

## Section 2 How to help your students learn

### chapter 5 Introduction to teaching methods

Section 1 dealt with *what* your students should learn. This Section goes on to explain *how* you can teach the students.

Naturally, the two Sections go together because the student will only be well trained if the teacher uses good methods *and* teaches the right skills.

**Section 1 pointed out the importance of training students how to *do* things rather than just *know* about things. Again, in this Section the main emphasis will be on students '*learning by doing*' rather than just listening. This whole Section could be summed up briefly by the old Chinese proverb:**

*"hear and forget..... see and remember ..... do and understand "*

In addition, there are ways to ensure that they learn to do the tasks to an acceptable level

The Section is organised along the following lines: Chapter 5 gives general guidance about general problems such as motivating students and making subjects relevant. The three remaining chapters in the Section describe particular methods which are used in teaching attitudes (chapter 6), skills (chapter 7) and knowledge (chapter 8).

#### 5.1 The role of the teacher

How can teachers help students to learn? They act as a helper: by organising experiences which allow the student to work in health centres, by advising students to read a few pages from a manual, by writing down some questions for a group of students to discuss. In all these ways the teacher is helping learning.

Some teachers feel that they must do all the talking themselves. They feel that they are not really teaching unless they are telling the students some new information. But this is quite wrong.

In fact if a teacher gives a lecture and the students do not learn then the teacher is talking – not teaching.

One further point. Teaching and educating is an important part of providing health care. So you must use good teaching methods yourself to show your students an example of good teaching.

## 5.2 How well do you teach?

Below there are a list of questions for you to answer about your own teaching. If you can answer 'yes' to most of the questions then you are probably teaching well. If you answer 'no' or are not quite sure what the question means look at the corresponding part of the chapter. You will see that the first three questions all relate to 'active learning'. This general method is described in more detail in sub-chapter 5.3.

Similarly the next three questions are about giving feedback – which is discussed in 5.4 And so on.

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Do you ask students to answer questions?

Do you ask students to apply information in solving problems?

**ACTIVE  
LEARNING**

Do you arrange for students to practise thinking and practical skills?

5.3

Do you tell students how well they are doing?

Do you explain the errors that they are making?

Do you explain how students could do better work?

**GIVING  
FEEDBACK**

5.4

Can the students hear and see?

Do you use simple language?

Do you use visual aids?

**CLARITY**

5.5

Do you relate what you are talking about to the students' lives?

Do you give a lot of examples?

Do you relate what you are talking about to the work the students will be doing?

Do you give summaries?

**MAKING  
YOUR  
TEACHING  
MEANINGFUL**

5.6

Do you check that all your students understand each point?

Do you frequently find out whether every student has learnt the skills and tests?

**ENSURING  
MASTERY**

5.7

Do you allow students to work at different speeds?

Do you encourage students to learn in different ways?

Do you use several teaching methods?

**INDIVIDUAL  
DIFFERENCES**

5.8

Do you let the students realise that you care whether they do well?

Do you show that you care by preparing thoroughly for teaching sessions?

Do you listen to students' comments about your teaching?

**CARING**

5.9

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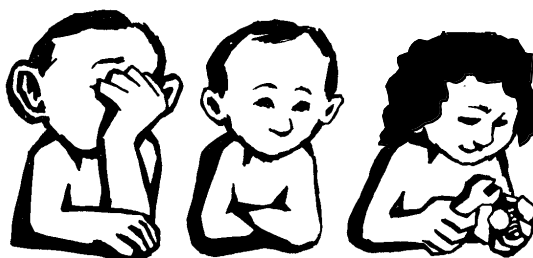
## 5.3 Active learning

Many experiments have been done to find out how much students learn when they are listening to a teacher talking during a lecture. These experiments show that the students learn very little.

This can be improved by using writing on the board, diagrams and pictures. In this way the students can see what they have to learn as well as hear it. But still rather little is learnt.

To help students to learn you should give them some activity to do. These activities might be answering questions, writing notes, explaining an idea to a friend or to the whole class. In practical work the activities are even more obvious. The advantages of this can be summed up by repeating the Chinese proverb at the beginning of the Section.

*"hear and forget.....see and remember..... do and understand "*



*"Hear and forget ..."*

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### *Exercise*

Suppose you are teaching students how to take a patient's temperature. Which of the following activities would be most useful after you have explained how to do the job?

- A — Read an extract from a manual on taking temperatures
- B — Copy your notes from the board
- C — Make notes in their own words on how to take temperatures
- D — Write on a sheet of paper the temperature reading shown in 5 diagrams of a thermometer
- E — Use a thermometer to find out the temperature of another student
- F — Calculate the change in volume of 5 cu cm of mercury when its temperature changes from 1 0°C to 40°C

Write down your answers now and give reasons

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***Comments on the exercise***

Well, all the activities except F are better than no activities at all. But, of the activities given, E is probably most useful as the students will have to use all the information you have given. They will have to read the thermometer as well as use antiseptic techniques, shake the mercury down, place the thermometer correctly under the tongue etc.

Activity D is also useful as some students may have difficulty in reading off a scale. So this would help the teacher find out exactly which students needed more help.

Activity C is better than B because the students have to do something with the words they have heard or read – rather than just copy.

Activity A might be worth doing so that any points in the manual which were difficult to understand could be explained.

Activity F is probably a waste of time. The students will not have to do this kind of calculation in their job. So it can only waste time and possibly do damage by confusing the student.

You should not, of course, use *all* the activities. Some may not be possible – do you have enough thermometers? Instead, you should choose one or a few of the activities which you feel would help the students to learn best.

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There are many different kinds of activities which are useful for different kinds of objectives. For example, you might develop *projects* for the students to do in which they would collect data about health needs. You might use *role-playing* in which students act the parts of different kinds of people they might meet in their work. You might ask groups of students how they would solve a health problem in their community. All these methods will probably give you more work to do. However, the details of the methods will be explained later in chapters 7, 8 and 9 and the effect of using the methods will lead to better learning.

A final point. This book gives you exercises to do while you are reading. In this way the book uses active learning methods. Do you find that the exercises help you to learn?

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***Summary***

It is probably easiest for teachers to keep talking during a lesson, but it does not help learning. Instead, the teacher should think of activities which will force the student to use the information taught. Use as many activities as are feasible, and so help students to learn.

Don't just talk – make your students do the work

## 5.4 Giving feedback

When the students have done any piece of work, the teacher should explain to the student whether the work was done well. The teacher should also point out exactly what was done poorly and how it could have been done better. This process of telling students how well they are doing is called feedback.

Feedback can also come from written material. The students themselves can sometimes give feedback to each other – if they are given guidance by the teacher (see self-assessment in Section 3).

If students only listen to a teacher talking, there is nothing to give feedback on. So Feedback and Activity go together. To give feedback, you must first arrange to have the students doing things which can be assessed. This means that there should be frequent tests of the students' ability to do the practical skills required, to remember the necessary facts and to use the facts in solving problems or communicating.

These tests may be formal exams. If this is done, the teachers will have to do a lot of extra work and the students may become exam-minded. That is, they may become interested only in passing exams and forget the real reasons for their training. A better way is for the activities and feedback to become part of the normal pattern of teaching. The students will be able to assess their own performance or perhaps assess the work of other students if they are given guidance by the teacher. The feedback should usually have three parts.

A — Feedback should give some encouragement and praise for what has been done well.

B — Feedback should give an indication of the overall standard. For example, "8 out of 10" or "Pass".

C — Feedback should point out any errors or faults and show how the performance could be improved.

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### ***Example of giving feedback***

You might watch a student practising how to bandage a patient to provide support for an injured arm. When the student has finished you might say "*Good. You have done quite a good job. The bandage is tied firmly— it will not come undone by itself. You have used the right method of bandaging so overall the standard is satisfactory. But you should have made sure that the lower arm was held level. You have made the bandage lift the patient's hand a bit higher than his elbow. To do this better you should...*" and so on.

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Notice that this example shows the teacher giving some praise – "Good".

The example includes an indication of standard "*quite a good job*"..... "*it will not come undone by itself*"..... "*right method* " etc.

The example also makes criticisms and shows how to do the job better. "*You should have made sure that the lower arm was held level* ".

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**Summary**

Give as much information as possible to students about the standard of their work. Praise the good things, but also show how they can eliminate errors.

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## 5.5 Clarity

Your teaching must be clear. The students must be able to hear what you say and read what you write. Also make sure that your students understand the words you use. Obvious points perhaps – but sometimes ignored.

## 5.6 Making your teaching meaningful

If you can make your teaching have meaning then the students will learn more easily.

It is easy to say that teaching should have meaning – but what can you do in practice? Here are some suggestions.

(a) ***Explain in advance what you are going to say.*** This can be done by telling your students what the objectives are for a part of the course. In this way the students will know what you want them to learn and so they can make more sense of the teaching.

(b) ***Try to relate what you teach to students' lives.*** Your students will have a lot of experience which is useful and important. When you are talking about sanitation, find out what your students know then build on this to expand what they know. Do not assume that students know nothing. As another example, if you are talking about a disease – bilharziasis perhaps – find out whether the students know people suffering from the disease. If you do this, bilharziasis will *mean* much more to the students. It will not just be a name in a book but it will be real.

This book tries to make the ideas meaningful to you by explaining them as problems which you face in your teaching.

(c) ***Explain new words.*** When you are providing information you will have to use and explain new words and new concepts. Some teachers like to use long and

complicated words just to show how clever they are. This must obviously be avoided. But still you will need to use some new words. When you do, you should define them carefully, give a lot of examples of what you mean and, if possible, arrange for the students to use the words themselves. This may be in discussion or in writing. In this way your students will begin to get a fuller understanding of the meaning of the words or concepts you use.

(d) **Use examples.** When you are describing a new idea or a method of treatment give real examples. You might talk about a real experience that you have had recently. Even better you may talk about a patient that the students have just seen, or the water supply for a village which they know. Notice that this book uses a lot of examples to explain the ideas.

(e) **Relate the teaching to the work which the students will be doing.** Information and skills will have much more meaning to students if they know how they will be using the information in their job. You might, for example, want your students to be able to use a microscope. Some students will be interested in microscopes in any case. Others may not be so interested and so will not learn well. However if you explain that the students will later use a microscope as part of their job and that this will be a way of confirming diagnosis of common illnesses then they are likely to be much more interested and to learn better. The learning will have more meaning for the students.

(f) **Give summaries.** At the end of a part of the lesson summarise the main points – like this book does.

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### **Summary**

You can help your students to learn by making sure that what you teach has meaning for your students.

Do this by:

- (a) explaining in advance what your students are expected to learn.
  - (b) relating what you teach to the students' lives.
  - (c) explaining new words and ideas.
  - (d) giving many examples to illustrate what you mean.
  - (e) showing that what you teach will help the students to do the job they are training for.
  - (f) summarising the main points.
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## **5.7 Ensuring mastery**

The phrase '*ensuring mastery*', simply means that you make sure that all the students know what is necessary at each stage.

Ideally this is done at the beginning of each teaching lesson.

When you are teaching a certain topic, it may happen that students need to have understood ideas taught in an earlier lesson. For example if you are discussing a Growth Chart for babies then the students will need to know what a graph is and how to record data on a graph. These ideas may have been taught some time ago, so the students may have forgotten or possibly never have understood. This means that the Growth Chart can not be understood.



“ . . . so the students may have forgotten, or possibly never understood

To overcome this difficulty you should check at the beginning of the lesson that **all** students do know what is needed. Don't ask "*Does everybody know about graphics?*" If you do, the students will probably say "*Yes*", whether they understand or not. Nobody likes to admit that they don't know something. Instead you should give a very short test – possibly in this case you could draw a graph on the board and ask the students to write down what a specific point on the graph means.

You should also find out how much your students know at the end of the teaching session – or even at various stages during the session. Again, do not just ask "*Do you understand ?*" Do find out by asking the students to do the skill or tell you the facts.

This technique seems very obvious. Most teachers think that they do "*ensure mastery*". In fact if you talk to students and find out exactly what they know, you may be surprised at how little they remember from previous lectures.

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### **Summary**

At the beginning of a session check whether all your students know the facts which they will need. At the end of the lesson, find out whether the main skills or facts have been learnt by all the students.

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## **5.8 Individualise**

Almost all teachers will agree that different students learn in different ways. Some students are very intelligent – others seem to be rather less clever.



Some students may be very good at learning facts but rather poor at doing practical work. Others are the opposite. Some can learn from books. Others like to listen to the teacher. Others learn best by practical experience of doing the job.

But often schools treat all students as if they were identical. All students go to exactly the same teaching sessions.

So what can teachers do to allow students to work in ways which are most helpful to the individual student? Here are a number of suggestions which would be feasible in many training schools.

(a) ***Make sure that there is enough time for students to learn on their own.*** To do this you may have to cut down the number of lectures. Some people suggest that there should be as much as 2 hours of time free for individual studying for every hour in a class. If you did this, the students would be able to learn at their own pace outside the lecture room.

(b) ***Use some different teaching methods.*** Some students will learn better from books. Some will learn better when topics are discussed in a group. Some will learn well from watching video etc. (if available).

It is not often possible to give a choice of teaching methods. What is possible is for teachers to use a wider variety of methods and so meet the needs of a larger number of students.

(c) ***Make more use of project work.*** To do this you set students a large-scale task such as finding out what village people think are their major health problems. This kind of project work allows a lot more scope for students to learn in their own way. It also gives a contrast to the lectures.

(d) ***Talk to students individually.*** If you talk to the students by themselves you will find that some students will be confused by one idea whilst others find that idea quite easy. You will then be able to explain the idea yourself, or tell the student how to find the information for himself.

(e) ***Use self-instruction methods.*** Where possible use tape-slide programmes or programmed texts. Where this is not possible because of lack of equipment or suitable programmes, you can help student by written notes. These notes can guide the student in reading manuals for health workers. Notes can also guide the students in practical work by giving lists of skills which the student should learn.

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### ***Summary***

Remember that your students are individuals. They have different rates and ways of learning, different interests, experiences and abilities. Try to find out what each student is like. Then use this to vary your teaching so that as far as possible each student can learn in his own way.

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## 5.9 Caring

So far, the general ideas have not used the fact that you – the teacher – are a human being. But students will often do things for one teacher which they will not do for another. How then can you use this to help your students learn?

One thing which encourages students to make more effort is the belief that the teachers care about the students. Notice, it is not enough for the teacher to care. The students must *know* that the teacher cares.

This should not be done by giving higher marks than other teachers or allowing poor standards of work or behaviour. In fact, this gives the opposite impression. Nor should you be content to say "*I care about...*".

Simply saying the words will not persuade many students for very long. Instead, the way you as a teacher behave will show whether you care or not.

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### ***Exercise***

Look at the list of statements about a *teacher*. Then decide which statements you would like to be true of you.

- A. wears clean and tidy clothes.
- B. always arrives for teaching sessions on time.
- C. prepares thoroughly for teaching sessions.
- D. shows knowledge about the subject, by using all the technical words.
- E. a very important person and very busy. So hurries away from teaching sessions to do other work.
- F. never smiles or jokes, because learning is a very serious business.
- G. always praises students' work, however bad it is.
- H. talks to students and finds out what their personal interests and ambitions are.
- I. asks students to comment on the teaching sessions so that the sessions can be improved.
- J. ignores the comments students make about the lessons.
- K. requires the students to do work of a high standard.

### ***Comments on the exercise***

The '*correct*' answers are probably obvious. The only statements which need expanding are D, G and H.

*Statement D* reflects one of the worst things that some teachers do. Teachers should not use technical words to show how clever they are. They should take pride in the way they make ideas easy to understand.

*Statement G* is typical of a nice teacher who is trying to encourage students. But it is not a good idea to praise bad work. Your aim should be to praise whatever is worth praise, but point out the weak points and insist on a good standard.

*Statement H* may seem unrealistic. Teachers do not have time to talk to all their students for long periods of time. But you should try to talk *and listen* as much as possible. When you are talking, try to find some shared interest or joke. Maybe you both know some person from the student's village. Maybe you are both interested in the same thing – possibly cooking or sport. Maybe you have some joke which you share. The important point is for the teacher to seem more real as a person.

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**Summary**

If the students believe that the teacher cares about them, they will have an extra reason for learning.

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## 5.10 Motivation

Some mention must also be made of '*motivation*'. It is often said that motivation is the key to successful teaching. All that a teacher needs to do is motivate the students and they will learn!

This is only partly true of course and it is not very helpful. How can teachers motivate students? The answer is simply to use the ideas described in sub-chapters 5.2 to 5.9. Each of these ideas will help to make the courses more interesting, easier to learn or more relevant to the students career. Above all they will help the student realise that you care about his success. All these things taken together will help to motivate the student.

## 5.11 Conclusion

Some people argue about whether teaching is an art or a science. Put in other words, some people believe that the talent for teaching is a natural gift which good teachers are born with. Other people believe that teaching is a science which is controlled by rules.

What this part of the book has tried to show is that there are some general rules for teaching. If you follow these your teaching will improve. If you do the opposite of these rules, then the teaching will almost certainly be bad and the students won't learn.

But the rules are not enough. The art of teaching is to apply the rules for your students, your subject and your school or college. You, the teacher still have to think of ways of making your teaching sessions have more meaning for your

students. You have to be imaginative and think of activities which will be useful to your students. You have to take the trouble to give feedback to your students and to show that you care about their success.

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***Summary***

To help the students to learn you should

1. Make the learning active – ask questions, set problems and organise projects.
  2. Give feedback – explain how well each student is doing and how their work could be improved.
  3. Make your teaching clear – speak loudly, write tidily, use visual aids and use simple language.
  4. Make your teaching meaningful – explain how it will help students to do their Job better.
  5. Ensure mastery – check that all students know the necessary tasks and can perform the necessary skills before and after each session.
  6. Allow for individual differences – let students learn at their own speed, leave enough free time and use a variety of teaching methods.
  7. Show that you care whether students learn – set high standards and get to know each student.
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## chapter 6 **How to teach attitudes**

What is an attitude? Think about a health worker in a rural centre. He may know all about aseptic methods and have the skill to follow them. But when he is working by himself, he may be tempted to take short cuts and not be very thorough. The way he actually behaves will depend on his attitudes. So we can say that an attitude is a tendency to behave in a certain way.

### 6.1 **Are attitudes important?**

It has often been said that the attitudes learnt during training are the most important part of the training. At the same time other people say that attitudes cannot be taught. What is the truth?

Certainly attitudes are formed or changed during training. This is quite clear to anyone who has worked with students, and watched them develop over a period of time. Compare the attitudes of the students who have completed a long course of training with the attitudes of a group who are just starting. The differences will usually be obvious. But how has this change taken place? Has the change been caused by the course? Can teachers really control attitude changes? One of the problems for teachers is that attitudes cannot be measured simply.



Another problem is that attitudes are rather vague things. They are hard to define or to explain.

Despite these problems attitudes are very important and teachers must try to teach students so that the students will learn the right attitudes.

This is especially important where the student is being trained to work in isolated places or where there is not much close supervision. Here the temptation will be very strong to take life easily and not work very hard. As a result standards of

health care will fall. The thing which prevents this drop in standards is the attitude of the health worker.

## 6.2 How to teach attitudes

There are no guaranteed methods of teaching attitudes. The teacher must be aware that all of the experiences that a student has *may* change his attitudes. But no single experience can be certain of having a specific effect on all students.

There are five general methods which the teacher can use. These are:

- (i) providing information
- (ii) providing examples or models
- (iii) providing direct experience
- (iv) providing opportunities for discussion
- (v) role playing exercises.

Even though you use all these methods, you must be aware that students' attitudes may be shaped by events over which you have no control. For example, students will read books, talk to people outside the school, meet their families and so on. The students will also have formed many of their attitudes before they start their training. So you can only provide one influence amongst many.

It is important therefore that your influence must be as strong as possible and – of course – that the influence must be a good one.

The following sub-chapters explain each of the methods in more detail.

## 6.3 Providing information to shape attitudes

Information is not always enough to change attitudes but it may help. For example, the facts relating to smoking and the risks of cancer and heart disease are fairly well known by many people in a number of countries. For some people this information has been enough to persuade them to change their attitude to smoking and to stop smoking. For many other people, the information has not been enough.

The information may be presented in many ways. Lectures are one obvious method. Films are often more effective because they can provide a more intense experience.

The important teaching technique is to show how the facts are *relevant* to the attitude.

## 6.4 Providing examples or models to shape attitudes

Most advertising is designed to change attitudes. A common technique is to show an *'ideal person'* (usually young, good looking and female!) using a certain product. The advertiser aims to provide a model or an example which will be followed by the reader. This technique is generally very effective.

What has this got to do with teaching? Well, for many students their teachers are very powerful models. Students will often tend to copy the way they behave. If they are rude to patients or careless in handling equipment, then the students will tend to follow this example.

On the other hand, if they show consideration to the people they work with, then the students will tend to behave in a similar way. Therefore it is essential that in everything you do you should provide a good example.

Of course, all the other people that your students see will have an influence. Other health workers, nurses and doctors will all provide models for the students to copy. The teacher should therefore make sure that as far as possible, the model is a good one.

## 6.5 Providing experience to shape attitudes

Throughout the students' training they will have experiences which will shape their attitudes. They may see patients with sores which have not been treated and have then become septic and possibly disabling. This direct experience of seeing the patient's suffering will have far more impact on shaping attitudes than a whole bookful of facts about the need for early treatment of superficial wounds.

The teacher should provide as much of this direct experience as possible. For example many health workers have responsibility for improving nutrition in a community. In some schools the students grow all the vegetables that they eat and look after animals themselves. This experience will help them to have more positive attitudes to doing the work themselves. In these schools the teachers believe it is important for the teachers to join in with the digging and cultivation so that students learn that the manual work is not undignified.

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### *Exercise*

List 3 experiences which you think your students should have which would help them to form good attitudes *to patients*.

### *Comments on the Exercise*

You may have written down ideas such as

- Working with an experienced health worker who you know has good attitudes to patients.

- Talking to patients about their worries concerning health.
- Meeting people who suffer from some disabling but preventable disease.

*Note:* It is always a good idea to discuss these experiences with your students so that you can make clear the kinds of attitudes which you want them to learn.

## 6.6 Providing discussion to shape attitudes

Discussion in small groups is generally thought to be helpful in shaping attitudes. It is especially important as the discussion will help to make the previous three methods more effective. For example it will be helpful for students to describe and discuss the experiences that they have had with patients. In the discussion they will share experience, so that the experience which one student has had may influence all the other members of the group.



**“Providing discussion to shape attitudes.”**

Another important feature of the discussion is the way in which the attitudes of individual students change when they talk about their own opinions. The process of putting their ideas into words and seeing the reaction of the other students can be a powerful way of bringing about attitude change. For this to happen, the group size must be small enough to give *every* student a chance to talk. A group of 7 or 8 students is ideal and 15 is an absolute maximum for this technique to be effective.

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### ***Example of questions for a discussion***

Imagine that each of you has been sent to different villages to persuade the local people to build a piped water supply.

1. How would you start to persuade the local people? For example would you try to make a speech to a large meeting or would you talk to individuals. If you choose a large meeting, who would you like to attend the meeting and how would you persuade them to come.



2. What rumours and objections about piped water supplies might you hear?
3. How would you respond to these rumours and objections?
4. What advantages do you think would be persuasive?
5. Why do you think some people don't like the idea of piped water?
6. Would you force the village people to build the water supply if you had the power?

Notice that these questions are specific enough to start the students talking and to provide some structure for the discussion. But they also allow students to express different opinions and so begin to form or change their attitudes.

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**Activity**

Write down the instructions you would give to a small group meeting. The instructions should help the group to think about parts of their job where attitudes are as important as knowledge or skills. The aim of the discussion should be to encourage the students to talk about your questions and so develop their attitudes. As an example, you might like to think of instructions which would encourage students to be more careful in their use of medical equipment.

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## 6.7 Role-playing exercises

Attitudes are very important in communications with people. If you respect people you will listen to them and speak to them in a different way.

Attitudes to people will often be improved if you understand the other person's point of view. So, one way of teaching attitudes is to give the students some experience of what it is like to be a patient or a mother with a poorly nourished child, or a shopkeeper who thinks that the health inspector is unreasonable. This can be done by using the technique of role-playing.

In this technique the students act the parts of different people and so begin to experience some of the feelings of these people.

The technique is also very useful in teaching communication skills and is described in more detail in Chapter 8.

## 6.8 Conclusion

Attitudes are important even though they are difficult to define, test or teach. The ideas in this chapter are just suggestions, because there are no widely accepted methods of teaching attitudes. It is certain that what you do *will* change students' attitudes. It is less certain exactly what that change will be.

**Summary**

1. An attitude is a tendency to behave in a certain way. For example a person who has an attitude of thoroughness will generally keep full and correct records of his **work**.

2. Attitudes like this are not developed easily. The teacher must do more than say '*You should be thorough in keeping records*'.

1. Attitudes can be shaped by

- (i) providing the background information
  - (ii) providing a model or example
  - (iii) providing experiences
  - (iv) encouraging discussion amongst the students
  - (v) using role-playing exercises
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## chapter 7 **How to teach skills**

### What is a skill?

Anybody working in primary health care uses many skills. They may use their hands skilfully when they apply a dressing, build a water supply or repair equipment. This kind of skill is often called a 'manual' or *psychomotor* skill.

They may talk skilfully when they persuade village people to attend an MCH clinic or encourage farmers to grow crops which will improve nutrition. The skills of explaining and persuading are called *communication* skills.

Then there are skills in making decisions. The most obvious example is when the health worker decides on a diagnosis or on treatment. Other examples are keeping records, ordering supplies, choosing the site for a well or latrines and so on. These skills are called thinking skills or *decision-making* skills.

The names – cognitive, communication and psychomotor – are not very important but are given because you may have read or heard these words elsewhere. What is important is that all these skills involve more than remembering facts. They involve the application of facts. For example in making a diagnosis, the health worker must be able to take a history, recognise signs and symptoms and then compare this information with his knowledge of diseases. This application of knowledge is a skill. The important point for the teacher is that *skills must be practised by the student*.

### 7.1 **Are skills important?**

The obvious answer is yes. Very frequently supervisors, doctors and senior health workers complain that students from schools for health workers know a lot of facts, but they cannot apply them. In other words they have the knowledge but they do not have enough of the skills.

What is the remedy?

- First, teachers must accept that their job is to help students learn skills.
- Then they must make sure that there is enough time to teach skills.
- Finally they should use good teaching methods.

This chapter will explain some of the teaching methods which can be used.

### 7.2 **Methods of teaching skills**

Teachers often use the following patterns when they teach skills:

1. Describe the skill – explain what the skill is, why it is important, when it should be used.

2. Demonstrate the skill – let the students see an expert (often the teacher) perform the skill.
3. Arrange practice sessions.

This pattern is generally sensible, although the stages can not be completely separated.

For example it may be more interesting to start with a demonstration. Or students may need more demonstration after they have had some practice.

Often the skill is described in a lecture (theory) then some time later – maybe weeks later – the students do the practice (practical). This is *not* desirable although there may be administrative reasons for doing it this way. Ideally, *theory and practice should be taught together*.



**“Ideally theory and practice should be taught together.”**

## 7.3 Describing a skill

The first stage in teaching a skill is to describe the skill. This will involve explaining why the skill is important and why the students must learn it. It will involve explaining when the students should use the skill and it will involve explaining the stages in performing the skill.

For example, if you are teaching how to give an injection, most students will know vaguely what an injection is and why it is important. But if you are describing the skills involved in persuading mothers to bring their children to an immunisation clinic, some students may not realise why this is important.

When you explain the stages in performing a skill, a task analysis will be very helpful. This is because the task analysis gives a list of what is done and the order in which each stage is done. The task analysis will help you, the teacher, to be very clear in your own mind about the stages. It can also be used directly by the students. If you use task analysis in this way, it should be rewritten so that it is useful for the student. Look at the example below which is used for teaching hospital nurses. (Notice that the words used are sometimes difficult for students – maybe you could improve them. Notice also that this is the way medicines are given in the hospital where the nurses are trained – it is not necessarily the way **you** would train nurses to do this particular job).

*Examples of instructions for a student based on a task analysis*

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**Giving medicines by mouth**

***Equipment***

Trolley containing:

- All medicines required.
- Graduated medicine glasses.
- Teaspoons.
- Jug of cold water
- Small tray or plate for carrying drug to bedside.
- Receiver for used spoons
- Medicine cloth.
- Soapy water and clean water.

***Giving the medicine***

1. Identify the name of the patient.
  2. Read the prescription carefully. Give medicine at the time ordered and give before or after meals, as instructed. If before meals, give twenty minutes before. If after, give immediately after.
  3. Select the medicine and check the label with the prescription.
  4. Ensure that the label is kept clean (if liquid medicine) by holding the bottle with the label against the palm of the hand.
  5. Shake the bottle.
  6. Hold the medicine glass at eye level while the medicine is being poured.
  7. Shake the prescribed number of tablets or pills on to the lid of the container and from there, on to a spoon and then on to the back of the patient's tongue, or mix with water.
  8. Place powders on a spoon and then on the back of the patient's tongue, or mix with water.
  9. Make unpleasant medicine as agreeable as possible by following their administration with a sweet or drink of fruit juice, if this is allowed.
  10. Stay with the patient until he takes the medicine. Do not leave it on the patient's locker.
  11. Note administration on Drug Recording Sheet.
- 

This example shows:

1. The instructions could be used as a handout when the teacher describes the skill.

2. The students can keep these instructions and refer to them when practising the skill – or put them into their own manual for reference after the end of the course.
3. The written instructions make quite clear what standard of performance is expected. (All teachers and examiners will follow the same standard).
4. Because the instructions are written down, students can assess each other and so help their own teaching.

These written instructions are sometimes called *procedure cards* or *job-aid cards*. Again the technical names are not very important. What matters is that some teachers have found that they are very useful and that many more teachers could use them.

## 7.4 Demonstrating a skill

When the skill has been described it should be demonstrated. Sometimes the demonstration is done at the same time as the description.

There are some obvious points about demonstrations which are easy to explain, but are more difficult to follow.

1. ***The demonstration must be correct.*** Obviously you must not demonstrate bad methods. Also you must make sure that any equipment you use will be available to the students when they are working in the field. You should also make sure that your demonstration does not use methods which require too much time or too much skill. For example if you are demonstrating how to prepare posters for a talk to mothers in a village, you should make sure that you only use the kind of paper, paint and pens which will be available to your students.



“The demonstration must be visible . . .”

2. ***The demonstration must be visible.*** All the students must be able to see what you are doing. This is so obvious but often teachers make mistakes here. The

problem is most serious when there are large numbers of students or when the skill you are demonstrating cannot be seen from far away.

The solution here may be to use a video. But for the very many teachers who do not have the equipment, the only way is to repeat the demonstration many times. Senior students or teaching assistants may help you here.

*If some students cannot see properly repeat the demonstration*

3. **Explain what you are doing.** It is not enough to perform the skill correctly and visibly. You must explain what you are doing and emphasise important points. A handout, or written set of instructions will help you here.

**An example of using a handout to help explanation:**

**Preparing for an intramuscular injection**

1. Put the two parts of the syringe and the needle in a metal container (a metal pan or tin). Cover them with water and boil them for ten minutes.
2. Wash your hands with clean water and soap. Rub your hands together in the soapy water until they are really clean. Rinse your hands in clean water.
3. Clean the lid of the little bottle (which contains the penicillin or any other substance to be injected), using a swab wetted with a disinfectant such as surgical spirit, alcohol, rub hard two or three times.
4. Using the same swab, rub two or three times the place where you are going to put the needle in the buttocks for the intramuscular injection. On the buttocks choose a place for the injection which is fairly high up and towards the side.
5. Put the two parts of the needle together and fit the needle in firmly. To do this, take the needle at its base, that is to say by the part which is not sharp

and so on

This kind of handout might be used in the following way. The teacher would:

- explain why intramuscular injections are given.
- give the handout to the students.
- demonstrate each stage in turn by showing the students exactly what has to be done. During the demonstration, the teacher would keep on referring to the handout. For example, saying "*now we come to stage 2. You should wash your hands like this. Notice that the water must be clean and that I have to use soap. It is not enough just to get the hands wet. You must rub your hands together hard to remove any dirt or risk of infection...*"

An advantage of using the written handout whilst you demonstrate a skill is that the students will become familiar with the handout. They can then keep the

handout for revision or to refer to later.

Another advantage is that you are giving the students a record, so they do not have to take notes. This means that they can concentrate on watching the demonstration, rather than trying to do two things at the same time.

## 7.5 Providing practice in performing skills

The most important stage in teaching students how to perform a skill is the practice. Unfortunately this is often the most difficult to organise and can take the most time. Despite these problems, teachers must make sure that students have plenty of opportunities for this practice.

One way of ensuring that students reach an adequate standard is to develop a check-list. After the demonstration of an intramuscular injection, for example, the handout (on the previous page) can easily be adapted to the following format:

### *Check-list when giving an intramuscular injection:*

<i>Did the Student</i>	<i>Yes</i>	<i>Not enough</i>	<i>No</i>
------------------------	------------	-------------------	-----------

- 1 Disinfect the equipment well*
- 2 Wash hands really well*
- 3 clean the flask lid well  
with disinfectant and rubbing*
- 4 Choose the right site for the injection*
- 5 Disinfect site well.*

*And so on.*

Such a check-list can be written by the students, then used for practice in pairs, one of the pair carries out the (simulated) procedure, one watches and uses the check-list. Note that all “yes” answers are positive so that when the check-list is completed, it is easy to see whether the task was mostly well done (a vertical line of ticks under the “yes”) or done badly. A slightly different format can be found in 10.8.

By specifying the standard of performance expected, the students are helped to master properly the skills they need.

The main features of teaching skills well are:

- *All* students practise the skill often enough.
- The students receive feedback about how well they are performing the skill.
- Check-lists to ensure good standards.



The remainder of this chapter describes methods which the teacher can use. These are:

- Role-playing (7.6)
- Projects (7.7)
- Simulations (7.8)
- Job experience (7.9)

This is not the complete list of possible methods. Rather it gives some ideas about some of the possible methods. Every teacher can adapt these methods, read about other methods or develop new methods to suit the specific needs of his students.

## 7.6 Using role playing to teach skills

Perhaps communications skills are the most difficult group of skills to teach. This is because there are fewer definite rules to follow. For example it is hard to decide exactly what makes an explanation clear or persuasive.

Because of this, students need to develop their own way of communicating and so, of course, they must have plenty of practice. This practice should be supervised by a teacher, a senior student or an assistant whenever possible.

Role-playing is one method which is useful. In this method the students act different parts as if they were in a play. But instead of words and parts the different students are only given an outline of a situation. See the example below:

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### *Example*

Ask student A to act the role of a health worker trying to persuade a mother to have her baby immunized against polio.

Ask student B to act the role of the mother. Explain that the mother is worried because she has heard that the immunization is dangerous and that her mother does not believe immunization is necessary. However, she must be persuaded although she respects her own mother.

Ask student C to act the role of the grandmother. The grandmother expects her opinion to be followed. None of her babies were immunized and all of them grew up to be strong and healthy. She believes immunization is unnecessary and dangerous.

Now tell the role players that the health worker is talking to the mother and grandmother in the health centre. Ask the role-players to act the

parts you have given them by talking and reacting in the way they think that the mother, grandmother and health worker would behave.

Ask the other students in the group to watch and listen to what happens. They should note down things which the health worker does well and also the mistakes he or she makes.

They should think how they would have talked or acted differently. What other information would they have used? Would their manner have been different.

Probably the role-playing will last for only a few minutes. Now comes the very important stage – the discussion.

Ask various students how they would have behaved and invite discussion from the group as a whole about the way the health worker behaved. Ask them also how the grandmother and mother felt. Would the grandmother feel her experience was made to seem silly? Would the mother have felt bullied? As the teacher you should try to start the students thinking about the emotions of the people in the role-playing. The students should also be made aware that facts are not enough for good communication.

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This then is an example of a role-playing exercise. Many other examples could be thought of which would help students to understand the problems of communication. The examples could be fairly simple like the one above or they could be made more complicated. For example you might add extra information such as the news that a baby in a neighbouring village died soon after immunization of a different disease. Or the husband might come into the health centre during the discussion. He might have strong opinions about immunization – either for it or against it.

Whatever the situation you choose to use, the students will need some reassurance. Some may be very shy or afraid of making mistakes.

It is probably not wise to force any student to take on a role until they have seen other students in action. You should try to keep the mood fairly light-hearted – and make quite sure that the students know that this is purely a learning experience and not an assessment!

Whilst this is a very useful technique in practising skills and giving students insight into communication, there are some limitations. The main one is that this technique should not be used with groups of more than about 25 students. The reason is that the method depends on the discussion at the end when *all* students should take part. With large groups this is impossible.

A second limitation is that students acting as grandmothers are only *acting*. Therefore, the students should *also* have experience of communicating with real people with real opinions and real personalities. Although these limitations are important, role-playing is still a very useful method in helping with communication skills.

## 7.7 The Implications of the AIDS epidemic

With the increasing importance of helping people with AIDS, people needing Family Planning and so forth, it has become necessary for all Health Workers to have good communication skills in sensitive areas. People learn these in the same way as they learn to discuss immunisation with grannies. They need role-plays, practice and good check-lists.

For those that need more, a manual, “Interviewing and Counselling at the Grass-Roots” can be used by small groups to learn these skills. It can be downloaded from the [www.networklearning.org](http://www.networklearning.org) site. It contains role-plays and check-lists.

## 7.8 Projects

Projects are an important part of many longer courses. In a project the student – or a group of 3 or 4 students – is asked to attempt a specified task. For example, the students might be asked to find out about the health problems in a village – or they might be asked to find out what superstitions school children have about nutrition or hygiene.

When the students do the project work they will find out facts. But they will also increase their skills in talking to people, in collecting and reporting information and probably in other areas as well. The exact skills will depend on the project chosen.

Ideally projects can be very valuable learning experiences but they can go badly wrong. Teachers must give enough help and encouragement – without doing all the work. At the end of the project the reports should be presented to the whole class of students so that every student can benefit from the experiences gained in all the projects – and this takes time.

Projects do work – provided the teacher is enthusiastic, gives enough help and there are not too many students. They are very difficult to organise when there are more than about 40 in a class.

## 7.9 Simulators

Simulators are extremely difficult to define in any way that is both reasonably simple and complete. It is better to quote some examples. An orange can be used as a simulator, when students use it to practise injections. In this case the orange simulates the skin and flesh of the patient. Other simulators are used to train pilots how to fly aircraft. These flight simulators have all the aircraft controls and instruments which are linked through a computer to reproduce the behaviour of the aircraft.

So simulators can be extremely complicated and costly or they can be very simple and cheap.

Some simulators can be bought. For example, a simulated patient made out of plastic can be used to practise insertion of an endotracheal tube. Other simulations can use paper and pencil. These are called patient management problems and are described in Section 3 (sub-chapter 10.5).

The main aim of simulators (whether they are simple like oranges or very complicated) is to give the student some experience and practice before the student works with more expensive equipment or with patients. They are not intended to complete the training.

A problem facing teachers is that simulators are not widely available. Instead teachers must use their imagination to think of ideas like the orange.

## 7.10 Job experience

Perhaps the most useful practice a student can have is to actually do the job itself. Naturally students cannot do this in an uncontrolled way.

One way is for students to join qualified health care staff for periods of attachment. Ideally one or two students work with the senior health worker to see how the job is done. Gradually the senior health worker or supervisor will ask the students to do more and more of the work. All the time, the supervisor must make sure that the students are not making any serious mistakes and that they are frequently told what they are doing well, what they are doing badly – and how the bad points can be improved.

This job experience is widely used. Ward rounds and attachments to wards are examples of this method. At least one school spends the whole of the second year of a three year curriculum in job experience.

Although this method is widely used it is not always well used. Often ward rounds will have so many students working with one teacher that only one student out of ten or fifteen is actually practising a skill whilst the others

are just watching. This can be very boring and even at its best is not very effective.

Despite these dangers, job experience can be a most powerful method of helping students to learn skills, so it is worth putting in a lot of effort to arrange for students to work with qualified staff. It is also well worth explaining to the staff that the aim is to provide supervised practice – not to give mere theory lessons.

## 7.11 How much time is needed?

It is very difficult to give definite answers to how much time students need to learn skills. It is almost certainly true that most curricula give too much time to teaching theory and not enough time to learning skills and attitudes. For many tasks, students will often take two to four times as long to master the skills and learn the attitudes as they do to learn the *necessary* facts. There are, of course, exceptions to this general rule. But the implication is clear that a great deal of time must be spent in practising skills.

## 7.12 Summary

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### *How to teach skills*

- 1) It is absolutely essential to teach students the relevant communication, manual and decision-making skills.
  - 2) Skills are usually taught by:
    - describing the skill
    - demonstrating the skill
    - allowing every student to practise the skill
    - checking that the student can do the skill well enough
  - 3) Role playing, projects, simulations and job experience are some of the ways in which students can practise skills.
  - 4) ***Probably two thirds or more of the time in every course for health workers should be spent in teaching skills.***
-

## chapter 8    **How to teach knowledge**

### How important is knowledge?

Obviously all health workers must have some knowledge in order to do their job. But it is also true that other knowledge is not necessary. For example, a health educator must know which local foods contain protein – this is essential knowledge. On the other hand, the health educator will not need to know the chemical structure of each of the proteins. Nor will he need to know the formulas for the biochemical processes involved in the digestion of protein.

So some facts are very important and some are not at all useful. This means that the teacher must *choose* which facts to teach.

As a guide, teachers should ask themselves the following questions.

*“What would the students do poorly if I left out this detail?”*

If the answer is *“nothing”* – then the detail should usually be left out.

### 8.1    **Teaching different types of facts**

So far this chapter has explained that some facts are important whilst other facts are very much less important. But the important facts may be important in different ways – so they should be taught in different ways.

Take as an example the training of a group of health auxiliaries who will be responsible for running an immunization programme. The course may include the following (there will be much more than this of course!).

- A**    Whether the vaccine can be stored in sunlight or whether it must be kept in the dark.
- B**    How to explain to parents that their children should be immunized.
- C**    The date when the vaccine was discovered.
- D**    Safe storage times for the vaccine at different temperatures.

**A** is obviously an essential fact. It must be emphasised strongly and the teacher must make sure that all students remember it. It should be included in an exam.

**B** is also important – but it is more important that students can *do* the explaining rather than write down how they would do it. Here it is not enough to teach the facts. The skills must also be learnt. The skill should be tested in an exam – but the facts alone need not be tested.

C, the date of the discovery of the vaccine is not essential knowledge for anyone. However background information like the story of the discovery of the smallpox vaccine may well help to make the lesson more interesting. So it is worth including. But do let your students realise that this is only background information. It does not need to be remembered. Nor should it be part of any exam.

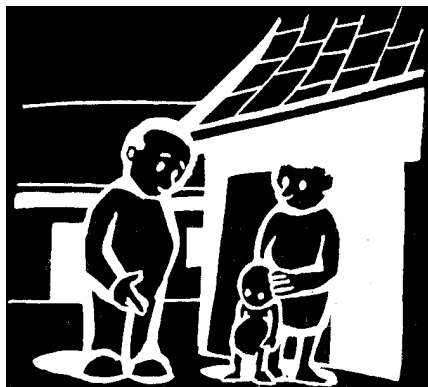
D, the storage times are important and so the students should be told them. For some vaccines the information may be fairly detailed and difficult to remember. In this case the facts should be recorded in a manual for the students to keep. The most important point for the teacher is to make sure that the facts are recorded accurately and that the students can look it up when necessary. These are facts for reference.

## 8.2 Where should students get the facts from?

The students can learn facts or information by listening to the teacher. In this case, the teacher is the source of information. He knows the facts and tells them to the student.

But there are many other sources of information which can be used. Many manuals are available which contain relevant information for health workers. There are also textbooks, films, videos and posters which have been prepared specially for health workers. Now, with the web, there are many useful websites. (Some of these are in the Resources List at [www.networklearning.org](http://www.networklearning.org) – for example, John Hopkins supply a package of village-level health information at [www.jhucpp.org/tools/download.stm](http://www.jhucpp.org/tools/download.stm) ). The students should be told, though, not to trust information from dubious sources

Another source of information is the real world. You do not always need to tell your students what happens when a sore is not treated. Nor do you need to describe the food which mothers give to their children. Your



students will have seen these things for themselves. So you can use your students' experience of the real world. In a similar way you can send your students out into the villages to collect information. The information gained in these ways is much more real to the student than the words spoken by the teacher. The information means more and is learnt better.

**"The information means much more, and is learnt better"**

So do not think that you must tell the students everything. Encourage your students to learn from their own experience, from books, from models and from each other.

### 8.3 Planning the topics of the lecture

When you have decided that some facts need to be taught you must plan the teaching session in which they will be taught.

A useful way of doing this is to start with the task. Then decide on the main items which must be covered. For example your task might be the control of the malarial mosquito. Some of the themes you will want to cover are:

- sites where the larvae can be found
- methods of eliminating these sites
- methods of preventing mosquitoes using these sites
- etc. etc.

When you have decided on these themes, they should be put into a sensible order (you cannot talk about preventing mosquitoes getting to the sites, until you know what the sites are).

Then think through each theme to decide how much detail is needed. What facts must be remembered, what facts will add to the interest, what facts should be recorded for reference.

### 8.4 Giving the lecture

There are many ways of giving a lecture. The advice given below describes just one pattern. You will want to vary this and develop your own methods. However this does give a basic guide which you can follow and improve.

- 1 ***Get the students' attention.*** You can do this by explaining why the lecture is important to the students. Or tell a story which shows why the topic is important. Maybe you can ask what they already know about the topic or why they think it is important.
- 2 ***Give a summary.*** Explain what is going to be covered. This helps the students' understand how each part of the lecture is related.
- 3 ***Test how much students already know.*** Make sure that all students really do know any facts which you are going to use. For example, if you think the students need to know some anatomy to understand a point, check that they do know it.



- 4 ***Present the facts and information.*** You may tell the students the facts, or
  - use handouts
  - ask students to read a part of a book
  - ask one of the students to describe the facts
  - use audio visual aids
  - show models, equipment or patients
- 5 ***Set some activity.*** This activity should make the students use the facts they have just learnt. This is a very important part of teaching.

For example you can ask individual students or groups of students "*What would you do if...?*" or "*How would you...?*" Another kind of activity is simply to write notes or fill in gaps of a handout.

6. ***Summarize.*** Repeat the main points which you want students to remember.
- 7 ***Test.*** Check whether the important points have been learnt.
8. ***Set an exercise to do after the lecture.*** You may ask students to prepare for the next session by reading, doing some specific work in the ward or in the community, or by revising what has been learnt previously.

You may think that this is not the kind of lecture that you used to go to when you were a student. This does not matter. A lecture should involve the students in doing things. Just listening is a poor and slow way of learning.

## 8.5 How to speak in the lecture

You should not spend the whole time talking. But when you are talking there are some points to remember.

- 1 ***Do you speak loud enough?*** Often teachers speak to the students at the front. The ones at the back simply cannot hear and so cannot learn. If you are not sure whether you can be heard, ask a friend to sit at the back and tell you.
- 2 ***Do you speak clearly?*** The volume may be loud enough, but you may speak unclearly. You should make sure that the words are clear and that you speak to the audience. Do not look down at notes or talk facing the board.
- 3 ***Do you use simple words?*** Make sure that the language you use is simple enough for the students. This is especially important when the students may come from communities where different languages are spoken.
- 4 ***Do you sound as though you are interested?*** Some teachers speak in a flat, monotonous voice. They sound bored and their students soon become bored. Vary your voice and try to show that you are enthusiastic and interested.

## 8.6 Visual aids

Some of the ideas and facts in your lecture will be best explained by drawing a diagram or a picture. So you should use a visual aid: chalkboard, charts, flannelgraph, overhead projector, slide or film strip projector, photograph, film, video, etc.

At least some of these will be available to you. Sometimes the material will be prepared for you to use (filmstrips, films and photographs). These can be difficult to obtain, but one agency "Teaching Aids at Low Cost" (TALC) specialises in making and selling these aids as cheaply as possible.

The websites of TALC and other organisations with teaching materials are available through the Resources List at [www.networklearning.org](http://www.networklearning.org)  
TALC's address is: P.O. Box 49, St. Albans, HERTS AL1 5TX, U.K.

Other aids you can prepare for yourself. When you do this you should:

- 1 Keep diagrams as simple as possible – unnecessary detail only confuses the students.



**“Make sure all lettering can be read  
by ALL the audience.”**

- 2 Make sure all lettering can be read by *all* the audience. (This is very obvious but is not often done). This point applies especially when you are writing on a chalkboard.
- 3 Talk about each diagram to make sure that all symbols are understood. This is especially important when you use graphs or cross-sections

## 8.7 Using handouts in lectures

Handouts are one way of adding to lectures. They can be used in two main ways.

- A guide to taking notes.
- A permanent record of the facts.

Of course, one handout may be useful in both ways, but often there will be an emphasis in one area.

Look at the example of a handout:

***Example: A Handout for Students to Take Notes on.***

Malaria
<i>Signs and symptoms:</i>
<i>Treatment of patients:</i>
<i>Nature of disease:</i>
<i>Who is at risk?</i>
<i>How is malaria transmitted?</i>
<i>Prevention of malaria:</i>

This very simple handout helps to make the lesson a bit more active, and so helps learning.

Notice that the handout gives a structure to the lesson. It will help to remind the teacher of the main points. Using this framework he could start off by asking students, "who has had malaria?" Then ask them about what it was like – the symptoms. And so on. As each stage is completed the students would fill in the main points on their handout.

Now look at another type of handout.

Maximum Storage Times of Vaccines				
Vaccine	Undiluted		Diluted	
	Fridge 1° - 4° C	Room Up to 20° C	Fridge 1° - 4° C	Room Up to 20° C
Tetanus			2 - 3 yrs	2 - 3 days
BCG (for Tuberculosis)	1 - 2 yrs	1 month	2 - 3 hrs	1 - 2 hrs away from sunlight
Smallpox	1 year	1 month	1 week	1 day

This second example is quite different. It provides a record of information; which the student may want to refer to later. It is unlikely that the student would be expected to know and remember all these times.

The teacher can give this handout to the students during the class. This saves time spent in drawing the table on the board and waiting for students to copy it down. This time can then be better spent by asking students questions to test their understanding of the information. For example, *"If you do not have a refrigerator, how would you organise BCG vaccinations in your village?"*

## 8.8 Summary

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1. Only teach those facts which the students need.
  2. Plan exercises and activities for the students – do not just talk.
  3. Encourage students to find out facts from their own experience, each other, books and manuals, and, where possible, the Web.
  4. Use visual aids and handouts.
-