is the speed limit on a 6m carriageway metalled road?
- A question can seek answers that are a mixture of 'facts' and opinions. For example:
  Give three reasons why compaction is important
- A question can ask the participant to form a judgement. For example:
  How would you deal with a gang leader who is always late to work?
- Keep the questions clear and simple. Do not use long sentences. Do not use complicated words
- Number the questions for ease of reference

Multiple choice questions

- Compose a question and write down several plausible responses to it, only one of which is the 'correct' answer
- Label the responses with a letter, A, B, C etc
- You should provide a minimum of three and a maximum of six responses
- For example:
  Question: *what should the camber be on a 4m gravelled carriageway?*
  Answers:
  A Ten percent
  B Half a percent
  C Five percent
  D One percent
  E No camber
  F Two percent

Filling in the blanks

- You write a sentence which is a statement of fact. For example: *Concrete is a mixture of cement, sand, stone and water.*
- You then replace one or more key words with blanks. It is the participant's job to fill them in. For example:
  Concrete is a mixture of cement, ____, _____ and _____.
- A number of sentences like this can be composed to form a 'worksheet'. When the worksheet is filled in it can form a piece of reference material for the participant

Calculations

- Calculations are ued to test numeracy and how to quantify materials and processes
- For example:
  How much material is there in a 1km embankment, two metres high, six metres wide at the top, and with side slopes of 2 to 1 horizontal to vertical?

How to use written exercises

- You can write up the questions on a flip, whiteboard, or chalkboard. You can use an overhead projector. Or you can duplicate the questions onto sheets and distribute one to each participant
- Decide whether each participant has to do the exercises by himself or whether they can work in groups
- If the exercises are to be done individually, explain that they should be done in silence
- Make sure each participant has something to write on and something to write with
- Make it clear whether or not you will allow electronic calculators to be used

When to use written exercises

- Before starting a new topic to establish the current level of knowledge
- After a learning session to establish how much knowledge has been retained

Why use written exercises

- To test new knowledge and understanding
- To consolidate learning
- To discover the current level of knowledge
- To assess individual attainment