

**LEARN**

**BY**

**DOING**

**AN EDUCATION COURSE**

**FOR**

**VANGA TEACHERS COLLEGE**

**STUDENTS SUMMARY SHEETS**

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## Summary sheet 1

### **SOME CHARACTERISTICS OF GOOD TEACHERS.**

Here are some characteristics of good teachers mentioned by other people.

**Add your own ideas to this list.**

- Easy to understand.
- Explains everything clearly.
- Makes the lesson interesting.
- A kind person.
- Speaks up clearly.
- Makes us laugh.
- Not boring.
- A lively person.
- Knows the subject well.
- Shows us clearly what to do.
- Patient – does not get angry with us.

## Summary sheet 2

### PREPARING A LESSON

Before teaching a lesson you usually have to consider:

**THE TOPIC OR SKILL:** Decide what you want to teach.

**AIMS AND OBJECTIVES:** Decide what you want the students to learn or be able to do as a result of the lesson.

**LEVEL:** Make sure you know the level of ability and experience of the students and whether the topic or skill can be taught at that level.

**TIMING:** Make sure the topic or skill can be taught in the time available.

**CONTENT:** Make notes on, or find out about, the content students need to know by the end of the lesson.

**ACTIVITIES / SKILLS:** Think about, and may be practice, the skills or activities students will need to do during the lesson or need to be able to do by the end of the lesson. You may need to analyse a skill into the stages necessary to carry it out and think of exactly what movements will be necessary to do so.

**METHOD:** Decide on the method or methods by which you will teach the content or skill.

**SEQUENCING:** Decide the order of your presentation, including order of presenting the content and order of teaching the actions.

**MATERIALS:** Decide what materials / equipment you need for the lesson, make sure they are available, and substitute if not.

**OTHERS:** Add any other ideas on preparation you think are necessary.

## Summary sheet 3

### TEACHING CONTENT AND SKILLS

**Some differences** between teaching content and teaching a skill:

**Add your own points to these lists**

#### **Content:**

1. Can be taught by talking and listening:  
teacher talking / students listening  
teacher questioning / students answering.
2. Reinforcement, usually by writing:  
teacher writing / students copying  
students writing or answering questions in writing.
3. Can be tested by questioning either orally or in writing.

#### **Skill:**

4. Must be taught by demonstration.
5. Cannot be taught by talking / listening / writing.
6. Can only be learnt by doing / practicing.
7. Cannot be learnt by watching only.
8. Will not usually be learnt by doing once only.
9. Will only be learnt by practice and repetition.

### **WHICH TO TEACH FIRST:**

#### **Teaching theory first:**

##### **1. Advantages:**

Students

2. understand what to do before they do it;
3. know the purpose for doing something;
4. know the names of things before they see them.

##### **5. Disadvantages:**

Students

6. may find it hard to understand unless they can see and handle something;
7. may not understand an explanation unless they can see it;
8. may try to learn the names and the theory, without learning the actual skill;
9. may forget the theory before they have a chance to apply it.

Teacher may run out of time so the practice is never done.

**Teaching skill first:****1. Advantages:**

Students

2. will be more likely to remember what they have seen and handled;
3. cannot learn an action without actually doing it;
4. will have opportunity to practice;
5. will understand the theory better after they have practiced the actions and seen the tools / equipment.

**6. Disadvantages:**

Students

7. may not understand the purpose of what they are doing;
8. may not know the names of tools / equipment so it may be difficult to give them instructions.

**Teaching theory and practical skills at the same time:****1. Advantages:**

Students

2. clearly understand the practical skill at the same time as they learn how to do it;
3. learn the names and uses of tools at the same time as they learn how to use them;
4. are more likely to remember the names and the theory if they see how it is related to the practice;
5. may learn both theory and skills more thoroughly if they see and practice both together at each stage;
6. will learn theory better if they have an opportunity to apply it themselves in practice.

## **Summary sheet 4**

### **DIFFERENT KINDS OF RTCs.**

RTCs may be different in the following ways:

#### **1. Ownership and control:**

1. By churches
2. By local communities

#### **2. Intake:**

1. People from local area or Province only / people from all Provinces.
2. Male and female / female only / male only.
3. Standard 6 leavers and below / Form 2 - 3 leavers / Form 4 - 5 leavers / a mixture of all.
4. Straight from school / left school some time ago.

#### **3. Purposes / Aims:**

1. To train Christian or church leaders (some have developed from Bible schools or are still mainly Bible schools).
2. To teach people skills useful for living in villages / rural areas (RTCs)
3. To teach people skills useful in rural and urban areas.
4. To teach people skills useful in gaining paid employment (Vocational schools)

Some may have a combination of a number of these purposes.

#### **4. Residential status:**

1. Day or boarding.

#### **5. Length of courses:**

2. Full time from 1 to 3 years.
3. Short courses from a few days to a few weeks.
4. 'Evening' classes i.e. courses taught for 2 to 3 hours per day for a period of time, usually after 'work' time.

#### **6. Funding:**

1. By churches.
  2. By local communities.
  3. By Provincial governments.
  4. By aid projects.
  5. By SIARTC
- Or by combinations of these.

## **DIFFERENCES BETWEEN RTCs AND SECONDARY SCHOOLS**

### **RTCs.**

1. Owned /supported by churches or local communities.
2. Aim to teach practical skills of direct use in people's lives.
3. Do not lead to further education or training.
4. Partly or wholly self-financing.
5. Aimed at people who have been 'pushed out' or dropped out of the formal school system.
6. Selection relies on character and practical ability.
7. Do not lead to a pass / fail examination.
8. Assessed mainly by testing skills, not by written tests / exams.

### **Secondary schools**

- Owned / supported by Provincial / National government or partly by churches.
- Teachers paid by government.
- Aim to teach knowledge and skills useful for further education or paid employment.
- Much of what is learnt is not of direct use in people's lives.
- May lead to further education or training.
- Rely heavily on government grants and fees.
- Selection by public, competitive examination.
- Lead to graded written examinations with pass / fail element.
- Further studies depend on these examinations.

## **WHY DO PEOPLE SEND THEIR CHILDREN TO PRIMARY OR SECONDARY SCHOOLS?**

### **Add your own ideas to this list.**

- To give them a chance for further education and training.
- To find a paid job.
- In the hope that this will lead to a better life than they have had.
- Because they themselves went to secondary school.
- To help support them in their old age.

## **WHY DO PEOPLE JOIN RTCs?**

### **Add your own ideas to this list.**

- To learn skills useful in their everyday living.
- To learn skills to enable them to run a project or make money through self employment.
- In the hope that they may get the chance of paid employment or further training.
- To avoid having to go back to life in a village or unemployment in town.

## Summary sheet 5

### SOME TYPES OF INDIGENOUS KNOWLEDGE

**Note:** In this section we have been discussing indigenous **knowledge** and this is what is summarised below. There are, of course, many types of indigenous **skills** which are important to pass on as well.

**Please add to this list.**

1. Types of trees and timber and the uses of each.
2. Soil classifications.
3. Types of edible fruit, leaves and plants.
4. Medicinal plants, leaves, fruit, bark, roots etc.
5. Custom medicine: traditional ways of curing diseases, treating wounds, healing broken bones etc. In PNG and elsewhere doctors are now collecting and using types of custom medicine, which is sometimes better than 'western' medicine.
6. Types of plants and leaves useful for weaving or for bark cloth.
7. The weather: indications through clouds, wind direction etc. of what the weather is going to be.
8. The seasons: characteristic weather associated with each season, usually caused by changes in wind direction.
9. Cropping seasons: when to plant each crop and how long it will take to mature.
10. The sea: knowledge of currents, tides and waves and how this helps in fishing and navigation.
11. Navigation: knowledge of the stars, the position of the sun, the direction of waves, currents, winds and other knowledge helping in navigation.
12. Fish: different types of fish, where they live, how they move, the seasons they appear, their usefulness etc.
13. Birds and animals: the names of birds and animals, their habits and where they are found, their usefulness.

## Summary sheet 6

### WHAT YOU NEED TO KNOW ABOUT LEARNERS

You may have asked your partner about all or some of the following:

1. Whether they had ever learnt the subject / topic before.
2. Their own level of schooling.
3. What knowledge they have of the main content or topics of your subject.
4. Whether they are familiar with the tools or equipment used in your subject.
5. Whether they have any skill in using those tools or equipment.
6. What they are interested in learning about.

You are asking about

1. **KNOWLEDGE**
2. **EDUCATIONAL BACKGROUND**
3. **SKILLS**
4. **PREVIOUS EXPERIENCE**
5. **INTERESTS**

## Summary sheet 7

### DIFFERENCES BETWEEN LEARNERS

In Activity 27 you may have talked about some or all of the following differences. **Add any which you mentioned that are not on the list.**

1. Language.
2. Sex: male or female (this is sometimes called gender).
3. Age.
4. Island of origin.
5. Area of origin.
6. Family background.
7. Educational background.
8. Experiences in life e.g. living in a village / town; working for pay; visits to other places.
9. Interests.
10. Physical differences in appearance, strength, fitness etc.
11. Skills and abilities.
12. Religion.
13. Beliefs, based on religion, family background, culture etc..
14. Social status e.g. youth leader.
15. Social status of parents or relatives e.g. chief, priest, public servant, business person.
16. Money: rich or poor; from rich or poor family.

Most of these differences are permanent or semi-permanent parts of ourselves, although they may change from time to time.

Another thing which affects the relationship between people, including us and our students, is temporary and is always changing - this is our mood. This means our feelings at a particular time. We may be tired, happy, cross, energetic, lazy, feeling talkative or not wanting to talk etc. These moods may also change according to the people we are with. We may be happy to talk to a close friend, but cross about having to teach a class of our students.

One author has suggested that we are always surrounded by 'clouds', which filter or change all the experiences we have. This means that we will always experience any situation in a different way from another person.

Of course, there are not really clouds around people. These are just the experiences, feelings and moods of a person which act *like* clouds.

The diagram below shows the clouds around a person.



## Summary sheet 8

### TEACHING PRACTICAL SKILLS

In your discussion of how to teach practical skills you may have decided that the best way is to demonstrate the practical skill at the same time as students themselves are practicing the skill. At the same time also the teacher is writing notes on the board which the students can copy after they have learnt the skill. This is the last method your tutor demonstrated.

We looked at some reasons for this in summary sheet 3.

Many teachers do things in exactly the opposite order: They

1. write notes on the board for the students to copy;
2. explain the notes when students have copied them;
3. demonstrate the skill;
4. allow students to practice the skill.

This causes the following problems:

1. Students copy notes they do not understand, so learn nothing while they are doing this, and may copy wrongly.
2. It is very hard to read about a skill and imagine what to do without seeing the skill actually being done.
3. It may be hard to practice a skill some time after seeing the teacher demonstrate it, as you may not remember clearly what he has done.

The easiest way is to watch the teacher, follow her or him step by step and then write notes when you know what you are writing about. An old saying is:

**Tell me and I will forget  
Show me and I may understand  
Let me try it and I will learn**

#### **Steps in teaching a practical skill:**

There are no rules for this but the best order is usually:

1. Give out the tools and equipment to the students and yourself.
2. Briefly describe the purpose of the skill e.g. I am going to sharpen a saw; I am going to cut out a dress to this pattern.
3. Demonstrate the whole skill at normal speed without talking, so students concentrate on watching the skill and see and understand the purpose of the whole skill.

4. Demonstrate the skill step by step, explaining each step and asking students to imitate you by carrying out each step after you do it.
5. Write summary notes on the board about each step as you do it.
6. If possible, allow the students to practice the whole skill a number of times.
7. Move round the class watching. If students make a mistake, correct them by explaining or showing, then ask them to repeat the actions. Do not take over the job and do it for them.
8. Practice the same skill again within a few days, preferably more than once. A skill is learnt by constant practice, not by doing it once.

## 9. Summary sheet 9

### DIFFICULTIES IN TEACHING SKILLS IN THE WAY SUGGESTED

**1. Difficulty:** Not enough equipment for all the students to practice with, or only one piece of equipment.

**Solutions:**

1. You may have to do the demonstration only.
2. Involve some students in helping you during the demonstration.
3. Allow at least some students to practice with the equipment you have after the demonstration.
4. Arrange extra times when others can come and practice with the equipment.

**2. Difficulty:** Material too expensive to do more than one demonstration e.g. material for making a dress.

**Solution:**

1. Miss out stage 3. Go straight to stage 4. You may not be able to do stages 6 and 7.

**3. Difficulty:** No tools, equipment or materials available.

**No solution?:**

2. Decide whether it is worth trying to teach the skill. If not, leave it out. Theory notes alone are not going to be much use to anyone when they go home.
3. Try your best to get materials and tools next time.
4. If your RTC cannot afford tools or equipment at all ask whether it is worth continuing to teach. Teaching practical skills using notes on the board only is a waste of time. We are not teaching skills at all.

## Summary sheet 10

### MEMORY AND UNDERSTANDING

**1<sup>st</sup>. passage:** easy to remember because you understand it, and understand all the words in it.

**2<sup>nd</sup>. passage:** difficult to remember because it contains many 'difficult' words i.e. words you do not understand, so you do not understand the whole passage.

**3<sup>rd</sup>. passage:** almost impossible to remember because you do not understand the words, and the whole passage is meaningless to you. (In fact this passage is a 'nonsense' poem, written in words made up by the author, which have no real meaning.)

### TYPES OF WORDS OR VOCABULARY

Vocabulary means a group of words. Our vocabulary is all the words we know.

- 1. Our active vocabulary:** words we know, understand and use ourselves.
- 2. Our passive vocabulary:** words we have seen and know the meaning of, but do not know well enough to use ourselves.
- 3. Unknown words:** words we have not seen, or do not understand at all.

The amount of these three kinds of vocabulary which we use affects our students' ability to remember notes or explanations.

- **Easy to remember:** notes or explanations using our students' active vocabulary will be easy to understand and remember.
- **Difficult to remember:** notes or explanations using our students' passive vocabulary will be more difficult to understand and remember.
- **Impossible to remember:** notes or explanations using many unknown words will not be understood or remembered at all.

### IN OUR TEACHING

- When we write notes on the board or explain things in class we should always try to use the students' active vocabulary.
- Remember that this may be different from our own active vocabulary.
- We should try to change the vocabulary of our notes to put them into the students' active vocabulary i.e. to simplify any notes we may have copied at College or from a textbook.

- If we use new or difficult words we should explain them first.
- It is good to use some new words to widen the students' vocabulary, but not so many that they find it hard to understand.
- There are some technical words not in the students active vocabulary which we must use, as they are an essential part of our subject e.g. piston, carbohydrates, erosion.
- As students begin to understand and practice these words, they will become part of their active vocabulary.
- The danger with a passage like passage 2 is that students may try to learn it off by heart without understanding it, and this will not help them to learn anything useful.

### **Example of simplification**

Passage 2 could be simplified as follows:

*Erosion washes away the top part of the soil or soil in ditches or gullies. Rain hits the soil and washes it away if it does not have much humus or dead plant matter in it.*

Note: We have retained *erosion*, *gully* and *humus*, as they are important in learning agriculture, but we have explained each of them or added alternative words.

We have simplified the non-technical words like *impact* and *deficient*, as students do not need to know these words to learn this subject.

### **Problems**

- Some teachers feel they need to use difficult words to prove that they know more than their students, or are highly educated. They have "swallowed a dictionary".
- Some students admire teachers who use difficult words, as they think it proves they are clever.
- It is easier to copy notes you made at school or College, or to copy from a text book, than to make up your own notes.

## **Answers**

- If you confuse your students with difficult words and they learn nothing, does that prove that you are highly educated or that you are a bad teacher?
- Who is clever: the teacher who confuses students or the teacher who can help them to understand complex things in simple language?
- The third point is just laziness. Perhaps you should not be teaching if you are not willing to make the effort to make sure your students understand what you are teaching them.

## Summary sheet 11

### HOW MEMORY WORKS

You **may** find the following results from this test:

More people remember

1. the words at the end of the test;
2. the words at the beginning;
3. Osama bin Laden and Sex;
4. democracy;
5. agriculture, crops, plants, soil, animals.

Can you suggest any reason for these results?

In any activity or lesson people often remember best:

1. What comes at the beginning and end. People are more alert at the beginning and the end is more recent when they try to remember. People often lose attention in the middle.
2. Things which are surprising or different e.g. Osama bin Laden or things which are interesting to them e.g. sex.
3. Things which are repeated e.g. democracy.
4. Things which fit together and have meaning e.g. agriculture, crops, plants, soil, animals.

### IN OUR TEACHING

- The beginning and ends of our lessons are very important:
  - have a good introduction;
  - have a conclusion which summarises the main points of the topic.
- Don't just stop because you run out of time.
- Try to introduce some interesting or surprising things into your lesson to keep people awake. You may deliberately use such points even if they are not essential ideas within your topic, as long as you don't go off the point completely.
- Repeat important ideas, information and skills frequently.
- Make sure your lesson is meaningful.

## Summary sheet 12

### SHORT AND LONG TERM MEMORY

The graph below shows how much we usually remember hours and days after a teaching session.

1. Surprisingly the amount we remember shortly after a lesson is often more than we remember immediately the lesson finishes! This is because our brain works automatically, sorting out what we have learnt and connecting it to ideas or skills we already know.

Immediately after the lesson we may be confused by all we have learnt, or if we are learning a skill we may be tired. If we come back after a short rest our brain has still been working on the problem and we may be able to remember more or be able to perform the skill better.

2. So far, however, the knowledge or skill we have learnt has only gone into our short-term memory.

How much of what you do or experience every day do you remember? Only a small fraction. If we remembered everything, our brain would become confused. Most of what we see, hear, feel or do goes into our short-term memory and soon gets forgotten. In fact forgetting is very important. People who cannot forget, and remember everything they ever do and everything that ever happens to them, have a form of mental illness.

As the graph shows, within one or two days we usually forget about 80% of what we learn. How can we prevent this? One way is shown in the following graph.

3. If we return to what we have learnt within about 24 hours of learning it, and revise our knowledge or practice the skill, our memory will go back up to 80% or more again. After this we begin to forget again, but more slowly.
4. If we return to the knowledge or skill again after another few days, again after a week and again after a month, each time we return to revise or practice, our memory will return to a high level again. Each time, forgetting will become slower, we will have forgotten less and it will be easier to recall. This is because this constant revision begins to change the knowledge or skill from our short-term to our long term memory. If we come back to it again after 6 months this will probably place it firmly in our long term memory.
5. Once we revise or practice many times, and something becomes part of our long-term memory, it may remain there for years or even a life time. It becomes part of us.

### **IN OUR TEACHING**

- We must give students a chance to practice a skill frequently after learning it, and again during the first few weeks until it is in their long-term memory. A skill may then remain there for the rest of their lives.

For example, if you ride a bicycle for the first time you may fall off. The second time you may not fall – you have 'learnt' to ride. But if you don't ride again for a few days you may fall off again the next time you try. However, if you keep practicing daily you may soon learn thoroughly and within a week

you may wonder how you ever fell off. This skill will probably remain with you for the rest of your life, as long as you are fit enough to get onto a bicycle.

- In learning knowledge, we should do short periods of revision after a day, a week and a month. By that time the knowledge will be in our long-term memory and will remain there for years. Students, however, often make the mistake of learning something and then not revising it until just before an exam a few months later. By that time their revision may consist of learning almost the whole thing over again. Those who revise constantly may have very little revision to do just before an exam.

## Summary sheet 13

### HOW TO MOTIVATE OUR STUDENTS

Below are some of the possible ways of motivating our students. Compare these with your lists and add extra ones which you have put on your own lists.

- 1. Praise:** Giving frequent praise for achievement or correct answers.
- 2. Achievement:** Make sure most tasks can be achieved by most students. If many tasks are too difficult, students may give up.
- 3. Long term goals:** Set goals which students can reach so that they feel they have achieved something e.g. making a table, selling vegetables in the market.
- 4. Short term goals:** Set a series of short term goals so students are achieving something on the way e.g. designing the table, cutting the legs, making a joint; clearing the land, planting a nursery, transplanting.
- 5. Interest:** Students will only learn if our lessons are interesting, not boring.
- 6. Usefulness:** Students will learn well if they feel that what they learn will be useful to them.
- 7. Marks or grades:** These may be used as rewards to motivate people, but remember that poor grades can have the opposite effects, especially if they are a result of real lack of ability rather than lack of effort.
- 8. Certificates:** These may be issued at the end of a course to provide an incentive for students to do well throughout the course.
- 9. Rewards:** Allow students to sell what they have made or produced and keep some of the money, or to keep things and take them home.
- 10. Feedback:** Give frequent feedback to students in class by looking at their work, commenting on it, suggesting improvement, praising achievement etc. A student who keeps working with no attention from the teacher may give up. Feedback may criticise as well as praise, so it may discourage students as well. It is good to use a 'feedback sandwich':
  - Begin** with praise for something done correctly
  - Middle:** point out mistakes and suggest improvements
  - End** with encouragement.
- 11. Display:** Good work may be displayed to the rest of the class or school to make those who did it feel a sense of achievement.

**12: Prizes:** These may be given at the end of a term or year, but this may discourage those who do not get a prize, as well as encourage those who do.

## **Summary sheet 14**

### **PEOPLE LEARN BEST WHEN ...**

Here is one example of a chart. Compare it with yours and add any other points.

#### **People learn best when...**

- **They are actively involved in what they are doing.**
- **The content is relevant to their needs.**
- **The topic is made interesting.**
- **More than one sense is used.**
- **The beginning and end of a session is memorable.**
- **They can practice what they have learned.**
- **They receive feedback about their learning.**
- **They are rewarded in some way for what they do.**
- **They can feel a sense of achievement.**

## Summary sheet 15

### METHODS OF TEACHING

This table shows some of the advantages and disadvantages of the different methods of teaching.

<b>METHOD</b>	<b>ADVANTAGES</b>	<b>PROBLEMS/ DISADVANTAGES</b>
<b>Demonstrations</b>	Best for learning of skills. Involves eyes and other senses as well as listening. Leads to clear understanding of practical topics. More interesting than telling.	Needs careful planning. Equipment may not be available. Some people may not see clearly.
<b>Practical</b>	Students learn best by doing. Students can practice for themselves. Skills more likely to be remembered.	Needs good organization. Equipment or materials may not be available. Difficult in large classes.
<b>Experiments</b>	Students find information for themselves instead of being told it. Students think and reason for themselves. Practice in careful observation.	Equipment may not be available. May not give the results you want. Takes longer than telling.
<b>Lecturing</b>	Gives a lot of information in a short time. Easy for the teacher. Good for large groups.	Students passive – not involved in lesson. Students minds may wander. Most people cannot listen attentively for more than 15 to 20 minutes. No check on students' understanding or learning.

<b>Note giving</b>	Gives information to students. Students have a record for study and use later. Easy for teacher.	Students may not understand what they are writing or reading. May be boring for students. Useless if not preceded or followed by explanation.
<b>Questioning</b>	Involves students in lesson. Tests understanding. Helps students to ask what they don't understand.	Some students may remain passive. Students may be frightened to be asked. Students may not ask questions. Some topics may not be as clear as lecturing.
<b>Discussion</b>	Makes students think for themselves. Involves many students. Helps to change ideas and attitudes. Students find out ideas of others. Exposure to many ideas. Teaches cooperation.	Students may not have enough ideas. Some may not participate. May be dominated by one or two people. May go off the topic.
<b>Brainstorming</b>	Gets lots of ideas. Encourages new ideas and originality. Students may not be frightened to give ideas.	Some students may be frightened to give ideas. Can become disorganized or off the topic. Ideas must be recorded.
<b>Seminars</b>	Helps individuals to talk and gain confidence. Encourages research and preparation.	May be less helpful to other students. Some may be bored. Some may make fun of the presenter.

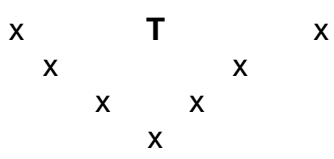
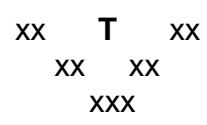
<p><b>Group work or projects.</b></p>	<p>Helps if not enough equipment available for all.  Encourages cooperation.  Can be used for large projects with concrete results.  Groups can retain what they produce.</p>	<p>Some may not cooperate.  All work may be done by a few.  Different groups may take different times.</p>
<p><b>Other methods</b>  Put your group's ideas here.</p>		

## Summary sheet 16

### ADVICE ON TEACHING DIFFERENT METHODS

Below is some advice on preparing and using each of these methods.

#### a. Demonstration.

2. Make sure you have all the necessary tools, equipment and materials.
3. **Practice** the demonstration.
4. You may do a skills analysis (see Activity 46)
5. Decide where to do the demonstration. This may be inside a workshop or classroom or outside as appropriate. Make sure you have enough space to do the demonstration and for students to see.
6. Arrange the students before you start. Spread them out so all can see. No one should come too close.
7. This  is better than this   
The first diagram shows a 'T' shape formed by 'x' characters. The top bar has 'x' at the far left and right, and 'x' at the ends of the vertical stem. The vertical stem has 'x' at the top, middle, and bottom. The second diagram shows a similar 'T' shape, but with a gap in the top bar between the 'xx' on the left and the 'xx' on the right. The vertical stem has 'xxx' at the bottom.  

```

      x           T           x           is better than this  xx   T   xx
                    x           x
                    x           x
                    x

```
8. Explain the purpose of what you are going to do, or show a finished product.
9. Warn about any safety measures.
10. Show the whole skill first, at normal speed without talking. This focuses students on looking at what you are doing and shows them the purpose.
11. If you can only do the demonstration once because of the use of expensive material e.g. cooking, cutting a dress, explain carefully what you are going to do **before** you do it.
12. Repeat in stages and describe and explain each step as you do it; **what** you are doing; **why** you are doing it; and **how** you are doing it.
13. Explain any important changes: sounds, smells etc. e.g. the motor changes speed; the rice smells of burning.
14. Be careful of left / right problems of those who use a different hand from you.
15. If possible refer to a blackboard diagram at the same time.
16. Ask questions to test understanding.

17. Ask individual students to come and point something out or help you do something.
18. Test by students **doing** the activity, not by asking questions.
19. **Or** test by asking students to tell you what to do (but don't do it if it's dangerous!) or tell each other what to do.
20. Ask for a volunteer to show the rest of the class how to do it (but watch them carefully).
21. If possible **either** arrange for all to practice after the demonstration **or** make sure they can all handle the equipment or some parts of it, after class time if necessary.
22. Leave time for them to practice during the same session, not in the next session.

**a. Practicals**

23. Make sure you have enough equipment, tools and materials for each student. If not, students may work in groups.
24. Stress any safety measures before they start.
25. Ask them to go to their work spaces first, then come and collect their own tools and materials and make sure they know what these are.
26. **Count** all tools given out.
27. Either demonstrate what they are going to do, or remind them if they already know.
28. Show them a good finished product so they know what to aim at.
29. Give them enough time to do the job easily.
30. As they work, move round checking. Do not spend too much time with one individual.
31. If they are making mistakes, explain the correct method and let them try again **or** show them and let them try. Do **not** take over the work and do it for them.

32. Try not to say, “No, that’s wrong.” Try to use a *feedback sandwich*:  
**Praise** what they have done.  
**Correct** them: Say “But this could have been done better” and explain how.  
**Encourage** them to go ahead.
33. Make sure they use the right tools in the right ways e.g. not sawing wood by standing on top of it on the bench!
34. Give a place to store the finished or partly finished product.
35. Label each one with their names.
36. Make sure
- they return all tools; (re-count them.)
  - they clean up the area they used;
  - they clean up the whole workshop.

#### **d. Experiments**

37. Experiments can be done in two ways:
- They are best done by all the students, often in groups. In this case all the ideas on practicals apply.
  - If there is not enough equipment they may be done as a demonstration. In this case all the ideas on demonstrations apply.
38. Make sure students know exactly what to do, what to look for at each stage, and how to record it.
39. Note: an **experiment** is doing something to find the results;  
a **practical** is making something or practicing a skill.

#### **a. Lecturing**

40. Prepare the topic well.
41. Use notes. Do not read a written speech.
42. Organise your notes logically.
43. Divide your topic into clear parts and indicate the parts as you talk.
44. Do not speak for too long. 10 – 15 minutes is the maximum attention span of most people.

45. If you speak for longer, break up the lecture with another activity.

46. Think of ideas to make it interesting and capture attention.

47. Start with something interesting and end with a clear summary.

**a. Note giving**

48. Explain the notes **before** you write them and before the students write them.

49. If you give a prepared handout, make sure you explain it before you give it out, or immediately after you give it out.

50. Write simply, as far as possible in the students' own active vocabulary. (see Summary Sheet 10)

51. Make sure handouts are not more complicated than the session you teach.

52. Make notes as brief as possible.

53. Make the layout clear by using numbering, headings and sub-headings.

**a. Questioning**

This will be discussed later in the course.

**b. Discussion**

54. Groups **must** face each other in a circle.

55. Topic **must** be one on which students have their own ideas and opinions.

56. Topic must be clearly explained and if possible written down.

57. Form mixed groups, not all wantoks, friends or males / females.

58. Groups choose a secretary to record and report back.

59. If used frequently, make permanent groups but change the secretaries to give all of them this experience.

60. Sometimes it is better for the teacher to leave the room for some time at the beginning of the discussion, as students may be shy to talk when the teacher is there.

61. But come back later and listen in to make sure they are on the topic. Try to ensure one person is not dominating a group.

62. You **may** join in, but make sure this does not inhibit discussion.
63. Avoid 'parliamentary' procedures or being too formal.
64. Usually, but not always, groups should report their ideas to the whole class, but each group does not need to report everything they said.
65. As groups report, summarise ideas on the board or on large paper with marking pens, or groups may do this for themselves. If you do it, you may be able to group ideas as you write.
66. **Before** using group discussion you **may** have to persuade students that it is a useful method of learning.
67. Groups will normally use Pijin rather than English so, if you can, why not write your instructions in Pijin?

#### **a. Brainstorming**

68. Make it clear that **all** ideas are welcome. Students should take risks.
69. Let anyone speak as they want to.
70. Again, responses will mainly be in Pijin so, if you can, you may decide to write the results down in Pijin.
71. Record main points on board or large sheets of paper with marking pens.
72. Useful to use branching diagrams with ideas going out like spokes of a wheel, and related ideas connected with lines / arrows. (see Activity 73)
73. Needs to be summarised at end.

#### **a. Seminars**

74. Give a limited and manageable topic.
75. Make sure information and equipment is available to presenter.
76. Discuss and give help to presenter before seminar.
77. Do not force people to present if they are reluctant.

#### **a. Group work / projects**

1. Unlike group discussion, you may choose uniform groups e.g. wantoks, all girls, if they are likely to work better together.
2. Choose groups big enough to do the project, but not so big that some have nothing to do.
3. Set the task, which is likely to lead to some finished product e.g. cooking and serving a meal; keeping chickens until ready for slaughter; making a food safe.
4. Groups are also useful for maintaining things e.g. a generator; a canoe and engine; a home economics kitchen.
5. The task must be clear and manageable in the time available.
6. Set the time and the times when the group should work.
7. Ask the group to prepare a work plan or timetable for the job and check it.
8. Check regularly on progress.
9. Decide on a method of assessing the task at the end.
10. You may give regular 'points' for progress or even make groups competitive.
11. If there is an end product, e.g. sale of chickens or food safe, try to allow each of the group to keep some of the proceeds.

## Summary sheet 17

### SUGGESTED CLASSIFICATION OF TEACHING METHODS

<b>PRESENTATION</b>	<b>INTERACTION</b>	<b>SEARCH / PRACTICE</b>
DEMONSTRATION	QUESTIONING	PRACTICALS
LECTURING	DISCUSSION	EXPERIMENTS
NOTE-GIVING	BRAINSTORMING	SEMINARS
		GROUP WORK
		PROJECTS

<b>LARGE GROUPS</b>	<b>SMALL GROUPS</b>	<b>INDIVIDUALS</b>
DEMONSTRATION	DISCUSSION	PRACTICALS
LECTURING	BRAINSTORMING	EXPERIMENTS
NOTE-GIVING	PRACTICALS	PROJECTS.
	EXPERIMENTS	
	SEMINARS	
	GROUP WORK	
	PROJECTS	

**Note:** If your class size is small you can use the methods suitable for large groups as well.

## Summary sheet 18

### WHY PLAN SESSIONS?

Here are some reasons why it is important to write a plan for your sessions. Compare them with your lists.

Helps you to decide:

1. exactly what you want to teach;
2. why you are teaching it;
3. how much you can teach in the time available;
4. the best order for teaching the topics or skills;
5. what equipment, tools or materials you need;
6. what methods you are going to use.

Helps you to think of ways of making the session interesting and making the students want to learn.

Gives you a record of what and how you teach, which you can use for the same topic or skill next time.

A useful record of what you have taught, for yourself or if another teacher takes over this class.

#### **If you do not write a plan**

1. your session may be confusing to the students;
2. you may run out of time;
3. you may suddenly find that you do not have the right equipment;
4. your session may be boring;
5. you have nothing to help you next time.

## Summary sheet 19

### PLANNING A SESSION

In unit 1, Summary Sheet 2, we decided that to prepare a session you need to consider the following:

**Content:** the topic of skill.

**Objectives:** what you want the students to learn.

**Level** of the students.

**Timing** of the session.

**Sequencing;** the order of presenting the topics or skills.

**Methods** of teaching including activities and skills to be carried out by the students.

**Materials** you need.

This can be summarised as

**WHAT** you are teaching.

**WHY** you are teaching.

**WHO** your students are.

**HOW** you are going to teach it.

**WHEN** to do each activity.

We will discuss each of these in more detail.

## Summary sheet 20

### AIMS AND OBJECTIVES

Based on the definitions given

1. statements 1, 5, 7 and 10 are aims;
2. statements 2, 3, 4, 6, 8 and 9 are objectives.

In each case the **aims** are what the teacher is intending to achieve and they cover wide general topics or skills: balance a diet; sharpening saws; weaving techniques; classification of soils. Each of these would take a whole session or more and would involve a range of knowledge, understanding and skills.

The **objectives** all tell us what students would be able to do, know or understand at the end of the session: to **select** the food; to **change** the oil; to **know** the names; to **understand** the need; to **cut** pandanus; to **recognise** different materials. Objectives, therefore, use verbs, usually verbs of action. Each objective would normally take only part of a session.

## Summary sheet 21

### AIMS, OBJECTIVES AND TYPES OF LEARNING

The aims and objectives given can be divided as follows:

<b>Knowledge:</b>	4 – to know. 9 – to recognize.
<b>Understanding:</b>	1 – to understand. 2 – to select: this must be based on understanding. 7 – to teach: almost any teaching involves understanding.
<b>Skills:</b>	3 – to measure. 5 – to sharpen. 8 – to cut.
<b>Attitudes:</b>	6 – to understand the need for: this suggests they should develop an attitude of always keeping saws sharp. 7 – to appreciate the value of something is an attitude.

### ACIEVEMENT OF AIMS AND OBEJCTIVES

At the end of a session you need to be able to judge if you have achieved your aims and objectives.

**Aims** may be more difficult to judge, especially if they involve understanding or attitudes. How can you tell whether students have developed an appreciation of something? Some aims may be possible to test, but may need another whole session to test e.g. sharpening of saws or classifying soils.

**Objectives** should normally be testable within the session. You can immediately test a skill like cutting pandanus or testing the level of the oil. By quick questioning you can find out if students have acquired knowledge or understanding: can they list foods suitable for diabetics or give reasons for keeping saws sharp?

### CHOOSING AIMS AND OBJECTIVES

Aims and objectives should

1. be clearly related to the overall teaching plan or syllabus;
2. be related to the needs of the students and likely to be useful to them;
3. be possible to achieve in the time available;

4. be possible for most students to achieve given their present knowledge and ability.

## Summary sheet 22

### MATERIALS, TOOLS AND EQUIPMENT

**Content**, that is knowledge, understanding and attitudes, can usually be taught with very little equipment except a blackboard and chalk, paper and pens, and even those may not be necessary. A session may be conducted under a tree!

**Skills**, which are the basis of RTC learning, can only be taught properly with the proper equipment, tools and materials. If you do not have these you have to decide what to do.

It may be possible to substitute: a table instead of a work bench; another student holding a piece of wood for sawing instead of a vice; different foods for a recipe.

Many skills, however, are **impossible** to learn without the proper equipment. You cannot learn to sew without cloth; or to repair an outboard motor without an engine.

Skills **cannot** be learnt through blackboard diagrams, talk and student notes and handouts. Unless RTC teaching involves doing and practicing skills we are wasting our time.

Blackboard theory may be useful sometimes. If you don't have all the tools you want students to learn about, you could illustrate some on the blackboard so they are aware of them when they see them. However, this should not include tools they are never likely to see! You may give recipes in cooking without actually making them.

But a whole course of carpentry without wood or saws; teaching how engines work without handling one; diagrams showing the parts of a chicken without seeing and looking after one: all these, and many more activities which sometimes go on in RTCs, are useless to the students. They will not be able to go home and carry out these skills, which is the whole reason for coming to an RTC.

If, therefore, you do not have the equipment or materials to carry out your aims and objectives, you may decide not to teach that skill or topic. If this happens too often you may have to talk to your Principal about the whole objective of teaching your course at the RTC.

## Summary sheet 23

### INTRODUCTIONS

There are many ways to introduce a session. Find out if you included any of the following in your list in task 71.

1. **Connecting with the previous sessions** e.g. “Last week we learnt how to build a toilet.”  
This is useful as an introduction but it is boring if you always start this way!
2. **Describing what you are going to do** e.g. “Today we are going to learn how to design a special kind of dress.”  
Again useful, but boring if always used.
3. **Explaining why you are going to teach the topic or skill** e.g. “Diabetes is one of the commonest diseases in the Solomons but it can be controlled by diet.”
4. **Connecting the topic or skill to their own experience** e.g. “I’m sure you’ve all been in a canoe when the engine wouldn’t start.”
5. **Creating interest by telling them or showing them something startling or surprising** e.g. “Did you know that 60% of the people in Nauru have got diabetes and it is the fastest growing disease in the Pacific?” or “Did you read in the *Star* about the people from Kiribati who drifted for 30 days in a canoe and ended in the Reef Islands? Three of them died and only two survived, all because they couldn’t start their outboard motor.”
6. **You can do something or show something** e.g. try to start an outboard motor when you know it won’t start. Show a picture of a man with one leg and explain that he lost the other one due to diabetes.

All the above methods are teacher-centred. We may create more interest in the session by involving the students, by questioning them or getting them to **do** something.

1. **Questioning.** All the above methods could be done by questioning rather than telling. Here are some examples of questions:  
What do you have to do when the rice in the nursery is fully grown?  
What is the most frightening thing that ever happened to you in a canoe?  
In Tikopia most houses have only one piece of furniture. Can you guess what it is?

2. **Ask students to do something** e.g.
3. "Try to start this engine."
4. "Come and pull one of these plants out of the nursery."
5. "Make a list starting 'A house in a village needs to have a food safe because....' "
  
6. **Promote a discussion** e.g.
7. "What do you think are the main things all villages need to make life comfortable?"
8. "What kind of dress do you think a young girl in your village might like?"

## **SUMMARY OF ACTIVITIES WHICH CAN BE USED IN INTRODUCTIONS**

**Teacher talking:** explaining; telling a story; making a joke.

**Questioning.**

**Doing something:** you or the students.

**Showing something:** a sample; a picture.

**Promoting discussion.**

## **GOOD INTRODUCTIONS...**

**Create an interest:** This is the **most important** thing. If you do not do this the students will not want to learn.

**Introduce the topic or skill.**

**Connect with previous knowledge.**

**Connect with their own experience.**

**Involve the students actively.**

**Tell students why the topic or skill is useful to them.**

## **BAD INTRODUCTIONS**

These include:

"Now, where did we get to yesterday?"

This suggests very bad planning and creates no interest.

"Copy down the notes on the board."

Never tell students to copy until you have explained something.

## **GLOSS: A STRUCTURE FOR AN INTRODUCTION**

**G = Grab** students' attention.

**L = Link** with previous knowledge and experience.

**O = Outcome** – describe what you hope the lesson will achieve.

**S = Structure** of the sessions - explain what you want the students to do.

**S = Stimulate** students with encouragement.

## Summary sheet 24

### SEQUENCING

The following are factors you may consider in deciding on the order of topics or skills.

1. There may be a **logical** order you have to follow, especially in a skill.
2. You may start with something to create interest.
3. Usually proceed:
  - a. from the known to the unknown;
  - b. from the simple to the complex;
  - c. from the particular to the general e.g. from looking at a particular soil to the general characteristics of soils;
  - d. from the concrete (something you can see or imagine) to the abstract (an idea you cannot see) e.g. make lists of foods (concrete) and then divide them into classes such as energy foods (abstract);
  - e. from observation to reasoning e.g. looking at a plant with patches on the leaves and asking why?
  - f. from practical to theory e.g. taking a carburetor apart before drawing a diagram of it;
  - g. from the visible to the invisible e.g. look at an actual pig before you name its parts.
4. Sometimes these orders may be reversed e.g. the fifth example goes from the unknown (leaf damage) to the known (suggesting causes). An abstract generalisation such as 4 types of food may sometimes come before naming the foods.
5. In deciding the order it is good to group the points into three or four sections. This makes it easier to follow the session.

## Summary sheet 25

### EXAMPLE OF SEQUENCING

Following the ideas in Activity 75 a good order for this session might be:

#### Section 1 – outside

1. Take students outside to look at an example of soil erosion.
2. Tell students to collect soil samples.

#### Section 2 – inside class

3. Students look and decide what is in the soil.
4. Soil consists of small particles.
5. Look for black colour in the soil - this may be humus.
6. Humus is the remains of dead plant and animal matter.
7. Soil is bound together by humus.

#### Section 3

8. Look at your soil sample – are the particles bound together?
9. If soil does not contain much humus it will easily be washed away.
10. Rain water causes leaching.
11. Leaching means dissolving of soluble chemicals out of the soil, including much of the humus.
12. If rain hits soil without humus it will be washed away.

This moves:

1. from known (soils) to unknown (humus and leaching);
  2. from simple (soil particles) to complex (leaching);
  3. from particular (this soil) to general (all soils);
    - a. from observation (look at erosion and soils) to reasoning (causes of erosion);
    - b. from visible (soil) to things which cannot be seen (leaching);
    - c. from practical (collecting and looking at soil) to theory (explaining what they see).
- (Note: this session does not use abstract ideas.)

## Summary sheet 26

### GUIDE TO CONCLUSIONS

Conclusions are a very important part of any session, as they summarise for the students everything they have learnt. They can also be used to make sure whether you have achieved your aims and objectives.

The **worst** ending of a session is to run out of time without any conclusion and just say, "Sorry, we'll have to finish that next time."

A good conclusion is **SAFE**.

**S = Summarise** what the students have learnt during the session.

**A = Assessing** or testing whether the students have learnt what you set out to teach them. This will usually be done by **questioning** individual students or asking them to do something to show what they have learnt e.g. hold a saw the correct way. It is no good saying, "Have you all understood that?", because most Solomon Islands students will be ashamed to admit in public that they have not understood.

**F = Future** or looking ahead. Set work for them to do after the session: "homework" or practice. Or tell students what you are going to do next time.

**E = End** on a positive note of encouragement or congratulations if possible.

## **Summary sheet 27**

### **WRITING-UP SESSION PLANS**

Your steps should have been something like this:

1. Choose a topic or skill.
2. Check level of students.
3. Check timing – length of session.
4. Decide aims and objectives.
5. List materials and equipment needed.
6. Select content and skills.
7. Sequence content and skills.
8. Divide into sections.
9. Decide on methods and timing for each section.
10. Plan introduction.
11. Plan body.
12. Plan conclusion and assessment.

## Summary sheet 28

### A SAMPLE PLAN

Here is an example of a plan for the session outlined in Summary Sheet 25.

<b>CLASS/GROUP</b>	2 <sup>ND</sup> Year RTC	<b>DATE</b>	17/ 07/2001	<b>TIME</b>	45 Mins
<b>TOPIC OR SKILL</b>	The Causes of Soil Erosion				
<b>AIM</b>	To help Students to find out what causes soil erosion				
<b>OBJECTIVES</b>	At the end of the session <b>students</b> should: <ul style="list-style-type: none"><li>• Know what soil erosion looks like.</li><li>• Be able to examine a soil sample and find out what is in it.</li><li>• Know what humus is and what it looks like.</li><li>• Understand the function of humus in soil.</li><li>• Understand leaching and how this leads to erosion</li></ul>				

## MATERIALS AND EQUIPMENT

Soil samples to be collected by students.

TIME	CONTENTS/SKILLS	METHODS/ACTIVITIES	ASSESSMENT
INTRODUCTION	What is Soil Erosion	Students go outside Show example of soil erosion Ask cause Students collect soil samples Return to class	
MAIN BODY	<b>Section 1.</b> What is soil? Small Practices Examining Soil What is humus Use of humus in binding soil Summary – What is soil? Notes on Blackboard	Students examine soil samples Questioning Students look for black colour Explain Questioning Copy notes from Blackboard	Questioning
	<b>Section 2.</b> Erosion caused by lack of humus to bind soil.  What is leaching? Why does it cause soil erosion?	Look at samples – Are they bound together? Explain Questioning	Questioning

	<p>Leaching destroys humus and causes soil to be washed away</p> <p>Summary – What causes erosion?</p> <p>Notes on Blackboard</p>	<p>Explain</p> <p>Questioning</p> <p>Copying notes from Blackboard</p>	<p>Questioning</p>
<p><b>CONCLUSION</b></p>	<p>How can we make sure humus stays in soil?</p> <p>By covering soil with vegetation; by mulching.</p> <p>Next session – How to retain humus in soil.</p>	<p>Questioning</p> <p>Students try to answer</p> <p>Explain plan for next session.</p>	<p>Testing understanding</p>
<p><b>EVALUATION</b></p> <p>Good, but not enough time. Students took too long to get back to class. Tell them to collect soil samples before lesson.</p>			

## NOTES

**Aim:** The aim determines the methods to be used. The aim was “To help students to find out ...” This means they must go outside and look at soils. An aim put this way leads to an active lesson. This is much better than the aim “ To teach about the causes of soil erosion”, which leads to a passive lesson listening to the teacher.

**Conclusion:** The concluding question is also part of assessment, as it tests whether students have understood the session, helps to summarise the session and looks forward to the next session.

## Summary sheet 29

### TYPES OF CLASSROOM COMMUNICATION AND THEIR USES

#### 1. One-way communication i.e. lecturing:

To give information and explain things to students.

#### 2. Two-way communication i.e. questioning:

To get ideas and information from the students, including their own experiences.  
To test students knowledge and understanding.

#### 3. Multiple communication i.e. discussion:

To share ideas, information and experiences with each other: student to student and student to teacher. To form and express opinions.

#### 4. Group communication i.e. group discussion:

To exchange ideas, information and experiences amongst students. To help them puzzle out a difficult topic and help each other in learning. To help students form opinions.

Some ideas on each of these have been given in Unit 2.2. In this unit, we will discuss each in more detail.

## Summary sheet 30

### BARRIERS TO COMMUNICATION

This exercise shows that there are two parts to communication: The **sender** and **receiver**.

There may be a fault with the sender. They may not have remembered the message clearly, or their voice may not have been clear.

There may be fault with the receiver. They may not have heard properly, or may not have listened intently, or may not have understood the message.

There are therefore many barriers to communication: in this case physical barriers of voice and hearing, or mental barriers of understanding and memory.

But there are also many barriers due to emotions or due to relationships.

## Summary sheet 31

### FACTORS AFFECTING COMMUNICATION

- **Status:** Whether the person is of higher or lower status than you.
- **Age:** Whether you are the same or very different ages.
- **Language:** Whether you know each other's language and can use it effectively. Whether one of you uses language too difficult for the other.
- **Culture and Experiences:** Whether you share the same background and experiences.
- **Relationship:** Your family or personal relationship with each other.
- **Mood and Emotion:** Whether you have particular kinds of feeling towards each other, temporarily or permanently.
- **Type of person:** What type of people you both are. You may be shy, find it difficult to talk to others, or you may be outgoing people, finding it easy to talk to others.

## Summary sheet 32

### EFFECTS ON CLASSROOM COMMUNICATION

All the factors you have just discussed may affect communication in classroom.

- 1. Status:** Since we have higher status than our students, many students find it difficult to talk freely to us, to answer questions, or to admit they do not understand. This is often a major problem in Solomon Islands.
- 2. Age:** This may have the same effect as status. Younger students may also have very different ideas or experiences from us.
- 3. Language:** We must use language which our students can clearly understand.
- 4. Culture and Experience:** We must realise that students from different islands or cultures may not think or react in exactly the same ways as we do.
- 5. Relationships:** We must be aware of family or special relationships with certain students, which affect our communication. No parent likes to have their child in their class!
- 6. Mood and Emotion:** We must try to be aware of any mood or emotion between us and certain students, which might affect communication. If certain students are clearly not willing to communicate in a certain session, it may be better not to force them.
- 7. Type of person:** We should try to become aware of particularly shy or outgoing students. Encourage the first, and don't let the second dominate the sessions.

This means we must get to know each of our students well, including their background and any factors which may affect communication. There may even be physical barriers such as some students being hard of hearing!

We must use this knowledge in our sessions. We must also be careful that our own character or moods do not cause a barrier. A teacher who is always angry, is not willing to listen to other points of view, or has no respect for the opposite sex, will not be an effective teacher.

## Summary sheet 33

### 12 RULES FOR EFFECTIVE CLASSROOM COMMUNICATION

1. **Mutual respect** should exist between you and your students. They will respect you if you clearly try to teach well, but you must also respect them. Most of our RTC students are adults and should not be treated or punished as children. We must listen to and respect their experiences. They can often teach **us** a lot.
2. **Treat all students equally.** Do not allow any feelings you have about particular groups of people – wantoks or women, for instance – to affect your teaching. Do not develop any ‘favourites’ in the class, or students you particularly dislike.
3. **Judge people on their abilities** as you find them, **not** on their background e.g. do not say: “This person is a standard 6 leaver, or this person cannot read or write, so they must be a poor student”. “This student is a form 3 leaver, so must be a good student”.
4. **Try to be confident** in your teaching and the students will have confidence in you. This partly depends on good preparation.
5. **Introduce yourself** and your background and ask students to do the same.
6. **Learn the names of your students**, so you treat them as individuals. A ‘map’ of the class with names is useful, as long as you ask them to sit in the same position each time.
7. **Be sensitive to students’ feelings.** Remember that the most Solomon Islands cultures do not encourage speaking out or disagreeing in public, especially with elders.
8. **Do not be critical of students in public.** This may cause ‘shame’ in our culture, even if we just tell someone their answer is wrong. Some may not be willing to answer again, and many only answer if they are absolutely sure they are correct. You must respect this, but gradually try to change it, as will be suggested later.
9. **Think how you present yourself in classroom.** If you appear to be lazy and uninterested, your students will be lazy and uninterested. Most teaching should be done standing up, not sitting behind a desk, but moving around too much can also be disturbing.

- 10. Use your voice well:** Loud enough to be heard at the back, and varied enough to maintain interest. Speaking too fast may also affect communication.
- 11. Create the right environment.** Sessions in a clean, bright, tidy classroom with pictures on the wall, will be more effective than those in a dirty, untidy room. Seating must also reflect the way we want to teach: rows facing the front for a lecture; a circle or semi-circle for discussion; small circles with students **facing** each other for group work.
- 12. Be flexible** and vary your sessions according to the response of the students. It is good to plan, but not good to stick rigidly to a plan if it is not working.

## Summary sheet 34

### OPEN AND CLOSED QUESTIONS

**Closed questions**, like questions 1, 4, 5, 8 and 10, are the most common questions used in teaching. The students are being asked to supply an answer which the teacher already knows. They are mainly **testing** questions, to find out what the students know. They do not usually encourage students to think, only to remember. A reply is given quickly, so students are only involved in the session for a short time.

**Open questions**, like 2, 3, 6, 7 and 9, are in many ways more effective in teaching, and yet most teachers use them very little. They make students think for themselves. They draw on the students' own experience, and encourage them to give their own opinions. They demand longer answers. Many students may give different answers, and they may lead to dialogue or discussion. More students are involved in the session.

When teaching, therefore, you should use open questions as well as closed ones.

### WHOLE CLASS OR INDIVIDUAL QUESTIONS?

A question may either be directed to the **whole class**, so anyone can offer an answer, or to one named **individual**.

**Whole class questions** are the most commonly used, but are less effective. The same more confident, or knowledgeable, students often answer them each time. They test the understanding of these few students, not the whole class.

They are more effective if they are open, so many students can offer answers. They may be useful to start discussion: "What do you think of ... ?" Even then, however, some students may never volunteer an answer, and it is good to ask some individually: "What do you think, Mary?"

### "Have you understood?" "Any questions?"

These are the worst questions to ask Solomon Islands classes. Usually there will be no response, or people may even say, "Yes we have understood", when they haven't. This is again relates to the 'shame' of admitting in public that you haven't understood, especially if it looks as if everyone else has. The only way to test if a class has understood, is to ask specific questions to a series of **individuals**.

### **Individual questions**

These are the most effective as they test each individual, encourage even the quieter students to try to give ideas, and can be used to involve a large number of students. Remember to give the students time to think of the answer.

The main thing is again 'shame', especially with girls in a mixed class. It is best not to force people to answer, but perhaps talk to such students privately to encourage them to try.

### **Hands up?**

In the classes of adults, which most RTCs have, there is no need to insist on this.

## Summary sheet 35

### PROBLEMS OF USING QUESTIONS IN SOLOMON ISLANDS

#### Language

A major problem in asking questions and getting responses here in Solomon Islands is deciding which language to use. If questions are asked in English students may not have sufficient confidence to reply in English, or may be frightened of making mistakes. Our RTC students will not need to use English much when they leave, so we can encourage them to answer questions in Pijin even if we sometimes ask them in English, or we can conduct all our sessions in Pijin. This will be discussed again later in this unit.

#### Fear of making mistakes and learning by making mistakes

Many Solomon Islands students are reluctant to reply to questions or talk in class, because they are afraid of making mistakes. This does not just apply to making mistakes in English, but also to making mistakes by giving the 'wrong' answer. We have to try to persuade them that making mistakes is an important part of learning. In fact many things cannot be learnt without making mistakes. Imagine learning to ride a bicycle without ever falling off. You would never learn. All kinds of learning – learning a language, learning to understand something or learning a skill – need practice which involves making mistakes. You learn by thinking not just by listening.

We learn more, therefore, by trying to answer a question and getting it wrong than by waiting silently for the teacher's answer. Thinking out the answer makes our brain active. Our brain is very powerful and miraculous. Once we make it active, it will automatically start to work things out for itself and we will start to 'understand'. If we just listen to the teacher our brain is not active. We try to remember what the teacher says, rather than trying to understand, but we have seen that memory usually comes from understanding.

We need to explain these ideas to our students to overcome the three common problems of Solomon Islands teaching:

1. Being ashamed to make mistakes.
2. Thinking that you learn more by listening to a teacher than by talking and answering questions.
3. Students not being willing to ask questions when they don't understand.

Students and teachers often have the "fill-the-bucket" idea of education. Their head is empty and it is the job of the teacher to fill it. The original meaning of

education, however, is “to lead out”. No-ones’ head is an empty bucket. We all have skills, knowledge and experiences which we can use in learning new things. It is the job of the teacher, therefore, to “lead out” of the students the skills, knowledge and experiences they already have in them, and to add these to the new ideas the teacher may give them. Learning, therefore, is a two way process, from teacher to student and from student to teacher, not a one way process.

### **Questions you cannot answer**

One reason some teachers do not want to encourage students to ask questions is that they are frightened that a student may ask one they cannot answer.

One African writer said about a teacher; “Enclosed within the four walls (of the classroom) he was the master, aloof, dispensing knowledge to a concentration of faces looking up at him. There, he could avoid being drawn in (to discussion), but out in the fields, outside the walls, he felt insecure (in case they should ask him something he could not answer).”

This man has the “fill-the-bucket” idea of education. If, instead, we think of education as “leading out” what is in the students, then it becomes a dialogue between you and the students, in which they learn from you and you learn from them. In this case, there is nothing wrong with saying you don’t know the answer, as long as you either say you will find out, or you ask them to do so.

If you don’t know an answer, admit it – don’t try to hide it!

## Summary sheet 36

### RESPONSES TO STUDENTS

Look again at the responses and your comments on them.

**No 1:** If an answer to a closed question is wrong, try to say more than just, “No”, especially if it is nearly right. Piston is near to piston ring, so you could respond, “No, not quite. Can you try again? Piston what?”

**No 2:** On the other hand, if an answer is definitely wrong, you must say so politely: “No, sorry”. This teacher says “Could be” when it clearly could not be! This may confuse all students!

**No 3:** Here the teacher rejects quite reasonable answers to an open question. They simply wait for the one they want. The students are just playing a guessing game to find out what the teacher is thinking. The open question is no longer open!

**No 4:** The teacher accepts the first answer, but asks the same student to give reasons, thus starting a dialogue between student and teacher. The teacher then asks another student to comment on the first student’s answer, thus starting exchanges between students. The teacher continues to do this, and turns it almost into a discussion, in which more and more students can be involved. The last question opens discussion further. Students are thinking for themselves and a number are becoming involved. Notice the last question in No 2 does the same thing.

### Guidelines for responses

1. Try to say more than “yes” or “no”.
2. Be truthful if the answer is wrong.
3. Try to turn an answer into a further question, or ask students to give reasons for their answer.
4. Accept all reasonable answers to open questions, not just those you planned for e.g. betel nut is a very reasonable, if unexpected, answer, and can stimulate discussion.
5. One way of accepting ideas is to write them on the blackboard as they are given. Try to write as close as possible to the students’ actual words, rather than turning them into your own words.

## Summary sheet 37

### **MULTIPLE COMMUNICATION: LEARNING BY TALKING**

We hope the last exercises showed you that you can learn by talking as well as listening. In fact you may learn **more** by talking and discussion than by listening. This is because

- your brain is forced to be active;
- you are forced to think things out for yourself, rather than trying to 'learn' what you hear;
- when it is active, your brain automatically sorts things out and combines new ideas with previous knowledge: you suddenly have 'insight';
- you are forced to express ideas in your active vocabulary, which helps you to remember them;
- you can share ideas with others: "two heads are better than one."

## Summary sheet 38

### PIJIN OR ENGLISH?

Most students will probably say that teaching should be in Pijin but notes in English.

Pijin is the language you all know best and feel comfortable with, and RTC students do not need English for further studies or going overseas. So most people prefer teaching in Pijin.

However, English is preferred for notes, as most people have not learnt to read and write well in Pijin. But this creates the strange situation where you teach in one language and write in another, so students may understand what you teach but not what they write!

We are teaching you in this College to read and write in Pijin so you can, if you wish, use Pijin for writing notes or handouts. But you may have to teach students how to read and write in Pijin first!

What about words which do not exist in Pijin? If they are technical words like *spark plug*, or *carbohydrates*, you can use the English words. That is how all languages, including English itself, gain new words. If they are not technical words, there will usually be a way of expressing them in Pijin, or again you can use the English word. *Conservation* can be changed to *kipem evriting semsem*.

Pijin is a language based on a Melanesian grammar or rules, with an English vocabulary. Adding more English words will simply extend the process by which Pijin has already developed. But to use, in Pijin, words like *conservation*, which the student may not understand, defeats the whole idea of using Pijin.

## Summary sheet 39

### WHY USE VISUAL AIDS?

Research has shown that most students learn more by seeing and listening than by listening alone. Imagine trying to learn about keeping cattle if, like some Solomon Islanders, you have not seen a cow. The best “visual aid” would be a cow itself. The next best would be pictures and diagrams.

If the topic is not one you can “see” in reality or through pictures, another form of visual aid is the use of the blackboard. A blackboard summary will give visual reinforcement to a lecture.

There are, therefore, a number of kinds of visual aids.

1. **Real objects** e.g. a cow; a coconut; a woodwork joint; a shirt. This may, in some cases, mean going outside the classroom.
2. **Printed pictures, diagrams or posters** e.g. picture or photograph of a rice plant or bee-hive or a poster on the conservation of coral.
3. **Drawn pictures or diagrams** which you draw yourself on large sheets of paper – usually called wall charts
4. **Blackboard pictures and diagrams.**
5. **Blackboard notes** are not strictly visual aids, but do provide something for the eye to look at.
6. **Handouts** containing pictures and diagrams

We will look at each of these in more detail

#### 1. **Real objects**

These are often the most satisfactory visual aids of all, but they may need to be supplemented with diagrams. To look at a cow, a woodwork joint or a sewing machine is very useful, but you cannot always see the inner workings of the object e.g. the digestive system of the cow; how the thread goes through the machines, so diagrams may help. Sometimes a machine can be taken apart, or a joint be made specially so that it can be taken apart, but a diagram still helps the memory.

Real objects can also be used for observation and experiment, as we saw with soils.

## **2. Printed pictures, diagrams or posters**

These are pictures, or diagrams obtained from printed sources such as books or by writing to organisations which supply posters. Some addresses are given in your work book.

### **Points to remember:**

- May not be exactly the picture you want.
- Don't use them unless they really help your teaching.
- But may be used to decorate the classroom.

### **Advantages:**

- Professionally made and may show the real thing.

### **Disadvantages:**

- Less flexible than your own diagrams, which you can draw to suit your own teaching.

## **1. Wall charts**

Drawn on large, plain paper using marking pens. Can include diagrams, sketches, flow diagrams, graphs, tables of statistics, written tables etc.

Flip charts are a series of charts which can be 'flipped' over, one after the other, to show stages in your explanation.

### **Points to remember:**

- Make them as clear and simple as possible.
- Put only essential and useful information.
- Writing big enough to be clearly seen at the back.
- Use colours.

### **Advantages**

- Can be drawn to suit your specific needs.
- Can be kept permanently for other lessons.

### **Disadvantages**

- Cannot be built up in stages as you teach like a blackboard diagram.

## 1. **Blackboard pictures and diagrams**

Can be drawn in advance of a session, but usually best to draw as you explain a topic, building up a picture in stages.

### **Things to remember:**

- Make them simple.
- Show only necessary information.
- Make them neat.
- Use coloured chalks.
- Write big enough to be seen at back.

### **Advantages:**

- Can be built up as you talk.
- Easier to draw.
- Can be changed easily.

### **Disadvantages;**

- May take too much time during a lesson to draw complicated diagram.
- Cannot be kept for further use.

## 1. **Blackboard notes**

We have already discussed the language and content of blackboard notes in Unit 3.1.

### **Two kinds of notes:**

- Quick notes written as you teach, not to be copied.
- Summaries to be copied by students.

### **Things to remember:**

- Usually better built up as you teach rather than being written all at once.
- **Never** ask students to copy notes until you have explained them.
- Write neat and clear and big enough to be seen at back.
- To prevent writing from sloping, face the blackboard and move along as you write. Never try to write while half facing the students.
- Layout of blackboard is important. Divide into sections with vertical lines before you start.
- Use headings, sub-headings, and numbering as for handouts.

- Use coloured chalks.
- You may divide blackboard between half for quick notes and half for summary to be copied.
- Plan summary notes, including layout, before the session.
- Give students time to copy.
- Best to copy summary in stages, not all at end of lesson.

**Advantages:**

- Can be built up as you talk, making lesson clearer.
- Can use students own words.

**Disadvantages:**

- May not be as neat or attractive as posters or charts.
- Cannot be kept for future use.

## Summary sheet 40

### **MACHINERY AND ELECTRONIC EQUIPMENT**

Most RTCs cannot afford machinery and electronic equipment for teachers or students, but you should be aware of what exists in case you are able to obtain it.

#### **Typewriters and duplicators**

The most likely available equipment is a manual typewriter. This can be used to type handouts, as long as you also have access to a duplicator or photocopier.

For duplication, you type onto a stencil: a paper coated with wax. The typewriter makes holes in the wax the shape of the letters you type. You put the stencil on a duplicator, consisting of a round drum which has ink inside. This is turned round by electricity or by hand. The stencil moves round with the drum and presses against the paper, which moves across underneath the drum. This presses ink onto the paper through the holes in the stencil made by the typewriter, and many copies can be printed in a few minutes.

A photocopier is easier and makes less mess with ink, but is much more expensive and needs a good, reliable electricity supply - generator or solar. It needs a lot of power. A small generator may not be enough.

#### **Computers**

Computers are becoming more common even in the Provinces, and you will have access to them during this course.

Many people are scared of computers because they think they are associated with computing, which is part of maths. Modern computers, however, are as simple as typewriters and much easier to use. In many parts of the world computers are now used by Primary students. Your typing appears on a screen, so you can quickly correct mistakes or make changes before you print something. It can even correct spelling. You can use the computer to draw diagrams, and computers also have pictures and diagrams stored on the 'memory' inside, which you can use to make very attractive handouts.

Computers are very expensive and need a reliable electricity supply. With a generator the voltage may vary and spoil the computers so you need a power stabiliser, which is also expensive. However, there are now places overseas where good second-hand computers can be obtained very cheaply, as big companies like to replace them with the latest model every year.

The new Internet Café in Honiara, *People First*, run by the Ministry of Development Planning may be contacted to help.

They are also setting up an **e-mail** service by which typed messages can be sent through a two-way wireless/radio, which most RTCs have. This will reach or come from Honiara in a few seconds and costs less than \$2 per sheet. *People First* may be able to set up e-mail in an RTC if you pay about \$20,000 for extra equipment. It is not cheap!

Computers can also be used for self-study by students. You use “programmes”, which you put in the computer. The computer teaches you through information and questions stored in the computer, which automatically come onto the screen. The **Internet** is a means of using the computer to link through the telephone to thousands of other computers all over the world. This acts like a huge library. You can type in any topic you want to find out about, press a button and information about it from all over the world will appear on the screen. At present this is expensive here and has to go through Telekom, but may become available through the new e-mail network. It is already being used in villages in Cook Islands and elsewhere.

### **Overhead projectors**

Overhead projectors can be used like a blackboard or wall chart. You draw a diagram, or write in normal writing, using a marking pen on a piece of transparent plastic. This is then put on the projector, which shines a bright light through. What you have drawn or written appears on a screen or a white wall above you, in a size which can be seen by the whole class.

#### ***Advantages:***

- You can draw complicated diagrams easily.
- You can prepare notes in advance.
- You only use normal size writing.
- You can write or draw while you teach as on a blackboard, but you face the students and the writing appears on the wall behind you.
- You can point to something on the diagram and your pointer appears on the screen.

#### ***Disadvantages:***

- Expensive and needs electricity.

### **Video**

Most villages, and many RTCs, already have videos, but these are usually used to show violent movies which spoil rather than improve the education of our students. Such movies can undo many of the attitudes we try to teach in RTCs.

There are many educational cassettes, both in Solomon Islands and overseas, which put the video to much better use. **Wan smol bag** theatre company of Vanuatu have made many drama cassettes useful for health, home economics, environmental and political teaching. Contact SIDT about these. Kukum campus library, SICHE, has a collection of educational cassettes.

It is not usually educational just to watch a cassette. Give students a series of questions to answer as they watch, or hold group discussions after watching.

### ***Advantages***

- Can be used to show moving processes and the real world.
- Can tell stories to make learning more interesting.

### ***Disadvantages***

- Expensive.
- Needs electricity (but works with generator).

## **Summary sheet 41**

### **VISITS**

Visiting places outside the RTC can be an important part of learning. Places might include:

- A nearby village or farm growing certain crops or using good methods of cultivation.
- A survey of the health, water supply or sanitation of a nearby village.
- Interviews with local people to find out what kinds of development they would like.
- Coordination with SIDT village development workers.
- Visits to local Provincial departments of agriculture, health or indigenous business.
- A small, local tourist resort.
- A logging company, saw mill or factory.
- An outboard motor repair shop.

Such visits should help students to realise that what they are learning is useful in the real world. They are also an important way of making the RTC part of the local community.

### **Organisation**

Students should be well briefed on the reasons for the visit, and given a worksheet and questionnaire to guide them as they go.

## Summary sheet 42

### PROJECTS

#### Group projects

Everything we said about group work in Unit 2.2 also applies to these kinds of projects.

Essential elements are:

- Students must be given as much control as possible in deciding how to carry it out the project.
- Most of the decision-making should be left to the students, even if things go wrong.
- Students should get some material benefit from the project, **either** by selling what they produce and keeping the money as savings **or** by keeping what they produce.
- In rewarding students, the Centre expenses such as timber or seeds or day old chicks must first be deducted.

#### Types of project

1. **Group farms:** Groups are given an area to cultivate, planning what to grow, and using techniques learnt in agriculture. They are allowed to eat or sell what they grow.
2. **Animal projects:** Groups keep chickens for eggs or meat, or pigs for fattening, and sell the produce.
3. **Carpentry and building projects:** Groups make one or more pieces of furniture for sale e.g. tables, food safes. Or they are contracted to build a building needed by the RTC or the local community and paid for their labour.
4. **Clothing projects:** Groups make items of clothing, for sale either to the local community or to other students.
5. **Weaving projects:** Groups make mats, baskets and other woven items for sale.
6. **Engine repair and maintenance projects:** Groups with the skills offer to repair engines for the local community, or to maintain pieces of equipment

such as a generator or tractor. They get paid for this. This kind of project needs to be carefully supervised by the teachers to avoid damaging things.

- 7. Store project:** Groups are provided with capital loans to buy goods for a trade store. They run the store, keep any profits and have to pay back the loan. In one school in PNG, the school bought the goods in bulk and then acted as a wholesaler to the student groups, who bought their goods from the central store and decided their own mark-up when selling them.
- 8. Community projects:** Find out any help the local community may need e.g. building a piggery, chicken house, leaf house, community hall, fencing an area, clearing land, building toilets, repairing water supply etc. Groups of students are contracted to do this for a fee. This may be paid by the community or by the Centres to help the community, or the work may be done free as part of community relations.

### **Organising RTC farms**

Every RTC should be partly self-supporting in food. This means organising a Centre farm growing root crops, vegetables and fruit, and perhaps keeping chickens and pigs. The students should be expected, as part of their training, to work on the farm for a certain number of hours per day. They are learning at the same time as supporting themselves and reducing their fees.

In addition to food consumed by the students, some may be sold in local markets.

### **Other income-generating projects**

RTCs should normally have other income-generating projects. This may include any of those listed above as group projects, and many others such as producing honey, fishing or repairing sewing machines.

The difference is that Centre projects are done as part of the normal timetable and income goes to the Centres.

## Summary sheet 43

### TYPES OF ASSESSMENT

The first idea of many teachers when assessment is mentioned is to make a written test marked out of 10 or graded A to E.

Some teachers even try to assess topics, such as understanding a carburetor or the best way to plant taro, with a written test.

Since our main object in RTCs is to teach practical skills, written tests will be used very little. To write about a skill is no proof that you can do it. You **must** test the skill itself.

The topics in task 104 can be divided into skills, knowledge and understanding:

**Skills:** nos. 1, 4, 5, 8 and 9.

**Knowledge:** nos. 2 and 7 (notice that 4 and 5 say “knowing...”, but they are really skills as they say “knowing how to ...”)

**Understanding:** nos. 3, 6 and 10.

### Assessing skills

Skills **cannot** be tested in writing. Clearly you cannot test the ability to type 20 words per minute except by asking the student to type. Similarly you can only test the ability to sew on a button or make a dovetail joint by actually seeing someone do it. In some cases, like electrical wiring, it may actually be dangerous not to test in practice, in case the student thinks he can wire a house but has never actually handled a switch.

### Testing knowledge and understanding

These may be tested in writing but, if they are related to practical skills, they may also be tested practically or partly by practice.

For instance you can test the understanding of carburetors by showing one and asking a student to tell you how it works, demonstrating the parts as they do so.

You can test the characteristics and uses of types of timber by displaying different types with their names and asking students to give their characteristics and uses. We should test as much as possible in a practical way.

Only things which cannot be seen or demonstrated **need** to be tested entirely in writing e.g. understanding how soil is formed.

Summary sheet 44

**SUMMARY: METHODS OF ASSESSMENT**

<b>ASSESSING SKILLS</b>	<b>ASSESSING KNOWLEDGE AND UNDERSTANDING</b>	
<p><b>Observation of skills</b> + use of criterion lists</p> <p><b>Observation of product</b> + use of criterion lists</p> <p><b>Oral questioning while observing skills</b></p> <p><b>Oral questioning while observing product.</b></p> <p><b>Oral testing:</b> questioning without observing activity of product.</p>	<p><b>WRITTEN</b></p> <p><b>Multiple choice</b></p> <p><b>True / false</b></p> <p><b>Matching lists</b></p> <p><b>Correct order</b></p> <p><b>Labelling diagrams</b></p> <p><b>Sentence completion</b></p> <p><b>Fill-in-the- blanks</b></p> <p><b>Short answers</b></p> <p><b>Paragraphs</b></p> <p><b>Essays</b></p>	<p><b>ORAL</b></p> <p><b>Structured questions used in interview</b></p> <p>n.b. the first 8 of the written type of tests can easily be given orally.</p>
<p><b>Grading may be by:</b></p> <p style="padding-left: 40px;"><b>Marks out of 10 /100 etc.</b></p> <p style="padding-left: 40px;"><b>Grades e.g. A to E.</b></p> <p style="padding-left: 40px;"><b>Pass / fail</b></p> <p style="padding-left: 40px;"><b>Competencies</b></p>		

## Summary sheet 45

### MARKING

We can judge students and give them marks or grades in a number of ways:

1. **Pass or fail:** In competencies or some criterion testing we may decide simply to say whether a student can or cannot do the task.
2. **Comparison with a certain standard:** We may mark each stage or question out of a certain number of marks where 'full marks' means the student is perfect. The marks may be used as numbers or converted into A to E grades e.g. above 80% = A. This, and the pass or fail method, is sometimes called **criterion referencing**. We are judging whether a student has reached a certain standard or criterion.
3. **Comparison with other students:** We can list our students' marks or grades in order and decide that a certain number at the top e.g. the top 10% will be given A grade; the next group, perhaps 20%, will be given B; the middle group of 40% get C; the next lower 20% get D; and the bottom 10% get E. Students are being compared with other students in the same group, not with an outside standard or criteria. A student in one group might get B but, if put in another group whose overall marks were lower, the same student might get A. We call this **norm referencing**.
4. **Comparison with the student's previous performance:** We may not want to give marks at all but simply tell the student whether they are doing better now than they were in a previous test. We can grade them A to E according to their degree of improvement. The students are judged against themselves, not against an outside standard or against each other. Even the poorest student may be given an A for improvement!

### CHOOSING A METHOD: WHY ARE WE ASSESSING IN RTCs?

Remember an RTC is not like a secondary school where we have to assess students in order to select them for further education or training. In RTCs we assess:

- to give us and the students information on their progress;
- to encourage students to try to achieve higher standards;
- to encourage students by selecting people for 'prizes';
- to give students a grade for a final report.

The **main** objective, however, must be to help students learn skills as competently as possible in order to use them when they leave the Centre.

Any assessment method, therefore, must **encourage** students to do work and achieve higher standards, rather than discourage them by treating them as 'failures'. In RTCs we do not need a pass / fail system over the whole course.

## **KEEPING STUDENT RECORDS**

Whatever methods we use it is important to keep a record of the marks or grades we give to students. We need this

- for our own use to find out how students are progressing;
- for the students use so they know how they are progressing;
- for Centre use for end of term reports and graduation certificates;
- for future use in writing student recommendations.

You should start a record book with the names of all your students at the beginning of each year.

## **STUDENT PROFILES**

Students should not be judged only on their ability to perform skills or their knowledge and understanding tested in writing. Many other aspects of their character and performance in the Centre are important, such as the amount of work they do, their willingness to do work, cooperation with others, willingness to follow the rules of the Centre, positions of responsibility held, such as group leader etc.

For each student, therefore, we should draw up a 'student profile' showing all of these points. This can either be done by brief comments e.g. "Always willing to work hard", or a series of scales e.g.

- 1 = very hard worker
- 2 = hard worker
- 3 = occasionally works hard
- 4 = generally lazy.

These scales can be used for all students, so a comparison is easy.

This profile should be started as soon as possible after the students enter the Centre and kept up to date. Do not leave it until the 'reports' are due at the end of the year and you are too busy to concentrate, or cannot really remember what the student is like. Remember, regular reporting will save you time at the end of the year as all the information will be there.

## Summary sheet 46

### COURSE PROGRAMMES

So far we have looked at the planning and teaching of individual sessions. Each session we teach, however, must be part of a **course programme** which shows what and how we will teach our subject throughout the time the students will be in the RTC. This is sometimes called a **syllabus**.

This in turn must be broken down to show what we as individual teachers plan to teach each term and year. This is usually called a **scheme of work**.

Writing a course programme should follow similar stages to planning an individual session.

**1. Needs of students.** Find out the level of the students: their skill, knowledge and understanding of the subject, as well as their general level of education. Think about the needs of the students i.e. why they have come to the RTC and what they expect to learn while they are there. In most RTCs this will mean learning skills, knowledge and understanding which will be useful to them in their home area or elsewhere, when they leave the RTC.

**2. Aims and objectives.** This means asking two questions:

**Aims:** **Why** are we teaching this subject to this particular group of students e.g. for Home Economics one main aim may be “To encourage students to help to develop a healthy and disease free environment when they return to their home areas.”

**Objectives:** What do we want the students to be able to **do** when they finish the course e.g. “Students should be able to build a permanent house using local timbers.” “Students should be able to grow a variety of vegetables and realise their value in the diet.”

The aims and objectives should include the skills, knowledge and understanding which we want students to learn from the course. Aims may also include attitudes which we would like students to learn or acquire during the course e.g. “To encourage students to be proud of a clean and beautiful environment.” “To help students to realise the value of local materials in house building.” However, attitudes may be difficult to put into specific objectives. They may be influenced more by the way we teach than what we teach. Teaching skills in a practical way may produce a positive attitude towards using the skills in their own home communities. Enabling students to do projects which make money may show them the value of what they are learning. Group work may develop cooperation.

We should, therefore, include attitudes in our aims even though they may not easily be put into specific objectives.

- 3. Content:** Look at the content of your subject area and decide what skills, knowledge, understanding and attitudes you can choose from that content to satisfy your aims and objectives and the needs and wishes of the students.

Usually this means deciding what will be **useful** to your students once they leave the RTC: either useful in a village community or possibly in paid employment. Notice that this may be a very difficult choice from the content which might be chosen to teach our subject in a secondary school where the aim is to enable the students to go on to further studies.

In the school situation we are asking what content is needed for a thorough understanding of the **subject**. In the RTC situation we are asking what content will be useful to the **students**. In a school the emphasis is on the **subject**. In an RTC the emphasis is on the needs of the **students**.

In listing the topics you may use any of the methods discussed in Unit 2.3 for choosing the content of individual sessions: brainstorming, branching diagrams, use of logical order and the idea of what students **must** know, **should** know and **could** know.

In some cases you may have **textbooks** available to teach the course and you may decide to choose topics because they are in the textbook. But do not choose for that reason only. Make sure the topics are really useful for the students. Remember that available text books are either written for overseas students or for Solomon Islands students in secondary schools going on to further studies, so you may have to make a careful selection of topics from the text book.

- 4. Timing and sequencing:** Decide how much time you will have for teaching i.e. how many years the course will last, how many weeks of teaching each term and how many hours of teaching and practical work each week. Remember to include hours when the students can be expected to work on their own.

Choose from your list the amount of content you think you can teach in the time available.

Sequence this i.e. put it in the order it should be taught. Divide it into sections corresponding with terms.

Sequencing can follow the rules for sequencing suggested in Unit 2.3. In a course, however, it is likely that there is a logical order to introduce the topics.

To find this out:

- Write each topic or skill on a separate card or paper.
- Look at one item - A. Look at the next one - B - and ask, "Does B have to be known before A, or the other way round, or are they not related?"
- Put them in the order to teach them, if any i.e. A before B or B before A.
- Look at another item C and ask the same question in relation to A and B to see where it fits in, if at all. Then place it in the correct position. In this way you can arrange the items in their logical order easily. Items which can be taught at any time can be left aside and included later, or some of these may be related to each other and may form a separate list e.g.

D → B → A → E → G.  
F → C → H

In this case F, C and H are not related to the other items but are related to each other.

Remember that, in teaching skills, it is better to introduce the knowledge when it is needed to perform a skill, rather than learning all the 'theory' before the practical. For example, learn the names and functions of carpentry tools as they are used and needed, not all at once at the beginning of the course before doing any practical work. This may be so boring it will put students off for life!

Again, if you have textbooks this may help to determine the sequence of topics.

- 5. Methods of teaching:** It is important that your methods of teaching fit your aims and the needs of your students. A course outline, therefore, should include an indication of the main methods of teaching you will use in teaching each topic, especially the practical activities which the students will be involved in. This is very important in RTCs where we are trying to teach practical skills. All the methods explained in Unit 2.2 can be used and the practicals should be specified e.g. designing and making a shirt; feeding chickens for 6 weeks.
- 6 Equipment, tools and materials:** The programme must list all the equipment, tools and materials needed to teach it, including how many tools and how much material e.g. metres of cloth, cubic feet of timber.

If this is not available, you may have to

- change the skill or topic to be taught;
- substitute other tools or equipment if possible;
- cut down the amount of material or tools needed by working in groups.

If you do not have enough tools or materials for the students to practice the main skills it may be best to abandon the course altogether. To teach all 'theory' is a waste of time.

1. **Rooms:** The room available for teaching may affect your ability to do practical work etc.
2. **Assessment.** The programme should also say how you will assess the students. Any of the methods described in the last unit may be used, or a combination of these. Use a variety of methods to cater for those good in one way but not in others.
8. **Format.** There are many ways of writing course programmes but a useful format is given in the student work book.
  - At the top write details of the name of the course, number and level of students, and timing.
  - Then write aims and objectives of the whole course.
  - Then write in columns:
    - Time and topic: in number of weeks or week 1, week 2 etc.
    - Objectives of that particular topic.
    - Skills to be taught.
    - Knowledge necessary to carry out that skill e.g. names of main tools.
    - Understanding e.g. why a joint is suitable for a particular purpose.
    - Methods and activities to be done e.g. demonstration, making a joint, discussion.
    - Assessment: the main methods of assessment to be used e.g. practical assessment based on criterion reference; written test.

**Note:** It is best to spread this over 2 pages to give more space.

Not all columns need to be filled for every topic. Some may not involve skills e.g. classification of different types of food. However a skill can often be included to make use of the knowledge e.g. choosing diets for young children, pregnant women or old people.

## Summary sheet 47

### SIARTC COURSE PROGRAMMES

To help RTC teachers, SIARTC have produced course programmes or **programmes of study** for the main RTC subjects. These may guide you in writing your course programmes, but remember they are general ideas only. You need to adapt them to the **particular** needs of your students.

### NEGOTIATED COURSE PROGRAMMES

Much more than secondary schools, RTCs exist to serve the needs of a particular group of students and local community. Students come because they want to, not because they are sent by their parents. We are not tied to outside syllabuses or exams. We can, therefore, adapt or even write courses to suit the needs of individual groups of students.

One way to develop or adapt a course, therefore, is to let the students assist in writing the aims and objectives of the course or even choosing the content. At the beginning of the year we can ask students what they expect to learn from the course and what they want to be able to do when they finish. We can do this through group discussion and / or questionnaires.

We can then either adapt the course to suit their needs or even write a course specifically for them. We could give them a list of possible topics to choose from or even add topics we had not thought of.

In this way the whole course becomes a **negotiated course**. The students partly own the course so they should be fully committed to it and should be very good students.

We negotiated this course with you to some extent at the beginning of the year.

## Summary sheet 48

### COURSE EVALUATION

#### When to evaluate?

You would not be able to do a full evaluation of a course until it has been taught in full, which may mean after two years. However, some evaluation can also be done as the course is being taught, so you can make the necessary changes even while teaching it. There are, therefore, two kinds of evaluation:

**formative evaluation** takes place while the course is still being taught i.e. while it is forming;

**summative evaluation** takes place at the end or summit of a course.

You may decide to allow a course to be taught two or three times before doing a full summative evaluation, but formative evaluation should be going on all the time.

Summative evaluation is usually a formal written process. Formative evaluation may be more informal: by questioning participants and teachers and reflecting on the teaching if you are teaching it.

You may evaluate courses you teach yourself or, as Head of Department, evaluate those taught by others.

#### What to evaluate?

Some of the important things to consider in evaluating a course are:

**Aims and objectives:** Clearly stated? Appropriate to students' ability? Achievable?

**Content:** Useful to students after leaving the Centre? At appropriate level of skill and ability for students? Good balance of skills and 'theory', usually with emphasis on skills?

**Timing:** Correct amount of content for time available? Each section correctly timed?

**Sequencing:** Topics / skills follow in logical order? Simple to difficult?

**Methods of teaching:** Appropriate to topics? Sufficient emphasis on practical skills? Time for students to practice skills? Variety of methods?

**Equipment, tools and materials:** Enough available? If not, possible substitutes? Enough to teach the course in a practical way, ensuring practice by all students?

**Assessment:** Appropriate to aims? Practical skills assessed in practice?

**Results:** Does course achieve aims and objectives? How can we tell? Can students do the practical skills they learnt? Any grades or test results? Do students understand ideas behind the skills? Do they know what tools to use? Could students go home and do a useful activity as a result of what they have learnt on the course?

### **Who is involved in evaluation?**

To evaluate a session you are mainly looking at yourself and the students' reaction.

To evaluate a course you will have to look much further than this, to all people involved in planning it, all people who taught or studied it, and all those receiving the results of it.

Evaluation should, therefore, involve:

**1. The students:** It is for them that we teach the course, so their opinion is very important. In schools we are teaching syllabuses set by the Ministry of Education and leading to a public examination. As long as we follow the syllabus and some students get good exam results they will not question the course itself.

Students come to an RTC, however, to learn practical skills and knowledge useful for when they leave. In this sense we are here to serve them. They are our 'masters'! If they do not think what we teach them is useful, we have failed.

**2. The teachers:** They can tell us whether they think the course 'works' and can be taught successfully.

**3. The local community:** Students come to RTCs to learn things useful to their local communities. An RTC must serve the direct needs of the communities much more than a school. We must, therefore, ask members of the local communities if our courses seem to be fulfilling their needs and expectations.

**4. RTC administration:** You should also involve those who run the RTC: the Principal and controlling authority. They will have ideas about whether the courses are appropriate and can also tell us of financial and other constraints which may affect courses.

## How to do evaluation

A course can be evaluated in a number of ways.

1. **Interviews:** Talking to each of the above groups to ask them their opinions about the course. In the case of local communities the content and methods may have to be explained to them first. Interviews should usually be in Pijin.

Interviews may be

- **Unstructured:** you simply hold a conversation and ask people what they think.
- **Structured:** you make up a series of questions before doing the interview. This is usually the best method. If you are interviewing a number of people from the same group you may use the same questions for each person. You can also convert answers to statistics i.e. count the number or percentage who give each kind of answer. In a structured interview, also allow time for the person to say anything you did not think to ask about. "Any other comments?" at the end.

1. **Group discussion:** arrange to hold a discussion with a group of people in one of the categories above. Again it can be an open discussion or structured by a series of questions. Open discussion is more appropriate in this case. This method is probably best for use with the local communities, so you can get a representative group together and they can give each other confidence. It is also the easiest to do in Pijin.
2. **Questionnaires:** Duplicate a series of questions and ask people to answer in writing. This is useful for feedback from whole classes of students. Again you can use statistics for results. Language may be a problem. You may have to use English which people may not be confident with, because they may not be confident in writing Pijin either.
3. **Checklists:** These are like the checklists suggested for self-evaluation. Ask people to indicate which column they agree with. Columns may use different techniques e.g.

STATEMENT	Strongly agree	Agree	Disagree
The course produces people with useful practical skills.			

Alternatively you can use a number to show how much people agree e.g.

**The course is very interesting.**      1      2      3      4      5

In this case people circle the numbers according to the extent they agree or disagree. 1 = strongly agree. 5 = strongly disagree.

Or it may be clearer to put it with opposite statements at the two ends:

**The course is**  
**very interesting**    1      2      3      4      5 **Very boring**

The answers are then analysed statistically by counting the number of answers in each column.

- 1. Observation:** you can attend sessions and observe how the course is being taught and how the students react to it. Again it is good to have a checklist of points to look for.
- 2. Results and assessment:** You may look at the results of the course or parts of the course e.g. dresses sewn, crops grown and sold or chairs made. You may also use the assessment of the students to find out how many achieve high and low grades or how many pass competencies. However this may reflect the strictness of the teacher as well as the success of the course.
- 3. Follow-up:** RTC courses are teaching skills and knowledge which we hope students will put into practice. A good indication of the success of a course, therefore, is to follow students up after they leave and find out how many have put the skills or knowledge into practice.
- 4. Evaluating attitudes:** Most course aims will include attitudes e.g. "To develop an appreciation of the need for a clean and healthy environment." "To develop cooperation with the home community."

The achievement of these aims is difficult to assess. However, we can do this to some extent by including questions in our interviews and questionnaires on the attitude of students as observed by teachers or members of the local community. But this will be very much a matter of opinion and may contain bias for or against students.

### **Reporting on evaluation**

Evaluation is only useful if it leads to change and improvement. This will only happen if the results are clearly set out and reported to those in a position to make these change or improvements.

If you are evaluating a course which you teach yourself, all you need to do is to use the results to make a list of changes and improvements you would like to make and then you carry them out.

If you are evaluating a course taught by other people, or by other people as well as you, a more formal written report will be necessary. This will need to contain:

1. A copy of the course outline, including aims and objectives.
2. Details of timing and numbers and levels of students.
3. Summary of methods used to gather information, including who you got the information from.
4. Summary of results: what you found out. This will be in words, illustrated if possible by statistics e.g. 70% of students think the course interesting, but only 50% think it is useful.
5. Recommendations for change and improvements. Make sure these are based on the ideas of the majority. Do not recommend something just because one or two talkative people suggested it. It may be good to get comments on your recommendations from students and teachers and others before you finalise the report.

#### **Who to give the report and recommendations to?**

1. To those people who have the power to carry out the recommendations e.g. teachers, administrators and those who wrote the course.
2. To those who helped you gather the information, including students who are taking the course, so that they know their effort was not wasted.