

Section 1 What should your students learn?

chapter 1 An overview of teaching

This chapter makes the following points:

- The purpose of training programmes is to prepare students to do a job.
- Teachers should concentrate on the essential facts, skills and attitudes. It will not be possible or desirable to teach everything.
- Teachers should base their teaching on the real health problems of the community and on the work their students will be expected to do.
- Teachers can plan courses and lessons using two techniques called community analysis and task analysis.

a story

A community nurse completed her training and passed all the exams at the end of the course. She was given two weeks leave before she started her work, so she went back to her village to spend some time with her family. It was a long journey because the nurse's family lived in a remote village. But when she arrived everybody was pleased to see her again. Her mother was specially pleased and very proud that her daughter had done so well.

After the first greetings, the mother said *"It is good that you are back because your baby cousin is ill. The baby has diarrhoea and doesn't look well to me. Do you think that you could help?"* So the nurse went to see the baby and realised that it was very dehydrated. She thought the baby should go to a health centre, but the journey was too far. So she thought about what she had been taught. She could remember the anatomy of the gastro-intestinal tract and all about electrolyte balance. And she remembered that a mixture of salt and sugar in water would help. But she couldn't remember how much sugar and how much salt to put in the water.

She was very worried that the amounts would be wrong. She didn't know whether to send for help and advice or to guess the amounts. In the end she thought that the baby was so sick she would have to do something. She made up the sugar and salt solution in the wrong proportions and the baby died.

moral

Some courses can spend too much time on detailed facts so the less detailed but important facts and skills are not well learnt.

1.1 Some basic principles

The story shows what can happen when a course for training primary health care

staff is unsuccessful. But what makes a successful course? The following are basic principles:

Basic Principles

- 1 The main aim of the course should be to train students to do a job.
 - 2 Teachers should select what students must learn.
 - 3 Teachers should then help the students to learn.
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These may seem to be very obvious points, but they do have important consequences. These consequences are briefly explained in the next few paragraphs.

1.2 The main aim of a course should be to train students to do a job

This is the basic principle on which this book is based. It means that if students at the end of a course can do the job competently then the course has been successful. If the students cannot do the work of a medical auxiliary or a community midwife then the course has failed.

A consequence of this principle is that the teachers must know a lot about the work which the students will be doing. The teachers should see experienced health care staff doing their work. The teachers should talk to the health care staff about the problems in providing health care. The whole course should be closely linked to the way in which health care is provided. Chapter 3 explains how this may be done.

The major consequence of this principle is that at the end of the course, *students will be able to do something* – not just *know about* something.

1.3 Teachers should select what students must learn

A major responsibility for all teachers is making decisions about exactly what students should learn. In some courses the teachers are given a curriculum or syllabus to follow. But this will always leave a lot of scope to the individual teacher – it simply is not possible or sensible to write down a course in very great detail.

So teachers will be involved in making decisions about:

- how much detail the students should learn
- which facts are important
- what standards of performance are required.

The teachers will make these decisions all the time when they are talking in the lecture room, when they are planning field experience for their students and, most importantly, when they are setting or marking examinations or tests.

1.4 Teachers should then help the students to learn

I heard one teacher at the end of a very detailed lecture say "*I do not mind how much of this you remember. But never say that I have not told you about...*"

This is a completely wrong approach. The job of the teacher is to help students to learn. It does not matter whether the teacher tells the students something or whether they find it out from books or from their own experience. What does matter is whether the students learn how to do the work successfully.

There are lots of ways that teachers can help students to learn. These are explained in detail in Section 2.

Sometimes this idea is summarised by saying that the teacher should be a '*facilitator*' or that the teacher should '*facilitate learning*'.

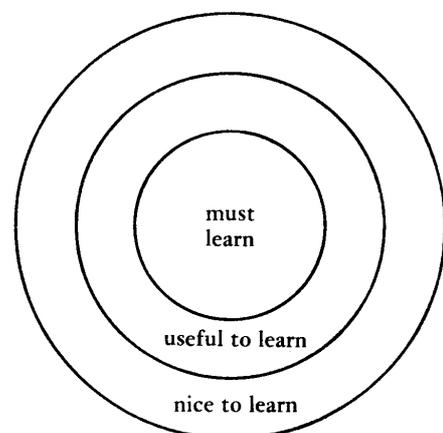
1.5 Why not teach everything?

Some teachers do not like the idea of selecting the most important facts or skills. They feel that their students should learn everything.

Unfortunately it is not possible to learn everything! Knowledge of the human body and medicine, understanding of traditions and ways of behaving in a society, skills in administration and in educational methods are all relevant to health care staff. Learning all that is known in all of these fields would be beyond the scope of the most able student in the largest course. So some selection is essential.

This can be summarised in the diagram:

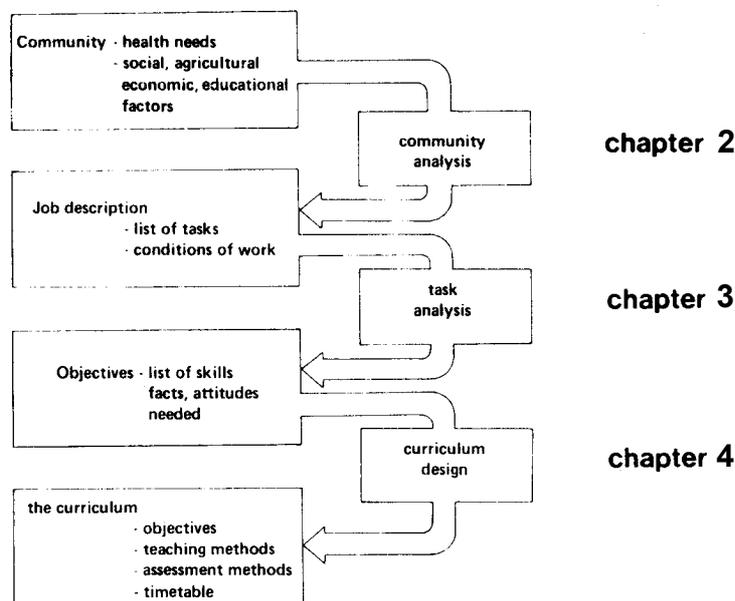
"must learn" is the target. These are the things which *every* student must learn if he is going to be competent in his job. These are the things which the teacher should stress when he is helping students to learn. These are the things which will be tested in exams.



Surrounding the “*must learn*” target there are very many other things which are “*useful to learn*”. But these do not need the same emphasis. Nor should they be tested as thoroughly in exams.

Then again there are very many other facts and skills which are only “*nice to learn*”. Of course, teachers should not prevent students learning anything. In fact they should show students how to learn by using books, conversations and direct experience of the world. But *the teacher's main responsibility is to decide what students must learn and to make sure that the students do learn it.*

1.6 How can you decide what students must learn?



The complete process of deciding what students must learn is shown in the diagram. This probably looks complicated and too much work for a teacher to do. Many teachers have a very full timetable and no spare time. However it is important that all teachers working with primary health care staff know about this process. Then the teachers who have enough time will be able to follow the process in detail. The teachers with less time will be able to use parts of the process. Suggestions for ways in which any teacher can use the process are given in 1.7.

The starting point is the community – that is, the village, town or region and the people living there. This should be studied using a method called community analysis. This is explained in Chapter 2. The aim of the community analysis is to find out exactly what job the primary health care staff will do. This is written down as a list of tasks

which the health worker will do. These might be for example:

- persuade mothers to breast-feed babies
- advise farmers how to store food
- etc. etc.

The next stage is to find out what is involved in each of the tasks. This process is called task analysis and is explained in Chapter 3. The result of the task analysis is a list of skills, with knowledge and attitudes which the health worker will need for each task. For example, the task *"persuade mothers to breast-feed babies"* will require knowledge about the nutritional value of breast milk and the dangers of bottle-feeding. The health worker will also need to have skills in communicating with mothers.

The skills, knowledge and attitudes will be the objectives of the course. That is, a list of the things which students will be able to do at the end of the course.

The third and final stage is to organise these objectives into a course or a lesson. This stage is called curriculum design and is described in Chapter 4. The curriculum consists of the objectives plus:

- details of the general teaching methods which will be used (lectures, group discussions, work in the field)
- assessment methods (when students will be tested, what kind of exam will be used)
- timetable (how much time will be spent on each part of the course and where it will be taught)

1.7 How much can each teacher do?

No teacher can do all the things described above. But each teacher should base his teaching on the principles described.

To do this, teachers should think about the community where his students will be working. He should talk to experienced health workers who know the community and should find out what the real problems are. This is a start towards doing a community analysis.

Teachers should also think about the different tasks the students are being trained to do. Must students learn the detailed anatomy of the breast in order to persuade mothers to breast feed their babies? Or is it more important to learn about communication methods? If teachers ask this kind of question the detailed content of lessons will be improved.

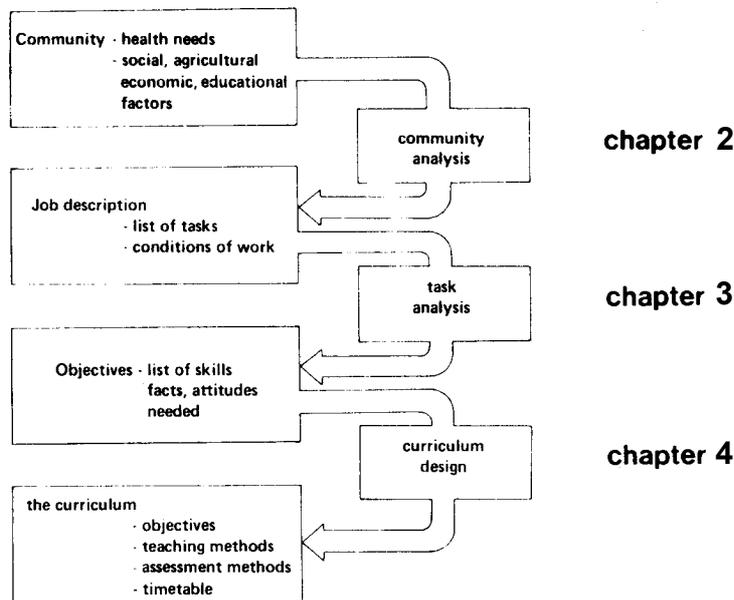
Teachers should also think about the methods they will use and about how much time they are going to spend on each part of their course or lesson.

In summary no teacher can do a complete community analysis plus a task analysis for each task plus a thorough curriculum design. But each can think about teaching in these ways.

1.8 Summary

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- 1) The aim of a course or a lesson should be to help the students learn how to do the job which they are being trained for.
 - 2) Teacher must select what things students *must learn* and then make sure that the students learn them.
 - 3) Community analysis and task analysis are methods used for deciding what students must learn.
 - 4) Teachers do not have time to do a complete community analysis or a series of task analyses. But they should think about their teaching using these ideas.
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chapter 2 Community Analysis



In this chapter the main points are:

- teachers must know exactly the kind of work that their students will be doing
- community analysis is the name of a technique which will give teachers this information
- very few teachers will have enough time to do a full community analysis, so some '*shortcuts*' are explained

a story

A health assistant completed his training at college and went to work at a Health Centre as a member of the rural health services team. One of his tasks was to provide health education. He soon found that one of the problems in the area was lack of protein in the diet. So he explained to the villagers that they should eat more meat and grow beans instead of cassava. The villagers tried to follow his advice but they had very few animals and so could not afford to kill any more for eating. Nor did they know how to grow beans. The farmers came back to the health assistant and said "*Tell us how to grow beans. Where can we get the seed? When do we plant the seed? How do we look after the plants?*"

The health assistant didn't know the answers because he hadn't been taught how to grow food. He only knew that soya-beans have 34% protein, groundnuts have 23%, ordinary beans have 20% while cassava only has 1%. This information didn't help the farmers!

moral

The course for health assistants had concentrated on the facts of nutrition. It had not prepared the health assistant to do the essential jobs in the community like giving practical advice about how to improve the diet.

2.1 Finding out about the job

Most teachers would agree that they should prepare their students to do a useful job in the community. They may say "*I am training Health Assistants*" or "*my students will be Community Nurses*". But this is not enough. The teachers need to have a clear and detailed idea of what the students will be doing.

So, how can teachers find out about the job?

There are several ways.

- The teachers may have been Health Assistants or Community Nurses very recently. This gives them a big advantage over other teachers. These teachers should share their practical experience with the students and with other teachers.
- The Ministry of Health may have prepared a detailed '*job specification*'. (A job specification is simply a list of all the things which a person in that job will do). This can be extremely useful in guiding the teachers – but unfortunately detailed job specifications are quite rare.
- The teachers may need to do some form of community analysis which will provide a job specification. The rest of this chapter explains how you can do this.

2.2 What is a Community Analysis?

Community Analysis is a method of finding out about the health needs of a community. This is used to prepare the job specification – which in turn helps the teacher to decide what the students should learn.

A community analysis can be a very complicated process done by teams of experts. But it can also be very much simpler and within the scope of teachers and their students.

The main aim of the analysis is to find out what the community (a village, a group of villages, or a region) is like. First of all, the common diseases are identified. Then the other factors which lead to disease are investigated. These are likely to include

- educational factors—do the people know about food hygiene, nutrition, methods of waste disposal, etc?
- social factors—do the women have to look after the crops as well as prepare food and keep the home clean?
- economic factors—do the farmers sell their produce at a market so that they can buy fertilisers and equipment?
- cultural factors—are there traditions or religious beliefs which affect either

the diet or attitudes towards ideas such as child spacing?

- agricultural factors—what kinds of food can be grown?

The common diseases must be known so that courses can prepare students to provide curative health care (i.e. curing people who are sick). Equally these other factors must be understood so that preventive health care can be provided (i.e. helping people to avoid sickness).

2.3 What can the teacher do?

In many countries the Ministry of Health will probably be responsible for doing this kind of analysis. But even in these countries the analysis may not be completed – or sometimes not even started. So teachers have to find out for themselves.

They don't need to stop teaching for a year to do this! Instead they can use some of the ideas below

- talk to health workers. Talk to the people who work in the community. Ask them what kinds of cases are more common. Ask them what the nutritional problems are – and how they think the problems can be solved. Ask them what traditions must be recognised. And so on.
- talk to former students. Ask the same kind of questions of students who have graduated and are now working in the field. Ask them also about the things which they think were good about the course. Ask them whether there were any gaps in the course.
- talk to the people in the community. Ask the people what kind of help they need.
- use your own students. Most health workers should be able to do some form of community analysis. So give your students practical experience. Send them into the community to do project work and to find out what kinds of health care are needed.

Using these ideas teachers can learn a lot about the community without spending a very large amount of time.

2.4 Preparing a job specification

This information will lead to a list of tasks which the health worker must be trained to do. This list must take into account the work done by other members of the health care team.

An example of a job specification

Health Assistant

1. General Definition

The Health Assistant is the member of the rural health services team with primary function of supporting the improvement of environmental factors such as water supply, waste disposal and food hygiene. His role is disease prevention through the interruption of transmission, through increasing public immunity and through health education. The Health Assistant's activities may be described under the following headings

- A Surveys
- B Inspection and sampling
- C Health education
- D Construction of sanitary facilities
- E Maintenance and treatment of sanitary facilities
- F Communicable disease activities
- G General administration

2. Specific Duties

- A Surveys
 - 1 Prepare and maintain up-to-date maps showing:
 - (a) villages
 - (b) markets
 - (c) health facilities, (health centre, health subcentre, dispensaries, private health facilities)
 - 2 Maintain up-to-date information as to
 - (a) water sources (protected and unprotected)
 - (b)

and so on

This job specification gives a general idea of what the Health Assistant should do: "*primary function of supporting the improvement of environmental factors such as water supply . . .*" and "*disease prevention through the interruption of transmission . . .*". Some job descriptions only go as far as this level of detail. Whilst any job specification is better than none at all, teachers really require more detail to help them plan lessons and courses.

So the example given is a good one because it does say what the health assistant will do. For example "*prepare and maintain up-to-date maps showing (a) villages . . .*"

Clearly the Health Assistant must learn how to do this task.

2.5 The importance of the job specification

The job specification is the list of objectives for the course.

If the students can do each of the tasks listed in the job specification, then the course has been successful.

The job specification is the basis for the course. Every teaching session should be designed to help the student learn how to do one or more of the tasks. Any assessment should be designed to test whether the student will be able to do the tasks.

2.6 Summary

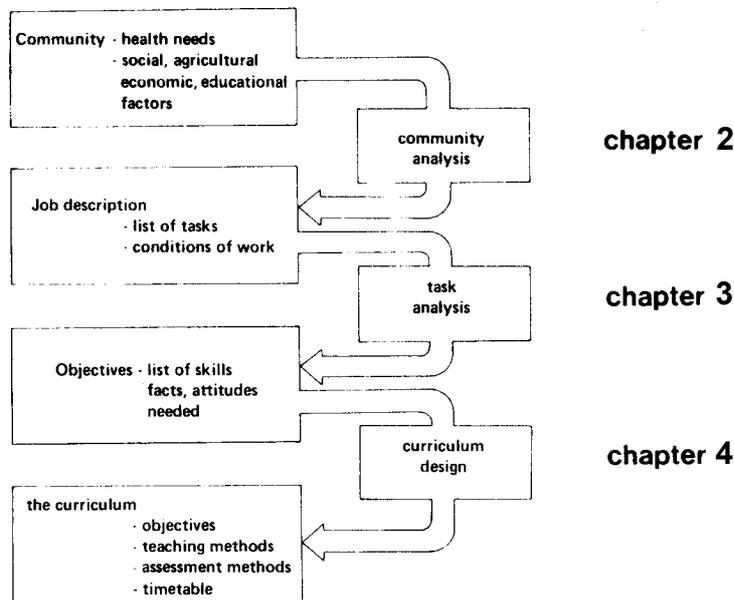
Teachers help their students learn how to do a job. Therefore the teachers must know exactly what this job is.

Community analysis helps teachers to find out more about the job.

Teachers can do an internal community analysis by talking to health workers, other teachers and the people in the community. Their students should also help in community analysis.

The job specification produced at the end of the community analysis is a list of the objectives for the course.

chapter 3 Task Analysis



This chapter explains how teachers can look at a job specification in more detail to find out exactly what needs to be learnt.

a story

Mr. W, a teacher in a college of health sciences, was asked to teach a group of trainee *'Nursing Orderlies'* about weighing babies in an MCH Clinic. He carefully planned a series of lectures about child development and told the students about nutrition and malnutrition. He explained why babies should be weighed regularly and he brought scales into the classroom and demonstrated how to weigh a baby. At the end of the course the students took an exam in which they wrote short notes on questions like *'what are the major causes of malnutrition'*, and *'list 3 reasons for weighing babies regularly'*. The students all answered the questions quite well and Mr. W was pleased.

However, when the Nursing Orderlies started to work in the MCH Clinics there was chaos. They did not know how to organise the queue of mothers and children because nobody had told them how. They didn't know how to record the weights on the Growth Chart, because they had never used graphs and didn't understand them.

What went wrong? Even though the tasks were specified (weighing babies) Mr. W had not thought about how the students would do the task – he had not done a Task Analysis.

So this chapter describes how to do a Task Analysis. The task analysis will help teachers to make sure that their students learn exactly how to do each of the tasks in their job.

3.1 What is task analysis?

Task analysis is a method of looking at some part of a person's job (a task) and writing down exactly what is done. This description is then analysed to find out what students need to learn in order to do the task well. Like community analysis, task analysis can be done in great detail by professional teams who may take years to do a full task analysis. But it can also be done in much less detail and much more quickly by teachers. This less detailed approach will still be extremely valuable and will be described in this chapter.

3.2 An example of a task analysis

If Mr. W had analysed the task of weighing babies in an MCH Clinic he might have produced something like the example below.

This task analysis has been done for a specific category of health worker in one country. Health workers may do the weighing rather differently in your country. They may not use the weighing trousers or they may not examine the baby at all when it is weighed. On the other hand they may do a much more thorough examination. This task analysis is not intended as a perfect model of how to weigh babies in every country. It is just an example of how to write down a task analysis.

What does this example show?

First, the whole task – weighing a baby – is broken down into stages. These stages may be called sub-tasks or parts of the task. The sub-tasks can be of various types. The most obvious sub-tasks are when the nursing orderly does something which you can see – like putting the baby on the scale or recording the weight on the chart. These are – *actions*.

Other sub-tasks are equally important but can be less obvious. For example, the nurse orderly asks the mothers to prepare the babies by putting on weighing trousers. This is a *communication*. This stage must be done and it must be done in the right way or the mothers may be annoyed at the way the nursing orderly speaks to them and not come back to the clinic.

Another kind of sub-task is to make *decisions*. You cannot see this being done so you may not realise what decisions are being made. But obviously they are important and must be recorded.

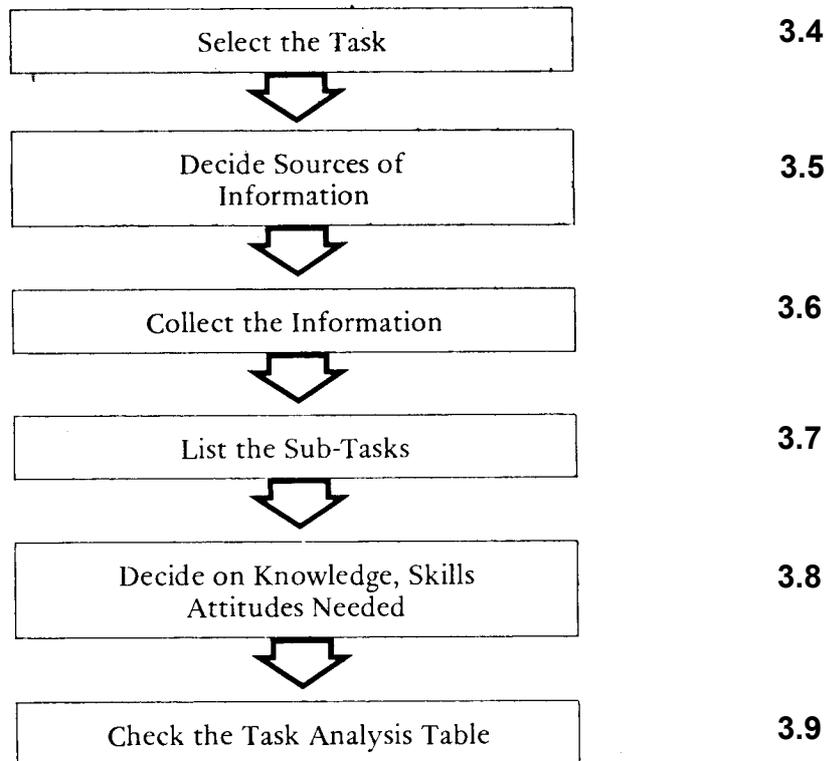
The other columns show the knowledge, skills and attitudes which must be learned by the students. These columns are explained in more detail later in the chapter.

The rest of this chapter is used to explain how the task analysis helps teachers and how teachers can do a task analysis themselves. At this point it must be stressed that no teacher has enough time to do a full task analysis for every task that he teaches. However it will certainly be valuable for a teacher to do at least two or three task analyses in full. Following this experience teachers will think more in task analysis terms and so make their teaching more practical and more purposeful.

Task Analysis Form

Category of Worker Nursing Orderly			
The Task Weighing a baby in MCH Clinic			
Sub-Tasks	Knowledge	Skills	Attitudes
Actions (A) Decisions (D) Communications (C)			
1. Ask mothers to dress babies in weighing trousers (C)		Ability to explain why Dress babies in weighing trousers	Friendliness to mothers
2. Place baby on scale (A)		Reading scales Handling babies	Accuracy
3. Help mother take off weighing trousers Examine baby (A)		Recognition of signs of malnutrition, squint, assymetry	Thoroughness
4. Record weight on growth chart (A)		Plotting points on graph	Accuracy
5. Decide whether to comment to mother or report to more senior staff (D)	When report is necessary normal weights for babies of various ages.		
6. Report or comment as necessary (C)	What comments or reports to make	Report writing communicating to mothers.	Concern for baby's health. Respect for mother.

3.3 The stages in doing a task analysis



The diagram shows the stages which are described in turn in sub-chapters 3.4 to 3.9.

3.4 Selecting the task

The first stage is to select the task for analysis. In this book we will use two examples. One is *'weighing a baby'* and another is *'persuading an unwilling mother to take her child for immunization'*. These are both tasks.

The job specification for the category of health workers who are being trained should give a list of the tasks. But often the job specification is too vague or doesn't exist. In this case the teacher must decide what tasks should be included in the course.

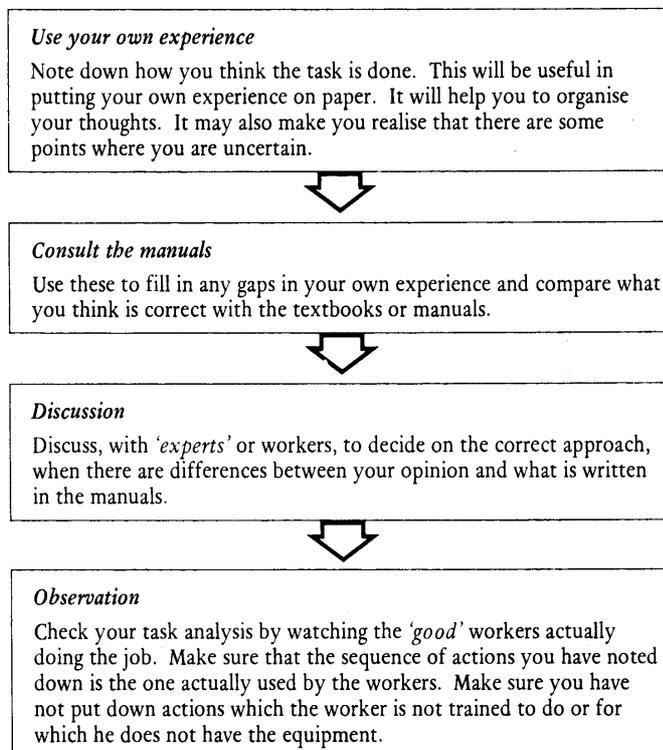
3.5 Selecting the sources of information

When you have decided on the tasks that you wish to analyse, you should decide how you will find out about the way the tasks are done. To do this you should choose one, or preferably several, of the sources listed below:

Sources of Information for Task Analysis

- A Yourself
- B Manuals and textbooks
- C Observation of health workers
- D Discussion with teachers, administrators and advisers
- E Discussion with health workers

Suppose you wished to analyse the task of giving intra-muscular injections. You might decide that you know a lot about this and so would use yourself as the main source of information. You might then check your first analysis by using a textbook or manual. Finally you might check again that your analysis was accurate by watching several health workers giving intra-muscular injections.



3.6 Collecting the information

The next stage is to collect the information from the sources which you have decided on.

Collecting the information simply means writing down on any piece of paper the various stages (the sub-tasks) in doing the task. Whilst you are writing down the sub-tasks it is a good idea to ask the following questions.

- How is the action done? – are there any special points to note about the technique?

- What is the reason for doing the sub-task? For example, when weighing a baby, the nurse orderlies should examine the baby to detect early signs of malnutrition, etc. This will allow preventive treatment to be provided *before* the condition develops too far.
- What might go wrong? What would happen if the sub-task was poorly done? For example mothers might be discouraged from bringing children to the clinic if they are treated rudely or have to wait for a very long time.

All these points should be noted. They will be put in order in the following stages.

3.7 Listing the sub-tasks

At this stage convert the rough notes about what happens into an organised list.

You can write this list on a task analysis form like the one shown below.

Task Analysis Form

Category of Worker Nursing Orderly			
The Task Weighing a baby in MCH Clinic			
Sub-Tasks Actions (A) Decisions (D) Communications (C)	Knowledge	Skills	Attitudes
1. Ask mothers to dress babies in weighing trousers (C)		Ability to explain why Dress babies in weighing trousers	Friendliness to mothers
2. Place baby on scale (A)		Reading scales Handling babies	Accuracy
3. Help mother take off weighing trousers Examine baby (A)		Recognition of signs of malnutrition, squint, assymetry	Thoroughness
4. Record weight on growth chart (A)		Plotting points on graph	Accuracy
5. Decide whether to comment to mother or report to more senior staff (D)	When report is necessary normal weights for babies of various ages.		
6. Report or comment as necessary (C)	What comments or reports to make	Report writing communicating to mothers.	Concern for baby's health. Respect for mother.

The sub-tasks are the things which happen:

- the actions
- the communications
- the decisions

You should record these on the form in the order in which they occur. So for the task of '*weighing a baby*' you will have a form like the one shown.

3.8 Deciding on knowledge, skills and attitudes

The sub-tasks are the key to successful teaching. If students are able to do each of the sub-tasks successfully then the course has been successful.

So why bother to do a further stage?

The reason is that some of the sub-tasks require knowledge, skills or attitudes which must be taught. For example, the task "*decide whether to comment to mother or report to more senior staff*" involves knowledge of normal weights for babies of different ages and possibly interpretation of clinical signs. The topics must be learnt to a sufficient standard for making the decision.

What are knowledge, skills and attitudes?

Knowledge is simply what the health worker must know. The facts.

Skills are more difficult to define. They include:

- use of hands and skill in using equipment (manual skills)
- explaining or persuading (communication skills)
- making decisions (thinking skills)

Attitudes are things like respect for the ideas that other people have, caring and thoroughness.

Think about the first sub-task – "*Ask mothers to dress babies in weighing trousers*"

This sub-task involves very little knowledge. There are very few facts which can be usefully written down.

However, the success of this sub-task will depend on the manner in which it is done. Does the health worker shout and bully the mother? Does the health worker help mothers who don't know about weighing trousers? Can the health worker explain why this is necessary? All these points must be explained to the trainee

and there must be opportunities for practising the skills so that the trainee has the skills necessary.

The second sub-task again involves a number of skills. Can the health worker read scales accurately? Can the health worker handle babies confidently? Again these are skills which must be learnt.

So as you go through the sub-tasks you will find that there are a number of skills which are necessary to enable the health worker to do the sub-task. In the same way there will be knowledge and attitudes which are also very important.

Look again at the example task analysis opposite and see whether you think that there are any more skills, attitudes and knowledge which you feel the student must learn.

It is not very important to be able to put points into the various categories accurately. Rather the categories are there to remind the teacher that all these three areas should be considered. For example if teachers did not bother to teach attitudes, the students might be very rude to patients or careless about aseptic techniques.

3.9 Checking the task analysis table

The task analysis table is now complete. However, it should not be used until it has been checked.

If you have used yourself, books or discussion as the sources of information you must check that what you have written does describe what health workers actually do. The only way to check this is to go and observe the health workers doing the task in the field.

3.10 Using the task analysis table

**The sub-tasks are the detailed objectives
for the course**

The value of the task analysis is that it gives teachers a very clear statement of the objectives for the course. These objectives have been worked out from the job description and from watching experienced health workers. So they must be relevant in helping the trainee health workers to learn their job.

Task Analysis  Relevant Objectives

What is the advantage of having relevant objectives?

The objectives tell the teacher exactly what the student must learn. So they help the teacher to cut out irrelevant content from the curriculum. They also help the teacher make sure that all the necessary content is included.

Task Analysis  Relevant Content

The objectives also help the teacher to assess the students. The sub-tasks or tasks should be used as the examination questions – whenever this is possible. For example the best test for the task of *'weighing a baby'* is to ask students to run a session at a clinic where babies are weighed. Whilst this is the ideal test there may be difficulties in organising this. So teachers can ask students to do some of the sub-tasks instead. For example, the students could be asked to record a baby's weight on a chart or decide what advice to give a mother whose 12 month baby weighed 7 kilos.

Task Analysis  Relevant Assessment

The final point is that a task analysis is the first stage in choosing teaching methods. If a student is learning facts or knowledge, a lecture may be a good way of teaching. But if the student is learning a skill, he must get a lot of practice in *doing* the skill – lectures will not be much use. So when teachers think about whether students must learn skills, attitudes or knowledge they are beginning to think about teaching methods.

Task Analysis  Choice of Teaching Method

3.11 How can teachers find time for task analysis?

Teachers are very busy and very few will have time to analyse more than one or two tasks. So here are some practical suggestions.

- Do one or two task analyses in the way that is described in this chapter. Use several sources of information and check the results in the field. This will take quite a lot of time – but it will be time well spent.
- Follow a task analysis way of thinking. For example when thinking about what to tell students in a lesson decide whether some facts **must be learnt**. If the fact would appear in the *'knowledge'* column of any task analysis form, it should be taught. If not it should probably be left out.
- Teach your students to do task analysis. One of the best ways of learning how to do a task is to do a task analysis. So when one group of students have analysed a few tasks, they will be able to teach other groups of students. (This must be supervised of course).

3.12 A less straightforward task

The example of *'weighing a baby'* is a fairly straightforward task. It can be analysed by watching the health worker – and most health workers follow the same sequence of steps or sub-tasks. Other examples of straightforward tasks are *'giving an intramuscular injection'* and *'building a pit latrine'*.

But other tasks are much less precise and different workers will follow different methods. For example, think about the task *"persuade a mother to breast-feed her baby"*. This is much vaguer. There are many ways of doing this task. None of them is guaranteed to work every time and so each health worker who has to do this task will develop his or her own style.

So is it worth doing a task-analysis for this kind of task? The answer is definitely *"yes"*. The reasons are that students have to learn how to do these less precise tasks. So teachers must know what they are helping students to do. The minimum responsibility for a teacher is to teach the students *one* way of doing the task – even if there are several possible ways.

It is also important to do the task analysis because it will often show that the student needs a lot of practice in communication skills and that attitudes are extremely important. So even though the task analysis will not show the *only* way to do the task – nor even possibly the best way – it will show one acceptable way and it will show a minimum for what the students must learn.

Look at the example opposite which analyses how a health worker might do the following task *"persuade an unwilling mother, in a remote area, to take her child for immunization"*.

This may not be exactly the way in which you would teach your students to do this task in your country. But it does show some very important things which will almost certainly apply in your country.

These are

1. There is rather little knowledge needed about *"medical topics"* such as types of vaccine, mechanism of immunization, etc. etc.
2. There is a great emphasis on communication – the ability to persuade and to listen to people. The ability to speak clearly to individuals and groups – and so on.
3. The learning experience which will help students to learn the skills, knowledge and attitudes are mainly practice in talking and listening, practice in preparing materials and in writing reports.

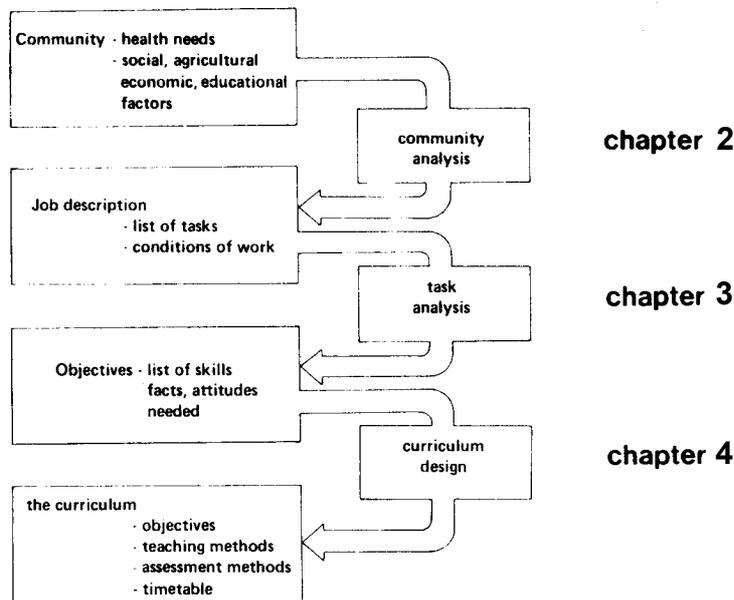
Although this kind of task cannot be analysed as precisely as *"weighing a baby"*, it is still very well worth doing.

Subtasks	Knowledge	Skills	Attitudes	Learning Experiences
1. Greet mother (A)			Friendliness, lack of prejudice	
2. Find out reasons for refusal (C)	Common reasons for refusal (cultural, procedure, prejudice due to reported experience.	Ability to interview and listen to unco-operative people	Sympathy, patience	Simulated interviews with peers, staff members. Practice in interviews in village surveys.
3. Explain why immunisation beneficial to child	Reasons for immunisation, effects: simple facts about illnesses prevented Procedures.	Ability to convince in conversation		Lectures on simple facts about illnesses and transmission: procedures of immunisation and effects. Role playing in persuasion techniques.
4. Explain importance to community of protection of all at risk children (C)	Methods of disease spread, simple facts about immunity, epidemics in community.	Ability to describe complex concepts in simple terms.	Confidence in ability help.	Lectures on simple facts about development of immunity and disease spread in communities: role playing in communication in simple terms.
5. If successful arranges clinic appointment for mother (A)	Fully conversant with immunisation programme (dates, times, place): notifies clinic.	Congratulates mother on correctness of her decision.	Sympathy, friendliness	Importance of knowing local programme impressed on him during training.
6. If unsuccessful seeks an appropriate decision-maker. (A)	Decision-maker in local culture (husband, grandmother, council elder).	Ability to identify local decision makers through tactful questioning and observation.	Tact	Discussion on community attitudes to health and on role of village decision-makers.
7. Repeats 3 and 4 (C)				
8. If successful repeats 1 and 5				
9. If unsuccessful arranges talk with council (A)	Importance of council in directing opinions of community	Ability to persuade chief of need to discuss in council	Tact, persuasiveness	
10. Prepares talk for council (A)	See 3 and 4	Ability to prepare skeleton address in logical sequence		Practice in preparing for health education activities: talks on principles of communication.
11. Prepare supportive materials for talk (A)	Different supportive materials (posters, flashcard, diagrams)	Ability to select appropriate material and to prepare it.		Practice in design and preparation of simple supportive materials: practice in their use in support of talks.
12. Talks to village council (A)		Ability to speak clearly and and to explain concepts simply.	Tact, confidence	Practice in public speaking to peers first, then in village situations.
13. Conducts discussion and answers questions (AD)	Common local prejudices and community needs	Ability to answer questions in a problem situation	Confidence. Humility. Deference to elders.	Practice in debate (role playing, actual village situations): practice in simulated situations in answering difficult questions, dealing with aggressive speaker etc.
14. If successful, repeats 1 and 5 (A)				
15. If unsuccessful, prepares report and notifies supervisor	Knowledge of methods of reporting.	Ability to write reports: ability to summarise facts and verbalise them	Calmness. Lack of prejudice.	Practice in report writing: discussions on when to notify supervisor for advice and assistance
16. As follow-up, arrange talks at school(A)	Importance of children and channels of communication and as future decision-makers.			
17. Prepares and delivers talk (A)	See 3, 4, 10 and 11. Knowledge of folk media	Ability to involve children through games, competitions etc.	Sympathy and understanding of children	Practice in promoting health to children: practice in designing games and competitions: use of folk media

3.13 Summary

1. Task analysis is a method for describing exactly how parts of a job (tasks) are done.
 2. Teachers should use task analysis to help in
 - stating the objectives of a course
 - deciding on the content of courses
 - choosing questions for examinations and tests
 - choosing teaching methods
 3. Teachers should do at least one or two full task analyses. Then they should think in a task analysis way and possibly teach their students how to do task analysis.
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chapter 4 Planning Lessons and Curricula



This chapter describes how the results of the community analysis and task analysis can be used in planning lessons and curricula.

4.1 What is a curriculum?

The word curriculum can be used to mean two things. In one meaning '*curriculum*' is what actually happens during a course — the lectures, the work with patients and so on. The other meaning is the written description of what happens. This chapter will use '*curriculum*' to mean the written curriculum.

What should a curriculum include?

The written curriculum is needed to help the organisation of a course. So it should contain the kinds of information which will be useful in keeping the course well run. The kinds of information required are:

1. The objective of the course. i.e. the tasks and sub-tasks which the students will learn.
2. The general methods which will be used to teach the students each of the objectives.
3. The time and place where the student will learn—a timetable.
4. The methods used to assess the students.

4.2 Lessons plans and the curriculum

The written curriculum is needed to keep the course as a whole well organised. In the same way a lesson plan is necessary to organise a shorter period of teaching. It will need the same kinds of information – the objectives, the methods, time and place, plus possibly some note about the assessment methods.

The two main differences between a curriculum and a lesson plan are the scale (a curriculum is concerned with a full course and possibly many different teachers) and secondly the need to write it down. It is virtually essential to write down the curriculum for a course. On the other hand many good teachers do not write down their lesson plans. Theoretically there are many good reasons why a lesson plan should be recorded. In practice, time is limited and so teachers with experience can often manage without a written plan, or just very brief notes. 'This is not to say that they do not have a plan – simply that it is not written down.

A lesson plan is a small scale curriculum

4.3 When should teachers be involved in planning curricula and lessons?

Obviously all teachers must plan the lessons or learning experiences for their students. Naturally the teachers will plan what they will say and do. But perhaps much more important is to plan what the student will do—what skills the student will practise, what themes the students will discuss. These are all experiences for the students which will help them to learn. This theme of planning learning experiences for students will be taken up much more fully in Section 2.

Teachers are also involved in planning the whole curriculum. 'They may be involved as a member of a team planning a completely new course or planning improvements in existing courses. They may be involved when they are asked to comment on a curriculum planned by some other people. They must be involved when they are teaching a curriculum, because they should be trying to find ways in which the curriculum can be made better.

4.4 Organising the course outline

Any course for health workers is complex. There are many ideas and problems to be planned. So the first stage is to plan a course outline. This breaks down the complete courses into smaller parts which can be more easily thought about.

It is obviously very important to make sure that this outline will make it is as easy as possible for the students to learn. Look at the example below where learning is made difficult.

A poor example of a course outline

Course for community health nurses	hours
Anatomy and physiology	90
Microbiology	30
Psychology.....	60
Sociology.....	60
Hygiene.....	60
Nutrition	60
Fundamentals of nursing	210
Community health nursing I	225
Community health nursing II	120
Community health nursing II	345

This course outline has a number of poor features:

- The basic science courses probably give much more detail than is necessary for the job. So students waste time learning unnecessary facts.
- The basic facts (Sociology, Nutrition etc.) are taught quite separately from their application (Community health nursing).
- The separate courses – Microbiology, Psychology, Sociology etc. – mean that the timetable is probably based on short rigid time periods.

A better way of organising the curriculum would be to base it on the tasks of the community health nurse.

Example – an outline course based on tasks

Community health – water supply food storage and waste disposal
Family health – nutrition and health education
Maternal and Child Health Care
Midwifery
Prevention and control of communicable diseases
First aid and emergency medical care
Training village level health workers
Promotion of community development

This outline is designed to train students to do exactly the same job as the previous example. But it is different in important ways.

- The *whole* course is designed to give the students the necessary skills to do the job.

- The underlying theory is learnt *at the same time* as the practical applications. This is likely to lead to both faster and more thorough learning – because the students can understand exactly why the underlying theory is needed.
- The timetable can be much more flexible – this makes it easier to arrange longer periods of work such as project work or supervised practical work in a village centre. It gets away from the rigid pattern of one hour lectures.

Base the curriculum on the tasks which the students are learning.

4.5 What kinds of teaching methods will be used?

It is probably true to say that most courses for health workers include too much classroom teaching and concentrate too much on teaching facts.

If you prepare a list of tasks for any category of health worker you will find that most of the tasks involve:

- using hands to do things (e.g. giving an injection)
- making decisions (is this cough a symptom of tuberculosis or is it an ordinary cough?)
- communication (explaining to a mother the need for protein in the diet)

You must give students opportunities to practise these skills *during* the course. Unfortunately this practice often takes a lot of time and a lot of effort to organise. So it is easier and may seem quicker to give a lot of lectures. But the essential learning will not happen.

The curriculum should include a lot of time when students practise the tasks they are expected to learn. Sometimes this will mean that they should do the work in the community away from the school. Sometimes it will be possible to practise skills in a hospital ward or at a nearby health centre. Sometimes students can practise on each other within the classroom. Specific suggestions for the teaching methods are given in Section 2. The important point for the curriculum planner is that they must allow enough time for this practice. Ensuring that students perform well enough can be done, using check-lists for example.

It is impossible to give a specific amount of time which will be right for every course. However, most courses should have much more time for practice of skills than for theoretical teaching.

More time for practice Less time for theory

4.6 What kind of assessment methods will be used?

The point has already been made that courses should be based on the job which the students are learning to do. Therefore the assessment must also test whether students can do the job. This general approach is called '*performance testing*'.

The general implications are that methods like multiple choice questions and essays are used less often. This is because they usually only test knowledge and facts. Other methods such as patient management problems and record books are used more often. These do test the important skills and attitudes.

More detailed advice on assessment methods is given in Section 3.

4.7 Evaluating the curriculum

The students should be tested – or assessed – to see whether they have learnt the necessary skills and facts. In the same way the curriculum should also be examined to find out whether it works. This process is called curriculum evaluation.

The aim of curriculum evaluation is to find out how successful the curriculum is and to find out ways in which it can be made better. The basis for the evaluation is to see whether the students learn how to do their job satisfactorily.

The curriculum can be evaluated by testing the students at the end of the course. If the students complete their exams satisfactorily then there is some evidence that the course has been good enough. Of course there must be a number of qualifications to this statement. The exams must be relevant and based on the job which the students are being trained to do. Also, the course may help the students to reach a satisfactory standard, but it may take much more time than necessary.

The curriculum can also be evaluated by finding how good the students are after they have left the school or college and started work.

Example – on-the job evaluation

In one region a group of health workers were trained to do a number of tasks. One of the tasks was to conduct an immunisation programme. After a few months it was found that a lot of the mothers brought their children for the first vaccination. Only a few came back for the necessary second injection.

Comments:

This is a very clear evaluation which shows that this part of the training programme had not been successful.

There are many reasons why the programme may not have succeeded

- perhaps the health workers had too many other responsibilities and so did not have time to talk about the need for the second injection.
 - perhaps the programme had not trained the workers how to communicate.
 - perhaps the programme had failed to teach the health workers suitable attitudes.
- etc.
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4.8 Methods of evaluating the curriculum

Analysis of health needs

In the example above, the weakness of the training programme – or the curriculum – was shown by an analysis of the health statistics. This is the ideal way to evaluate a curriculum – although it may not always be feasible. It is the '*best*' way because the purpose of the curriculum is to train people to solve health problems. If the problems are solved, the curriculum must be good enough. If the problems are not solved then it may be that the curriculum needs to be improved.

Health statistics may be available for things like:

- (i) the number of children immunised.
- (ii) the number of children born
- (iii) the number of infant deaths
- (iv) the number of cases of a disease such as malaria etc.

If the statistics are available then they can help the teacher to decide which parts of the curriculum need improvement.

But remember that some of the things health workers are trained to do cannot be easily shown in statistics. Also in many areas the statistics which are collected are not very reliable or complete. For example the number of cases of diphtheria reported in a region may go up because the reported system is improved – not because more people are suffering from diphtheria.

Critical incident studies

Critical incident studies are a fairly simple method of finding out from the health workers themselves how successful a curriculum is. The idea is to ask one of the health workers to describe five or six things which have happened recently when he has felt uncertain or not competent to handle the situation. These situations are the '*critical incidents*'. This kind of questioning is then repeated for a sample of the recently trained health workers. In this way a picture is built up of the situations which health workers have actually had to face where they feel to be poorly trained.

Some of the '*critical incidents*' may be very unusual or rare. In some case it may not be worth changing the curriculum. Again, if only one worker reports a certain situation as causing difficulty whilst all the others report that they can deal with the situation, then probably no action needs to be taken. But if you find that several workers report difficulty with similar situations then clearly the curriculum should be looked at.

Supervisor's reports

In many countries the work done by the health workers is supervised. In some cases this supervision is carried out almost continuously – as in hospital wards. In other cases the supervision is very restricted – for example when the health worker does his work alone in a remote village. Therefore the value of supervisors' reports will vary from one situation to another.

In every situation the supervisors' comments can be made more helpful, if they are asked to tell you about specific things. For example you may have tried teaching a part of the curriculum differently, so ask the supervisor whether he notices any difference in the way the new health workers do that particular job. Certainly the supervisors can give teachers a lot of help if they point out the tasks which the students do well or do badly at the end of the course.

They may also be able to point out tasks which are taught wrongly. For example students may not be taught how to cooperate with village councils or the students may not have learnt the local traditions.

If the teacher asks for advice from supervisors and then takes action on that advice, the curriculum will be made more effective.

4.9 Evaluating lessons

Lessons can and should be evaluated. This is just as important as curriculum evaluation.

Broadly the same methods should be used. After a lesson (or possibly a group of lessons) the teacher should find out how much the students have learnt. This evaluation should be based on *performance testing*. The teacher should find out whether the students can do the task which they have been taught to do.

If the students can not do the tasks, then the teacher must think how the learning experiences can be improved.

4.10 Summary

Curriculum

1. The aim of a curriculum or a lesson should be to give the students, the skills and the knowledge needed to do the job.
 2. The content should be organised on a '*task*' basis.
 3. The curriculum must include a high proportion of time for practising the skills of communication, thinking and handling equipment.
 4. Evaluation may lead to changes in the content or the teaching methods.
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