



## ILEP Technical Guide: Training in Leprosy

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## ILEP Technical Guide: Training in Leprosy

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## Abbreviations

ALERT	All Africa Leprosy, Tuberculosis and Rehabilitation Training Centre, Ethiopia
ILEP	International Federation of Anti-Leprosy Associations
INASP	International Network for the Availability of Scientific Publications
INFOLEP	the leprosy information service of NLR
JHPIEGO	an affiliate of Johns Hopkins University, USA
KIT	Royal Tropical Institute, Amsterdam
NGO	non-governmental organisation
NLR	Netherlands Leprosy Relief
OJT	on-the-job training
OSCE	Objective Structured Clinical Examination
PLA	participatory learning and action
TALC	Teaching Aids at Low Cost
WHO	World Health Organization

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# 1 Introduction

Effective training does not just happen. It is designed!

The most effective training courses are not isolated events but are part of a larger training framework. This technical guide seeks to assist in the development of such a framework for training in leprosy. In many countries leprosy activities are being integrated into the general health services; training in leprosy is therefore likely to occur in an integrated context, and may be part of a larger framework for training general health care workers. Wherever possible, training in leprosy should be combined with other types of training, in order to facilitate the process of integration and to make it more cost-effective.

Leprosy is still a significant problem in many countries. The devastating consequences of neglecting the disease indicate that efforts to find and treat early cases are essential and must go on. There is likely to be a continual need for training where health services are integrated in order to ensure that an acceptable level of expertise is maintained within reach of people developing the disease.

But if leprosy is not very common in a particular area, who should be trained and in how much detail? Are there different ways of organising the training so that it will be less time-consuming and more cost-effective? What about the place of new technology in training – for example, computers, CD-ROMs and the Internet? What is the best way of updating those already trained?

In trying to answer these and other questions, the challenge is to develop and implement training strategies that will enable health personnel to provide quality care for people affected by leprosy within the general health services. Training is an essential component in the provision of good quality health care.

There is a need for regular and comprehensive training, and courses should be developed within an overall national framework so that all staff managing leprosy have the necessary knowledge, skills and attitudes. Most health workers are highly motivated and will supplement their training by learning on their own, if they have access to appropriate learning materials.

In order to provide quality care, trained staff need to have organisational support (such as a functioning clinic and drug supplies), managerial support and good supervision. This helps to keep them motivated and up to date, and provides essential feedback about job performance.

*Quality care rests on three components: training, supervision and organisational support.*

This guide examines how leprosy training can be organised and made more effective. It is written for those who organise, support and run training activities, in national, regional or district health programmes.

There are four core sections:

## Analysis –

- What is the present situation regarding leprosy in the area?
- Is there a training need – or are there other reasons for a performance gap?
- What are the training needs?
- What resources are available?
- What is the context in which training activities will be planned?
- Who are the stakeholders?

## Design –

- How can facilitators develop all the components of a training course suited to the requirements of the programme?
- Which types of training should be planned?
- Where and how should the courses be held?
- What is to be taught?
- What teaching/learning methods are most effective?

## Resources –

- How can trainers be helped to reach their full potential? They are the key to running a good course.
- Course materials and other publications complement what the teaching staff contribute.

## Evaluation –

- Essential in order to learn from previous work and continually improve the quality of training.

These four sections are followed by a case study and a number of annexes, which provide background material and expanded discussion of certain topics.

The goal of the guide is to help improve course design and implementation, which will:

- Lead to more enjoyable and worthwhile training/learning experiences.
- Allow greater co-ordination of effort.
- Avoid wastage of training opportunities.
- Lead to better management and support of people with leprosy in clinics and communities around the country.

To achieve this, the guide describes a variety of ways in which training needs can be met, depending on the situation. Much of the content is contained in the annexes, which can be used on their own for further study or follow-up.



Credit: Paul Saunderson



## 2 Training in leprosy

Training in clinical leprosy is being conducted on a more or less continual basis in most endemic countries for several reasons:

- Each new class of health workers in medical, paramedical and nursing schools requires basic training.
- Integration requires additional training for general health staff.
- New technical developments require continuing education for existing staff.
- The high turnover of staff at every level necessitates frequent reorientation.



Credit: Joost Buiemop

The integration of leprosy work into the general health services, which is taking place in many countries, requires an additional effort in training, as many general health staff are required to know at least the basic facts about diagnosing and treating leprosy. Staff at referral centres, including health centres and hospitals, need to

be trained in greater depth, in order to properly examine suspects in whom the diagnosis is less clear. These staff may also be expected to manage the common complications of leprosy, such as reactions and neuritis.

A number of problems can be identified in current training activities, however. Training, or human resource development, is often not part of an overall strategy or is not targeted properly at those seeing most of the patients. It may be expensive, because of travel, accommodation and time away from work, but not fully informed by an analysis of the real situation in the clinic. The facilitators usually have a good knowledge of leprosy, but may not have good training skills. Finally, as the courses themselves often have no clearly stated learning objectives, it may be difficult to evaluate them later and thus learn from the past.

Many of these problems could be mitigated through a more planned approach. Clearly, this would best be developed under the auspices of the Ministry of Health, but in many situations ILEP members can do much of the preparatory work and provide useful support for the whole process.

### 2.1 Analysis

Planning starts with an analysis of current conditions. What is the present situation with regard to leprosy in the country? Is there a training need? What additional training is needed?

## 2.1.1 Situation analysis

A **situation analysis** will give an overview of the local epidemiology of leprosy and current service provision – much of this will be already known and documented. It will also look at the present organisation of leprosy training activities and how they fit in with other training programmes for health staff. It will look at whether leprosy is integrated into the basic curriculum for doctors, nurses and other health workers. The training resources that are available (such as training centres, classrooms, teaching staff and access to clinics for teaching) will be noted.

More information on conducting a situation analysis can be found in the ILEP Technical Guide ‘Facilitating the Integration Process: A Guide to the Integration of Leprosy Services within the General Health System’ (ILEP, 2003).

## 2.1.2 Identifying training needs

**Training needs** must then be assessed, in order to find out which people need more training and what they need to learn. The identification of training needs can be described as a process involving two distinct steps:

- A The first step is to document the knowledge, skills and attitudes that are needed to properly carry out a certain job. A task analysis can provide the answer to this question. A different task list can be developed for each job and will obviously be closely related to the job description for that position.
- B The second step consists of finding out which of these requirements – in terms of knowledge, skills and attitudes – are already present, be it through formal training, experience or on-the-job training. A performance analysis can provide the answer to this question.

If no difference is found between these two – the *task analysis* (what should be done) and the *performance analysis* (what is done in reality), there is no problem and, consequently, no training need.

If, on the other hand, a difference is found (which is often the case), we can call this a *performance gap*. However, it should be stressed that a performance gap is not necessarily identical to a training need. It may be, for example, that the best solution would be to recruit additional staff, or improve the supply of drugs to a clinic. We have to analyse the causes of and factors underlying this gap in order to be able to ‘distil’ the real training needs.

*The process of identifying training needs is described more fully in Annex 5.3.*

### 2.1.3 Identifying target groups for training

Having identified who is involved in providing leprosy services through the situation analysis, and assessed where the training needs are, it is a simple matter to draw up a list of which staff need further training. Prioritisation will be based on the epidemiological situation, so that health workers who see the most patients are given the highest priority. Specialist staff who see referred cases will be a high priority for continuing education so that they remain up to date. The length of a particular training course will depend mainly on the curriculum and the needs of the trainees.



Credit: Paul Sanderson

It is possible to identify key target groups which will be a high priority for training in most endemic countries with integrated health services:

- **General health workers** in small clinics are the first to see new patients and may diagnose and treat nearly all of them, including people with other skin conditions.
- **First level referral workers** based in rural clinics, health centres or district hospitals are expected to diagnose and manage more complex cases or suspects referred by the general health staff; this group may include people who formerly worked as specialist leprosy workers, but may also include doctors and paramedics without much previous experience of leprosy.
- **Specialised staff** are of varying degrees of seniority and include leprologists and dermatologists, as well as those in more specific fields such as eye care, laboratory work and rehabilitation.
- **Supervisory staff** may be regarded as one particular group of specialised staff, who need training in how to conduct supervision visits and how to do effective on-the-job training for other staff.
- **Students** of medicine, nursing, physical therapy, etc. who will need to learn leprosy in their basic curricula.

The training needs of these different groups will be very different, but all are essential in providing good quality leprosy control services.

## 2.2 Course design

Once the training needs of key groups of staff are known, it is possible to design courses to meet those needs. In some cases existing course outlines and curricula may be suitable or can be adapted. Course design should be conducted in collaboration with national authorities and/or local health service managers and training institutions.

The various components of each course can be developed according to the following schedule:

## 2.2.1 Course components

### Basics:

- Describe the goal of the course in one sentence.
- Write 5-10 more detailed course objectives.
- Write a brief description of the course for publicity.
- Establish the target group and selection criteria.
- Establish evaluation criteria and quality assurance guidelines.

### Make a course outline:

- Develop the course curriculum.
- Select facilitators for each session.
- Select which practical activities will be carried out.
- Select training methods.
- Select training materials.
- Allocate time to each objective and activity.
- Make a timetable for the course.

Experienced facilitators will do many of these tasks themselves, once they have been given a section of the curriculum to teach.

### Background material:

- Develop a learning guide for participants.
- Develop trainers' notes, which outline the content to be covered.
- Develop an assignment sheet.
- Develop one or more case studies.
- Develop one or more role plays.
- Develop pre-course, mid-course and end-course surveys or questionnaires.
- Develop evaluation forms for students to complete.

### Logistics:

- Plan when and where each course will be held.
- Prepare a budget for each course.
- Make the specific arrangements necessary for each course.



Credit: Linda Lehman



Credit: ILEP

*See Annex 5.4 on the ways people learn and the effect this has on training methods.*

### 2.2.2 Curriculum development

The curriculum is a statement of the course contents and will typically have four elements, derived from the task list and the objectives of the course:

- The **knowledge** which the trainees will be expected to be able to display at the end of the course.
- The **skills** to be learned.
- The **attitudes** to be developed.
- The **standard** or **level** expected (of both knowledge and skills).

In addition to listing the items to be learned, the curriculum will spell out the sequence in which they will be learned. Ensuring that later elements build on what has gone before will facilitate understanding among the students.

The standards will be related to methods of assessment, so that each participant can be tested to make sure that the required level has been reached. Assessment is examined further under the section on evaluation.

*See Annex 5.5 for more on curriculum development.*

### 2.2.3 Types of training

Different situations demand different types and methods of training.

**Pre-service training** takes place in medical and nursing schools, usually before the participants have any work experience. It provides the foundation for all future work. Leprosy should be a component of basic training and may be linked to training in dermatology, infectious diseases or rehabilitation. Including a leprosy module in these courses would be a cost-effective way of educating future health workers.

The following recommendations may help in the integration of leprosy into pre-service training:

- The inclusion of a leprosy module should be negotiated with medical and nursing schools.
- Leprosy should be covered in the standard textbooks and manuals used by students.
- Basic clinical training in leprosy should be offered.

In addition:

- Leprosy modules could be developed for self-learning on CD-ROM.
- Short, interactive courses in leprosy could be offered online.

*See the feasibility study on including leprosy modules in pre-service training schools in Annex 5.6.*

**In-service training** seeks to upgrade people already working, through short courses or clinical attachments. The disadvantage is that it takes the person away from work, so there is pressure to make such courses as short as possible. As this is the most widely used method of training staff at present, this guide concentrates on how to run short, in-service courses.



Credit: DFB

**On-the-job training (OJT)** serves a similar purpose to in-service training, but it may be more difficult to organise because the trainees are all in different places. On the other hand, it offers several advantages: the trainees are not taken away from their work; they learn in their own workplace, so the lessons are immediately applicable; and their colleagues are aware of any changes being made. It may be more cost-effective than conventional short courses.

There is plenty of scope for OJT to be more widely used in leprosy training. Indeed, it should be seen as an essential component of supervision, although it may require a more focused effort to train supervisors to carry it out effectively. Management also has an important role to play in supporting training and translating theory into practice at service level.

*Find out more about on-the-job training (OJT) in Annex 5.7.*

**Distance learning** would appear to have many advantages, especially in terms of cost. While successful in some situations, it has not been widely taken up for training health workers for several reasons:

- Clinical skills are fundamental to almost all medical work, and there is no substitute for learning directly from a skilled practitioner.
- Most institutions do not have enough facilitators to handle all the correspondence with trainees.
- Mailing time means that the courses are extended over a long period.

**Online learning** is, in many ways, an updated version of distance learning. It is expected to provide 50% of all training that takes place in the 21st century. While much information is available on the Internet, formal courses require registration and provide an online environment for discussion and interaction, which is an essential part of learning.

It must be remembered that some of the disadvantages of distance learning may also be applicable here. Facilitator time should not be underestimated and some face-to-face teaching of clinical skills will always be essential in a medical context. One positive difference is that trainees can interact amongst themselves in an online environment – something that is generally not possible with distance learning. The Internet provides a very wide-ranging environment for self-directed learning for those who can access it.

CD-ROMs utilise some of the new technology and are of particular benefit in areas where connection to the Internet is poor or expensive. They can best be thought of as self-learning tools.

*Find more information about online learning and details of useful Internet sites in Annex 5.8.*

#### **2.2.4 Where should in-service training take place?**

An in-service training course requires that the participants gather in one place, providing them with three unique opportunities:

- To gain experience and practise essential clinical skills, seeing a wide range of clinical cases in a short time.
- To meet and be taught by experts who could not travel to meet each participant individually.
- To interact with many other participants doing similar jobs and learn from their experiences.

For the majority of staff in a national programme, such training should be organised within the country. If necessary, one or two external facilitators could be brought in. Ideally, for training in leprosy, it should be done in a place where there are plenty of patients, so that practical activities can be easily arranged.

*For further discussion on international training see Annex 5.9.*

#### **2.2.5 Towards a code of best practice**

In order to make sure training is of the best quality we need to take steps to ensure best practice. Best practices are defined as practices that are judged to produce superior results, on the basis either of studies of training methods or of consensus among experts. The code of best practice outlines the principles that should underlie a training programme, and the ways in which it can achieve excellence. It aims to help to ensure that training leads to learning – and learning leads to change.

*The code of best practice is elaborated in Annex 5.10.*

## 2.3 Training resources

### 2.3.1 Trainer development

While training is ultimately a partnership between facilitators and their students, the people who conduct training sessions are the key to the success or failure of any training programme. Developing a group of effective facilitators will go a long way towards having a high-quality training programme. Note that on-the-job training requires relatively more facilitators and that they will require appropriate training.



Credit: Linda Lehman

Teachers are expected to have experience and a wide knowledge of the subject; if so, they will be able to help with many of the questions that may arise. On the other hand, they should also be able to facilitate within the group the process of finding an answer or of learning how to find an answer (authoritative answers are not always necessary - learning to learn is also very important!). If this is combined with excellent teaching skills, it is expected that trainees will:

- Find the learning process stimulating and enjoyable.
- Gain adequate and accurate knowledge about the topic.
- Remember the skills they have been taught and have practised.
- Be motivated to use what they have learned in their work.
- Be motivated to further study.
- Improve their job performance – the ultimate goal of training.

**Styles:** Just as different people have different learning styles, so there are different teaching styles. Good teachers will conduct classes in different ways, depending on the circumstances. Teaching styles can be described in various ways, but there are essentially three:

- A **formal** style, typified by the lecture, useful to introduce a subject and put across a lot of information to a large number of people.
- A personal, **interactive** style, in which the trainer acts as a mentor and teaches by example, as well as by encouraging interaction among trainees. This may be best suited to teaching skills and attitudes in a clinical setting.
- A **delegating** style, in which the trainees do much of the work, finding their own source material to learn from. This approach is well-suited to electives or projects,



in which trainees can follow up subjects of particular interest to themselves; problem-oriented learning fits into this style.

**Skills:** The following is a list of skills one would expect an effective trainer to have:

- Personal delivery skills
- Being an active listener
- Being able to win respect and develop rapport
- Being able to involve everyone
- Professional knowledge and skill

*See Annex 5.11 for further discussion of trainer development.*

### 2.3.2 Teaching and learning materials

Printed and other materials are a resource for trainers and learners. They can be used to guide or supplement training and to reinforce knowledge and skills in the workplace.

ILEP offers some resource materials on leprosy, but much has also been developed by national programmes.

The Internet now offers the opportunity to make basic texts freely available to all. These texts, together with appropriate graphics, can be adapted for local use and made available to trainees in many different settings.

*See Annex 5.12 for more information about teaching and learning materials and how to develop them for local use.*

### 2.4 Evaluation

*This topic is developed more fully in Annex 5.13.*

Evaluation of training should not only be carried out at the course level for immediate feedback. It must also examine subsequent performance if it is to help in the achievement of programme objectives. It is generally accepted that to assess the real impact of training on performance and behaviour in the workplace, a gap of at least six months must elapse between the training and the evaluation.

At the end of the course two types of evaluation can be carried out:

- The **immediate reaction** of the trainee can give useful information about how well the course was run. This can help trainers improve their teaching skills.
- **Learning** (the knowledge, skills and/or attitudes learned by the trainees) can be

tested at the end of the course, or better still, a few months later, if this can be arranged. The results are compared with an assessment done at the beginning of the course, to show what has been learned.

Evaluation at a later stage may be more difficult to organise, but it will indicate more reliably whether the training programme is achieving its objectives. Again, two types of evaluation can be done:

- **Behaviour and performance** – changes in the trainees' work can be directly assessed, to look for improvements in job performance (this can be done through on-the-job follow-up six months to a year later).
- **Results** – the long-term changes that may be seen in the programme, in relation to key objectives (up to two years after the course). Changes may be observed in routine programme indicators and in supervision reports. There is also a need for organisational evaluation of training, for example by looking at the cost-effectiveness of courses and whether they could be more integrated.

### *Summary: Four types of evaluation*

- |                                   |                          |
|-----------------------------------|--------------------------|
| • Evaluate participant reaction   | – end of course          |
| • Evaluate participant learning   | – end of course or later |
| • Evaluate on-the-job performance | – six months later       |
| • Evaluate the effect of training | – two years later        |

### Case study: evaluating a training programme<sup>1</sup>

Integration of leprosy work into the general health services in Nepal had been tried in pilot areas prior to 1987, but became government policy in that year. The advantages of an integrated service are described elsewhere, but in Nepal integration had significant implications for training. Large numbers of basic health service staff needed to be trained to deal with the cases of leprosy they would be seeing.

Green Pasture Training Centre in Pokhara therefore developed a task-oriented leprosy training course, called the Comprehensive Leprosy Training (CLT), in which six-day courses for up to twelve people at a time were carried out district by district. The evaluation exercise consisted of interviews carried out in a control district, where the CLT programme had not been carried out, and another district where it had. In the latter, the interviews were held six months and twelve months after the training, and both health staff and patients were interviewed using a questionnaire.

Getting reliable information about an improvement in the quality of care following a training programme is very difficult. In this study, most patients in the district where training had taken place agreed with the statement that 'the health staff know what to do', while in the control district, most patients were uncertain about, or disagreed with the statement. On the other hand, staff competency (as observed in the clinic)

<sup>1</sup> Summarised from Roos, van Brakel and Ashok (1995a). The method of evaluation is described in more detail in Roos, van Brakel and Ashok (1995b).

improved only marginally. Overall, the quality of care was constrained by certain logistical aspects of the general health services, such as a poor supply of drugs, dressings and equipment. The study concluded that training alone could not ensure high quality services while logistical and administrative problems remained.

One of the most useful aspects of the evaluation was that it clearly indicated those parts of the training which needed extra attention, both during the basic course and later, during supervision visits or refresher courses.

### 3 Conclusion

This guide advocates the development of a framework for training in leprosy for countries where leprosy remains a significant health and social problem. This will involve identifying training needs and priorities, setting objectives and defining training activities to be carried out year by year.

The guide aims to be as practical as possible and includes various tools and ideas to promote high quality training for staff involved in managing leprosy and its complications. The training process is governed by the interaction between teacher and student and it is hoped that that relationship will be facilitated by the ideas presented here.

This guide has been generated within ILEP with external consultation and advice. ILEP members are in a unique position to be able to encourage and promote the development of training activities in the countries in which they work. It is hoped that many will take up this challenge. The enthusiasm of individuals will be essential in order for these ideas to be developed and implemented country by country. ILEP members can play a role in allowing and encouraging members of their in-country staff to contribute time and energy to this effort.

## 4 Case study: planning and organising training<sup>2</sup>

Five years ago the government of Utopia planned to build a health post in each village, to be staffed by a Community Health Nurse Assistant. Unfortunately, the health posts could not in the end be built due to a lack of funds. Nevertheless, the Nurse Assistants were still trained and were employed at existing health centres and district hospitals. Their job description stated that they were to assist the Community Health Nurse in a number of areas of health care, including leprosy control.

Mr Nguyen was responsible for teaching leprosy in the curriculum. So he carefully planned a series of lectures on the disease, and told the students about the importance of early detection. He explained why children should be checked for leprosy and he showed pictures of the disease. He explained how you could test for it. At the end of the course the students took an exam in which they wrote short notes on questions like, 'What is the cause of leprosy?' and 'Describe how to test for the disease'.

However, after two years Mr Nguyen received some alarming reports. The Nurse Assistants were no help at all: they weren't able to organise the children at school during leprosy elimination campaigns, they didn't keep the records in order, they weren't able to persuade parents to bring their children for a check-up, and some didn't want to go for home visiting to trace contacts. One Community Health Nurse also complained that the Nurse Assistant didn't even know how to explain the disabilities caused by leprosy.

So Mr Nguyen decided to do a training needs assessment. He observed some of the Nurse Assistants during their work, asked them a number of questions and to others he sent a questionnaire. Based on the results of this training needs assessment he wrote a proposal for retraining of the Nurse Assistants. This time he made sure that they learned how to keep the records and, using role play, practised with them skills such as how to communicate with parents and how to do proper home visiting. As the trainees had asked him, he also taught them how to do simple tests for basic diagnosis of leprosy. At the end they took a practical exam and each student demonstrated their skills in talking with parents and doing simple diagnostic tests.

Pleased with himself, Mr Nguyen decided that this time he wouldn't wait for feedback, but would do an evaluation six months after the course.

The Nurse Assistants were now doing well regarding the organising of the school campaigns and the follow-up of contacts. But to his disappointment he found that most of them were not doing simple diagnostic tests at all. In some health centres they acted just as clerks, writing down the names of the contacts and children; in others Mr Nguyen was surprised to find they were actually treating reactions, although he hadn't taught them!

<sup>2</sup> Source: Prisca Zwanikken, Royal Tropical Institute, Amsterdam

This case study illustrates:

- The importance of doing a **training needs assessment** (see pages 4 and 22-27) in order to identify the knowledge, skills and attitudes necessary for a particular role (in this case, that of Community Health Nurse Assistant). This would have helped Mr Nguyen plan a more effective initial training, and it certainly helped him in the second training.
- The range of **skills and attitudes** necessary in even the most straight-forward looking role, and the need to teach these effectively (see pages 29 and 30-32).
- The need to design the course (see pages 5-10) through collaboration, especially with the Community Health Nurses who were to supervise the new Nurse Assistants.
- The benefits of using a **variety of teaching methods** beyond the traditional lecture, especially when teaching skills and attitudes (see pages 46-49 and 50-53). Mr Nguyen's first training successfully imparted the factual knowledge the students needed, but his second training, in which the students practised required tasks themselves and engaged in role play, was more effective in changing their behaviour in the workplace.
- The need for **supervision** after training; in this example, it would be carried out by the Community Health Nurses. In some cases, further on-the-job training will be necessary (see pages 34-37).
- The need to plan an **evaluation** after a training (see pages 11-13 and 60-64). Mr Nguyen received feedback about the ineffectiveness of the initial training almost by accident, and only two years later. In contrast, he planned an evaluation of the second training to take place six months after he'd carried it out.

## 5 Annexes

### 5.1 Glossary of terms

#### Analysis

A review, in order to describe the nature of something and its component parts.

#### Assessment

A test of how much has been achieved; for example, what has been learned during a course, or what has been done within a project.

#### Assignment sheet

A paper describing work to be done by trainees themselves, either alone or in groups; also, homework.

#### Best practices

Practices that are judged to produce superior results, on the basis either of evidence from research studies, or of consensus amongst experts.

#### Case study

The story of a particular person or situation, used for illustration or for discussion and problem-solving. The identities of real people and places should be concealed.

#### CD-ROM

Compact Disk-Read Only Memory. A convenient way of storing and retrieving information that most computers can read.

#### Clinical skill

A skill related to examining or treating patients.

#### Coach

To coach is to help someone practise a skill until they master it.

#### Competency

A skill performed to a specific standard under specific conditions.

#### Competency-based training (CBT)

A traditional educational system uses time as the unit of progression and is teacher-centred. In a CBT system, the unit of progression is mastery of specific knowledge and skills; the system is learner-centred, meaning that the pace of the course depends on how the learners are doing, rather than on a fixed timetable.

#### Criteria (singular is **criterion**)

Rules for making a judgement about something.

#### Curriculum

The content of a course: the knowledge, skills and attitudes that will be learned, the



Credit: Paul Sanderson

sequence in which topics will be covered and the standard which should be reached. The basic curriculum is the content of the first training course on any particular career path, for example for nursing, medicine or occupational therapy.

### **Design**

Plan.

### **Education**

A formalised programme to bring about learning.

### **Epidemiology**

The study of patterns of disease in populations.

### **Evaluation**

Analysis of the current state of a programme, particularly in relation to previously established objectives, to determine what has been achieved over a set period. May go further and examine reasons for any perceived failure, whether the objectives achieved were worthwhile and what new objectives should be set.

### **Facilitator**

A person who helps others to learn.

### **Framework**

An outline, set in its correct context.

### **Human resources development (HRD)**

HRD concerns the planning, training, career development, remuneration and benefits, supervision, and performance accountability of staff. HRD to a large extent determines the availability, expertise and motivation of personnel, and therefore the quality and effectiveness of care. It is concerned with the different functions involved in the planning, production and management of human resources. It consists of three broad functions: human resources planning for future requirements, human resources education and training, and human resources management.

### **Human resources education and training**

All aspects related to the basic and post-basic educational training of the health labour force.

### **Human resources for health (HRH)**

All persons, with or without formal health-related training, who contribute in a substantial way to the promotion, protection and restoration of health. Also termed 'health manpower'.

### **Human resources management**

The mobilisation, motivation, development and fulfilment of human beings in and through work. It covers all matters related to the employment, use and motivation of all categories of health workers and largely determines the productivity, and therefore the coverage, of the health service and its capacity to retain staff.

## **Indicator**

An indicator is something that can be measured and which can show changes resulting from activities within the programme. Standards can be set to show what result indicates acceptable performance.

## **Integration of leprosy services**

In an integrated setting, leprosy cases are managed within the general health services, like any other patient, rather than in special clinics reserved just for leprosy.

## **Interactive**

A learning situation is interactive when the trainees are involved in a dialogue or discussion, rather than listening to a monologue.

## **Internet**

The Internet is a global system of connections (telephone wires and cables, as well as radio and wireless connections) between computers. The World Wide Web (www) is the software protocol that allows computers all over the world to communicate with each other.

## **Learning**

Acquisition of new knowledge, skills and attitudes.

## **Learning guide**

A summary of the course content with aids to learning, such as checklists, further references and quizzes.

## **Learning materials**

Any written or audio-visual materials that are made available to participants to help them achieve their learning objectives. Some material will be given to the participants to take away for future reference.

## **Mid-course survey**

A brief survey of participants halfway through a course to identify any problems or practical difficulties. May also be used to assess what has been learned so far.

## **Motivation**

Underlying reasons for doing something; financial rewards are motivating, but so also are acknowledgement and appreciation, earning the respect of others, and feelings of accomplishing something worthwhile.

## **Objective**

A specific goal; should show SMART characteristics (Specific, Measurable, Achievable, Relevant and Time-bound).

## **Online**

Access to material on distant computers anywhere in the world, using a personal computer connected to the Internet. The speed of access depends on the connection speeds and the amount of traffic on the Internet, but can be almost instantaneous.



**Participatory**

Similar to interactive; trainees draw on their experience to actively participate in and contribute to the learning session.

**Performance**

Carrying out activities. Activities are made up of tasks, which in turn require certain skills if they are to be done properly.

**Performance gap**

Occurs if the observed performance does not meet the expected standard.

**Pre-course survey**

A brief survey of participants at the start of a course to indicate their current level of knowledge and their expectations of the course.

**Role play**

Acting out a scene or episode, simulating a real or imagined situation. The purpose is not to perform for an audience, but that the trainees learn to understand the feelings of the people in that situation.

**Skill**

A task or group of tasks performed to a specific level of competency or proficiency which commonly uses motor functions and typically requires the manipulation of instruments and equipment. Some skills, however, such as counselling, are knowledge- and attitude-based.

**Stakeholders**

Individuals, groups and organisations who have an interest (stake) and the potential to influence the actions and aims of a project or programme (Brugha and Varvasovsky, 2000). In a health care setting, this includes the health workers who provide the care, the people who pay for it (maybe patients themselves, or their families, or an insurance company, or the government), the local authorities who are responsible for maintaining standards, and the clients and patients (and their relatives) who use the services. All of these groups have an interest in the training of people who will provide the services.

**Standard**

The level which is regarded as acceptable, such as the pass mark in an exam.

**Strategic planning**

Planning a particular item in such a way that it fits in with an agreed wider and more long-term vision.

**Style**

Styles are different, but equivalent, ways of doing something; the style used may relate to the personality of the person carrying out the task.

**Supervision**

The phase of management which involves the assessment of staff performance.

Supervision implies the provision of support, on-the-job training and guidance, issuing instructions, motivating those who carry out the instructions, co-ordinating the detailed work, and improving personal relationships among staff in such a way that they become more competent in their work.

### **Target group**

The target group describes the people for whom a course or book, or any other intervention, is intended; it may be wide (for example, all nurses) or narrow (for example, all nurses who have a caseload of more than ten new cases of leprosy per year).

### **Task**

A unit of responsibility or work which can be assigned to a specific person and can be measured with a single criterion or a set of criteria. A component of an activity.

### **Task analysis**

Notes the tasks involved in a person's job and describes the knowledge, skills and attitudes necessary to perform each task to the required standard.

### **Task list**

The end result of a task analysis.

### **Terms of Reference (TOR)**

Terms of Reference describe the conditions under which a piece of work such as an evaluation is to be carried out. The objectives and methods are indicated, and the way in which the results are to be communicated is established.

### **Timetable**

A schedule of events or activities.

### **Training**

Helping others to learn new knowledge, skills and attitudes.

### **Training materials**

Any written or audio-visual materials that are made available to trainers to help them teach effectively.

### **Training methods**

Different ways and learning situations through which knowledge, skills and attitudes can be passed on to course participants.

### **Visual aids**

Any picture, graph or artwork which helps learning. Videos and simulations can help in the learning of skills and attitudes.

### **World Wide Web (www)**

The World Wide Web is the software protocol that allows computers all over the world to communicate with each other via the Internet.

## 5.2 References

- Abbatt FR (1992). *Teaching for better learning*. World Health Organization, Geneva.
- Abbatt FR, McMahon R (1985). *Teaching Health-care Workers*. Macmillan, London.
- Brugha R, Varvasovsky Z (2000). Stakeholder analysis: a review. *Health Policy and Planning* 15: 239-246.
- Draves WA (1997). *How to teach adults, 2nd edition*. The Learning Resources Network, Kansas.
- Harden RM, Gleeson FA (1999). *Assessment of medical competence using an objective structured clinical examination (OSCE)*. The Association for the Study of Medical Education, Edinburgh.
- IILEP (2003). *Facilitating the Integration Process: A Guide to the Integration of Leprosy Services within the General Health System*. IILEP, London.
- JHPIEGO Corporation (1996). *On-the-Job Training for Family Planning Service Providers*. Strategy Paper # 3. JHPIEGO, Baltimore.
- Kaufman DM, Mann KV, Jennet PA (2000). *Teaching and learning in medical education: how theory can inform practice*. The Association for the Study of Medical Education, Edinburgh.
- Mager RF, Pipe P (1970). *Analysing performance problems*. Fearon, Belmont.
- Petersen S (1999). Time for evidence based medical education. *British Medical Journal* 318: 1223-4.
- Roos BR, van Brakel WH, Chaurasia AK (1995a). Integration of leprosy control into basic health services: an example from Nepal. *International Journal of Leprosy* 63: 422-429.
- Roos BR, van Brakel WH, Chaurasia AK (1995b). Use of facility-based assessment in the evaluation of a comprehensive leprosy training programme in Nepal. *International Journal of Leprosy* 63: 552-558.
- World Health Organization (1986). *Training in Leprosy*. World Health Organization, Geneva.

## 5.3 Identifying training needs

### 5.3.1 How to do a task analysis

A good task analysis starts by splitting up the job into tasks and subtasks and describing these in sufficient detail to be able to indicate the knowledge, skills and attitudes necessary for each subtask. The end result will be the task list. A short task list for basic leprosy control activities at the peripheral and first referral levels was recently developed from a questionnaire survey in Ethiopia and is shown in Table 1.



Credit: Linda Lehman

The sources of information which can be used to carry out a task analysis include:

- One's own experience with the task
- Textbooks and manuals
- Observations while the task is being performed
- Discussions with health workers
- Discussions with patients
- Consultations with other trainers and employers

Note that job descriptions can sometimes be of help, but these are often formulated in terms too general to be of any use in a task analysis.

**Table 1: Example of a task list for leprosy**

Tasks	Health post		Health centre			
	Gen HW	Lep HW	Gen HW	Lep HW	Lab tech	MO
Health education in the community	✓		✓			
Identify suspects	✓		✓			
Refer suspects	✓		✓			
Examine suspects		✓		✓		
Make skin smear					✓	
Maintain laboratory register					✓	
Order the required reagents and supplies				✓	✓	
Diagnose and classify		✓		✓		✓
Complete inpatient card		✓		✓		✓
Register patients in the unit register		✓		✓		
Prescribe MDT		✓		✓		✓
Modify diagnosis and treatment according to smear result				✓		✓
Health education to patient about treatment	✓	✓	✓	✓		✓
Retrieve defaulters	✓	✓	✓	✓		
Educate patients about prevention of disabilities	✓	✓	✓	✓		✓
Identify side effects of treatment		✓		✓		✓
Deal with side effects		✓		✓		✓
Identify relapses				✓		✓
Check nerve function		✓		✓		✓
Recognise nerve function worsening		✓		✓		✓
Recognise reactions		✓		✓		✓
Treat nerve function worsening and reactions		✓		✓		✓
Treat ulcers	✓	✓	✓	✓		✓
Educate patients in ulcer self-care		✓		✓		
Report transfers		✓		✓		
Release from treatment (RFT)		✓		✓		✓
Health education to patients upon RFT		✓		✓		
Maintain the unit register		✓		✓		
Prepare the health unit report		✓		✓		
Examine contacts	✓	✓	✓	✓		
Order required drugs		✓		✓		
Manage drug stock		✓		✓		✓
Refer for socio-economic rehabilitation		✓		✓		✓

**Abbreviations:**

- Health post Most peripheral health facility with only paramedical staff and without a laboratory.
- Health centre Peripheral health facility with senior paramedical worker (senior nurse, assistant medical officer) or a medical officer and a laboratory.
- Gen HW General health worker without additional or special training in leprosy.
- Lep HW General health worker with additional or special training in leprosy (minimum two days).
- Lab tech Laboratory technician.
- MO Physician.
- ✓ Indicates staff responsible for the task.

Source: Developed by the Training Division of ALERT, Ethiopia

## 5.3.2 How to do a performance analysis

After completion of the task analysis one is in a position to do a performance analysis. The most important method for this is personal observation while the task is being performed. During this observation all the knowledge, skills and attitudes listed in the task analysis are observed and recorded. When doing this, it is useful to formulate a 'minimum acceptable level of performance'.



Credit: Rolf Bauercliek

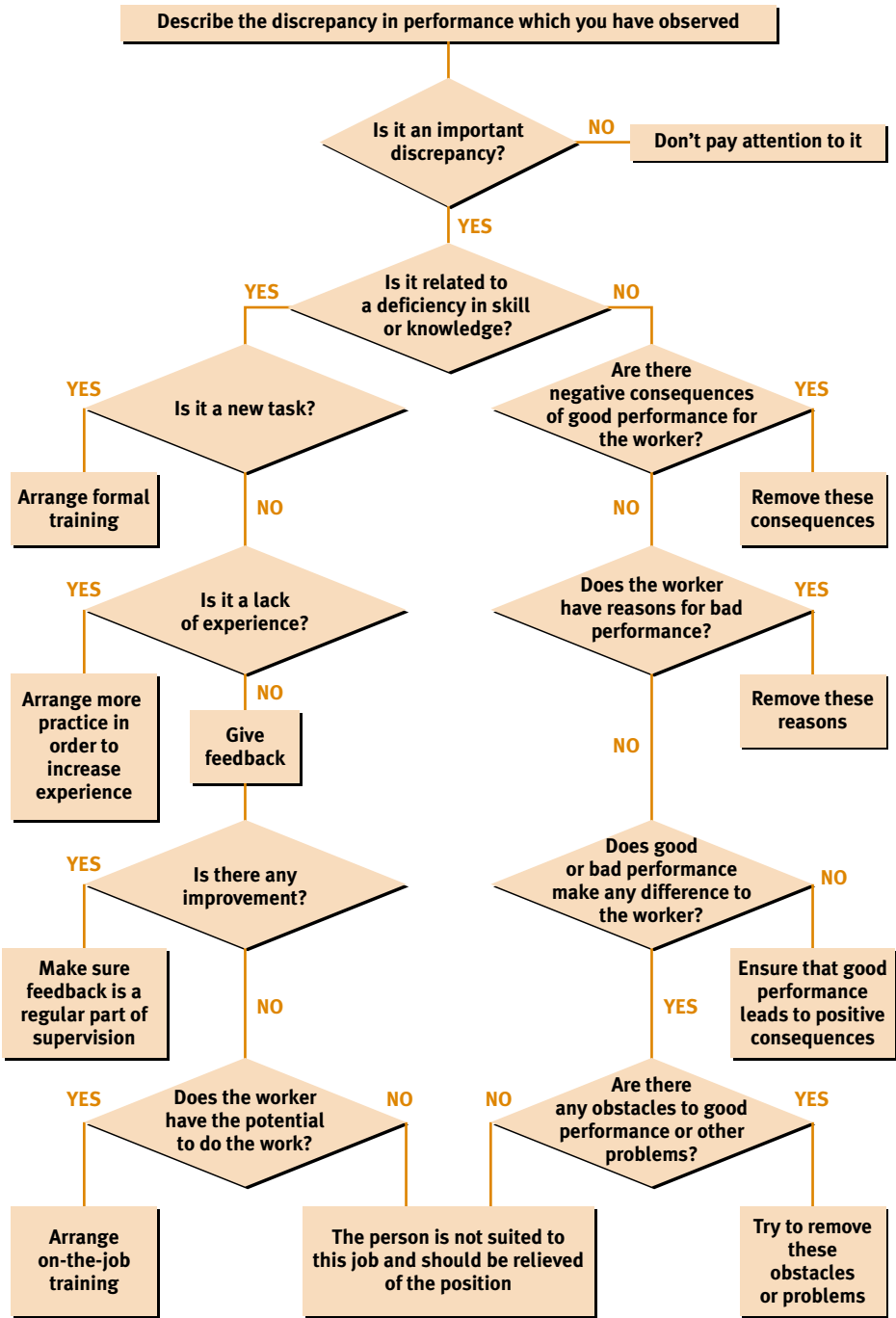
## 5.3.3 Synthesis and examples

It goes without saying that both task analysis and performance analysis are time-consuming processes, as they can never be done with only one or two health workers. One has to study a reasonable sample of 'average' workers (something like 20 or 30 would be a good sample), making sure that their working situations are representative of what is typical, including an appropriate mix of urban/rural and government/NGO clinics.

In all cases where a gap between a task and average performance is found, and the gap appears to exceed a minimum acceptable level, an analysis of all possible underlying factors and causes has to be done. This is necessary because very often the cause for poor performance has nothing to do with training needs. If a training session is organised without having excluded all other causes of performance gap, one risks wasting both the trainers' and the trainees' time and energy, as training may not lead to improvement.

A useful instrument to systematise this is the flow diagram shown in Figure 1. Finding the cause of a performance gap involves making appropriate observations and asking the right questions. This is especially the case in answering the most important question: 'Is it related to a deficiency in skill or knowledge?' In some cases lack of knowledge can easily be assessed using written or oral questions or tests. On the other hand, lack of skill can only be determined through personal observation of a worker or a sample of workers performing the task.

Figure 1: Analysing the performance gap



Source: Modified after Mager and Pipe (1970).

When a deficiency in skill or knowledge **has** been established (see the left side of the flowchart), identifying the best type of training will depend on the nature of the skill and whether it concerns groups of workers (in which case, courses may be appropriate) or only individual workers, in which case individual on-the-job training may be the best solution.

When a skill or knowledge deficiency has **not** been established, one has to address the questions on the right side of the diagram. Here also, combinations of questions and observations can lead to solutions, as the following examples illustrate:

### **A) 'Are there negative consequences of good performance for the worker?'**

#### **Example**

*A laboratory worker, whose tasks included the analysis of sputum smears in TB suspects, produced so many negative smears that some samples were scrutinised in another laboratory, where it was found that this worker obviously missed many positive cases. However, going through the procedure of staining and searching together with him showed that he did have the necessary skills and knowledge for good performance. Only after having a somewhat longer and confidential talk he revealed that because of the enormous time pressure due to the many samples he was given for examination every day, he often rushed through the procedures of staining and searching in order not to be home too late (a negative consequence of good performance).*

*In this case a new or in-service training course would not help. Diminishing his workload (trying to spread the work more evenly among the other workers, or asking doctors to reduce the number of sputum tests requested) might, on the other hand, make a difference.*

### **B) 'Does the worker have reasons for bad performance?'**

#### **Example**

*A supervisor of the clinics in his district found in the daily reports that most nurses and medical assistants prescribed far more injections than seemed necessary, given the diagnoses entered in the monthly reports. During a short in-service course all nurses and medical assistants appeared to know the appropriate treatment of the common diseases very well and to be aware of the real indications for injections. However, when confronted with the gap between their knowledge and their prescription behaviour, they confessed that they felt a continuous pressure from the patients or their relatives to give injections. They often gave in to this pressure rather than engage in lengthy explanations and risk quarrels. In this case more emphasis on health education in general could be helpful.*



### C) 'Does good or bad performance make any difference to the worker?'

#### Example

The District Medical Officer (DMO) found that the monthly reports coming in from the health centres and dispensaries in his district were flimsy and full of mistakes and unrealistic figures. During a refresher course for these workers the monthly reports were amply discussed, and the proper way to fill in the forms was explained and even practised. Yet after only half a year, the reports were back to their former quality, useless for any purpose. What the DMO had forgotten was that he never gave feedback on these reports. None of the workers ever heard what was done with their data, so they had lost all interest.

### D) 'Are there any obstacles to good performance? Or other problems?'

#### Example of an obstacle

In a district with four hospitals, one hospital always suffered problems: many staff members being ill, many transfers, drugs frequently out of stock and reports of internal quarrels. As a result, the hospital developed a bad reputation. Close investigation showed that the management structure of the hospital could be greatly improved by a simple set of measures such as clear lines of command, sharper delineation of delegations and responsibilities, and better job descriptions for all staff members.

#### Example of another problem

A health inspector who previously had a good performance record and appeared to be motivated in his work suddenly seemed to lose interest. He made frequent mistakes, was sometimes rude to staff in other health posts, and failed to deliver his reports on time. Before trying to arrange a refresher course for this inspector, his superior had a confidential in-depth talk with him. It became evident that the person concerned had placed his hope on a promotion to a higher post in another district where there was a vacancy, and that he had been bypassed. Not an easy situation to remedy, but certainly a refresher course would not be the answer!

In conclusion: it is advisable to investigate each performance problem carefully before deciding that training would be an effective solution. In many cases increased personal interest, support and encouragement will be appropriate.

#### Selection of candidates

Selection of candidates (or the target group) for a training course should be made on the basis of candidates':

- Current work, responsibilities and level of knowledge.
- Current employer and future role after training.
- Reasons for training (problems have been identified; new work; etc.).
- Motivation (are candidates told to go for training, or do they apply for it?).

## 5.4 How do people learn?

The major objective of all health training is to enable participants to perform their work more effectively in the long term.

A few of the best teachers are naturally gifted and may not need much training in teaching methodology. For the rest of us, however, there are many helpful insights, techniques and skills that can be learned so that we can improve the way we run classes and courses.

### How people learn new ideas

Trainees – especially those already working – enter the classroom with a vast store of previously-gained knowledge and experience. They often already have ideas about what they need to know, and they are particularly interested in solving real problems and in learning how to do their own jobs better.

At the simplest level, this suggests that trainees will be able to contribute a great deal to the learning situation and will not want to sit silently through entire teaching sessions. They will learn well in small, interactive groups, tackling problems or case studies with resources such as books, journals and facilitators to call on when necessary.



Credit: Paul Saunderson

Credit: Linda Lehman

Discussion and reflection are critical to learning, so that new material is integrated with past experience. Good training courses will therefore include more than just the presentation of facts, and will make sure there is ample time for this process of assimilation.

At a higher level, learners should be able to take control of their own learning in a facilitating environment. Lifelong, self-directed learning is an essential element in the development and maintenance of professional competence and a hallmark of best practice. The development of the skills to do this should be a major objective of any training course for health professionals.

## Learning styles

Individuals have different learning styles – some will learn new material better when it is heard (for example, in a lecture), but others may learn it best by reading it, or seeing it presented in pictorial or graphical form, or perhaps when they reformulate it in their own words. This suggests that lecturing is not obsolete (it remains an accepted and widely used method of teaching), but that if it is embellished with a visual presentation and written material (lecture notes given to the participants) and perhaps even some discussion and reflection in small groups, a higher proportion of the trainees will feel engaged, learn from the session and perhaps apply the new ideas in the workplace.

## Skills and attitudes, as well as knowledge

Skills and attitudes are certainly as important as the basic facts in health work, and a good teacher will think about how these are being taught. For example, the basic facts relating to the diagnosis of leprosy can be taught in an illustrated lecture, but in order to do their job in the clinic, the trainees need a whole range of skills:

- The **inter-personal skills** to put the patient at ease.
- The **clinical skills** to take a history and examine the patient.
- The **analytical skills** to weigh each piece of evidence for and against the diagnosis.
- The **decision-making skills** to come to a clear conclusion and decide on the appropriate course of action.
- The **empathy and insight** to be able to understand how the diagnosis may affect the patient.
- The **communication skills** to inform the patient and their family of the diagnosis and its implications.
- **Skills of critical self-reflection and evaluation** to consider how the handling of suspects and new cases could be improved.

These skills can be demonstrated and modelled by the teacher or coach. They can be developed in the setting of problem-based learning, in which case studies form the focus of the learning session, or indeed the whole course.

They can be practised in role-playing exercises or in a clinical setting so that trainees gain competence as well as knowledge. Sport stars apparently practise their moves and strategies continually in their minds. Trainees could be taught to do the same thing – to go over in their minds any particular skill they are learning, in a process of reflection and assimilation.

## 5.5 Curriculum development

Using the task analysis as a foundation, it is possible to list the knowledge, skills and attitudes that will be needed by anyone doing that particular job. For example, if general health workers are expected to diagnose simple cases of leprosy, they must know the signs and symptoms of the disease (factual knowledge), they must be able to test skin patches for loss of sensation (a clinical skill), and they must show a caring attitude towards patients so that they will accept advice about treatment (attitude).

When designing a course for any group of workers, the task analysis can be examined in this way and course objectives can be written.

Different curricula will be needed for different groups of trainees. They can be categorised by subject matter and by the level of health worker for which they are designed. This is illustrated schematically in Table 2, which identifies three levels of service provision and nine target areas or topics for which curriculum modules could be developed.

**Table 2: Schema for identifying topics for curriculum modules for different levels of health worker**

Topic	Peripheral level	First referral level	Specialist level
Health promotion and advocacy			
Clinical leprosy and dermatology			
Reactions and neuritis			
Prevention of impairment and disability			
Patient education and self-care			
Eye care			
Physical rehabilitation			
Socio-economic rehabilitation			
Laboratory			

This is not intended to be comprehensive and there are other ways target groups could be categorised (for example, by specialisation). However, this schema may serve in most low-income countries, where general staff usually see most patients. It could be used as the basis for the development of standardised curriculum modules, which could then be adapted for use within a national programme.

Such modules could include:

- The task list and learning objectives.
- The curriculum (i.e. the knowledge and skills to be taught, and the standards expected).
- Relevant teaching materials, including Internet-based resources.

Different countries must adapt such modules to their own setting. For example, one country may have quite sophisticated peripheral services that operate at the same level as the first referral level of another country. Similarly, in situations of very low or very



Credit: IL/EP

high endemicity, the same module may be used at different levels. For example, certain modules suitable for the peripheral or first referral levels in highly endemic areas may only be needed at the secondary level in areas of low endemicity.

Physicians may be working at various levels in the health service and their training needs will depend on the number of cases they see, as well as on their own interest. Staff at higher levels, whether general physicians or specialists, may be involved in training other grades and in research; they may therefore require specialist training beyond the scope of such modules.

### Curriculum design

Once the content of a curriculum has been decided (what knowledge, skills and attitudes the students are expected to acquire), the task of designing the curriculum begins. One simple definition of a curriculum is ‘what you are going to teach and the order you will teach it in’. However, good curriculum design is achieved by looking at the same thing from a different perspective: ‘what you are going to learn and the order you will learn it in’. The important point is not how much material the trainer can get through in a given period of time, but what can be learnt.

The teaching of knowledge is often based on a ‘linear’ approach:

Skill A	Knowledge B	Skill C	Attitude D	Skill E
Week 1	Week 2	Week 3	Week 4	Week 5

That may cover all the topics relevant to the activities you are attempting to teach. But the problem with this is that by the time we have reached Week 4, the skills learnt in Week 1 may have been forgotten – unless there has been opportunity to practise. Similarly, the knowledge offered in Week 2 will probably have to be revisited before the end of the course if it is to be truly learnt.



Credit: Linda Lehman

Another approach is what is called a spiral curriculum. This does exactly what the name suggests. The curriculum moves in circles rather than straight lines. Elements are repeated and re-visited; new learning is related to previous learning; and difficulty levels increase. It is easier to see this working where training is about how to do a particular task. The performance of that task is the core element of the programme; as knowledge and skills are increased so they are rehearsed by repetition of the core activity.

This is where there is value in having activity- or task-based learning. To take the example of treating and dressing foot ulcers: we can identify the different skills, knowledge and attitudes required for successful mastery of the activity. All these areas are integrated by the single activity. Thus training that keeps returning to the core activity will help relate different areas of expertise to one another and will inevitably involve repetition – always a key element in learning.

The trainee may, for example, have learnt in the first session which equipment and materials may be used. If they have to continually revisit that – i.e. keep on laying out the basic equipment, even when the training focus has moved on to different techniques of managing foot ulcers – then that reinforces the learning.

There are times for isolating a specific objective, but we need to plan a curriculum on the basis of repetition and linkage, as well as development.

It may not sound the most exciting or innovative of ideas, but it is true – and is a key element in curriculum design. Repetition plays a big part in our learning of anything.

## 5.6 Feasibility study: leprosy modules in pre-service training schools<sup>3</sup>

With the decrease in the prevalence of leprosy throughout the world, funding for leprosy-specific programmes and staff is likely to decline, and leprosy-related tasks are increasingly likely to be carried out by non-leprosy-specific staff. In view of this trend, Netherlands Leprosy Relief (NLR) requested the Royal Tropical Institute, Amsterdam (KIT) to explore the feasibility of introducing leprosy learning modules into the basic training curricula of non-leprosy-specific staff in three countries.

The major variables affecting the introduction of leprosy modules into the basic training were:

- The epidemiological situation with regard to leprosy.
- The organisation of leprosy control activities.
- The potential for teaching leprosy care and control, and the felt need for teaching and learning materials.

These three factors tended to be linked to some degree; in countries of low endemicity, the services were more integrated and there was felt to be less need for additional input into the training curricula of non-leprosy-specific staff. With higher endemicity, however, some vertical elements remained in the programme and there appeared to be greater potential for, and interest in, outside input. NLR was advised that in Nigeria (the 'high' endemic country studied) it would be useful for them to assist in the development of:

- A number of modules for pre-service training of general health workers with emphasis on recognition of suspects, especially in relation to dermatology.
- A number of modules which could be used for on-the-job training of health workers who are involved in more complex tasks for leprosy patients, such as identification of reactions and nerve function assessment.

<sup>3</sup> Summary of 'A study on the feasibility of introducing leprosy training modules into medical schools in endemic countries', an unpublished paper prepared by KIT for NLR, 1999.

## 5.7 On-the-job training

Training workshops are very widely used for upgrading health workers, but staff sometimes have difficulty putting what they have learned into practice in the clinic, where conditions may be less than ideal. Table 3 shows some of the advantages and disadvantages of group-based training.

**Table 3: Advantages and limitations of group-based training**

Advantages	Limitations
<ul style="list-style-type: none"> <li>• Being part of a group can generate excitement and a feeling of camaraderie among participants.</li> <li>• Participants learn from each other.</li> <li>• Interaction among participants can add richness and depth to the training experience.</li> <li>• The trainer is able to focus on the training process.</li> <li>• The trainer is able to assure the quality of training.</li> <li>• Participants are available to take part in demonstrations or role plays and to assist with coaching each other.</li> <li>• Group-based training courses provide positive recognition to both the clinical training site and the participants.</li> <li>• It is easier to standardise knowledge and skills since all participants receive the same information in the same way.</li> </ul>	<ul style="list-style-type: none"> <li>• A group-based course requires a minimum number of participants.</li> <li>• Participants requiring training must wait for the next scheduled course.</li> <li>• Generally, costs are higher due to the need for facilities, travel, etc.</li> <li>• A large patient caseload is needed at one time in order for all participants to have adequate clinical experience.</li> <li>• Large quantities of materials must be obtained and stored.</li> <li>• Trainers may have limited options when an inappropriate participant attends the course.</li> <li>• Participants must stop providing services at their clinical site in order to attend training.</li> <li>• Health service demands for a large number of trained health workers may not be met.</li> </ul>

A possible solution to these difficulties is the wider use of on-the-job training, which takes place at the work site.

### Overview of on-the-job training<sup>4</sup>

On-the-job training (OJT) is a form of individualised training. OJT allows the trainee to gain the necessary knowledge and develop the required skills on the job. OJT can be designed and delivered using two basic approaches:

1. OJT with little or no prior planning, in which supervisors or skilled staff work with trainees on an ad hoc basis. This is referred to as **unstructured, informal or unplanned OJT**.
2. OJT which follows an organised process of planning prior to implementation. This is known as **structured, formal or planned OJT**.

Unstructured OJT occurs when trainees acquire job knowledge and skills from impromptu explanations or demonstrations by others, trial and error efforts, self-motivated reading, or simply by imitating the behaviours of others. In medical training

<sup>4</sup> The following sections are adapted from JHPIEGO (1996).





this is often referred to as ‘see one, do one, teach one’. Training occurs on the worksite but is not logically sequenced. In unplanned OJT, the learners are expected to learn by watching experienced workers perform or by actually doing the work themselves.

There are a number of problems with unstructured OJT as used in many business and industrial settings. Studies have shown that:

- The desired skill level is rarely achieved.
- The training content is often inaccurate or incomplete.
- Experienced employees are seldom able to communicate what they know in a way that others can understand.
- Experienced employees use different methods each time they conduct training.
- Many employees fear that sharing their knowledge and skills will reduce their own status as experts.

In sum, research has shown that unstructured OJT leads to increased error rates, lower productivity and decreased training efficiency.

A **structured** approach to on-the-job training is favoured. With this approach planned instruction occurs on the job when an experienced employee trains a novice employee in what the worker needs to know or do to perform competently.

### Characteristics of structured OJT

In structured OJT, the training content, methods, and expected outcomes are consistent for all employees. This requires a standardised approach not only to specific knowledge and skills, but to the delivery of on-the-job training as well. On-the-job training should be used in appropriate situations. It is not meant to be a substitute for group-based training.

OJT clinical trainers must be experienced, proficient service providers with an interest in training other service providers. They must have had their clinical skills standardised and their knowledge updated, and they must have received training in how to be an OJT trainer (such as in giving demonstrations, using learning guides and checklists, and coaching). OJT clinical trainers must have the support of staff at the training site as well as the support of regional and national level training experts.

Formal or structured OJT should include performance objectives, a schedule, assignment to a qualified employee for training and a performance checklist that must be signed off as each objective is met.

In addition to being structured, effective OJT training should be timely, include the development of training schedules, afford trainers adequate preparation time, and be consistent. Evaluation questions such as ‘Do trainees know what is expected of them?’ and ‘Are there standardised performance evaluations for all major tasks?’ should be asked.

OJT trainers should be sensitive to the needs of the trainees. They must be able to adapt instructional strategies as needed by the trainee and be able to coach trainees until they can perform the tasks successfully.

The types of materials required for effective, structured OJT include:

- A student training manual or guide which describes the responsibilities of all participants in the OJT process, lists the tasks to be learned, provides organisation for the learning process and contains reference information and job procedures.
- A trainer’s manual which contains essentially the same information as the student’s with the addition of the standardised evaluation instruments for each skill.
- The training aids necessary for the learning process.

### Selecting and training OJT trainers

Training of the OJT trainer is the key to successful implementation. This training builds training skills, ensures commitment to the programme and helps trainers learn to use the training materials. The programme should contain high-impact exercises to change trainer behaviour from telling to coaching, from demonstrating skills for trainees to performing them with them.

Eight qualities to look for when selecting an OJT trainer can be identified:

1. **Task knowledge and skills** – ability to perform the required activities at appropriate performance levels.
2. **Specialised training** – completion of specialised training in the area that will be the basis of the OJT programme.
3. **Willingness to share their expertise** – interest in the development of others.
4. **Respect from peers** – perception by other employees that the trainer has expertise, leadership abilities and general problem-solving skills.
5. **Interpersonal skills** – ability to communicate clearly and comprehensively.
6. **Literacy skills** – ability to comprehend resource materials.
7. **Concern for the programme** – interest in helping the programme improve its performance.
8. **Job expectations** – awareness of job expectations and assignments and how these will affect their ability to perform as an OJT trainer.

There are two approaches to preparing an OJT trainer:

- The first is a **group-based OJT clinical training skills course** during which the selected service provider's knowledge and skills would be updated and standardised and the provider would learn to be an OJT trainer. In some situations this may not be possible and, in fact, can defeat the purpose of moving to an on-the-job training approach.
- The second approach allows the selected service provider to **learn the skills on the job** to be an OJT trainer. This approach requires that an outside supervisor provide a set of materials to the service provider interested in becoming a trainer and then periodically meet with this person to discuss, demonstrate and practise the essential OJT clinical training skills. The supervisor will also need to ensure that the service provider is proficient and that his or her clinical knowledge and skills are up to date and standardised.

The specific steps in training health service staff (such as leprosy supervisors) to become effective OJT trainers will vary depending on the needs of the situation.

### Summary: advantages and limitations of OJT

The advantages and disadvantages of OJT are summarised in Table 4.

**Table 4: Advantages and limitations of on-the-job training**

Advantages	Limitations
<ul style="list-style-type: none"><li>• Participants can be trained immediately without waiting for a scheduled course.</li><li>• Clinic personnel control training quality.</li><li>• Training can be designed to meet local needs.</li><li>• It is easier to obtain a sufficient patient caseload to ensure adequate clinical experience.</li><li>• The problem of inappropriate trainee selection is avoided.</li><li>• Once installed, OJT may be more sustainable than traditional group-based training.</li><li>• OJT is more cost-effective than traditional group-based training.</li><li>• OJT is most effective at sites where there is higher staff turnover or where large numbers of clinicians require training.</li></ul>	<ul style="list-style-type: none"><li>• There is limited interaction compared to group-based training.</li><li>• There may be a tendency to revert to 'see one, do one, teach one' instead of following the steps in the OJT programme.</li><li>• Maintaining quality of training at a national level can be difficult.</li><li>• Limited reading abilities of the participants may create problems since there is less interaction with the trainer.</li><li>• In the early phases of training when participant skills are weak, there may be a tendency to practise skills with patients in the clinic instead of in the classroom.</li><li>• Training needs of the OJT trainers must be met.</li><li>• It may not be cost-effective at sites where there is limited turnover of staff.</li></ul>

## 5.8 Online learning and useful Internet sites

### 5.8.1 Introduction



It is estimated that 50% of all learning in the 21st century will take place online. Many clinical skills clearly need to be taught in the clinic or at the bedside, but much factual knowledge can be gained very efficiently through online courses. Thus face-to-face learning and online learning are not alternatives, but rather complement each other; the best training courses in the future will use the strengths of each method.

Online courses are more than just the posting of material on the Internet – they:

- Occur over a set period (usually between one and four weeks, but can be anything up to three or four years).
- Are limited to registered participants, who pay a registration fee.
- Focus on interaction between trainees, and between trainees and facilitators.
- Utilise a whole range of content on the Internet.

The Internet allows access to a vast array of material which will, in theory, allow anyone to engage in self-directed learning. The problem of information overload will become more and more manageable as the software for searching the Internet becomes more sophisticated. For many people in leprosy-endemic countries, however, this is not yet a viable means of learning, for several reasons:

- Most health staff do not have easy access to a computer with an Internet connection.
- For those who do, the connection is usually both expensive and of poor quality, to the extent that the learning experience becomes highly frustrating.

A short-term solution to this problem is to use CD-ROMs to carry the content of the course and at the same time to encourage interaction by e-mail, which may be easier in remote sites.

However, it is anticipated that Internet access will gradually improve and become a viable means of learning. One initiative that is just getting started is the free access for health workers in developing countries to a wide range of medical journals and other health information on the Internet.

Online learning is a rapidly developing field. In terms of financial input, it is recommended that promoting Internet access be regarded as a much more productive investment than bricks and mortar for a training school.

A number of relevant web sites are summarised below.

### 5.8.2 Leprosy-related web sites

- The WHO site is at [www.who.int/health\\_topics/leprosy/en](http://www.who.int/health_topics/leprosy/en).
- The ILEP site at [www.ilep.org.uk](http://www.ilep.org.uk) includes access to teaching and learning materials for leprosy.
- INFOLEP at <http://infolep.antenna.nl/> functions as an information and documentation centre offering its services to all those who need information on leprosy. You can e-mail INFOLEP at [infolep@leprastichting.nl](mailto:infolep@leprastichting.nl).
- The International Leprosy Association (ILA) at [www.leprosy-ila.org](http://www.leprosy-ila.org) produces the International Journal of Leprosy, a peer-reviewed online journal.
- Leprosy Review, a peer-reviewed medical journal can be found at [www.leprosy-review.org.uk](http://www.leprosy-review.org.uk).
- A complete module on problem-based learning in leprosy and tuberculosis is available at <http://home.wanadoo.nl/~rgerritsma/pbl/>.

### 5.8.3 Basic web resources

Remember that free ‘search engines’ are available and they are becoming very sophisticated; typing in a specific phrase will often bring up very helpful web sites. Examples include [www.google.com](http://www.google.com) and [www.yahoo.com](http://www.yahoo.com).

There is also free access to Medline, the index to medical journals, at [www.ncbi.nlm.nih.gov/pubmed](http://www.ncbi.nlm.nih.gov/pubmed). This allows one to search the medical literature by author or keywords. For most papers, the abstract can be retrieved and for a few, the full text.

### 5.8.4 Training web sites and online training

- [www.reproline.jhu.edu/english/6read/6training/trng.htm](http://www.reproline.jhu.edu/english/6read/6training/trng.htm)  
This trainer development web site is run by JHPIEGO, an affiliate of Johns Hopkins University, USA. Although it is mainly concerned with family planning, there is a lot of general material on how to carry out effective training courses, including an article on how to give a good lecture.
- [www.pitt.edu/~super1/](http://www.pitt.edu/~super1/)  
This is the so-called ‘Supercourse’ at the University of Pittsburgh, USA. It has around 1,000 lectures based on PowerPoint slides, mainly focusing on epidemiology. There is one on leprosy by Dr C. R. Revankar.
- [www.coe.sdsu.edu/eet/Articles/k4levels/index.htm](http://www.coe.sdsu.edu/eet/Articles/k4levels/index.htm)  
From San Diego State University, USA, The Encyclopedia of Educational Technology gives a very wide range of articles on education and training. It has a useful search facility.

- [www.phppo.cdc.gov/phtn/primer.asp](http://www.phppo.cdc.gov/phtn/primer.asp) from the Centers for Disease Control and Prevention (CDC), Atlanta explains the basics of distance learning, including the ways in which modern technology can be used to enhance the learning experience.
- [www.trainingfinder.org](http://www.trainingfinder.org) acts as a clearing house for health-related training courses in the USA. Some of the courses at these sites are free while many others charge fees. [www.spc.int/health/DistanceEducation/Index.html](http://www.spc.int/health/DistanceEducation/Index.html) has a number of courses on medical topics, as does [www.cdlnh.com/default.htm](http://www.cdlnh.com/default.htm).
- The Association for the Study of Medical Education (ASME) at [www.asme.org.uk](http://www.asme.org.uk) produces useful material on training doctors and other health workers.
- The Learning Resources Network (LERN) at [www.lern.org](http://www.lern.org) provides consultancy and information about training doctors and other health workers.

While many universities and other institutions provide courses online, the basic software and training to put on and run such courses is provided by a few commercial companies. For smaller organisations, courses are generally hosted by such a company, with a license fee for each participant.

Web sites for commercial e-learning software include:

[www.centernity.com](http://www.centernity.com); [www.blackboard.com](http://www.blackboard.com); [www.webct.com](http://www.webct.com); [www.college.com](http://www.college.com); [www.certilearn.com](http://www.certilearn.com)

### 5.8.5 Free learning materials

- [www.freebooks4doctors.com/fb/index.htm](http://www.freebooks4doctors.com/fb/index.htm) allows access to hundreds of medical textbooks that are freely available on the Internet.
- [www.freemedicaljournals.com/](http://www.freemedicaljournals.com/) and [www.doaj.org](http://www.doaj.org) and [www.gfmer.ch/Medical\\_journals/Free\\_medical.php](http://www.gfmer.ch/Medical_journals/Free_medical.php)

These sites provide access to journals that are freely available on the Internet. Many journals allow free access from developing countries, while charging subscribers in developed countries. The British Medical Journal at [www.bmj.com](http://www.bmj.com) is one of the pioneers of free access to current medical literature.

- The British National Formulary (BNF) at [www.bnf.org](http://www.bnf.org) gives clear guidance and prescribing information on all drugs available in the UK. It can be searched by drug name and by disease.

### 5.8.6 Online discussion groups

- A very active discussion group on leprosy is run by Dr Salvatore Noto. To join, send an email to [noto@cefpa.it](mailto:noto@cefpa.it).
- ‘HIF-net at WHO’ is an e-mail discussion group on health information for those working to improve access to reliable information for health-care workers and health professionals in developing and transitional countries. Contact Neil Pakenham-Walsh at [INASP\\_Health@compuserve.com](mailto:INASP_Health@compuserve.com).

- There are many other e-mail discussion groups and free newsletters available. For health topics, these may be identified through the INASP<sup>5</sup> web site (see below).

### 5.8.7 Health information on the Web

There are many organisations that provide free health information materials. Others distribute materials donated by others, or purchased from publishers with their own funds. The following web sites provide overviews of information development initiatives, web sites, and materials that are relevant to health professionals in developing countries:

- The INASP-Health Directory is the leading directory of international organisations involved in health information development. The directory includes sections such as ‘Providers of free and low-cost information’ and ‘Distribution programmes’. It is available free at [www.inasp.info/health/directory/index.html](http://www.inasp.info/health/directory/index.html).
- INASP Health Links at [www.inasp.info/health/links/index.html](http://www.inasp.info/health/links/index.html) is an Internet gateway with links to over 600 recommended web sites selected for relevance to health professionals and health libraries in developing countries.
- Healthlink Worldwide at [www.healthlink.org.uk](http://www.healthlink.org.uk) collaborates with regional partners on the production of regional newsletters on HIV/AIDS, disability and child health. It also provides back-issues (free to developing countries) of its acclaimed international newsletters:
  - AIDS Action
  - Child Health Dialogue
  - CBR News/Disability Dialogue
  - Health Action
- Source at [www.asksource.info](http://www.asksource.info) is an international information support centre designed to strengthen the management, use and impact of information on health and disability. It is a collaborative venture by three organisations: the Centre for International Child Health (CICH); Healthlink Worldwide; and Handicap International, a disability and development NGO. The site includes an excellent bibliographic database and is also developing a useful range of subject directories, highlighting key resources such as web sites, newsletters, reports, CD-ROMs, books, and e-mail discussion lists relating to specific subject areas. The first subject directory is on tuberculosis, and is available at [www.asksource.info/tb-update.htm](http://www.asksource.info/tb-update.htm).

There are many individual organisations that provide relevant information, including WHO at [www.who.int](http://www.who.int). Most such organisations can be identified through the above web sites. One initiative that is of particular interest to health-care workers in India is Health InterNetwork (HIN) India, a pilot project of the WHO-led Health InterNetwork. Further details are available at [www.hin.org.in](http://www.hin.org.in).

TALC has produced two free CDs which give a variety of health/development materials. See [www.e-talc.org](http://www.e-talc.org) or e-mail [talc@talcuk.org](mailto:talc@talcuk.org).

<sup>5</sup> International Network for the Availability of Scientific Publications

## 5.9 International training

International training is expensive because of the travel involved and the cost of maintaining a 'centre of excellence' with a number of specialist facilitators. When considering international training, you should ask the following:

- Is it justified?
- How can it be made as cost-effective as possible?
- Are there alternative ways of getting the same results?



Credit: Linda Lehman

International training may be justified for specialist training, when that training is not available within the country. This may be because of a lack of experts to do the training, but is more likely to be due to a lack of clinical material with which to teach. Clinical skills, such as recognising and managing leprosy reactions, can best be taught by example, using real patients. Similarly, certain specialist skills, such as reconstructive surgery, physiotherapy and other aspects of rehabilitation, cannot be taught effectively without a sizeable patient population with whom trainees can interact. Dialogue with senior people working in particular fields is also vitally important and this may not be possible within one country. The situation in Africa is particularly difficult because of the large number of relatively small countries. International training will be essential for specialists from some small countries if quality of care is to be maintained.



Tertiary education is expensive anywhere, but costs can be kept down by moving away from leprosy-only institutions. Training centres which offer an array of courses and which can be in operation most weeks of the year will be more cost-effective. In Africa there are at least 40 countries with some leprosy, so there is probably a need for several international courses each year which could be arranged in a variety of ways and in different places.

The model used by the International Union Against Tuberculosis and Lung Disease (IUATLD), in which a training centre in Arusha, Tanzania is hired for the duration of the course and all trainees and facilitators travel in for it, could be tried for some types of training in leprosy. Many courses in leprosy, however, will need a reasonable number of clinical cases, including new cases, for practical sessions and this may be a limiting factor with such an arrangement. Online training courses can be a useful adjunct to international courses and should be developed.

It is important to remember, also, that a training course may take several years to gain a good reputation and attract clients, and that this will take even longer if the course keeps changing or moving. Under current conditions, it may be difficult to give a new, international course in leprosy enough time to become established.

For these reasons, the use of one site with an established clinical load is recommended for international training in Africa, if at all possible.

## Maintaining quality

International training centres are looked up to as centres of excellence so it is important that they maintain, and are seen to be maintaining, the quality of the services they offer, even as they attempt to diversify. This can be done by:

- Ensuring that the learning infrastructure (such as the library, journals, CD-ROMs and the Internet) is kept up to date and is user-friendly. This will also include the clinics and wards that are used for teaching.
- Providing courses that are well-organised and appreciated by trainees.
- Evaluating each training course, using both short-term and long-term methods (see Annex 5.13).
- Attracting and keeping staff with excellent credentials, both as practitioners and as teachers.
- Making provision for all trainers and facilitators to be involved in some form of continuing education for their own professional development.
- Encouraging the teaching staff to be involved in research.
- Encouraging the teaching staff to write for publication, whether it is health education material, training material or research findings.
- Encouraging links with other academic institutions, especially local universities and medical schools. These have often been good in the past, but extra effort will be required as diversification will mean contact with new departments. Accreditation of courses should be sought where at all possible.

## 5.10 Towards a code of best practice

In order to make sure training is of the best quality we need to take steps to ensure best practice. Each part of the code outlined below has a group of indicators so that training programmes can be audited in order to see that they are being effective. For each of the indicators used, standards must be set beforehand, so that it will be clear if performance is satisfactory or needs improvement.

- 1 All stakeholders endorse the concept of training as a means of developing both the staff and the leprosy services.
- 2 Training will be planned with the overall needs of the programme in mind.
- 3 The learning cycle will form the basis of our training style.
- 4 All training courses will have a clear learning objective and plan.
- 5 All training courses will include interactive sessions.
- 6 All training courses will use appropriate visual aids.
- 7 All training courses will use appropriate learning methods.
- 8 All training courses will be evaluated using both short-term and long-term outcomes.

### 1 All stakeholders endorse the concept of training as a means of developing both the staff and the leprosy services.

For any training to be successful there must be commitment to the concept of training. Leaders and managers must see the strategic importance of training and be prepared to plan and budget for it. If training programmes form an integral part of the strategy of organisations and projects then the training will be carried out much more effectively.

#### Indicators

- Training issues are included in policy statements.
- Presence of a training policy for the programme or organisation.
- Training is included in the budget.
- Training is part of the human resources development plan of the organisation.



Credit: Linda Lehman



Credit: Paul Saunderson

**2 Training will be planned with the overall needs of the programme in mind.**

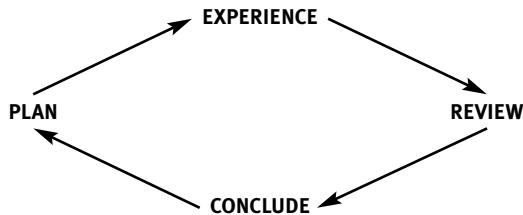
Training must be seen to be a strategic issue. It needs to be related to the aims and objectives of the programme or organisation. If it is only seen as a side issue then it will not be successful. Training programmes must be linked to strategies and management plans. Training should be seen as a tool to help staff achieve their goals and to improve practice.

**Indicators**

- Staff have development and training plans.
- Training courses are included in the strategic plan.
- There is an overall training plan for staff, linked to key programme objectives.

**3 The learning cycle will form the basis of our training style.**

*Figure 2: The Learning Cycle*



The learning cycle, which indicates the different elements of learning, needs to be the basis of every training course. ‘Experience’, whether listening to a lecture, reading a paper, talking with a patient, doing a role play or examining a thickened nerve, is the basis of all learning. The learning will be enhanced if the experience is ‘reviewed’ and explored, perhaps by the trainee alone or in a group discussion. The process of review ends with ‘conclusions’ about what has been learnt and how it affects future work. ‘Plans’ for future activities, or perhaps some experimentation (‘Why don’t we try out that idea, next time we see a patient with this problem?’), can be based on the conclusions reached and will lead to new experiences.

Adherence to the learning cycle will help lead to training sessions that do not just give knowledge or information but that actually promote learning by encouraging thinking, reflection, problem solving and creativity, so that a change in practice and behaviour takes place.

**Indicators**

Percentage of time during the course given to:

- Activities
- Student interaction
- Practice
- Discussion
- Action plans

## **4 All training courses will have a clear learning objective and plan.**

Training programmes need to have objectives. As mentioned above, this needs to be linked both with staff development and programme objectives. Each course must have learning objectives. These should be based on what the learner will be expected to do following completion of the course. Such objectives are often written in the style, 'Following the course, the trainee will be able to...'

The plan or outline should include practical details such as the timetable, resources (including a budget) and the people responsible. It will also include the curriculum (knowledge, skills and attitudes to be learned, and expected standards) and a strategy for evaluation (see below).

### **Indicators**

The presence of:

- Course objectives.
- Course plan (logistics, curriculum and evaluation strategy).

## **5 All training courses will include interactive sessions.**

Research has proven that interactive methods increase the level of retention and implementation of training. Making sure that all training courses have participatory activities is an important part of best practice.

### **Indicators**

- Numbers of exercises per course.
- Amount of small group work.
- Number of plenary sessions.
- Assessment of participation included in the learners' evaluation at the end of the course.

## **6 All training courses will use appropriate visual aids.**

Multi-sensory learning also increases retention and practice. Learners have different styles and some are particularly visual or active in their preferences. Using visual aids will help these people to learn in a way that suits their personalities and intelligence.

Material that trainees can work with, in their own time, may also free the facilitators for work with individuals. Such material may include case notes and charts, textbooks and journals, slides and CD-ROMs.

### **Indicators**

- Use and type of visual aids included in the training plan.
- Use and type of visual aids related to the type of learning and objective of the session.
- Classrooms have overhead projectors, chalkboards and flip charts.
- Inventory of visual aids with condition, purpose and use recorded.
- Assessment of visual aids included in the learners' evaluation at the end of the course.

**7 All training courses will use appropriate learning methods.**

The use of a variety of learning methods is also important for learning to take place. In order for skills, knowledge and attitudes to be changed, different learning methods should be used. It is important that the learning method is matched to the expected outcome of the training as well as the particular learning that is to take place.

Figures 3 and 4 show diagrammatically how various learning methods can be grouped together and how they relate to the training objectives.

**Indicators**

- Learning methods are matched to training objectives.
- Number of practical sessions.
- Number of role plays and discussions.
- Assessment of learning methods included in the learners' evaluation at the end of the course.

**8 All training courses will be evaluated using both short-term and long-term outcomes.**

See Annex 5.13 for more information on planning and conducting effective evaluations.

Figure 3: Learning methods as they apply to skills, knowledge and attitude

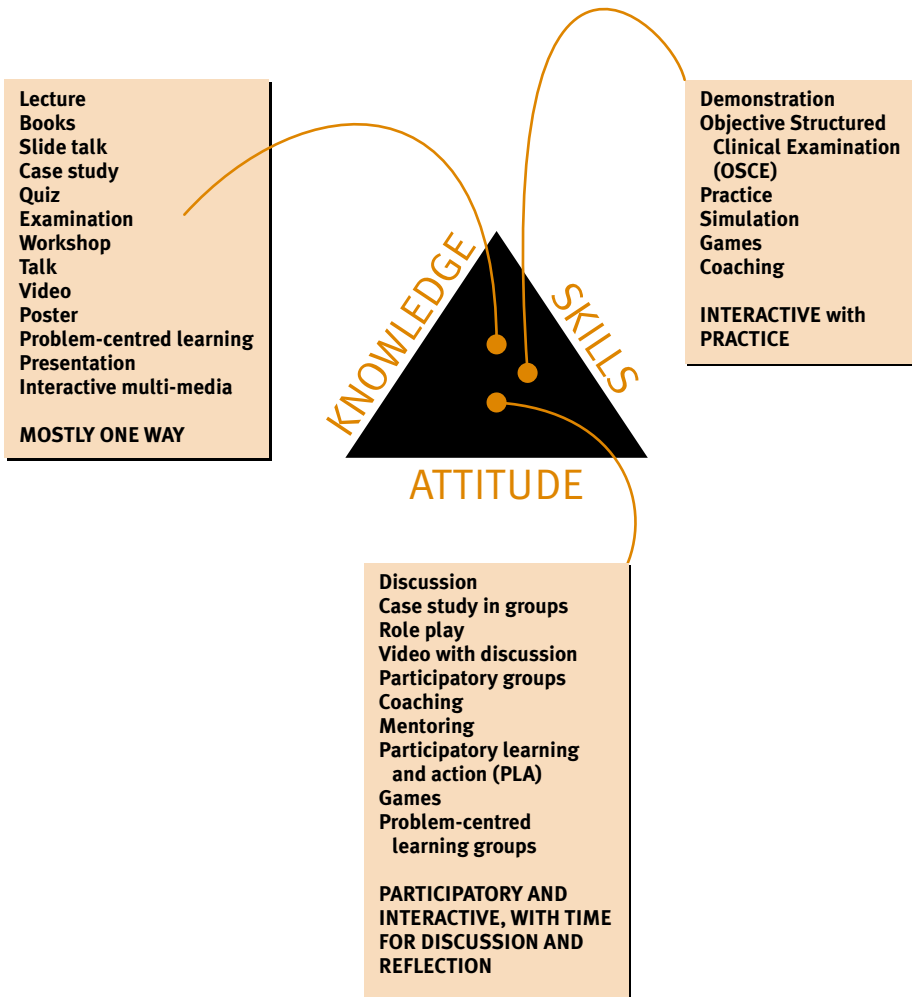
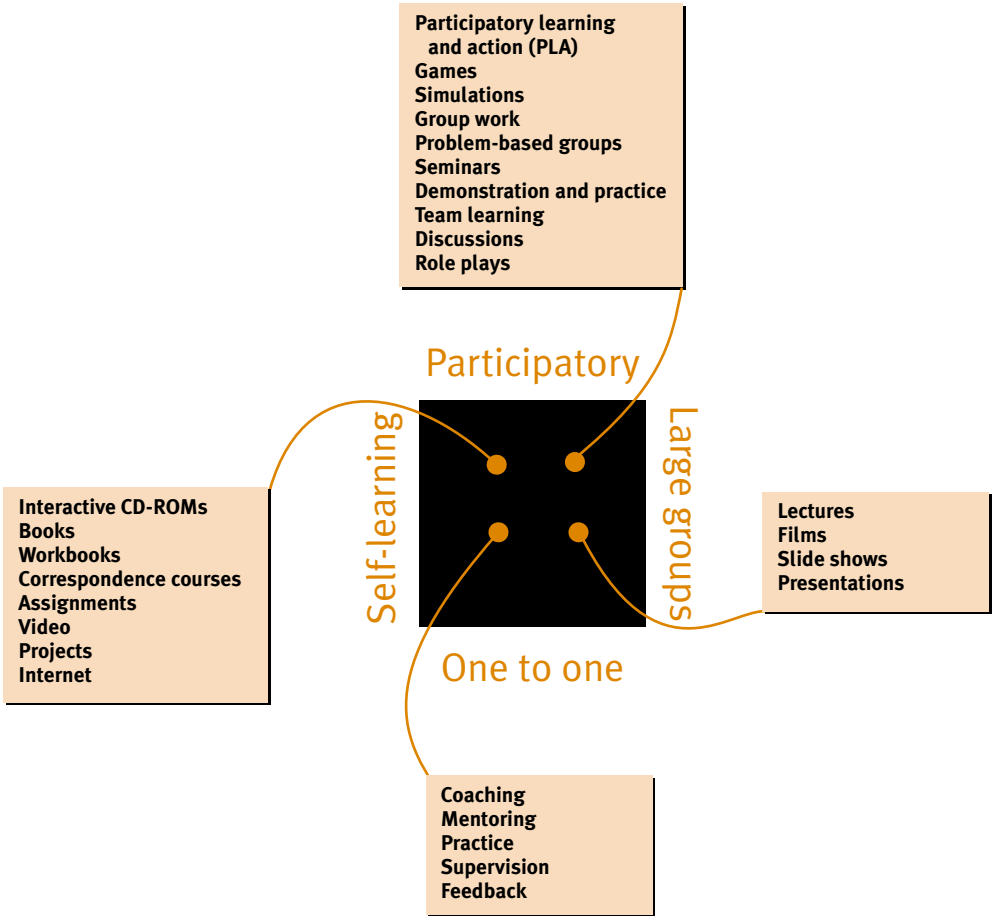


Figure 4: Learning methods according to the teaching situation



## 5.11 Trainer development

Just as we need to try and ensure best practice in training, so we need to work towards best practice in the training of trainers. As in the previous section (Annex 5.10), each part of the best practice code outlined below has indicators associated with it as an aid towards monitoring performance.

- 1 All trainers will be trained in education methods.
- 2 All trainers will take time to continue their own professional development.



Credit: Paul Samunderson

Credit: Linda Lehman

### 1 All trainers will be trained in education methods.

Training is a skill that needs to be learned, practised and developed. Education theory and practice should be included in all courses for trainers – the quality of training courses will improve when trainers are trained in education best practice. Training plans for leprosy should indicate how this training will be provided.

As indicated in Annex 5.7, structured on-the-job training also requires that trainers be prepared specifically for that type of training.

#### Indicators

- Number of trainers who have completed training of trainers' courses.
- Number of trainers who have had training in education practice during the year.

#### Education methods in practice: a review of teaching methods and lesson planning

Training is a process of interaction between teacher and learner. While much effort is rightly invested in training teachers, it should never be forgotten that the learner plays a very active role in any successful training exercise.

*If people are well motivated to learn,  
the method by which they learn becomes secondary.*



## **Methods**

One of the keys to good training is the ability to use different methods depending on the needs of the students.

A useful exercise to follow from time to time is to look at the training you deliver: does it tend to favour one learning style over another? If so, set yourself a challenge to add variations to how you train – don't stick with the same method you've always used, no matter how successful you think it has been.

It is important that we are aware of our own strengths and weaknesses; we should try and incorporate some of the methods that we are not so good at, because the chances are that some of our students will benefit greatly.

### **Lecture:**

A monologue. More common in 'higher' education or in quite formal settings (a sermon is an example of this) where there is no intention that the listeners do anything other than listen.

### **Punctuated lecture:**

The basis of the teaching is still a monologue of information presented by the teacher, but punctuated by breaks either for note-taking or questions to check for understanding. Don't forget that in many instances, students will be able to offer inputs from their knowledge and experience which you, the teacher, will not possess.

### **Group discussion:**

Problems here usually arise from not being specific enough. Discussion should always have a clear objective. When you've achieved the objective – the discussion ends. Facilitating discussion is a skill in itself and the larger the group, the more likely it is that there will be difficulties. Some of the common problems include:

- Discussion being dominated by one or two individuals.
- Talking round and round a subject without coming to conclusions.
- Subjects being raised which, though interesting, are not relevant.
- Participants who do not participate, whether through lack of knowledge, interest or confidence (and how do you know which?).
- Remarks which, even if unintentionally, are hurtful to some people.

There is no guaranteed way of avoiding these problems (apart from never letting any discussion take place) but there are ways of minimising them. The larger the group is, the greater the likelihood that discussion will be dominated by a vocal few. So take opportunities to break the group down into smaller units – if there are only three people in a group, it is much harder for one person to keep quiet all the time.

Discussion should have an aim: a question to answer, a plan to make, or a problem to solve. You should always know WHY you are discussing – and so should the participants!

### ***Demonstration:***

Most commonly used in training in tasks and procedures. One persistent difficulty with any kind of demonstration is the need to ensure that everyone really can see what you are doing. It may be worth, especially if the class is large, dividing it into smaller groups, assigning different activities and repeating the demonstration several times. Good demonstration requires good understanding by the demonstrator of the different parts of the task. A common mistake is to go too fast and forget that what you do naturally because of years of practice has to be learnt from the beginning.

### ***Problem-based learning:***

In its purist form, this approach begins by confronting the students with a problem to solve. They then have to find out how to deal with the problem using different resources, of which the teacher may be one. Such an approach dispenses with the customary input of knowledge from the teacher: the onus is put on the students to admit the gaps in their knowledge and seek ways of remedying this.

### ***Simulation games:***

A form of problem-based learning, usually constructed around an imaginary, work-related situation in which the students are asked to assume roles. It is particularly good for developing decision-making skills and for training in areas where answers are not always clear-cut. It requires careful organisation – it's unlikely to be something you can decide to do five minutes before the start of the lesson! However, many teachers use 'mini-simulations' constantly. If teaching first aid, for example, a common technique would be to ask questions with the format 'What would you do if...?' This is a form of simulation or problem-based learning.

### ***Role play:***

Often used in attitude training, for example in teaching how to relate to patients. Students can be wary of this approach – some may be quite shy and reluctant to participate, especially if they will be watched by others. Others may welcome the opportunity to display their acting talents and show off! If you use role-play, be sensitive in your selection of participants and make it clear that it is intended as a learning tool, not a form of entertainment (so don't comment on how good or poor someone is at acting!).

### ***Games:***

There are different styles of games, which can be used for different purposes. Again, the key is to be specific – know WHY you are using a game. Games are most effective when used to illustrate a point. They can also let people unwind – to relax them, perhaps after a long, mentally intensive session.

### ***Lesson planning***

Many of the ideas about designing a curriculum, as well as thinking about how people learn, can help in the business of planning an individual lesson. The guiding factor always has to be structuring activities to maximise the possibility of learning.

Some basic principles include:

- Variety (mix learning methods).
- Bite-sized pieces (don't give too much of the same thing at once).
- Action (opportunities for students to be active, not passive).

Another useful way of structuring planning, especially applicable in skills training (though a good principle generally) is **EDIP**:

- Explain
- Demonstrate
- Imitate
- Practise

Each individual lesson should have its own objectives and normally you would expect the students to be aware of those objectives and how they are going to be tackled. This means you will have to make them aware of what is going to happen, usually at the commencement of the session.

There are varying ideas on what is best in terms of planning. Some teachers prefer to prepare in detail all the content of a class, even down to timings, and may write everything out beforehand. Other teachers do not appear to plan at all and work without notes. You choose the method which suits you best in terms of how you plan – but be prepared to adjust it if it doesn't work.

## **2 All trainers will take time to continue their own professional development.**

Trainers need to be up to date in both training methodologies and their own professions. They need to be state-of-the-art practitioners in order to help their students with the latest and best health practice.

### **Indicators**

- Number of trainers who have a continuing professional development plan.
- Continuing professional development forms a part of trainers' appraisals.
- Number of trainers attending conferences during the year.
- Number of trainers attending in-service courses during the year.

### **Continuous learning**

The concept of continuous learning has become quite prominent in recent years. Organisations are changing rapidly and as a result it is difficult to find any approach to doing anything that doesn't soon become outdated. The concept of continuous learning has become important because it gives priority to noticing, adapting and learning from change. Learning need not be a linear event in which a learner goes to a formal learning programme, gains areas of knowledge or new skills, and then the learning ceases. If learners can view life (including work) as a 'learning programme', then they can continue to learn from almost everything in life. As a result, they continue to expand their capacity for living and working.

In continuous learning, the learner:

- Recognises priorities or overall values for themselves and how they want to live and work – they have a personal vision.
- Takes an active role in the world and work.
- Continues to reflect on their experiences in the world and work.
- Seeks ongoing feedback about the world (including work) and their activities.
- Remains as open as possible to the feedback (which requires a fair degree of personal maturity).
- Makes ongoing adjustments, based on ongoing feedback, to the way they live their lives and conduct their work in order to meet their priorities and values more closely.

Thus, important aspects of continuous learning are:

- Having some basic values in your life or priorities in your work.
- Doing something in the world, applying new information and skills.
- Taking the time to inquire and reflect about your life and experiences.
- Getting up-to-date feedback; that is, understandable and useful information about yourself and your experiences.
- Removing personal obstacles to your accepting and understanding the feedback.
- Having the courage and humility to change.

Continuous learning is not staying busy by continuing to attend one course after another, gathering more and more information.

With appropriate management, organisations can establish structures and processes that cultivate continuous learning. In such a climate, feedback is freely exchanged and employees have a clear, shared vision of the organisation's goals and values.

Organisation members get time to inquire and reflect about what they are doing and why, and planning is recognised as a form of learning. Goals are established and strategies (or approaches to reaching goals) are implemented. Action plans identify who will be doing what and when. During implementation, the plan is monitored and modified as needed.

Of course, plans can become ends in themselves, ultimately constricting progress. However, when plans are seen as guides that can be changed, a great deal of learning can occur.

## 5.12 Teaching and learning materials

### Assessing and providing training materials at local level

#### Review of materials

Many national and local leprosy programmes produce their own training materials and books. Others make use of materials developed elsewhere. However, health workers and their supervisors are often unaware of these materials. In other cases, materials are out of date, uninviting or inappropriate for their target audience.

An assessment of available materials should be a relatively straightforward process involving a limited number of people over a short time. The purpose of such a review would be to look at what is available and what is needed, and to consider mechanisms to develop and supply materials.

The analysis and list of materials could be shared with people working in the same region or language so that materials of proven value could be used more widely.

Current materials should be assessed according to questions such as:

- Who is the material intended for?
- Is the technical content appropriate for the target audience?
- Is the language used appropriate for the target audience?
- Is the visual presentation and format appropriate for the target audience?
- Is the content a) technically accurate? b) up to date?
- Is the material currently available?
- What quantities are available?
- What is the price?
- Who supplies it?
- Is the material available electronically?
- Is the material being used effectively?

The review group could then make recommendations for each item, such as:

- Supply
- Reprint
- Update
- Inappropriate for future use
- Suitable for use while stocks last

If the review is to consider materials such as videos, a sub-group with experience in using such materials should be organised.

#### Identification of gaps in provision – in relation to target groups

The review group should identify gaps in the existence and provision of materials and propose mechanisms for addressing needs. A standard list of the range of subject matter that would be useful for health workers could be based on the schema presented in Table 2 on page 30.



Credit: Linda Lehman

Credit: ILEP

## Action after the assessment

The review should result in a report containing an analysis of existing materials. Mechanisms should be proposed for sharing information on available materials, making materials accessible to health workers and addressing the identified gaps in provision.

## Local adaptation of materials

Adaptation of materials may make them more relevant to the local situation, for example through translation into local languages, the use of appropriate images and the use of local examples. New technology makes all this possible at an affordable price if the source material is made freely available.

Recent ILEP publications are to be made available on CD-ROM and on the Internet in order to encourage local adaptation. Technical advice on how to go about local production is available from ILEP on request.

## Field testing a book or training manual

A questionnaire for testing a training resource is given below. It is intended for testing new materials which can still be changed before publication, and should be used with groups of people similar to the target audience.

## Utilisation of learning materials

Producing a variety of high quality (that is, relevant, reliable and readable) learning resources is of little value if they are not widely used. Utilisation depends on a number of factors, including:

- **Availability:** geographical distribution, in enough numbers to meet the need.
- **Access,** including issues such as price (if sold) and language; do medical workers have their own books, or do they borrow communal/library copies?
- **Learning culture:** is it acceptable for health workers to research issues for themselves, rather than being taught or told everything by senior staff?
- **Ownership:** is the material seen as locally relevant and applicable?
- **Literacy:** can people read and understand what is written?

- **Personal issues:** motivation to study; an inquiring mind; time to study; artificial light for study in the evening. Motivation links with the idea of incentives for learning, which are generally not financial, but include being on top of the job, being a source of reliable information for others and being a candidate for promotion.

Utilisation could be increased through some or all of the following:

1. Training courses can be linked to specific materials, which should be given to the trainees to take home with them.
2. If materials are not widely distributed, a plan to distribute a basic list of books should be developed. The situation analysis should help to show how books can best be distributed to reach the staff who need them.
3. Feedback from staff should show which resources are the most appropriate, so that the most useful books are made available to the right staff. Certain specialist texts may only be relevant for a few staff in referral centres. Staff who require local language versions of the basic texts should be identified.
4. Ideas for motivating individuals to use a book that has been sent out include:
  - Writing to the reader explaining why the book will be useful.
  - Asking people to recommend good material to their colleagues.
  - Inviting comments to show you are interested in the reader's opinion.
  - Arranging a meeting for staff to discuss it, some weeks after it is sent out.
  - Arranging for a supervisor to deliver the book personally to staff.
  - Using the book in training sessions and workshops.
5. Explore the possibility of simple local library schemes based at (for example) hospitals, health centres or other institutions so that health workers can borrow books.

At the national and global level there are other ways of promoting the utilisation of teaching and learning materials:

- The translation and printing of basic texts in local languages can be done more easily and cheaply with current technology.
- Materials from ILEP and elsewhere can be ordered in bulk through a national training co-ordinator.
- The ILEP booklist can be circulated more widely.
- New technologies, such as CD-ROMs, can be used in innovative ways.
- ILEP members can be encouraged to be more actively involved in the training activities of countries they co-ordinate.

## FIELD TESTING A BOOK OR TRAINING MANUAL

The target audience and objectives of this item are:

- 
- 

Please read through the book being tested, then answer the following questions:

### Part 1: General feedback

1. Does the text meet the objectives stated above?  Yes  No  ?
2. Do you think that this book covers everything you need to know about this subject for your work?  Yes  No  ?
3. Which subjects are unnecessary?  
\_\_\_\_\_
4. Which subjects would you want to add?  
\_\_\_\_\_
5. Before reading this book were you familiar with the subject?  Yes  No  ?
6. Are the tasks described the same as those you carry out?  Yes  No  ?
7. Do you find it easy to find your way in the text?  Yes  No  ?
8. Are there sections that could be improved?  Yes  No  ?  
If yes, please specify  
\_\_\_\_\_

### Information

9. Which sections are difficult to understand?  
\_\_\_\_\_
10. Which sections are inaccurate?  
\_\_\_\_\_
11. Which sections are too long?  
\_\_\_\_\_
12. Are there places where words and pictures give different information?  
\_\_\_\_\_

### Language

13. The language level of the text is:  Too easy  The right level  Too difficult  ?
14. Please give examples of words or sentences that are difficult to understand:  
\_\_\_\_\_

### Design and Layout

15. Is the layout of the book satisfactory?  Yes  No  ?  
If not, why not?  
\_\_\_\_\_



16. Is the print the right size for you?  Yes  No  ?  
If not, what would be better?

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17. Suggestions for improvement:

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### Photographs and illustrations

18. Are the photographs and illustrations in the book helpful?  Yes  No  ?

19. Suggestions regarding the photographs and illustrations:

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### Part 2: Written and practical tests

This part consists of a written/practical test taken by individuals (trainees) who have read the book.

1. Trainees are asked to write down the page numbers where certain chapters or sections start.
2. Record the length of time taken by trainees to find particular sections in the book (<30 seconds or >30 seconds).
3. **The Cloze Test** involves taking a document (or an extract) of about 250 words and deleting every fifth word, leaving a blank in its place. The reader is then asked to fill in the missing words. In technical writing this is a test of readability. The idea is that there should be sufficient redundancy in a document to allow a reader to score in the 50-60% range. Used in this way it measures the writer, not the reader.

4. **Comprehension Levels:** test some of the practical skills taught in the book.

5. This book would be appropriate for the following levels of staff:
- a) General doctors  Yes  No  ?
  - b) Nurses  Yes  No  ?
  - c) Health workers  Yes  No  ?
  - d) Others (including untrained volunteers, patient attendants, health worker assistants)  Yes  No  ?

6. How would you use this book in your project?
- a) Teaching  Yes  No  ?
  - b) Self-learning for yourself  Yes  No  ?
  - c) Self-learning for others  Yes  No  ?
  - d) Reference  Yes  No  ?

7. Further comments about the book:

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## 5.13 Planning immediate and long-term evaluations

### A – Immediate evaluation

There are two elements to the assessment of a training course at its completion. Firstly, the participants can be asked for their opinion of the course. They may be asked to fill in a form (such as the one shown opposite) to provide feedback for each teaching session they attended.

Secondly, the participants themselves can be assessed, to find out what knowledge and skills they have learned during the course. For this purpose an Objective Structured Clinical Examination (OSCE) is recommended, and is discussed on page 62. Multiple choice questions may be used if it is only necessary to test factual knowledge.



Credit: Paul Sanderson

## The evaluation of a training session

Session Title: \_\_\_\_\_ Facilitator: \_\_\_\_\_

**Please mark each scale to indicate your opinion of the session:**

1) The length of the session was:

Far too short	Too short	About right	Too long	Far too long

2) The content of the session was:

Very oversimplified	Too simple	About right	Hard to follow	Impossible to understand

3) Which teaching methods were used in the session?

Please mark each item either Y=Yes or N=No

<input type="checkbox"/> Lecture	<input type="checkbox"/> Group discussion	<input type="checkbox"/> Small group work
<input type="checkbox"/> Drama	<input type="checkbox"/> Exercises	<input type="checkbox"/> Case studies
<input type="checkbox"/> Other _____		

4) How would you rate the value of the handout for you?

Useless	Unhelpful	Neutral	Helpful	Very helpful

5) How useful would the session be for a colleague doing a similar job to you?

Useless	Unhelpful	Neutral	Helpful	Very helpful

6) Please indicate one thing you learned during this session that was really new for you: it could be a *fact* that you learned, or a *skill* (how to do something), or you heard something that changed your *attitude* about something:

\_\_\_\_\_

7) Do you have any suggestions about how this session could have been better?

\_\_\_\_\_

\_\_\_\_\_

### **The Objective Structured Clinical Examination (OSCE)**

**Principle:** The clinical competencies to be tested are broken down into components, each of which is assessed in turn at one of the ‘stations’ in the examination. The student spends about five minutes at each of the 20 or so stations set up for the examination. Each station may test either a skill, in which the student has to carry out a particular procedure (while being observed by an examiner with a checklist), or knowledge, in which the student has to answer some questions or interpret some data. The students will each start at a different station and rotate to the next one in sequence – a bell can be sounded every five minutes to signal the time to move on.

**Variations:** A wide range of items can be included in an OSCE and the competence of the student assessed against a standard. Items may include:

- History taking from a patient.
- Physical examination of a patient.
- Inspection of a patient or a photograph.
- Interpretation of a patient’s chart or laboratory results.
- Patient education.
- Interpersonal skills (such as informing the patient of the diagnosis).
- Use of a piece of equipment (surgical, clinical or therapeutic).
- Examination of specimens.
- Practical procedures.

The required activity must be limited in time, so that with the time needed to answer questions, it can be completed in the five minute period. The examiners can decide on the contents of each station, the complexity of the items, the standards to be set and the way in which each item is scored.

### **B – Long-term evaluation**

This section gives an overview of the evaluation of a training programme in the long term, and of how such an evaluation can be made more effective.

## Six phases of evaluation

### Preplanning

- This requires us to consider the conceptual framework, history and context within which the training takes place.
- The purpose of the evaluation should be clearly defined at this stage.

### Preparation

- This requires negotiation of objectives, and decisions about which stakeholders need to be involved and their different purposes and interests.
- Other things to consider include cost, timing, and baseline data since it is important to set benchmarks and indicators.

### Planning

- The Terms of Reference (TOR) is the most important document in any evaluation exercise. It must be clear, transparent and flexible, and should specify assumptions and anticipate conflict.

### Execution

- An evaluation can be internal or external, and can offer either a snapshot or a more long-term view.
- There is a variety of methodologies which can be used; aim for participatory techniques and set meaningful indicators, but don't pre-set them all.
- Differentiate between methods for generating information and those for analysing it.

### Reporting and feedback

- Too often evaluations remain shelved documents and are not used as feedback for the future development of the programme. There are two common reasons for this:
  - a) Management structures can be weak and can involve managers who fail to listen, absorb or act on findings.
  - b) Few staff are convinced that, or understand the way in which, evaluation can be an integral part of the process of development.

In sum, make sure there is a management plan for acting on a report.

### Reflection and action

The way in which an evaluation is used can be as productive and dynamic as the process of development itself. Note that:

- Evaluations should contribute to the process of empowerment.
- A participatory and open evaluation can bring new sources of information and insights to people previously unable to obtain access to such information.

- An evaluation should open the door to a phase of reflection, in turn leading to further actions. But such a process will not occur unless actively built into the evaluation with concrete steps taken for dissemination and discussion of the evaluation findings.

In the project cycle followed by many programmes, the follow-up of an evaluation should ideally lead to:

- Institutional learning.
- Amendments to existing and future project activities.
- Improvement in project design.
- Improvement in the impact and efficiency of the programme on behalf of the clients or beneficiaries.

In summary, the following is a checklist of questions to ask before undertaking an evaluation:

1. Is the purpose of the evaluation clearly set out in the TOR and agreed by all?
2. Is it clear who will receive the report and what they have to do with it?
3. Is there a management plan for acting upon the report?
4. Is there provision for follow-up once the evaluation report is completed?
5. Is there provision for discussion, negotiation and further action among the different stakeholders, based on the evaluation?
6. Are the methods of disseminating the findings of the evaluation appropriate to the different stakeholders?
7. Is there provision for discussion of initial findings before the report is written? This is particularly important in cases where the evaluation team leaves the site of the evaluation before it completes the report.



Leprosy activities are being implemented as part of the general health system in a growing number of countries. Training in leprosy is no exception; while such training will continue to be needed to ensure that an acceptable level of expertise is maintained, it is increasingly likely to occur in an integrated context, and may be part of a larger framework for training general health workers. The challenge is to develop and implement training strategies that will enable health personnel to provide quality care for people affected by leprosy within the general health services.

The ILEP Technical Guide 'Training in Leprosy' aims to help in developing a framework for such training, and is written for those who organise, support and run training activities. It examines how leprosy training can be organised and made more effective, covering topics such as the assessment of training needs, different types of training, selecting the most effective teaching and learning methods, encouraging best practice, and evaluation.

The guide is based on the experience and expertise of a number of practitioners in the field of leprosy and training. It is hoped that it will lead to enjoyable and effective learning for a wide range of health staff who support people affected by leprosy.