

## MODULE 2: PREPARATION FOR TEACHING

### UNIT 2.1: HOW PEOPLE LEARN

#### ACTIVITY 37: HOW DID YOU LEARN?

1. Think of any *topic* you are interested in and know a lot about. This need not be part of your teaching subject or even a school subject. How did you learn about it?
2. Think of any *skill* which you are very good at. Again it need not be a skill at school or RTC. What made you good at it?

Describe your ideas to the rest of the class.

As you each explain how you learnt things, try to make a list of different *types* of learning.

#### **IDEAS ON HOW PEOPLE LEARN**

Psychologists are people who study human behaviour. Some psychologists have studied the way people learn. They can help us to understand the processes of learning and the best way to learn and to teach.

We can classify learning in a number of ways:

**Learning activities** are the **actions** people do as they learn.

**Types of learning** refers to the kinds of things we learn i.e. **what** we learn.

**Ways of learning** refers to the different **ways** that psychologists think people learn.

**Styles of learning** refers to **how each individual prefers** to learn.

#### ACTIVITY 38: LEARNING ACTIVITIES

Learning activities refer to activities which people are doing as they learn. We have already mentioned this in activity 17. Read the list and answer the questions below.

When people learn they may be

1. **Listening** to a teacher. The teacher may be telling them facts about something; helping them to understand something, or describing how to do something.
2. **Reading** something the teacher has asked them to read; notes on the board; or something they themselves have chosen to read.

3. **Writing** something the teacher has asked them to write in the form of questions; or something to help them to remember or understand what they have learnt. They are using their own words and should understand what they are writing.
4. **Copying** is a form of writing but the students are not making up the words themselves. They are copying the words of the teacher and may or may not understand what they are writing.
5. **Talking:** This may be answering a question asked by the teacher; asking the teacher a question; or talking to another student.
6. **Discussing:** this is also talking, but it is more open talk where a number of people talk to solve a problem, give an opinion or share ideas. The teacher may or may not be involved.
7. **Watching** the teacher or another student do something such as demonstrating a skill.
8. **Imitating** is watching someone do something and then trying to do what they do.
9. **Calculating** is any learning which involves using numbers or mathematics.
10. **Doing** some physical action such as cutting a piece of wood, sewing a piece of cloth, giving food to chickens or operating a machine.
11. **Practicing** is doing an action not for a particular purpose but simply to repeat it in order to learn it.
12. **Thinking:** we often learn a lot when we sit and think about what we have learnt or what activities we have done in the classroom.
  - a. Suggest what will be the main actions involved in learning each of the following:
    - How the digestive system of a cow works.
    - How to operate a sewing machine.
    - Deciding the best foods to give to young children in Solomon Islands.
    - How to find out how much timber is needed to make a certain sized table.
    - The best way to plant pineapples.
    - The names of the parts of an outboard motor.
  - b. There are many ways to learn these things. Compare your answers with those of other students to decide which is the *best* or *most effective* way to teach each of these.

c. Which of these actions will be the most important in learning in RTCs? Why?

### **ACTIVITY 39: TEACHING A SKILL**

Prepare and teach a lesson on any topic or skill and analyse the types of actions the students will need to do in learning that topic or skill.

### **ACTIVITY 40: TYPES OF LEARNING**

Psychologists also classify the **types** of learning we do. Read the following summary of four types of learning and answer the following:

- a) Which of these types of learning will be most important in RTCs and why?
- b) Give two more examples of each of these types of learning from your own experience.

We may learn:

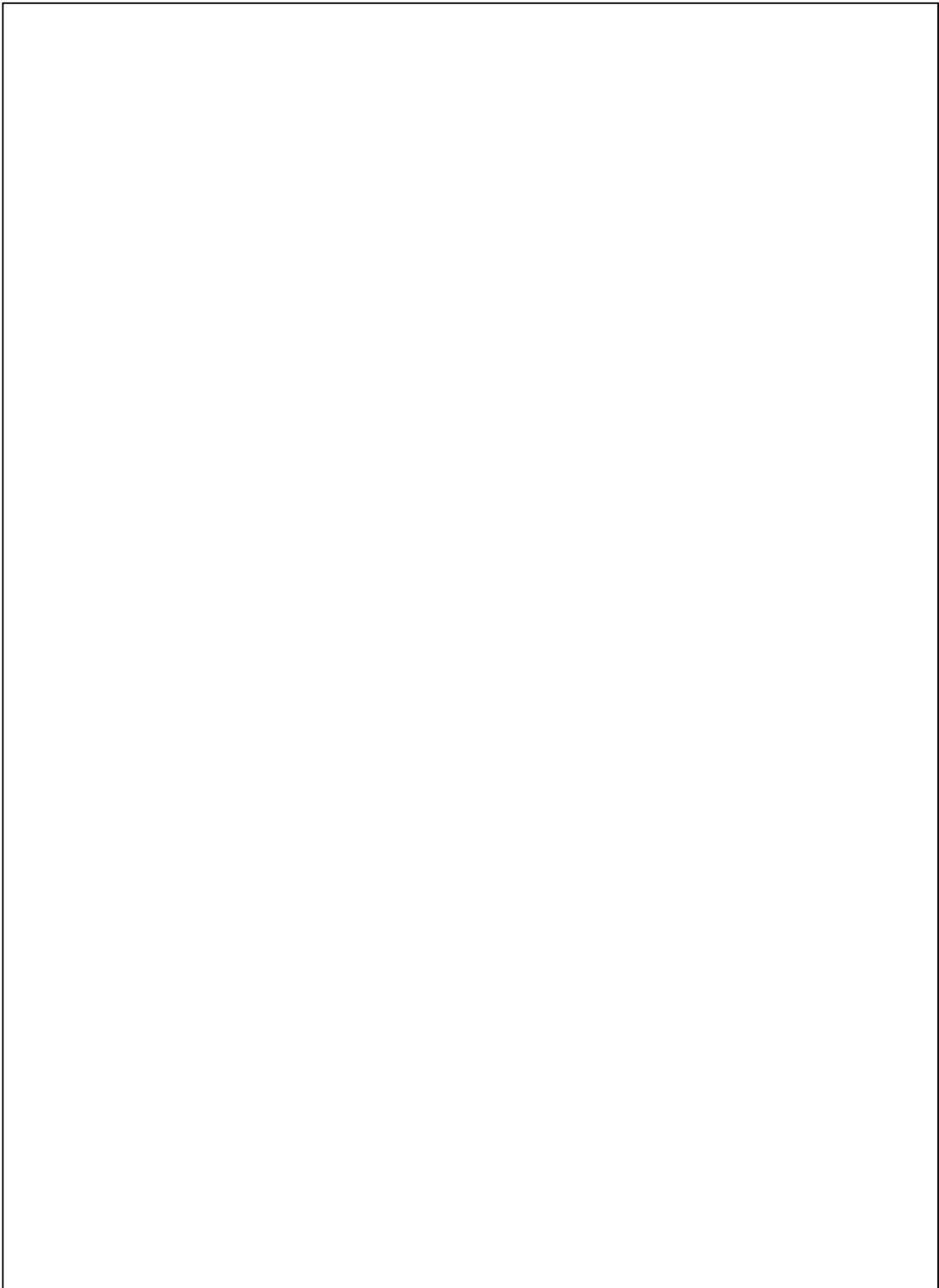
1. **Knowledge.** This means the facts about something e.g. the names of the main categories of food; the names of the parts of an outboard motor.
2. **Understanding.** This means relating the facts together and being able to explain something in your own words e.g. how the main types of food are useful and how you can combine them together to give a balanced diet; the principles on which an outboard motor engine works, such as the combustion of petrol etc.
3. **Skills.** This is the ability to **do** something e.g. to operate a sewing machine; to cook the food for a balanced meal; or to change the spark plugs in an outboard motor.
4. **Attitudes.** This means forming opinions about what is good and bad or what actions we should take. Your students may learn knowledge about the best types of food for young babies, and they may understand why these foods are good but they learn an attitude when they decide to go back to the village and improve the diet for young babies. Mechanics learn attitudes when they think about the need to conserve fuel by not using outboard motors all the time, or the need to prevent pollution by not cleaning the engine in a running stream.

Another way of classifying types of learning is to join **knowledge and understanding** together because they both use the **brain**.

**Practical skills** usually make use of the **body** to do things.

**Attitudes** are to do with feelings which we often say come from the **heart**.

The diagram below shows this.



## ACTIVITY 41: WAYS PEOPLE LEARN

Psychologists have put forward many ideas about the **ways** people learn. They cannot agree on these and are still arguing about them. Read the passages below summarising four of the ways they have suggested are important, and then answer the questions.

**1. Learning in small stages.** Some say that people learn best if we break down what is to be learnt into small stages and we learn each one in turn. They say that if we do an action or reply to a question, and we are rewarded by being told that it is correct, or by being praised or getting something we need, we will learn to repeat the action or the reply again. Slowly and in stages we build one action on another, or one reply on another, until we understand the whole process.

For instance, in learning to type, we usually learn three or four letters at a time and gradually increase the number until we know all the letters on the keyboard. We build our learning step by step, and are rewarded when we see the correct letters appearing on the page.

**2. Learning in wholes.** Others say it is better to start with the whole process, so that we get an insight into what we are going to learn before we break it down into smaller stages e.g. you should understand what digestion is and its function in humans and animals before you look at the parts of the digestive system of a cow. As people learn, they automatically relate what they are learning to what they already know, so the students will automatically relate the digestive system of the cow to their general understanding of what digestion is.

An example of a skill learnt as a whole would be learning to ride a bicycle. You have to get on a bicycle and try to ride and, after a few occasions when you fall off, you will suddenly balance and can ride. You gain a sudden 'insight' into how to do it, just as you suddenly understand something you have been struggling hard to understand. You cannot learn to ride by practicing the pedals first, then the steering and then the brakes: you have to learn all together.

**3. Learning by discovery.** This says that people learn best by discovering things for themselves rather than being told. The work of the teacher is, therefore, to set up a situation in which the students can discover things for themselves. Instead of telling students that plants need sunlight to grow, you arrange an experiment in which they try to grow one crop in sunlight and another in a dark room. In discovering things for themselves they are more likely to remember them.

A related idea in learning a skill is the use of trial and error. Many people learn to paddle a canoe that way. They paddle on one side and realise the canoe turns one way, so they have to paddle on the other side to correct it. Later they realise

that paddling near the side of the canoe has less turning effect than paddling further out from the side.

**4. Learning by need and motivation.** Some people emphasise that people learn best when they feel a need or reason for learning, that is when they *want* to learn.

For instance, if a girl comes from a poor village and has seen babies which are suffering from a poor diet, she may feel a need to learn about the different types of food and diets. One type of motivation is creating interest. People learn better if they are interested in what they are learning.

### **Which ways of learning should we use?**

All these ways of learning are probably effective for different topics or skills, or for different people, so we should use a variety of ways of learning and teaching to suit different circumstances.

1. Suggest **one** topic or skill in your subject area which might best be learnt using each of the above 4 ways of learning.
2. Prepare and teach a lesson emphasising one of these types of learning.
3. Observe some lessons at St Dominics and decide which ways of learning are being used in each case.

### **ACTIVITY 42: STYLES OF LEARNING**

We should also remember that different people learn in different ways. Some people have suggested there are four different **styles** of learning.

1. **Activists** are people who like to experiment and 'have a go' at something, even if they make a mistake. They are good at throwing out ideas or 'brainstorming' and may volunteer to be the first to try a new skill or idea. They like to experiment with new ideas and may be very creative.
2. **Reflectors** like to think about what they do before they do it. They do not like to take risks and like to be sure they are not making mistakes. They like to follow where others lead rather than taking the lead.
3. **Theorists** like to understand something in a clear and logical way. They are more interested in the theory behind something than in putting it into practice. They like to understand the whole idea before looking at its parts.
4. **Pragmatists** like to put into practice what they learn and are less interested in the theory. They like to work something out stage by stage by actually doing it.

**After reading this, answer the following:**

1. Suggest which of these styles of learning fit best with each of the ways of learning in the previous section.
2. Which styles of learning do you think are most common in Solomon Islands?
3. Observe some lessons at St Dominics and try to spot students who have each of these styles of learning.
4. If different people have different styles of learning, what does that suggest about the way we should teach?

**ACTIVITY 43: YOUR LEARNING STYLE**

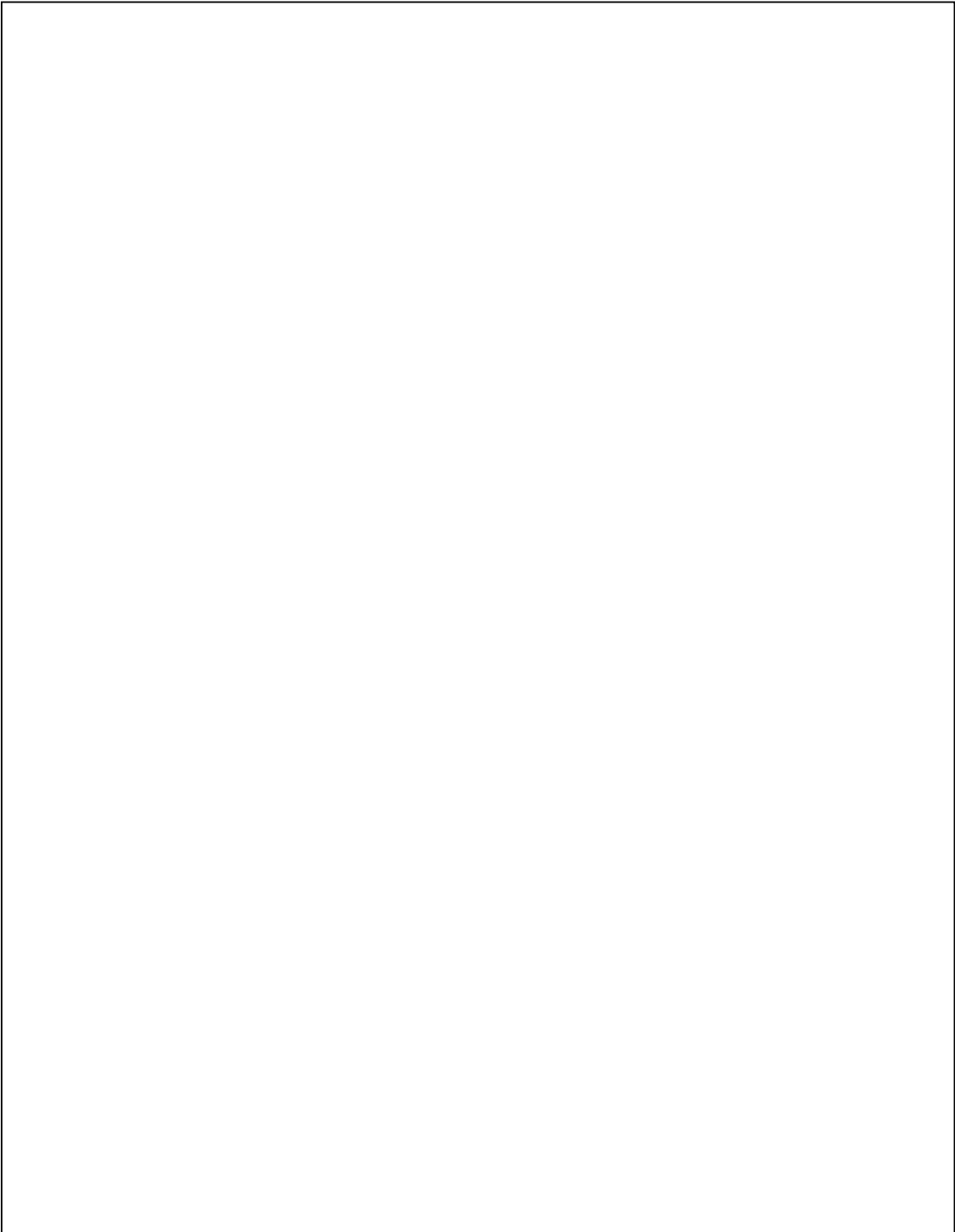
The following questionnaire helps you to decide what learning style **you** usually follow.

Put a **tick** against any statement you **agree** with.

When you have finished, circle all the numbers on the totals sheet that you ticked in the questionnaire. Add up the total of circled numbers in each column to show which learning style you most commonly use.

We all use **all** of these styles to some extent, so you will probably have some numbers circled in each column, but the highest shows the style you prefer.

Compare your totals to others in the class.





***TEACHING PRACTICAL SKILLS***

You probably decided in activity 40 that the learning of skills was the most important in RTCs and in activity 38 you probably emphasised the following actions: watching, imitating, doing, practicing, listening.

If the main aim of RTCs is to teach skills which are useful to students after they leave the RTC, especially in rural areas, we need to look carefully at the best ways to teach practical skills.

#### **ACTIVITY 44: AN EXPERIMENT IN TEACHING**

Your tutor (or some of the class students) will teach you 4 practical skills in 4 different ways.

Watch and participate in the lessons and decide which is the most effective method. Suggest reasons for this.

**Read summary sheet 8, *Teaching practical skills*.**

#### **ACTIVITY 45: DIFFICULTIES**

In your groups, suggest difficulties in teaching skills in the way suggested in summary sheet 8.

**Read summary sheet 9, *Difficulties in teaching skills in the way suggested*.**

#### **SKILLS ANALYSIS**

#### **ACTIVITY 46: MAKING A SKILLS ANALYSIS**

In order to teach a skill you need to understand the skill thoroughly yourself.

Before you teach a skill it is useful to do a **skills analysis**.

The form below will help you to do this. Part of an analysis has been given on the form as an example. Your tutor will give you an example, then try it for yourself. Choose any skill which you know well and is important in your subject. It is easier if you can get someone to help you as long as they know the same skill. They will demonstrate a skill and you analyse it, then you change roles. But you can also do it on your own, as you may have to in your RTC.

The stages are:

1. Choose and name the skill.
2. List the tools or machines required.
3. List the materials required.
4. Carry out the whole skill, then repeat and break it into stages. Each stage may involve a different action, tool or part of a machine.
5. List each stage, describing it in a short phrase. Use a verb to describe the action and a noun to say what the action is done to e.g. *threading the needle*; *removing the spark plug*; *marking the timber*.
6. Use the form to write a description of each stage in more detail, saying exactly *what* you do and *how* you do it.

Think of:

- How you are standing or sitting: at a bench or table or standing free; facing which way; legs and arms in what positions?
- Where are tools and equipment: on bench or table; on the floor?
- What tools you are using.
- How you are holding it; in which hand; which way round; firmly or gently?
- What action you do with it and how you do the action e.g. push forward strongly; ease it out gently.
- Any special senses used e.g. listen until the engine gets faster; taste for sweetness.
- The result of the action and how you know when to finish it e.g. the plug can be pulled out; the mixture is smooth with no lumps.

N.B. People are right or left handed. Describe the hand you use, but remember some students may use the opposite one.

1. Note any special points of safety or ways you might go wrong e.g. do not chop too close to your fingers; make sure the guiding line has not been cut away.
2. Note any knowledge you must have in order to do the actions e.g. proportions of water and flour; names of relevant parts of a pig. In some cases no special knowledge may be needed.
3. Repeat the skill again to check.

## ACTIVITY 47: TEACHING A SKILL

Using this skills analysis teach the skill to other students in the class or a class at St Dominics.

Did the analysis help you to teach the skill?

Later we will look at how to use skills analysis in preparing lessons.

### FORM FOR SKILLS ANALYSIS

**Note: copy this form on to wider paper.**

| <p><b>Name or description of skill:</b> Hammering a nail into timber.</p> <p><b>Tools, equipment or materials required:</b><br/>         Hammer.<br/>         Nail.<br/>         Piece of timber.<br/>         Pencil.<br/>         Ruler.</p> <p><b>Knowledge needed:</b> Nil.</p> |  |   |
|---|--|---|
| Name of stage   | Description of what is done  | Key points:<br>Reasons.<br>Points of emphasis or safety.  |
| <p>1. Marking position</p> <p>2. Hammering nail</p>   | <p>Put timber on bench.<br/>         Use ruler to measure place where nail should go.<br/>         Mark point with pencil.<br/>         Hold nail firmly in one hand.<br/>         Hold upright with point on place it should go.<br/>         Hold hammer in other hand.<br/>         Hit nail firmly on head.<br/>         Practice blow to aim, before hitting.<br/>         Make sure nail is going in straight.<br/>         Hit nail again until head is in contact with timber.</p> | <p>Mark point clearly.</p> <p>Grip hammer at end of handle.<br/>         Practice aim to avoid hitting hand.<br/>         Keep checking that nail is not bending.</p> |

## **MEMORY**

### **ACTIVITY 48: HOW MEMORY WORKS 1.**

Listen to 3 passages read to you by your tutor, and try to remember them. Do not write anything down.

After the readings, try to write down each passage from memory.

Which passage was the easiest to remember? Why?

Which passage was the most difficult to remember? Why?

How does understanding affect the memory?

What does this suggest about:

- a. the kind of notes we give to students;
- b. which should come first – explanation or copying notes?

**Read summary sheet 10, *Memory and understanding*.**

### **ACTIVITY 49: SIMPLIFYING NOTES**

Using the ideas discussed in the summary sheet, simplify the following passage into notes suitable for RTC students.

## **GREENHOUSE AND CHEMICALS**

The idea of shading your nursery or building a greenhouse is an introduced idea in the tropics and especially here in Solomon Islands. If one can look back into the history of this country we can see that there have been virtually no 'nurseries' of this kind set up by our ancestors up until the time of the last generation. The idea of a glass or plastic green house, or shaded nursery, is very new and has not shown itself to be successful.

Greenhouses or artificial plant environments, chemical fertilizers and insecticides are the triple destroyers of plants and the microorganisms in the soil used in the nursery. These are the worst contributing factors to the weakness of the plants which make them susceptible to insect attacks.

Greenhouses are not necessary in the tropics and can actually weaken your plants and make them more vulnerable to disease. The best place to have your nursery is in full sun so that your plants will be strong and healthy when they are moved out into your garden.

(Passage from *Sapa, the natural way of growing food in Solomon Islands* by Joini Tutua with Tony Jansen, published by APACE)

**ACTIVITY 50: HOW MEMORY WORKS 2**

Your tutor will read you a list of words.

Listen to them and try to remember as many as you can. Do not write anything.

When you have heard the list try to write down all the words you can remember in any order. This is **not** a test or competition, so do not cheat, and be honest when your tutor asks for your answers.

**Read summary sheet 11, *How memory works: 2***

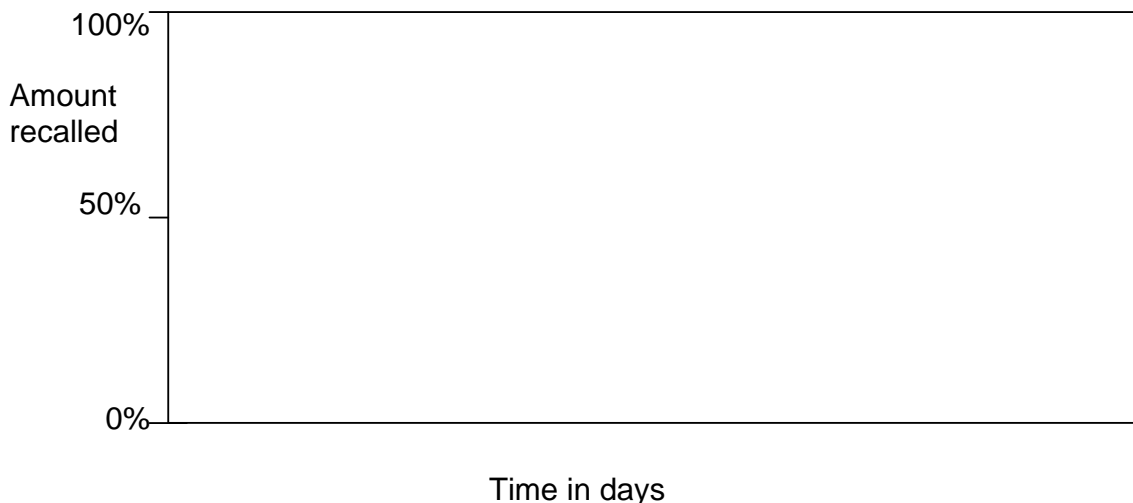
### ACTIVITY 51: SHORT AND LONG TERM MEMORY

The graph below can be used to show how much we remember over a period of time after a learning experience such as a lesson. This may apply to either a skill or a topic. The vertical axis shows the percent of what we learn which we are likely to remember. The horizontal axis represents time in hours and days.

At the end of a lesson you might remember 75% of what you learnt in the lesson – very few people will remember 100%

Draw a graph to show how much you think you might remember in the hours and first two days after a lesson.

### GRAPH TO SHOW HOW MUCH WE RECALL AFTER A TEACHING SESSION



### ACTIVITY 52: LONG TERM MEMORY

Read summary sheet 12, *Short and long term memory*.

Psychologists have studied the amount we remember after a lesson. The normal graph is shown on your summary sheet. Did your graph look like this? According to this graph:

- What normally happens to memory immediately after a lesson?
- During what time do we forget the most?
- How much do we remember after a day? Do you believe this?

## **MOTIVATION**

### **ACTIVITY 53: A SENSE OF FAILURE?**

Use the following questionnaire

- a. with yourself i.e. answer the questions yourself;
- b. with fellow students;
- c. with some of the students at St Dominics.

#### **Questionnaire**

1. What was your highest level of schooling before you joined an RTC?
2. Would you have liked to go further in your schooling?
3. Why didn't you go further?
4. Why did you decide to join an RTC?
5. What do you hope to gain out of being here?
6. What are the main problems you have had since being in an RTC?

#### **Results**

**Q1:** Make a table of the total numbers in each group:

|                  |       |
|------------------|-------|
| No schooling     | _____ |
| Below standard 6 | _____ |
| Standard 6       | _____ |
| Form 1 –2        | _____ |
| Form 3           | _____ |
| Form 4           | _____ |
| Form 5           | _____ |

What does this tell you about the normal intake to RTCs?

**Q2:** Total number asked \_\_\_\_\_  
Number answering Yes \_\_\_\_\_  
Number answering No \_\_\_\_\_

What problem (if any) do these results suggest for RTCs?

**Q3:** Some people suggest that if you fail to achieve something you want, you may explain it to yourself in one of 4 ways:

1. Blaming yourself:
  - 1A Not enough ability – “I have failed.”
  - 1B Not working hard enough – “I was not interested in studying.”
2. Blaming outside forces:
  - 2A The course/subjects were too difficult – “I could not cope.”
  - 2B Not enough chances – “Not enough places in schools.”  
“No money for fees.”

How many of your answers correspond with each of these categories?

1A \_\_\_\_\_  
1B \_\_\_\_\_  
2A \_\_\_\_\_  
2B \_\_\_\_\_

You may find many in categories 1A and 1B: people who blame themselves for ‘failing’. Looking at the education system in Solomon Islands, is it usually true that failure is the fault of the student? What may be the best answer in terms of the system?

In Solomon Islands the reason so many people do not go to higher education is simply the shortage of places. There are over 9,000 students in Standard 6 each year, and only around 4,000 places in Form 1. Form 4 is much smaller still.

Most people, therefore, come to RTCs because the system has pushed them out of further ‘formal’ or ‘academic’ education. But many blame themselves and say they have ‘failed’.

This creates a problem because people only learn well if they are motivated and self-confident, that is they have a reason for learning and feel they will be able to achieve what they set out to do. Many of our students may have ended up in an

RTC through necessity not choice, and many may feel a sense of failure. Our job must be to re-motivate them and make them feel successful.

### **ACTIVITY 54: MOTIVATION**

The reasons why people decide to do something may be divided into 3 kinds:

1. Externally-motivated: People may want to obtain money, a job, more food, a better house etc. Their motivation comes from outside rewards.
2. Motivated by others: People may want other people to admire them, respect them, or love them, or may want to help other people.
3. Self-motivated: People may want to achieve something to satisfy themselves. They may feel happy or proud that they can do something well. They may want to do everything to the very best of their ability, even if there are no other rewards.

Divide each of your answers to questions 4 and 5 into these 3 categories and find the total number of each. Some people may have given more than one answer and fall into more than one category.

EXTERNALLY MOTIVATED \_\_\_\_\_

MOTIVATED BY OTHERS \_\_\_\_\_

SELF MOTIVATED \_\_\_\_\_

### **ACTIVITY 55: HOW TO MOTIVATE OUR STUDENTS**

All three kinds of motivation can be used to motivate our students in RTCs, but we often find that those who are self-motivated do best of all.

In your groups make a list of ways you think we can motivate our students:

1. within our lessons;
2. in the RTC as a whole.

Remember that many of our students may come feeling that they have failed.

**Read summary sheet 13, *How to motivate our students.***

## **STUDENTS IN RTCs**

### **ACTIVITY 56: PROBLEMS OF LEARNING IN RTCs**

Look back at the answers to Q6 of your questionnaire in activity 53.

In your groups, use these, and your own experiences of being in an RTC, to discuss and make a list of problems which students may face when they come to RTCs, especially learning difficulties.

Think particularly of students who leave school, live at home for sometime and then return to learn at an RTC.

### **ACTIVITY 57: SOME PROBLEMS OF STUDENTS IN RTCs**

Read the following problems and add any other your group thought of.

In your groups, discuss possible solutions to the problems and how these problems may affect the way we teach in RTCs, or the way we run them.

1. Not knowing how to study, or not in the habit of study, after living at home for some time.
2. Difficulties with reading and writing. We may even have students who cannot read and write. Should we accept such people in RTCs, if they have other skills? How can we help them when they come?
3. Feeling ashamed of admitting that they have difficulty with reading and writing.
4. A sense of failure as discussed in activity 53.
5. False expectations that an RTC is like a secondary school, with mainly classroom learning. Unwillingness to do practical work or to recognise that practical work outside the classroom, and even 'work sessions', are important parts of the learning process.
6. False expectation that an RTC should train them for further studies or paid employment.
7. Laziness: they may have come to an RTC to get away from hard work at home.
8. Worry about family problems for the older students, who may have family commitments back home, or may be married with children.

9. Lack of essential equipment such as bush knife, plate, cup or even adequate clothing, and lack of money to buy these.
10. Financial problems of fees, transport or no 'pocket money' to buy essentials.
11. Problems of alcohol or drugs, which may be due to pressure from other students or surrounding communities.

### **ACTIVITY 58: THE STRENGTHS OF RTC STUDENTS**

The background and experience of RTC students may give them many strengths as well as problems.

Make a list of the strengths of RTC students, especially those who have spent time at home after leaving school.

To help you, here is a table comparing adult learners with child learners. Almost all our RTC students would be classified as adult learners. Decide whether you think this list of characteristics of adult learners applies to most RTC students.

| <b>Adults</b>  | <b>Children</b>  |
|--|--|
| Learn because they are interested  | May or may not be interested to learn.   |
| Like to learn those things which are of immediate use.                       | Learn for the sake of learning things, because the teacher says so, and may or may not use them later. |
| Like to control their own learning.  | Learn what the teacher tells them to.  |
| Have a lot of experience and like this to be used in the course of learning. | Have limited experience to use.  |
| Learn in order to fulfil their needs.  | Have no immediate goals.   |
| Want to learn in a short time.   | Have a long time to learn.   |
| Are willing to learn.  | May not be willing to learn.   |
| Have self-control.   | Need guidance and discipline.  |

***SUMMARY***

**ACTIVITY 59: PEOPLE LEARN BEST WHEN ...**

In your groups, summarise all you have learnt about the way people learn by preparing a chart headed

**PEOPLE LEARN BEST WHEN ...**

Write not more than 10 one-sentence points.

**Read summary sheet 14, *People learn best when ...***