

Preface

Teaching is a noble profession. Teachers change the world by educating and inspiring our young people. Well educated young people go on to live healthier lives and make their countries more prosperous and successful.

In 2016, I delivered a teacher training course for local teachers in Madagascar. The course was designed to introduce a variety of pedagogy that would improve educational outcomes in Madagascar. It was written for all teachers though most relevant to those teaching adults or children over the age of nine. I was asked to return, and wrote this book to support local teacher trainers and trainee teachers.

This book will help you improve your teaching. You'll be inspired to engage your students more, learn how to teach thinking skills that are more than just knowledge and understanding, and learn how to improve exam results. You'll be given tools and activities that make your teaching much more successful. You will also learn about many teaching theories. The activities in this book are designed to work with large classes (100+), as well as small classes. They assume that teachers have a blackboard and that students have paper and writing instruments.

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About the author

Robert has a 1st Class honours degree and a Postgraduate Diploma in Education from Edinburgh University, Scotland. He has worked in education since 2006 which included time at top schools such as: Jerudong International School, Brunei, Brighton College, England, and St Leonards School, Scotland.

In the 2015–2016 academic year, Robert taught science to students aged 9 to 18 on board a hospital ship run by Mercy Ships in Madagascar. During this time, he developed a very successful Malagasy teacher training programme which is sensitive to the challenges and opportunities in Madagascar. He now lives in Scotland, teaching Physics and managing the training project in Madagascar. Robert enjoys mountain biking, cooking, his Christian faith and spending time with friends.

Get in touch

I'd love to hear from you if you found this book helpful. Get in touch at <http://mada-enseignants.org>

This book is dedicated to teachers in Madagascar.

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1. Introduction

'Better than a thousand days of diligent study is one day with a great teacher.' Japanese proverb

My favourite teacher loved his subject and would always bring some interesting fact, problem or activity to the lessons. Every lesson was enjoyable and included a variety of activities. He was friendly, approachable, and took time to get to know us.

However good or bad your teachers were, I challenge you to read this book with an open mind. There are lots of new ideas and techniques in this book that will make you better than the teachers of your childhood.

All teachers change the lives of their students. Great teachers enable their students to be successful in their subject and in their lives. That success can change their community and their nation.

Activity

Discuss the following questions with other teachers or think about the questions. Write down your thoughts.

1) Think about teachers who taught you or teachers you have observed. Choose one teacher you think was particularly good.

- a) What was special about this teacher's teaching?
- b) What other attributes do you think a good teacher should have?

2) How do you think great teaching can change a community or a nation?

2. What are the purposes of education

'Education is light, lack of it darkness.' Russian Proverb

Activity one

Discuss with other teachers or think about these questions. Write down your answers:

- 1) Why are schools and education important?
- 2) Can someone be educated without going to school?

Activity two

Often schools have 'mission statements'. A mission statement describes the aims of a school.

- 1) Read the four mission statements below and mark the parts you like.
- 2) Discuss why you like those parts of the mission statements.

Teaching note: Notice how I'm asking you to think for yourself about teaching, rather than lecturing or writing lots about good teaching. Asking students to think about things for themselves, rather than just listening to the teacher talk, will enable the students to learn better.

School one mission statement

Our mission is to provide a positive learning environment for all students so they can achieve their potential.

School two mission statement

Our mission is to provide a school for homeless children. We aim to help the children escape the bonds of poverty and hopelessness by providing education, life skills, values and a caring environment that will empower them to move into mainstream society.

School three mission statement

We seek to impart or provide:

- A love of learning for its own sake.
- A foundation of knowledge and body of skills with which to understand and question the world we live in and to prepare us, through an innovative approach to education, for the world we are likely to inhabit in the future.
- An awareness of, and appreciation for the spiritual dimension in our lives.
- An enthusiasm for the world beyond the classroom – in particular, sport, music and the performing arts.
- A respect for difference in others and recognition that the efforts and achievements of every individual in our community are valued equally.
- An awareness of the needs of others, and a firm belief that – whatever our age – we can make a difference, locally and globally, right now.

In short, we strive to turn out well-educated, tolerant and intellectually curious men and women who are ready to take a full, active and positive role in the life of our country and of our world.

School four mission statement

We seek to provide an exceptional biblically-based education for children, inspiring them to truly follow Jesus.

We aim to equip each student with the foundation of knowledge and skills necessary to fulfil God's purposes in their lives. We will do this by partnering with parents in developing Christian character in their children. We teach values based on a biblical worldview. We provide a quality academic education that meets the physical, emotional, and spiritual needs of each student.

Why do we educate?

The mission statements contain many suggestions about why we educate. Some of the key points in the mission statements are:

- Teach students knowledge and skills.
- Help students love learning.
- Provoke students to ask questions about the world around us.
- Prepare students to live in the world that they will have in the future.
- Help students be aware of the spiritual side of their lives.
- Provide opportunities for students to engage with sport, music and performing arts.
- Teach students to respect other people even when they are different.
- Help students be aware of the needs of others.
- Instil the belief that students can make a difference to improve the world.
- Enable students to reach their potential.
- Create a positive learning environment.
- Help students escape poverty and homelessness.
- Teach students life skills.

I think there are more purposes of education than those in the mission statements. Some are:

- Teach students how to pass important national exams.
- Teach the basic skills required to succeed in life: reading, writing, numeracy and language.
- Enable social mobility. A good education system enables someone from a poor family to become very successful.
- Teach the skills needed to access jobs or education.
- Teach students how to learn new skills or abilities that they did not learn at school.
- Teach students how to become better people through: relationships, serving others, conserving the environment and living healthily.
- Teach students how to think critically, applying knowledge to new situations, producing new knowledge and solving problems.
- Schools should attempt to protect children from harm from being neglected, living in poverty or being abused.

Christian schools only

Teach students about the Christian faith and help them to live in a Christian way. Some key things are:

- Christianity is a grace-based religion. That means there isn't a long list of rules that need to be followed to be a Christian. Teach students that with faith in Jesus, their sins can be forgiven. Christians live differently to those who are not Christian because they appreciate

God and his forgiveness and therefore want to follow his path for their life, not because they must earn their way into God's favour.

- God loves them as they are and cares for them deeply, no matter what they struggle with or do wrong.
- God calls Christians to put their faith into practice. He wants us to live well, as he demonstrates in the Bible.
- Study the Bible, in an age-appropriate way. Study topics as well as whole books of the bible. Students in a Christian school should know the Bible well by the time they leave.
- God is interested in them today and students learn how to 'hear' what he has to say to them. They learn how to test a message to see if it is God's word by checking if it is in line with what has been written in the Bible.
- Christians are sinners and make mistakes and do wrong things. Students learn that when a Christian messes up, they aren't representing God.
- A set of values based on the Bible, including love, forgiveness, generosity, servant heartedness, compassion, kindness, self-control and living as community.
- Helping students deal with problems that arise in a Christian way.
- Helping students to live a life trusting in God rather than in their own strength.
- Include daily devotionals, brief sessions thinking about an aspect of faith.
- Teach students to pray and include prayer in the school day. It's particularly special to pray about issues in the lives of the students and noting when God answers their prayers.
- Involve the students in the Christian life. Just because they are children doesn't mean they can't actively participate in prayer, working out what the Bible is saying to them, listening to God's words to them and putting them into practice.
- Helping students to know how to live as Christians in this world, in their schools, homes, communities and workplaces.
- Faith is free choice. Not all students will choose faith, and that is their free choice.

When teaching aboard the Africa Mercy, a Christian hospital ship, we had people from all denominations who could share worship, prayer and Christian teaching. There are a few churches who have deviated too far from the core of Christian belief and practice, but your teaching should not be about 'right' and 'wrong' denominations, more about knowing God. If students know who God is and can 'hear the shepherd's voice', they will not be comfortable somewhere that teaches a message far from the truth.

There are many purposes to education. Don't be overwhelmed by them! As you read this book you will discover more purposes of education.

Activity

Discuss these questions and write down your answers:

- 1) Think about the purposes of education. What things do you or your school do well already?
- 2) What things would you like to work on to improve your own or your school's teaching? Choose a maximum of 3 - you can't improve everything at once!
- 3) What do you think are the most important points in this chapter?

3. What can schools teach?

'Teaching creates all other professions.' Author Unknown

Questions

Think about your education, at school, at home, or at university.

- 1) What types of things did you learn about?
- 2) What did you learn *that you still use now*?

What did we learn at school?

I remember some of what I learnt at school but have forgotten most of the information I don't use regularly. So then... what was the point of my education if I have forgotten most of it?

Education gave me something more important than information. It taught me skills. I can read. I can write. I can use mathematics. I can learn new things. I can speak a little French. I can solve problems. I can think critically about things. I learnt to persevere when solving problems. I learnt to work with other students. And much more!

As a teacher it is important to be aware you are teaching more than how to pass an exam. It is unlikely your students will use advanced physics in everyday life. However, they may need to use skills from physics to examine a system logically or make a mathematical model of something.

Different things people learn

We will now look at the different types of things people can learn.

Type of learning: Facts

Examples: Learn the formula $E=mc^2$ or know that 'smoked' is the past tense of 'smoke'. Learn the times tables. Learn how paint colours mix to produce other colours.

Further discussion: Facts are often the foundation of other types of learning. For example, to read I need to know the meaning of the words I'm reading.

Type of learning: Understanding

Examples: I know if I drop my pen it will fall. Understanding explains *why*.

Further discussion:

There are often different levels of understanding. Depending on the age and ability of a student you will explain things in a different way. For example:

Lower level: Gravity pulls the pen down.

Medium level: Masses attract each other, a bit like magnets attract each other. This is called gravity.

Higher level: Theories of what causes gravity.

Type of learning: Problem solving

Examples:

- Working out why a scooter does not start.
- Is it better to buy a cup of rice for 200Ar or 1kg of rice for 1000Ar?
- How can I improve the yield of a rice paddy?
- Guessing what a new English word means by comparing it to known words.

Further discussion:

Teaching problem solving is very important. It can be quite challenging to do, here are a few tips:

- Often, we just solve a problem and are unaware of our thought processes to solve it. Work hard to understand your thought process. Then show your thought process to your students.
- Give students lots of problems to solve.
- Have hard, medium and easy problems for different abilities of students. My question packs often start with easy questions and progress to hard ones.

Type of learning: Practical skills

Examples:

- Sewing
- Riding a bike
- Art
- Swimming
- Practical science
- Using a computer

Further discussion:

Students learn practical things best by having practicing with individual feedback and help. Some skills are best copied off a teacher (e.g. riding a bike well or swimming is almost the same for everyone).

Some skills are not copied, for example good art is creating new artistic pieces, not just copying someone else's work.

When developing practical skills, students should be encouraged to experiment and make mistakes. Mistakes are an important part of learning... if students are aware of their mistakes.

Working in groups helps students learn skills as they share their own learning experience and tips with each other. This applies particularly to using computers.

Type of learning: Language

Examples: Studying Malagasy, French, English.

Further discussion:

It is essential your students read, write, listen and speak the language. Read the Bilingual Education chapter for more information.

Type of learning: Critical thinking

Examples: Discussing the question 'Is the Ambatovy mine good for Madagascar?'

Further discussion:

Most of us have an opinion about Ambatovy but may not realise that the argument is incredibly complex. There are good things and bad things about Ambatovy.

Critical thinking is defined as 'the objective analysis and evaluation of an issue in order to form a judgement.'

Objective analysis means weighing up the arguments about an issue without emotional involvement.

This might involve understanding the arguments that are on both sides. Once you understand the arguments, you come to a judgement or viewpoint on the issue based on the arguments.

If students can think critically, they will be much more successful in life as they will be better equipped to solve many of the problems life can throw at them. However, they are likely to become more annoying... they will start to ask questions about what they are told and may not always agree with you. Be bold and encourage this!

Type of learning: Personal, Social, Health and Values

Examples:

- Learning to be honest.
- Learning to care for others.
- Learning how to protect themselves from dangers in the world.
- Learning to look after their bodies.
- Learning to persist when challenges come.
- Wisdom.

Further discussion: This is an area where great teachers can change society by educating and encouraging our students to be fair, honest, caring, healthy and successful.

Type of learning: Spiritual

Examples: If your school is a religious school, teachers should encourage students to follow the religion. This might include devotionals, prayer, study of the scriptures, serving the community or raising money for those in poverty.

Further discussion: In Christian schools, it can be challenging to teach students how to have a real and living faith as opposed to just knowing the facts of their faith. Christians believe God gave us free will. This means that faith is free choice – students must not be forced to believe.

Type of learning: Creativity

Discussion: Being able to create new ideas, such as art, businesses, and ways of solving problems or music is important to success. Many people have a fixed mindset and cannot create new or better ways to do things. Farmers are very resistant to changing their traditional methods to try something that might increase their yield. There are many opportunities for successful businesses in Madagascar that have not been developed.

There are many different types of learning that can take place. The best teachers will encourage a variety of types of learning in their lessons. There is a saying 'you never forget how to ride a bicycle'. Students easily forget facts and understanding whereas skills may remain for a lifetime.

Questions

Discuss these questions with other teachers and write down your answers:

- 1) What types of learning had you not thought of before reading this chapter?
- 2) What types of learning go on in your school?
- 3) What types of learning would you like to see more of in your school?
- 4) What struck you as important when reading this chapter?
- 5) *Critical Thinking:* What did you disagree with in this chapter? Why?

4. How people learn

'Education is what survives when what has been learned has been forgotten.' Psychologist
B.F. Skinner

Understanding how people learn is a complex subject. This chapter briefly looks at the neuroscience behind learning.

Making connections

In order to learn, people need to make connections between new and existing memories and review learning several times.

The information stored in the brain is a vast connection of ideas that are joined together. To make and retain a new memory, the new memory needs to be connected to an existing memory.

For example, if I tell you:

'Thurso is named after the legendary Thor. Many years ago, it was owned by the Vikings.'

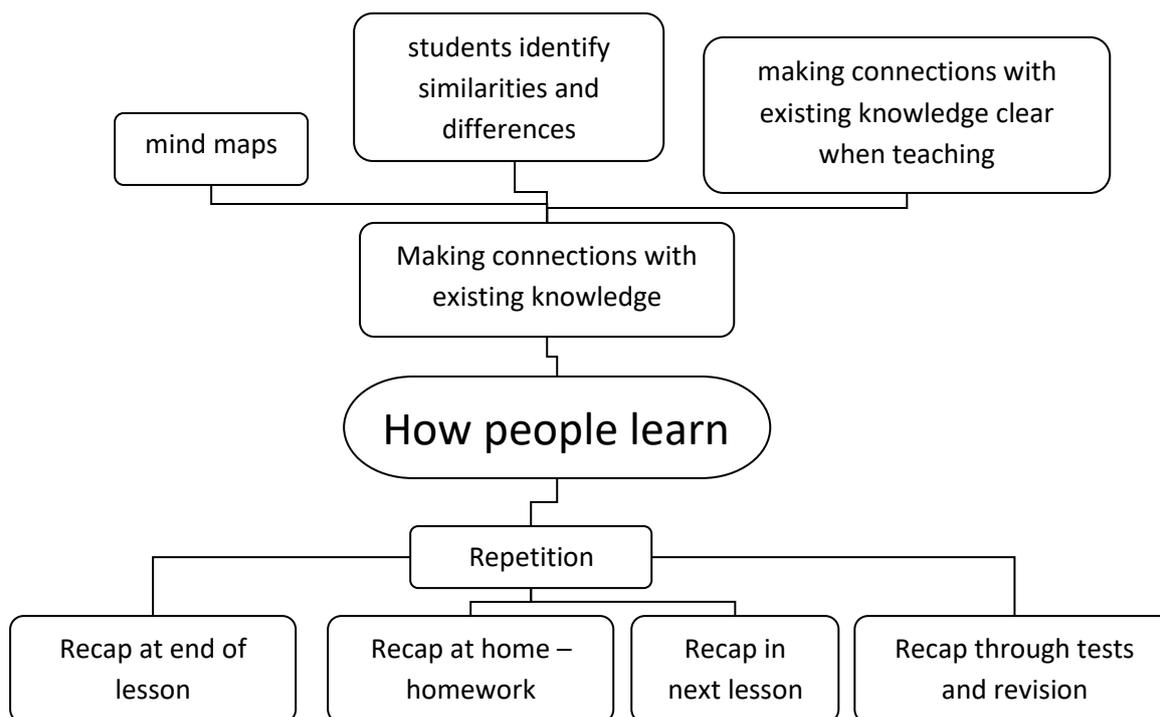
You will find this very difficult to remember. However, if I tell you:

'My home **town** is called Thurso. It is named after a **mythical god** called Thor. Many years ago, it was owned by a **tribe** called the Vikings.'

This is much easier to learn. You can now connect this new knowledge with existing knowledge you have. You know about towns, gods and tribes, so you can connect this new knowledge into your brain.

It is important to try to connect new knowledge with existing knowledge. There are many ways to do this:

- Point out connections between new and existing knowledge as you teach. For example, if you are teaching about the political system in South Africa, you should compare it with the more familiar political system in Madagascar.
- Ask students to work in pairs to discuss what is similar and different, for example:
 - What are the similarities and differences between prime numbers and integers?
 - What are the similarities and differences between an exothermic chemical reaction and an endothermic reaction?
- Use mind maps to link ideas together. Some students love them, others hate them. Making a mind map is a great revision exercise. Below you'll find a mind map summarising this chapter.



Repetition

Neuroscience tells us that we have two parts to our memory:

Short-term memory which stores memories for a short period of time then forgets them.

Long-term memory which stores memories for a long time.

Our goal is for students to move things from their short-term memory to their long-term memory. Some tips for this:

- 1) Recap the key points of the lesson at the end of the lesson. You could ask questions that all students need to answer or discuss in groups.
- 2) Ask the students to review what they learnt at home on the same day as the lesson. This could be by homework questions or making notes or mind maps of the important points. If students review what they learned within 24 hours of learning it, it is much easier to remember it long term.
- 3) When you start a lesson, recap the previous lesson. You could use some quick questions for all students written on the board, or any other method that engages the whole class.
- 4) A weekly quick quiz and monthly test will review what the students have learnt and help them strengthen their long-term memories. Students should revise for the tests.
- 5) Most knowledge needs to be reviewed more than once to move it into long term memory. Reviewing it frequently then with increasing gaps in time helps. For example, if I learn something new and review it five times: 1) same day; 2) next day; 3) 1 week later; 4) 1 month later; 5) 3 months later, there is a good chance I will remember it for a long time.
- 6) Doing something active, such as teaching the information or answering a question about the lesson is a much more useful review than simply reading.

- 7) Finally, motivation makes a big difference. If students are interested in what they are learning, then they will learn it much more easily. You need to think about how you will inspire the students to learn.

In summary, to learn best it is important for students to make connections with existing knowledge and review their learning regularly.

Questions

- 1) Think about some lessons you are going to teach this week. How can you connect the learning in those lessons with things students already know? *Put this into practice this week.*
- 2) Think about one of your classes you are teaching. How can you plan so the students review their new knowledge regularly? What activities are you going to use? *Put this into practice this week.*
- 3) Try making a mind map for a topic you are teaching. When you are confident, teach your students how to make mind maps. Then ask them to make a mind map for a topic you have taught – not copying your mind map. They will all be different.
- 4) *Critical Thinking:* How will you know if the changes you make in your lessons improve the learning of your students?

5. Active Learning

'What I hear I forget'

'What I see I remember'

'What I do I understand' Chinese proverb

Activity

1) Think about your classes for a moment. During the lesson, what are your students doing? Choose from the following suggestions and then add some of your own:

Sleeping	Daydreaming	Chatting
Listening	Copying what you write	Reading
Looking at pictures/diagrams	Watching videos	Field trips (e.g. trip to market)
Watching a demonstration	Answering questions	Being actively involved in an activity
Working with other students	Making models	Discovering the topic (as opposed to being told it)

2) Think about when you do an activity where the class gives you responses. For example, asking them questions.

a) When your students are giving you responses, how many students are involved? One? Two? The whole class?

b) If some students are not involved in the activity what are they doing?

3) *Critical thinking*: Think about the activities from Question 1). Which activities do you think would be the most useful for learning? Why?

Didactic learning

Most of us grew up with teachers who taught in a didactic style. Wikipedia¹ defines didactic teaching as: 'In didactic method of teaching, the teacher gives instructions to the students and the students are mostly passive listeners. It is a teacher-centred method of teaching and is content oriented. The content or knowledge of the teacher is not questioned. The process of teaching involves the teacher who gives instructions, delivers content, and provides necessary information. The student activity involves listening and memorization of the content... lecture method which is one of the most commonly used methods.'

In a didactic classroom, some students may learn very well. However, many daydream, switch off or mess around which means they don't process and understand the lesson. Research into teaching and learning shows that didactic teaching is one of the least effective ways to learn.

The following table shows one suggestion for the percentage of information retained by students being taught by different methods:

¹ https://en.wikipedia.org/wiki/Didactic_method

	Teaching method	Percentage of information retained
Didactic	Lecture	5%
	Reading a book	10%
	Watching a video or presentation with images	20%
	Demonstration	30%
Active	Discussion group	50%
	Practise the content by doing	75%
	Students teach other students	90%

This table shows us that to improve student retention of information, students need to be more active in lessons. It is very difficult to eliminate didactic teaching methods, some things just need to be told to students and unless good textbooks are available, students need to make good notes of what they are learning to review later. However, I would encourage you to attempt to gradually increase your active teaching.

I can't teach without some didactic teaching. Students need good notes on a topic and some things are very difficult to teach without a lecture. **However didactic teaching can *always* be processed by students doing something active.** For example, you could use active note taking to turn most didactic activities into active activities.

Active learning

One source² defines active learning as:

- The attainment of knowledge by participating or contributing.
- The process of keeping students mentally, and often physically active in their learning through activities that involve them in gathering information, thinking, and problem solving.
- The process of having students engage in some activity that forces them to reflect upon ideas and how they are using those ideas.
- Requiring students to regularly assess their own degree of understanding and skill at handling concepts or problems in a discipline.

Active learning engages most of a class in the learning experience. Classroom activities are designed to make all students think and process information. There are many benefits:

- Can improve student test scores up to 15%.
- Increases in student attention.
- Improvement in retention of knowledge.
- Helps students learn how to learn for themselves.
- Makes learning more enjoyable.
- Teaches skills that are more than just copying, listening and remembering.

Learning to teach in an active style takes time, particularly if you have not experienced it yourself. But it's worth the effort!

² Where's the evidence that active learning works?, Joel Michael, journal of Advances in Physiology Education, 30: 159-167, 2006

Active learning activities

This section will give you lots of different activities you can use in your classes to get students active. Once you've tried some out, try and invent some that fit your subject.

Think Pair Square Share

Often questioning in class looks like:

Teacher: 'Jack, tell me about how mountains are formed?'

Jack: [wakes from slumber] 'Sorry Sir, can you repeat?'

Teacher: 'How are mountains formed?'

Jack: [embarrassed and awake] 'By rain sir.'

Teacher: 'Wrong. Lili, what's the answer?'

With Think Pair Square Share, the *whole class* answers the question:

Teacher: 'I want you all to think about how mountains are formed'

[leaves one minute thinking time, write question on board]

Teacher: 'I now want you to tell your partner as much as you can about how mountains are formed.'

[leaves two minutes for discussion, students learn off each other what they know. If there are students without pairs, put them in groups of three]

Teacher: 'I now want you to join pairs into groups of four and share what you discussed'.

[leaves two minutes for discussion, students share what they discussed. If there is a pair that doesn't fit into a group of four, make them into a group of six]

Teacher: 'Group one, tell me something you discussed'

[Group one shares, confident now that they've already shared with each other a couple of times. Teacher corrects if wrong, or encourages if correct]

Teacher: 'Group two, tell me something you discussed'

As you can see, this method ensures every student in class is involved in the discussion about the question. This works with any size of class too!

This method also encourages shy students to answer in front of the class. Once they have discussed the answer with a partner, they often have more confidence to share their answer with the whole class.

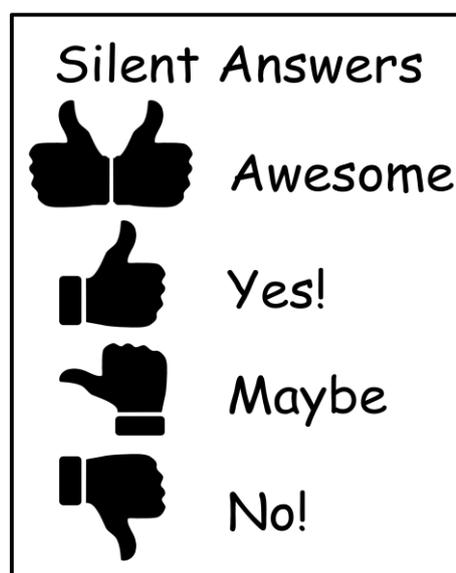
You can omit discussing in pairs or in groups of four if you need to save time.

Thumbs

This is a great activity for asking true or false questions. It is also great for assessing whether your class understands a lesson or not.

Students can communicate with you and the class by giving one of the gestures shown on the right.

Examples:



Teacher: 'True or False: Durban is the capital of South Africa? I want you to think for 10 seconds and then give me thumbs up for true, thumbs on the side for I don't know and thumbs down for false.'

[The teacher then scans the class to check for answers and asks students whose vote they cannot see to make their vote clearer. Finally, the teacher tells the class the right answer]

Teacher: 'Show me how well you understood today's lesson. Thumbs up means really well, thumbs on your side is so-so and thumbs down means terribly.'

[The teacher then scans the class to check for answers. The teacher asks further questions if students didn't put their thumbs up, for example 'what did you not understand'. This will help the teacher plan a future lesson to help the students or if the student has a simple problem to sort it immediately.]

I recommend using this as a quick check to see that students followed your lesson at the end of every lesson! Don't feel bad if your students don't always understand your lesson fully. Sometimes topics are challenging and not all students will understand fully. Other times you may have explained the lesson poorly and need to improve your explanations.

Fist to five

Like thumbs, except there is a larger range of answers that makes this activity useful in different circumstances.

Students can display the numbers 1–5 on one hand (or 1–10 on two hands).



This can be used in many ways:

a) To answer multiple choice questions, as a class e.g. What is NOT required for fire:

- 1) Oxygen
- 2) Water
- 3) Fuel
- 4) Heat

(the answer is 2)

b) To answer numerical questions e.g. What is $5 \times 2 - 1$? (answer is 9). I often use this as a first activity after teaching a new equation in Physics, e.g. $F=ma$; If the mass is 5kg and acceleration 0.4 m s^{-2} , what is the force? (answer is 2 Newtons)

c) To give a strength of feeling about something: e.g. How much do you like Toamasina where 1=hate it, 3=neutral, 5 = love it?

d) To identify the names of different parts of a diagram, for example a diagram of a cells (biology). Write down a numbered list of cell parts. If you can, involve the class by asking them to tell you the names of all the parts of a cell. Then draw the cell, and as you add each part students show the number of the part you have just drawn.

If the question you are asking is very challenging, you could combine this activity with think pair square share, where the group can discuss the answer first.

Modelling

It is often hard to understand how things work that we can't see. For example, what a cell looks like, or how a volcano works. To do this we often use models.

A model is a simplified representation of a real thing. For example, a toy car is a model of a real car. In some ways it is similar. It has wheels, a body and windows. It can 'drive' on a road. In many ways it is different. It has no engine. There is no steering. It has no lights.

A toy car could be used to teach someone who has never seen a real car what a car is like. It gives someone something they can touch and see. It helps them think about what a car does and looks like.

You will use models already in your teaching, often drawn diagrams. However here I'm going to propose *active* modelling, where students are involved in the model, either making the model or being part of the model.

An example: An electric circuit with a battery and light bulb. This example is shown on the book cover.

Theory: Electrons flow around an electric circuit that contains a battery from the negative terminal to the positive terminal.

The Model activity:

- 1) Show students a real electric circuit, with a battery, wires and a bulb that lights up (if possible).
- 2) Give every student a small stone, or piece of paper that is crunched up into a ball. The stone or ball of paper represent electrons.
- 3) Have the class stand in a circle. You may need to go outside to find space.
- 4) Place the 'electron' in their left hand. Instruct them their left hand **will not** move.
- 5) Instruct them to pick up the 'electron' with their right hand then pass the electron to the left hand of the person to their right. (Stand in the circle and model this). This moves their electron along to the next person.
- 6) Once they have got the basic idea, ask them to move their electron when you say 'pass on'.
- 7) Repeatedly pass on electrons until students get the idea of electrons moving in a wire.

8) The model can be extended by:

- Having one student whose job it is to be the switch – they say 'switch on' and 'switch off' to start and stop the electron movement (with a little prompting from the teacher).
- Another student could be a battery – turn the battery round and the electrons will go in the opposite direction.
- Increase the speed of the electrons being passed on – this simulates an increase in current.
- Have a student count the number of electrons passing a point. This is a bit like using a coulomb meter to count how much charge has passed a point.

9) Draw the circuit diagram at some point in this activity, so students can connect the diagram with the model and the real circuit.

10) Discuss with the class how the model is similar and different to the real thing:

Similar: electrons move from negative to positive; when the switch is off the electrons don't move;

Different: there are many more electrons in real life; many more 'electron carriers' in a real wire; electrons move very slowly around a real circuit.

12) You should ask a few students 'what are you representing in this model?' The correct answer is the wires.

Summary

Models are a very powerful tool to help students understand something they can't see.

There are three types of model:

- Models drawn on paper.
- Models can be physical models like toy cars. If students can make these models in groups, it is great for their learning.
- Models can involve people, like the model of a circuit above.

Think: What models could you make for your subject? Try to think of models that groups can make, or the whole class can participate in. Discuss with other teachers and try the models out in lessons.

Questioning

Giving a class a set of questions helps students engage with the topic and learn the important points. After a didactic teaching session, you should leave time at the end of the lesson for students to answer a set of questions about the important points. This makes students review the important points from the lesson, strengthening their memories.

A few points to note when writing questions:

- Include easy questions that review the key points of the lesson.
- Don't only ask the questions where students will repeat knowledge. Ask harder questions that get students thinking. See the later chapter on Bloom's Taxonomy.
- Remember in many questions there may be no right answer or more than one correct answer. A couple of things I've observed in Madagascar:

- Teachers can mark students wrong if they use a different correct method for solving a problem in mathematics. This is bad practice!
 - Teachers can give bad grades in art when a student has been creative rather than simply copying the teacher's drawing. This is bad practice!
 - Include a more challenging question or two at the end of any set of questions to challenge the stronger students.
 - Modelling answers: Often harder questions will be too difficult for students the first time you ask them. You might have to help them to understand how to think about and answer harder questions.
 - *Open questions* allow multiple answers ('Tell me about your day'), and *closed questions* have only one answer ('What is the capital of Madagascar?'). Try and include open questions in your teaching.
-

Card sort

Children learn very well through games. A card sort is a game where students take a pile of cards and match them up.

In the example below, students cut along the lines and then match the word with the definition:

Modelling	The whole class can display an answer, using their hands.
Think Pair Square Share	Asking students to answer questions in their notebook.
Fist to Five	Created to help understand a complex or invisible system.
Thumbs	Giving some students some structure to help weaker students or to help with more difficult questions.
Questioning	Students think alone, then share with a partner, share with a group of four and finally share with the whole class.
Scaffolding	A method by which students can indicate true/false or how well they understood a lesson.

You could handwrite or print a card sort and get your class to cut it up.

Card sorts take a long time to make, however you could print them on card or laminate them. Once finished get your students to jumble the cards up then pack them neatly with a paper clip or in an envelope. You can then reuse them. If well designed, students will enjoy this activity and find it a useful knowledge review.

Scaffolding

Scaffolding is a technique teachers use to make it easier for students to answer a question or solve a problem.

Students often get stuck when they answer a question that requires long answers or contains multiple steps. Scaffolding splits the task up into smaller, more manageable tasks that help students who are finding it difficult to complete the task.

For example: Imagine an essay question like 'Write a one page essay detailing electricity production in Madagascar. Include recommendations for future generation'.

Weaker students will get stuck and not know where to start. Help them to structure their answer by breaking the task down into smaller chunks. You could ask them to answer the following questions in order:

- a) What types of electricity production are there in Madagascar?
- b) For each type of electricity production write down:
 - i) How much electricity is generated.
 - ii) What the pros and cons of this type of generation are.
 - iii) Where you can find this type of electricity generator.
- c) Discuss the pros and cons of each type of electricity generation.
- d) Suggest how Madagascar should develop electricity generation further.

Other types of scaffolding include cloze passages (sentences containing blanks for students to fill in) which are ideal for reviewing key points and teaching vocabulary. For example: A _____ is like a monkey, except it lives in Madagascar.

There are many other ways of scaffolding.

Fady

'Fady' is Malagasy for 'taboo'. Another game. This one is for learning words and their meanings.

- 1) Write a list of words that students should know on a piece of paper.
 - 2) Ask a confident student to come up to the front of the class. Show them a word and ask them to describe (to the class) what the word means. If the student is struggling, scaffold by asking some questions to prompt them. The word the student is describing is fady which means the student is not allowed to say it.
 - 3) The class then guess what the word is by shouting out or putting hands up.
 - 4) Pick another student and give them another word. You could pick the student with the correct guess but ensure a variety of students take part.
-

Opinions line

Students love to share their opinions on a topic, and this activity is a great way to generate some discussion among your students.

Consider the question 'Do you think that the government is doing a good job of education?'

Ask the students to stand on the left of the classroom if they think the government is doing a good job and the right if it is doing a bad job. And if they think it is doing an average job, students should stand in the middle.

Then ask students to discuss with those around them why they have that opinion.

Finally pick individual students to share their opinion with the class. They should try and convince the other students of their opinion. Students should move places if they change their opinion.

As a teacher, you need to be careful to express a balanced opinion or none on controversial questions like this one.

Active note taking

Use this method as an active learning replacement for a lecture or reading a book.

- 1) Ask students to make notes of the important points in a lecture or something they read.
- 2) Ask students to share what they think the important points are. Write the correct points down. All students should be listening to the answers and checking they have the important points written down.
- 3) Add anything they have missed.

This ensures that the weakest students get help spotting the important points while the strongest students get to work them out for themselves.

A variation for a weak class might be to write notes in cloze form where there are blanks that contain key words that need to get filled in by the students. If the students are finding the blanks hard to fill, give them a list of words they could use. Ensure you always give them the right answers at the end of the lesson, so their notes are correct.

Play

Play is important for children, particularly children in the first few years of school. Through pretend play children learn about themselves and the world, can act out life issues, develop complex social and thinking skills, and review existing knowledge and skills.

For all students play can be motivational and provides excellent opportunities for learning and review. For older students 'playing' with numbers, ideas or words can help students gain a greater mastery of a subject. Trying things out and seeing what happens helps people quickly achieve mastery.

Experts recommend young children are given the opportunity to play for an hour a day in school. Teachers can set a topic for the play by providing some simple props, but children need to be then free to create and play as they wish. If the topic is unfamiliar it is unlikely students will engage well with it.

For young children, you might introduce a topic, for example 'farmers' and then introduce a few props that are relevant, for example wooden blocks to represent crops or sticks of wood to represent farming instruments, then let children play. Props don't need to be complex, it is the children's imagination that is important.

As a teacher, you should engage in their play by asking them to describe what is going on or joining in. When teaching French, you could ask them to play using French only, but make sure you introduce the words they need first!

You might also include chants, songs, rhymes, dances, games, videos, arts and crafts in your lessons. All these can be used creatively by asking students to invent, for example a new song that teaches some French words or a dance that represents plants growing. Arts and crafts help students improve the use of their hands which is a skill young children need to learn. And if you give them the freedom to create new art they will grow in their creativity.

Summary

For most teachers in Madagascar, the activities in this chapter suggest a huge change to how you teach. It will take you a long time to put into practice the ideas in this chapter. Work on it bit by bit – you don't have to change everything at once!

There are many ways of engaging students more in class by getting them active. Actively engaging students in lessons will significantly improve student enjoyment and engagement, teach a wider variety of skills and improve retention of information. The extra effort is well worth it.

Questions

- 1) Why is important to answer some questions or do another active activity after reading this chapter in this book?
- 2) Which active learning strategies could you use in class easily? Plan some into your lessons this week.
- 3) Which active learning strategies would you find hard to use in class? Why?
- 4) There are many other active learning strategies, some which you will use already. Can you think of any?
- 5) *Critical thinking:* What are the advantages and disadvantages of active learning?

6. Bloom's Taxonomy

'Who dares to teach must never cease to learn.' John Cotton Dana

A teacher called Bloom suggested a taxonomy (classification) of learning activities. His taxonomy will help you create learning activities that teach a range of skills students will require throughout life. Bloom's taxonomy teaches us there is more to education than remembering facts and understanding. The taxonomy encourages us to create excellent classrooms where a wide variety of educational activities can take place.

Bloom identified six categories of educational activity:

Level one: **Remember**: Recall facts and basic concepts.

Level two: **Understand**: Know why a fact or concept is true.

Level three: **Apply**: Use what you know in new situations.

Level four: **Analyze**: Examine methodically and in detail, to explain and interpret something.

Level five: **Evaluate**: Using many pieces of information to form an opinion or argue a case.

Level six: **Create**: Produce new or original knowledge, work or things.

Think/Discuss

1. Which of these categories are taught in the Malagasy education system?
2. Which categories are not taught in the Malagasy education system?
3. *Critical Thinking*: Why is it important to teach each of the categories? Try to think of an example in life outside of school where skill in each of the categories is important.

Why are skills in the higher levels of Bloom's taxonomy important?

Dining in Foulepointe, I ordered rice and sautéed vegetables. It wasn't an option on the menu, but there was an option of rice, chicken and sautéed vegetables. There ensued a lengthy discussion with the waitress:

Me: 'I'd like rice and sautéed vegetables.'

Waitress: 'You can't have that!'

Me: 'Why?'

Waitress: 'It's not on the menu.'

Me: 'Does the kitchen have vegetables?'

Waitress: 'Yes.'

Me: 'Does the kitchen have rice?'

Waitress: 'Yes.'

Me: 'So you can cook rice and vegetables?'

Waitress: 'No... it's not on the menu.'

Me: 'What about rice, chicken and vegetables... without the chicken.'

Waitress: 'I can't do that.'

I hope you can see how absurd this conversation is. The waitress was stuck to a rigid set of rules and had no way of thinking creatively and doing something new. Students who lack education, or who are only taught the skills lower down in Bloom's taxonomy will be like the waitress. But those who are taught skills higher up in Bloom's taxonomy are more likely to be able to come up with creative solutions to problems. This will help them create new businesses, deal sensibly with hardship etc...

Exam scores may also improve as when students don't know something, they are more likely to be able to work it out for themselves.

The next section of the chapter will deal individually with each level in Bloom's taxonomy. There will be examples of activities you could do in a class. These examples can be changed to fit your subject.

Teachers Tip! When planning lessons, don't spend too long worrying about which area of Bloom's taxonomy a class activity fits in – it can be challenging, and some activities fit in multiple levels. However, do spend time trying to include activities from all levels of the taxonomy.

Level one: Remember

Activity ideas

- Give the name of an object.
 - Write a cloze passage on the board that students copy and complete. This engages students better than students copying what you write. For example:
Antananarivo is the _____ city in _____.
- Word bank:** Madagascar Spain Largest
- At the end of a lesson, students write down the key points from a lesson. Then they pair up and compare their notes with another student.
 - Play Fady to revise definitions of words (see the Active learning chapter).
 - Give students five homework questions that ask students about the key lesson facts.

Discussion

This is about remembering facts, words, definitions and equations.

Questions that test knowledge usually have only one correct answer. They look a bit like:

'What is the chemical symbol for Uranium?'

'List the names of three towns on the west coast of Madagascar'

'What happened that caused a change of prime minister in Madagascar?'

Teachers Tip! If students don't remember important facts, it may be because they don't know what they need to know. You should point out facts students may need in a course exam, and emphasise the most important ones.

Level two: Understand

Activity ideas

- Teach facts, as well as why the facts are true. E.g. Antananarivo is the capital of Madagascar *because* that's where Madagascar has always been governed from.
- Ask students to write something in their own words.
- Ask questions that require more than just facts, for example why is a mosquito net more important when sleeping at night than during the day?
- Read a text that contains arguments for and against capital punishment. Then write a list of supporting and opposing arguments.
- Discuss why disassembly and discontent start with 'dis'.
- Ask students why a lemur is a mammal not a reptile.
- Identify the adjectives in a sentence.
- Translate a text into a different language.

- Use models (discussed in the Active Learning chapter), to help students understand things they cannot see.
- Use images or videos to help students see the things you are teaching them about. Even in a large class, you can have groups watch a slide show or video on a small screen while other students are doing written work. For example, when teaching about Malagasy geography, you should show pictures and videos of different rocks and landscapes from across Madagascar.
- Carry out experiments to find out new information.
- Explain to a partner why untreated water can make you sick.
- Research the difference between different religions.

Discussion

To develop understanding you should explain why. You should also ask students to try and write something in their own words. Ask students to identify the main ideas, or in languages, ask them to translate.

You may need to work on your understanding of the topics you teach. Be open to being wrong in your understanding. Despite having taught science for many years I often learn new things when I teach.

Level three: Application

Application is using facts and understanding to solve simple problems.

Activity ideas

- Solve $x^2 + 6x - 12 = 0$
- Work out how much rice you can buy for 2000Ar.
- Calculate the gain in potential energy when a 50kg man climbs up 20m.
- In the language you are studying, pretend you are in a market, haggling for goods. Work in groups with one person selling and another buying.
- **Sketch** a map of your school. **Sketch** means create a diagram showing the important parts – this is more than drawing a diagram the students remembers.
- Make up a puzzle game to revise the ideas from the topic.
- Suggest animals that are reptiles based on their appearance only.
- Have a debate in class.
- Solve problems to do with the subject area.
- Think of other examples of what you are teaching, e.g. 'Can you think of other examples of words beginning with 'dis'. Do they fit the pattern?'
- Sort ideas into different categories, e.g. sort shapes into ones with straight edges and ones with curvy edges.
- How should a Christian behave in ... situation?

Discussion

The application of facts and understanding is essential in many jobs. Therefore, it is essential that you expose students to application questions. Like all new skills, students will find application difficult to start with. Application is more challenging than knowing facts and understanding so you can expect students to make more mistakes in this area, and you will probably need to show them how to apply their knowledge.

Level four: Analysis

Analysis is defined as 'Examine methodically and in detail, typically in order to explain and interpret something'.

Activity ideas

- What is the difference
 - How is Stella Maris different to Happiness school?
- Compare and contrast (compare = say what is similar. Contrast = say what is different)
 - Compare and contrast a lemur and a fish.
- What is the underlying theme of the book?
- Can you explain why ... happened?
- What are the advantages and disadvantages of private schools?
- Investigate
 - Investigate how changing the way rice is grown can improve the yield.
This involves thinking of a way of finding out how changing the way rice is grown changes the yield. You might carry out an experiment with some rice paddies. Or you might read some books written by rice experts.
- Examine
 - Examine how a complex system works, for example the life cycle of the malaria parasite, or an engine.
- What if?
 - What if humans didn't know what we learnt today?
 - What would the world be like if humans had as many children as frogs?
 - How would Madagascar change if contraception was available to everyone?
- Analyse
 - What were the motives behind the presidential coup?
 - Why are foreign companies very reluctant to invest in Madagascar?
 - What is causing my illness?
 - Why has the doctor prescribed me this medicine?

Discussion

Good analysis is difficult. In many areas, one must recognise that things are not clear cut. For example, different people would come up with different answers to many of the questions above.

Analysis is often taught well through group work, where groups discuss a problem and then share with the class. As a teacher, be prepared to show students how you analyse a problem as they will learn from seeing your thought process.

Teachers Tip! You need to be humble enough to know your opinion may not be the only correct one, and your method may not be the only way to solve a problem! Be open to your students teaching you something, or solving a problem by a different method, particularly in subjects that often seem 'black and white' like mathematics and science.

Level five: Evaluation

It has taken me a long time to learn how to evaluate fruit in a market. Malagasy fruit is very different from British fruit, and a trip to the market can be a challenge. Initially I had no idea what the fruit

was, if it was ripe, or if the price was right. After making many entertaining mistakes, like buying rotten mangoes, squash instead of papaya and struggling to get jackfruit sap off a knife, my evaluation skills are better... but still not as good as locals!

Evaluation is a skill that is different in each field of learning and is learnt through trying many times and making lots of mistakes. It's often best learnt by doing it with other people. And like analysis there is not always a right answer to evaluation questions. I like ripe papaya, others like it green.

Activity ideas

Many students find evaluation particularly difficult so it's worth doing these tasks in groups and then giving feedback to the class at the end of a session.

Some ideas of classroom activities you could do are:

- Review a lesson, book or sports game. Say what is good and bad about it and how it could be improved.
- Select the best equipment for a science experiment. Different scientists might use different equipment to do the same thing.
- Suggest how something could be improved.
- Identify subject areas which you find difficult and need to study further.
- Prioritise the responsibilities of government.
- Prepare a presentation about how to solve Madagascar's malnutrition crisis.
- Rate food sellers near the school using a list of criteria the students produced.
- Have students mark each other's work.
- Discuss the good and bad points of a certain religious group.

Discussion

Some types of evaluation are:

- **Judge.** Judging is when you use the information you have to make a decision. For example judging which argument is correct in a court case. Judge whether all the recommendations of a doctor are correct.
- **Select or Choose.** Similar to judge, except you are choosing the best thing from several choices... e.g. **Select** the best teacher for a job, choose the best fruit.
- **Decide.** Similar still to select, e.g. decide if you should learn English or not.
- **Justify.** Justify means make an argument for something. For example, *justify* why the school you teach at is a good school. To answer this, you would give me all the reasons the school is a good school.
- **Debate.** Debate is like justify, except you are looking at two sides of an argument. For example, debate the reasons for and against the statement that education is worse than it used to be.
- **Rate.** Give a score to something. For example, rate food cooked by different people.
- **Prioritise.** Choose from a list the least and most important things. For example, 'prioritise what you should study'.
- **Recommend.** Based on your knowledge of a subject make a recommendation. For example recommend a course of action to deal with the cane toad invasion around Toamasina.
- **Evaluate.** Students could self-evaluate how much they learnt in a lesson and display it to you by using thumbs or fist to five.

Level six: Creating and Synthesis

I've been teaching Science, Mathematics and Computer Science for many years. When I came to Madagascar, I was asked to teach some English. I'd never done this before however I was able to apply my teaching knowledge, understanding and skills to create successful new lessons in English.

Creating new things requires you to take existing knowledge, understanding and skills and apply them to something new.

Activity ideas

The words in **bold** are key words to do with creating or synthesis. Many activities at this level will contain these words.

- Students **compose** a song about the importance of teeth brushing.
- If you were the government, how would you change education in Madagascar?
- **Design** an experiment to investigate which mug keeps drinks hot for the longest.
- **Devise** a new way to make learning fun.
- **Can you see a solution** that will help us train every teacher in Toamasina?
- How many ways can you think of to get from here to Tana?
- **Design** a new painting of something that you have not seen.
- Write a story about...
- **Invent** a bicycle for a person with no legs.
- **Create** a new product. Give it a name and plan a marketing campaign.
- **Design** a new house.
- **Work out** some new knowledge based on what you already know. This can be used to great effect in science class if you help students to derive formulae (rather than just writing the derivation on the board), or use their understanding of one thing to **predict** another.
- **Fix** a type of machine you have not seen before.
- Solve a problem that requires knowledge and understanding from many topics.

Discussion

Creating and synthesis can be challenging however they are the most important activities in Bloom's taxonomy. Creating this course took a lot of time and effort. It's much easier to deliver an existing course that has been written than a new one.

As a teacher, creating is an important skill to develop. After working through this book, you will have lots of new ideas from which to create new and more successful lessons!

Review activity

- 1) What struck **you** as being important about Bloom's taxonomy? How will this change how you teach?
- 2) Create **six** activities you will use in your classes over the next **two** weeks. Each activity will focus on a **different** level in Bloom's Taxonomy.

This activity might take a long time. Don't worry! As your teaching becomes more varied and creative, everything will become quicker and more natural to you.

- 3) *Critical Thinking*: Why is it important to teach at all levels of Bloom's Taxonomy?

7. Assessment



Why assessment?

'I want to learn how to see inside the heads of my students' Dominique, Toamasina

Halfway through term, Mr Robert has been teaching great lessons to his class and expects them to do very well in school examinations. The class are enthusiastic about their studies, highly engaged and are his favourite class. And then in the exams, there is a shock! The class achieve terrible scores and are lacking in basic knowledge and understanding. Mr Robert is shocked and complains: 'How could they not have the basic knowledge and understanding that they seemed to be learning so well?'

Discuss

Does this problem sound familiar? Why do you think Mr Robert was so wrong?

What went wrong?

The main problem was simple:

- Mr Robert thought that because his class were enthusiastic and engaged, they were learning. He had not measured how much they were learning.
- Because the lessons were going so well and were fun, the students thought they were learning well and so didn't need to revise much for the exam.

Students were learning, but not as much as they needed to.

Why assess?

- Assessment helps **students** to gain confidence because they can see they are learning new things.
- **Students** can self-assess their learning using a list of things they should be able to do. Students can then study things they don't know.
- Assessments make **students** review learning, which strengthens their memories.
- The **teacher** uses assessment to 'see inside the student's heads' to see what they have learnt, and what they haven't. Using this information teachers can work to improve the teaching of difficult topics and provide extra assistance for struggling students.
- End of year and government assessments compare students with a nationally accepted standard.

Types of assessment

There are three main types of assessment:

- Assessment that gives you and students immediate feedback, called **formative assessment**.
- Assessment that is in the form of a test or practical work, set by the teacher or school.
- National or end of year examinations.

Assessment that gives you and students immediate feedback – formative assessment

Formative assessment is very valuable. In formative assessment, students quickly find out if they were successful in a task. And teachers quickly learn if their lesson was understood by students.

This knowledge is powerful. It helps students to reinforce correct memories and highlight incorrect ones. It helps teachers identify what students find hard, things to review or that they need to teach another way.

What are examples of formative assessment activities?

Think Pair Square Share: This was discussed in the Active learning chapter. During the part where the groups share their ideas with the whole class, you can assess what the groups are thinking and give feedback to the group about right and wrong answers and why.

Thumbs: This was discussed in the Active Learning chapter. The teacher can see how well the whole class understands and then explain the correct answer.

Admit Slips: When students enter the room, every student receives a slip of paper. There are questions written on the board that test knowledge from a previous lesson. Students write their name and answers on the paper.

Once most students have finished (don't worry if the slowest students don't finish), review answers and feedback by one of:

- Choose a few slips at random and check the answers. Tell the class the correct answers as you go along.
- Mark all the slips and store the marks in the grade book.
- Have students swap slips and mark them.

A large class could be split into groups with one slip per group. This reduces marking and gives students the chance to learn off each other.

Questioning one student: In this activity, you choose a student in class and ask them a question. Useful when you want to move quickly through the lesson as many other activities take longer. However only one student is involved at a time. When doing mathematical problems, I ask individual students to explain the solutions. Take care to ask students who are quiet as well as the enthusiastic ones who always put their hands up.

All shout out: Particularly useful when teaching languages or new words, ask the whole class to answer questions verbally *at the same time*. The question needs to be easy and with a one-word answer. The volume from the class will tell you if the students know it! It is also a useful exercise for practicing pronunciation – students need to be able to pronounce a word before they vsn learn the meaning.

Exit slips: The same as entry slips except students fill them in at the end of the lesson. Choose questions to help students review the lesson. For example, ask students to write: Name; What I learnt today; What I found interesting; A question I still have about the topic. Read the slips to assess what the students learnt.

Students assess other students (peer assessment): In a large class, marking can be challenging. However, there is good news: you don't need to do all the work of assessing students. Students can mark each other's work. Given clear instructions on how to mark, students will do a surprisingly accurate job. A couple of examples are:

Example one:

- 1) Students sit a short test.
- 2) Students swap their test with another student. You clearly explain the answers and how to mark the paper. While you do this the students mark the test. Questions that are hard to mark such as essay questions can be marked by students and reviewed later by you.

Example two:

- 1) Ask students to write a paragraph, describing the city of Toamasina *in English*.
- 2) Ask students to swap the paragraph with another student and correct any errors they see.
- 3) Students return the paragraph and discuss the marking in pairs. If there are any questions, they should ask their teacher.

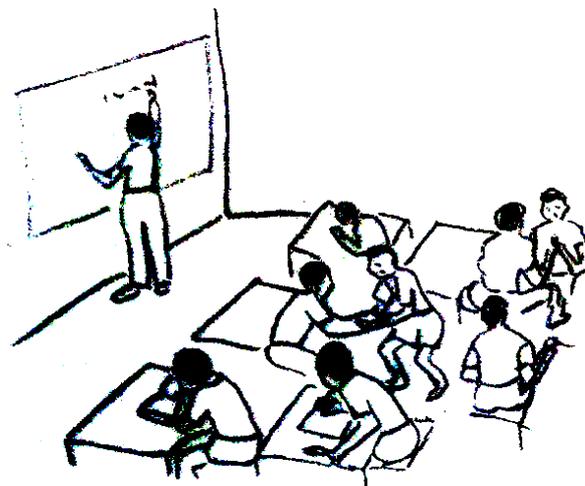
Give students descriptive feedback: In order to improve, a student needs more than '3/10'. You need to write a little to help them, such as '3/10. Revise fractions'. The comment has to assist the student in knowing how to improve. Remember positive feedback is important e.g.: '8/10. Big improvement'.

Use Mini-whiteboards, or a slate: A great way to assess a whole class is by asking students to write an answer to a question on a slate. Once everyone has finished, ask them to hold up their slates. I often pick a slate and ask the class to tell me 'what is good about the answer' and then 'what could be improved about the answer'. If you have a large class, you could do this activity in groups where each group has a slate. Students learn from each other and you'll have many less answers to read.

Fist to five: In the active learning chapter, we discussed using fist to five for a whole class to answer questions. Use the results of this to assess how students are performing.

Self assessment: The same as peer assessment, except students mark their own work. Both self-assessment and peer assessment help students to engage with test review and shows them how an exam is marked. This helps them do better in future exams.

Watch body language of the students: The body language (how a student sits or looks) can tell you if the students are engaged and following the lesson, or are lost, daydreaming or asleep. Do the students look as if they are following your lesson?



An attentive class?

Tests set by the teacher or school

While formative assessment should be carried out in almost every lesson, tests are things you do less often.

Carried out correctly, tests serve many purposes:

- A review of recent course material that strengthens memories.
- Gives students an incentive to review work they recently studied.
- Allows students and teachers to identify things they are good at and things they need to study more.
- Provides students the opportunity to complete questions like final exam questions.
- Makes teachers think about what they expect students to be able to do.

Teaching science with Mercy Ships I saw students for about four hours a week. I would carry out the following tests:

- A small test that takes 15 minutes on Thursday every week. Students like routine and remember to revise for tests that are on a regular day.
- At the end of each topic have a longer test that takes about 40 minutes.
- Have a practice exam a few weeks before any major examinations.

My tests would contain questions that cover the key points the students needed to know from the current topic. About half the marks came from questions asking students to recall facts or demonstrate simple understanding. The other half were harder questions requiring problem solving, short essay answers or skills from the upper levels of Bloom's taxonomy.

I also performed occasional practical assessments where students would carry out an experiment, draw graphs of their results and analyse what the results meant and how to improve the experiment.

When giving a test, always give students a few days' notice and details of the part of the course you will examine. Then students can go home and prepare for the test.

Discuss with a partner: What sort of tests do you carry out in your subject? Do you think you should change the tests you do? Why are tests important?

Common types of test

Written tests: In written tests students write down their answers. The test score is judged by what they have written. The questions are written on the board or printed on paper. Written assessments suit most subjects. However, for practical subjects like woodwork or cookery, they can be unhelpful. Someone can be an outstanding woodworker or chef yet be unable to read or write.

Listening and Spoken tests: These are mainly used when teaching foreign languages, though also suit practical subjects where students may not be able to read and write. In these tests students' ability to understand what is said in a foreign language and speak the language is tested. This is very important as listening and speaking is key to effective interactions in a foreign language.

If the class size is small, a teacher can find time to talk to each student while the rest of the class are given written work. But how can spoken assessments be carried out with a huge class? Here are some ideas:

Listening

- Choose a text in the language being taught. Write some questions for students to answer that shows their understanding of the text. Then read the text to the students two or three times, and have the students write answers to the questions. Mark their answers.
- Students translate sentences you say. Mark their answers.

Speaking

- Ask students to talk about a topic in groups. Each student should spend some time speaking. Ask students to grade each other's speaking.
- Ask a few students a question and grade their answer. You could ask the class to discuss what was good about their answer and how they could improve. If you do this with different students every lesson, after many lessons you will have a grade for every student.

Reading tests: Students read a text written on the board or printed on paper. They then answer questions about that text.

Practical assessments: For many students, doing something physical is a wonderful way of connecting theory with real life. Practical work – science experiments, creating art or playing sport is important because much of what students will do throughout life is practical.

Art is more than copying pictures accurately. The best artists create *new* work that is different to what has been created before.

In science, there are lots of experiments you could do without specialist equipment, for example:

- Investigate what floats or sinks in water.
- Test for starch using iodine solution.
- Plant a fruit tree or other seed and measure its growth. Then plant the fruit tree somewhere and watch it grow until they can eat its fruit! Assess the students based on the quality of their observations of growth, drawings and any conclusions they draw.
- See my website <http://mada-enseignants.org> for more science teaching ideas.

Assess students based on their success in carrying out the experiments and the quality of the experimental writeup.

In sport, you could assess by watching one student for five minutes in a game. What do they do well? How could they improve?

Homework activities: Homework exercises are great review exercises for students. Remember that students can talk to other people and read their notes when completing homework. This means a student achieving 20/20 in homework might not understand the topic.

Marking

Marking student tests accurately and fairly and quickly is very important. There are some key things to note with marking:

- Return student work quickly. It is little benefit for students to receive marked work they completed months ago.
- Make sure you have a clear mark scheme that students can understand. That way both you and students know what is expected.

- It is possible students may give a different, correct answer that you have not thought of.
- If lots of students misunderstand the question you have asked, your question might be unclear, and you must award marks for the students' understanding of the question.
- When you mark some work, try to include encouraging comments as well suggesting how to improve on a piece of work.

Reducing marking workload

A common mistake is for teachers to feel they must mark *everything* a student does. This is not true! However, for every activity students must know how well they have done and how to improve.

Some alternatives to teacher marking are:

- Students mark their own work. The teacher explains the mark scheme clearly.
- Students swap their work with other students. Each student marks another student's work.

Having students mark the work has **huge** benefits:

- When discussing the answers to the test (which must be done), the students are actively engaged in checking to see if answers are correct.
- You don't have to mark the work of the whole class.
- Students get to see how other students have answered questions, and if the answers are good they can learn from them.
- Students develop a better understanding of how tests in your subject are marked.

There are a few drawbacks:

- You must be prepared to enter into discussion with students about the mark scheme. Sometimes they may have a correct answer you didn't think of, or they may need help deciding if an answer is correct.
- Some questions are very hard to mark. For example, essay questions. Teach students how to mark these, but it is good to mark them again yourself, so students have confidence that they received the right grade.
- It is essential you mark the most important tests yourself.

A few other thoughts

In my experience, cheating does occur but is uncommon. Deal firmly with any students that cheat, for example fail a cheating student and give them a resit exam

If students know that the purpose of a test is to show them their strengths and weaknesses, then they may be less inclined to cheat. Don't get angry if students haven't succeeded, unless they have not prepared for the exam. The important thing is what the students do with failure. After a test, students could write down the things they need to improve, and how they will improve their studies.

National or end of year examinations

It can be months before the results of this type of assessment are released to students. Therefore, these assessments do not assist students in the learning process, however they do allow a government to assess the ability of students and provide a certificate for suitably strong students.

You have little control over these examinations, so this section is short. It is essential for them to remain as corruption-free as possible, and you must do everything in your power to ensure that

students cannot buy their way to success in government examinations. As soon as it is easy to buy an examination, the qualification loses its value.

If you mark, invigilate or set national examinations, be careful to work with integrity and encourage others to do likewise. Don't use inside knowledge of the upcoming national exam to your student's advantage or allow cheating.

Grading

Is 50% always a pass? Is 90% always a top grade? I don't think so! If a paper is tough, 80% might result in a top grade, because there were many very challenging questions. Once you have been teaching a few years, you can use your experience and judgement to work out if a paper you have written was easy or hard. You could then increase the scores for all students if the paper was hard or reduce them if it was easy. If you give letter grades e.g. 'A' or 'D', you may wish to change the score required to get a grade depending on how hard the paper is. In class exams you should expect students to get grades a little below what they will achieve in a final exam, as they will have more practice before the final exams.

A few other thoughts about assessment

Students could write their grades down and track their performance to see if they are improving.

Your school team should design assessments carefully. Keep them safe and reuse them. You should not need to always be writing new assessments. Keep important examinations that you intend to reuse secure by not allowing students to take their papers home.

Summary

Assessment is a very important tool that helps teachers and students know how well they are doing. Used correctly it can make your teaching and students much more successful.

Questions

- 1) What new ideas has this chapter given you?
- 2) What will you change in your teaching because of this chapter?
- 3) Try out some new formative assessment techniques in your classes this week. Which techniques worked? Which ones didn't?
- 4) *Critical thinking:* Think about your national examinations.
 - a) Write down five good things about them.
 - b) Write down five things you'd like to see improved.
- 5) *Critical thinking:* Do you think the current examinations system in your country works for all types of student?

8. Achieving examination success

"While testing can be useful as an assessment tool, the actual process of taking a test can also help us to learn and retain new information over the long term and apply it across different contexts." Association for Psychological Science³

One school can achieve much better exam results than another school, with similar students. How do they do that? This chapter is all about how to make your students successful in examinations.

Discuss

- 1) Why do you think some schools are much more successful than others in examinations?
- 2) What do you think you can do to improve the examination results of your students?

This chapter discusses four things that are key for exam success:

1. Students studying well.
2. School culture.
3. Assessment and interventions.
4. Put exam practice in lessons.

1. Successful exam study

There are three things that are important for successful exam study:

- a) Students do useful study activities.
- b) Students practice.
- c) Students seek help when stuck.

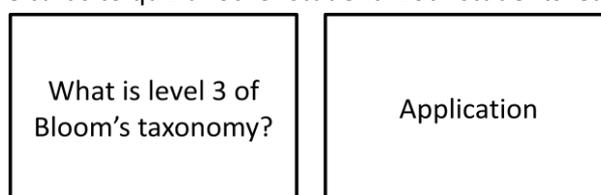
a) Students do useful study activities

You should finish your courses early to allow time to study in class. Some suggestions follow for what students can do in class or at home:

- Ask groups of students to prepare a revision 'presentation'. Split the class up into groups and give each group a different mini-topic. Make it clear what you expect:
 1. Students to review all the key points.
 2. Students to lead some sort of activity or quiz to review the topic in an active way.
- Play fady, to review words (see the 'Active Learning' chapter)
- Mind mapping topics (see the 'How people learn chapter'). One example activity you could do is as follows:
 1. Choose a few topics to revise in class (at least three).
 2. Take a piece of A4 paper for each group. Write the name of **one** of the topics on each piece of paper.
 3. Each group gets a piece of paper with a topic. Give the group some time (up to 10 minutes) to write *as much as they can* about the topic on the paper. No books allowed!
 4. Then swap the papers with another group. Groups read and correct what the first group wrote, and add anything they can.

³ <http://www.psychologicalscience.org/index.php/news/releases/testing-can-be-useful-for-students-and-teachers.html>, accessed August 2016

5. Keep swapping the papers. Once most ideas have been written down allow students to use books to help.
 6. During the activity walk round the class correcting and reminding students of things they may have missed.
 7. Finally, the papers should go back to be read by the group who started the activity.
 8. Consider sticking the best ones on the wall outside the classroom as a revision resource.
- Ask students to use their books to make mind maps of each topic individually.
 - Tell students when the exam is and expect them to revise.
 - At college or lycée level (for students age 12+), give students a list of what they need to do for an exam. This is saying what **could** be in an exam **not** what is in **your** exam. Students then can revise all the appropriate areas. Encourage students to make more effort to study the things they are unsure of. As a teacher you should also have a list of what students need to do in exams.
 - Students make flash cards. A flash card has a question on one side and an answer on the other. One student can use the cards to quiz another student. Both students learn.



- Make sure students have great study notes. Check their notes are getting written well.
- Ask students to make their own summary notes about topics. The notes should include:
 - The key definitions you need to know.
 - The key points you need to know.
 - Examples of any problems they may have to solve.
- Setting good homework helps students know what to do at home. Some suggestions:
 - Make summary notes or a poster about a topic.
 - Set students questions. Questions should be easier than those seen in class to avoid students getting stuck without support.
- Tell students that making an effort will improve their results.
- Make a home revision timetable for students in advance of their exams. The timetable will tell them when to study each topic. Give more time for content that was learnt a long time ago which will have been forgotten.

b) Students practice

For students to succeed they need the chance to practice exam style questions. Some suggestions:

- Students work through a printed book of questions at their own pace. Some will finish them all. Others will do a few questions. Make sure you have an answer book that students can borrow to check their answers.
- Split the class into teams and have them compete in a TV style game show.
- Write up exam questions on the board. Students work on them in groups or individually.
 - Tell the students the answers before the end of class.
 - Expect some students to work faster than others. Have something to do for those who finish.

c) Students seek help when stuck

Encourage students to ask each other for help when stuck. They shouldn't ask you if their friends can help. This encourages students to teach each other which enhances learning.

2. School Culture

The culture among students in a school makes a huge difference to exam results. Let's consider the culture of two schools:

School A

Students are pleasant and attentive in class however success at school is not seen as a good thing. Successful students are not popular and sometimes bullied by their classmates and work away quietly at home or in the library. Books and study materials are nowhere to be seen during break and lunchtime. Many students claim that school is 'for dummies'. Teachers are mostly good at teaching however most of them do little to convince students that education is important. School A has a culture where academic success is not important.

School B

On my first day teaching, I was surprised to see students sitting out with their books, reading, studying and discussing lessons with friends. Students still found time to play games and have fun, but it felt like their academic studies were important and only the best results would do. In class most students were diligent and hardworking, and successful students were admired and respected. A few students did not care for education. School B has a culture where academic success is important.

Why is the culture so different?

I observed a several differences between the schools:

- Parents in School A had low expectations for their students. However, parents in School B expected their children to achieve excellent results.
- Teachers in School B had higher expectations of their students than teachers in School A. Research⁴ suggests that students often achieve the expectations of their parents or teachers.
- Teachers in School B prepared their students better for examinations than teachers in School A.
- Students in School B wanted to succeed more than those in school A. Some students who didn't care much about education were encouraged by the majority who do. I remember one girl who joined my class who had terrible results in her previous school. Her scores jumped at least 20% over a few months because of the better school culture.
- The management of School B checked on the performance of students regularly. Students that were heading for poor exam results were spotted and helped.
- Excellent academic performance was always celebrated in assemblies and classrooms.

How can you change the culture?

Encourage excellent or improving students in your classroom. Congratulate the best and most improved students in class. Weaker students should also be given realistic goals and praise when they reach their goals.

⁴ <http://files.eric.ed.gov/fulltext/EJ1081569.pdf> accessed September 2016

Use whole school assemblies to celebrate achievement, perhaps giving certificates to students for effort as well as academic achievement.

Parents or guardians should be told by the school how important their children's education is. Help them to see how a well-educated child will be much more successful throughout life. If parents are enthusiastic about education, then the students' effort will increase. Also help set parental expectations for students and help them to see how their lives could be improved by their children's education.

Some students try hard but get poor grades. These students must be recognised for their effort. I strongly recommend giving a grade for effort in addition to the class grade. I always told my students that I don't care about their exam grades I only care about effort. If a student works as well as they could in class, does the best they could with homework and revises effectively they receive a good effort grade. Remember that a student who produces poor work may be working as hard as they can.

Subject knowledge

As a junior teacher, I was enthusiastic but had gaps in my subject knowledge and understanding. I often asked colleagues for advice that helped me improve my understanding of what I was teaching. They also suggested ways of teaching challenging topics. Sometimes they didn't know the answer either.

You must promote a culture in your school where teachers can ask each other for help, ideas and resources without any judgement. In Scotland, we have an online network of Physics teachers who share the resources they have produced. There are also associations that promote science education and assist teachers. The sharing culture makes us all better teachers. It's also important to promote a culture where teachers ask for advice about dealing with difficult classes or students.

You must also know the course examination very well. You should have completed many of the examinations yourself and have marked them using the official mark schemes.

You can find some subject resources linked from <http://mada-enseignants.org>. If you have excellent notes for your subject, consider sharing them with other people for free.

3. Assessment and interventions

A French teacher told me she was shocked that *all* her pupils had failed their writing exam. She was surprised because she had not assessed them and did not know their ability. You and a student should rarely be surprised by a fail.

Firstly, work out how well a student *can* do. What is their best work like? Then carry out regular assessment that shows the level they are working at.

If students are not doing as well as they can, talk to them. Maybe their pet died last week and they are upset. Maybe they have lost motivation and need encouragement. Or maybe they need help with a difficult topic.

If students need more help, there are a few options:

- Arrange a study session for the student alone with the teacher. This may be difficult to arrange or too costly for the student.
- Join an extra study class with the teacher. This may also be too costly for the student.
- Have a top student work with them and teach them. This benefits both students. The top student learns because they are teaching, and the weak student learns by being taught. Make sure that both students understand what they are doing will help both of them.
- Parents need to know their students are struggling. Maybe they need more space to study, more food, or more encouragement. However, expecting parents to teach students what you should teach them is not acceptable. Family will sometimes offer tuition, but not all families have the skills or time. I repeat, it is not OK to expect parents to teach their students, that is your job!

You should keep a record of class exam results over the years. This will help you track whether the results are improving or getting worse. You can then try and identify why the results have changed,

4. Put exercises which contain exam style questions into lessons

In the French class where the students failed their writing exam, they failed because they were not given the opportunity to practice writing! Their teacher showed students *how* to write but never gave them practice writing.

In most lessons you should include practice questions. Try and have some easy questions and some hard questions. Include at least one question from level 3–6 of Bloom's Taxonomy. You should write questions that test knowledge and understanding of the lesson content. This ensures students review the lesson and can learn.

If you don't have enough time for practice, try one of the following:

- Be on time. If your lesson starts on time, you will have more time for questions.
- Explain a bit more quickly. When students are doing questions, if a few did not fully understand they can ask for help.
- Print the notes. Copying notes takes a long time.
- Ask students not to copy the questions; only answer them.

Questions

1. What ideas were new to you in this chapter?
2. Which ideas would you like to implement in your classes? Plan how you will do this now.
3. What will you do differently when you are close to the exams?
4. Do you have a list of what students need to be able to do in your subject? If not, start to make one up as you teach.
4. *Critical thinking:* Which idea do you think would make the biggest difference to students? Why?
5. *Critical thinking:* Which idea do you think would make the least difference to exam results? Why?

9. The Extra-curriculum

"There is more to school than getting good marks, and in Britain schools are not just about your brain but about sport and arts and finding lots of different ways of excelling. The British system may focus less on results, but it nurtures self-esteem, personality and character, which is something totally missing from the French system and this is tragic." Peter Gumbel, educational researcher⁵

Discuss

- 1) Can you think of people you would like your students to become like? What is special about them?
- 2) How can you encourage your students to be more like the special people?

Many schools believe the main reason for education is examination success. This is important and will always be a large part of what schools do, however there are important things to teach which are not examined that could improve students' and their communities' lives.

To improve the lives of your students, include extra-curricular teaching. This is teaching stuff that is not part of the examined curriculum.

There are a huge number of extra-curricular options. Schools and teachers need to decide which ones are important. Focus on the options you believe are important, relevant to your lessons or you are passionate about. And remember you can't do everything!

Extra-curricular content can be integrated into regular classes. The way teachers interact with students may help students grow in confidence and self-esteem. Choosing an appropriate text for study may deal with some extra-curricular issue.

Some extra-curricular content can be taught in special extra lessons. Some schools also offer clubs and activities which are run outside of normal teaching hours.

Essential extra-curriculum

School should prepare our students to succeed in life. The following are a few life skills I believe every school should aim to teach their children:

Making use of what students have

- How to feed a family with healthy, cheap food. Eating rice alone is not healthy.
- Using efficient cooking methods such as the fuel-efficient stove on the right.
- How to grow plants effectively.
- How to make compost from waste to help plants grow.
- Managing money well.
- Teaching how to live as a strong community.



⁵ <https://www.theguardian.com/world/2010/sep/05/french-schools-pupils-feel-worthless> accessed August 2016

Helping students be employable

- Having a good work ethic. Many Malagasy are unemployable because they have a poor work ethic or are unreliable.
- Teaching basic technology skills. It's difficult to employ someone you can't phone or email.
- CV and interview skills.
- Entrepreneurship skills – helping people to setup their own businesses.
- Choosing university subjects that will lead to a job.

These skills could be taught in extra classes.

Staying healthy

There is a lack of understanding of basic health issues in Madagascar which means some people are not as well as they could be. Improving health education in schools will improve the health of the nation. Some ideas:

- Ensuring students are wormed and vaccinated regularly.
- How to prevent malaria and other mosquito borne diseases.
- Basic hygiene: latrines, hand washing with soap and safe food preparation.
- How to treat water to make it safe to drink.
- Prevention of diabetes by avoiding sugary foods and drinks.
- Sexual health.
- Family planning education, teaching all to use contraception so a woman can avoid having more children than she can feed.
- How to eat healthily when pregnant and breastfeeding. A varied diet (rice, beans and green vegetables) is important. Make sure children are breastfed or where impossible use formula. Rice water is **not** nutritious and will **not** help a baby grow. Avoid alcohol while pregnant. Eating green vegetables when pregnant does not cause birthmarks.
- Education to help students avoid drug and alcohol addictions.
- Dealing with common illnesses, including help knowing when you should go to the doctor.
- Dental care.

These topics could be taught in classes such as biology and science. Make sure classes on these topics are integrated into the curriculum as much as possible, or have a program of special classes. A local nurse or doctor could provide training for school staff if required.

Living to enhance the economy

- Buying locally produced rather than foreign goods.
- Running a small business.

How schools teach these skills may vary. Some of the following extra-curricular options can be used to give our students these skills.

Other extra-curricular options

There are many other great extra-curricular options which follow:

Self Esteem: To have self-esteem is to have confidence in one's ability and think positively about oneself. Having confidence and self-esteem significantly improves success in life.

Where Taught: In all activities and classes in the school.

How Taught: How you treat your students in school helps them in their self-esteem. If you tell them they are stupid, they will develop low self-esteem. But if you look for their strengths and praise them, they will grow in confidence that they can do well and are valuable. Extra-curricular activities such as outdoor education, sport, music and drama build self-esteem.

I have heard of teachers in Madagascar who rule with fear, swear at, hit or otherwise make students feel bad about themselves. This type of behaviour will make your students hate your subject and perform poorly. It is normal at times for your students to frustrate you. Aim to be patient, explain clearly, deal fairly with behaviour issues and encourage students in the things they can do.

Leadership: Great leaders are essential for the success of any school, business, community, and country. Whoever your school teaches, some students will have the opportunity to lead in future.

How Taught: Give students positions of responsibility in lessons and in the school. You could have each class or year elect representatives who represent the opinions and feelings of students at a monthly meeting with school management. You could have a head and deputy head boy and girl who take on responsibilities such as assisting at parents' evenings, giving speeches etc... Ask community leaders to come in and share their role in community. Contact HELP Madagascar in Toamasina for details of a leadership course for students.

Attitude to money and possessions: Many people in the world view money and possessions as more important than people and relationships. Is this a healthy view or not? I suggest that prosperity is not wrong, but prosperity at the expense of others is. It is better to have a modest income and look after your staff and the environment than have a huge income and exploit them. Many corrupt practices are also unjust. It is fair to pay tax but not bribes. Teach children that accepting or giving bribes is to be avoided.

Also, it is important to teach the value of saving money and giving. Too many people waste their income instead of spending it wisely. Teaching parents how to manage money might enable school fees to be more reliably paid.

How taught: Teachers are role models for students, teachers model the right attitudes. Classes about money management.

Principles: Strong moral principles are valuable to promote in students. Honesty, justice, fairness, valuing other people, taking responsibility for actions, forgiveness, hard work and integrity.

Where taught: In all school activities.

How taught: Teachers should model these principles as much as they can, accepting the reality that people are fallible. Expect and teach students to act with good principles and behaviour in class. Model fairness and justice in class. Expect students who make a mistake to take responsibility for the consequences. Forgive students who have made mistakes in the past.

Empathy: Schools should encourage students to understand people in situations other than their own and help them where they can.

Where taught: In all school activities.

How taught: Help students to understand each other's struggles, model sympathy and compassion for students who are having a hard time. In some subjects, students can read about people's lives and situations and learn to empathise with them. School could support poorest students with free school meals or providing employment for parents who can't pay fees such as working at the school farm or maintaining school buildings.

Community development: Schools should help students learn to serve people in need. Some suggestions:

- Teach students to cook meals and serve them to local people in poverty.
 - Plant fruit trees in the community.
 - Learn about health issues in the local community and then go out and teach their family and friends about it.
 - Bake cakes and sell them in aid of a local charity.
 - Students clean up litter in the area around their school or community.
-

Curiosity: Developing an interest in learning and asking questions.

Where taught: Lessons.

How taught: Encourage students to think of questions to ask about the topic you are teaching, even if you don't know all the answers. Make the lessons interesting and give examples that connect with the lives of students where possible. Provide extra reading materials for interested students.

Communicators: Good, clear communication is an important skill.

Where taught: Lessons, after school activities.

How taught: Encourage group discussion, class discussions and debates in class. Have students try to improve on the descriptions given by other students. Students should complete extended writing tasks. Use drama in your subject, or in after school clubs. Run a club where students are coached to give interesting speeches on a topic.

Computer literate: Where possible, students should have the opportunity to learn as many computer skills as possible. This is a challenge, particularly in schools where many students struggle to afford a pen and paper for class.

Where taught: Lessons, special classes.

How taught: If you have a computer, tablet or smart phone, you could have pairs of students use it for an activity. Show students how to look up information using the internet. See <http://mada-enseignants.org> for some great resources you can use or install on your computers.

Higher-level thinking skills: Teaching lessons that contain aspects of higher-level thinking skills from Bloom's Taxonomy will significantly benefit students in future.

Where taught: Lessons.

How taught: Use ideas from the Bloom's Taxonomy chapter.

Life skills: Skills to succeed in life. Health, money management, time management, interview skills, careers guidance, preparation for study after school, and many more. Helping students respond well to traumatic events such as deaths or disasters. Teaching students research skills.

Where taught: Some life skills can be taught in curriculum classes, e.g. money management could make a good maths lesson. However, many skills will need extra time set aside for them.

Music: Music has always been an important part of human life and culture.

Where taught: Lessons and extra classes.

How taught: Consider teaching songs in lessons (as part of learning about a subject). Have some traditional Malagasy music classes. Offer students instrumental lessons with an expert teacher.

Dance: If not taught at home, school could teach local cultural dances. Or provide modern dance classes.

Drama: Having students involved in drama productions increases their confidence and self-esteem.

Where taught: In lessons or extra classes.

How taught: Small dramas are great fun to act out in language or Malagasy lessons. Larger productions where an audience may come and watch would take place in extra lessons. These are great for improving confidence, communication, and teamwork skills.

Working as a team: Many active learning strategies where students work in groups will help promote team work.

Personal safety: Staying safe is important. There are many physical dangers (like roads or the sea), as well as dangers from people. Some key ones:

- Teaching students basic health and safety to reduce risk of personal injury.
- Teaching students about the dangers of the sex industry or paedophiles, and how to avoid them.
- Teaching students how to avoid being exploited by unscrupulous employers, particularly overseas.
- Teaching students about avoiding the trap of addictions (drugs/tobacco/sex/alcohol), and where to go if they or a friend are struggling.
- Teaching students how to avoid fraud that loses them money.
- Teaching girls about the risks of getting involved in prostitution.
- Teaching students to respect money while resisting the temptation to love it.
- Teaching students how to avoid theft of their possessions.

Where taught: Often in special classes.

How taught: A special curriculum needs to be developed that covers the above points and more.

Physical Activity: Physical exercise daily is important as it reduces the chance of heart disease and diabetes, whilst improving happiness and quality of life.

Where taught: Most schools have special physical education classes. Some teachers coach school sports teams. Many students adore sports and being part of a sports team increases their motivation across the rest of the school.

Hobbies: Some schools have clubs where students can get involved in a variety of hobbies, like chess, board games and craft.

Enterprise: Teaching students how to run small businesses.

Where taught: Could be part of a mathematics class, or extra classes.

How taught: Simple things like home baking sales are popular. Have students work in groups and come up with ideas of what they could do to earn money. Then give them a small amount of money (e.g. 5000 Ar) to start their business with. The goal is to make as much profit as possible. Profit could go to the students, or some charity. You will need to support some students in their ideas and only provide the money when they have a viable business plan. Of course, some businesses may fail.

Reflective: Learning to be self-reflective is challenging. Reflective students are aware of what they know and don't know. As a result, they can work out what they need to focus on to become better. Also students need to learn how to learn lessons from their mistakes rather than repeatedly making them.

Where taught: All classes.

How taught: Having clear learning outcomes for students and getting them to decide if they have succeeded in learning them or not. Encourage students to work out what they are good at, and what they would like to improve at.

Environmental education: Malagasy people rely on the environment around them. It's essential they look after it for their continued survival. A few points to consider:

- How to avoid damaging the environment.
- Teaching students how to successfully keep animals.
- Teaching students how to grow plants successfully.
- Teaching students the value of trees and natural forests.
- Teaching students sustainable farming methods. Research suggests that improved agriculture practices can improve crop yields without requiring expensive chemicals.
 - A Christian perspective in French/Malagasy can be found here: http://www.farming-gods-way.org/field_guide.htm. There are more detailed English resources in other parts of the website. This is a simple and easy to understand way of improving farm output that has a track record of success.
 - An English guide from a secular organisation with similar methods but which is much more complex is found here: <http://www.worldagroforestry.org/downloads/Publications/PDFS/TM17693.pdf> This guide also explains how trees can be beneficial in agriculture.

Where: Biology classes, science class and school trips.

How: Integrate environmental education into your lessons. In Toamasina, Parc Ivoloïna (<http://www.parcivoloina.org/>) runs excellent education programs for local children.

Trades: Madagascar has a shortage of skilled tradesmen that means companies like Ambatovy must employ some tradesmen from overseas. Consider how students could study trades as part of their education, such as welding, mechanics, electronic technician, electrician, plumbing etc...

Christian schools: Christian schools often desire their students to learn about faith and engage in a positive relationship with God.

Where: All classes and activities.

How: Strong Christian faith is built upon a foundation of thorough Christian knowledge and understanding, a living relationship with God, and putting faith into practice by following God's ways in daily life. Some things that may happen in Christian schools:

- A 10–20 minute daily devotional. Variety is important in devotionals. Don't forget to actively involve the students.
- Teachers may pray or share how their faith connects with the subject they are teaching in lessons.
- Students may be given the opportunity to lead sessions or share testimony of what God has done in their lives.
- Bible reading and study is important.
- Schools have strong Christian morals, teaching students how the Bible teaches them to live as well as helping students understand why it is a good way to live.
- Students are not forced or coerced into faith. It is a free will choice.
- Teachers and management run the school honestly, fairly and justly. They don't always get everything right and seek forgiveness from the school community when they fail.
- Avoid the traps of faith becoming over legalistic, lifeless or intolerant of other Christian viewpoints.

Activity

Think about your school:

- 1) What extra-curricular activities are currently taught in your school?
- 2) When are extra-curricular activities taught? When can any new activities be taught? Think about space you have within the school day already, such as a long registration time. You may need to allocate an extra period every week.
- 3) What extra-curricular activities would you like to add to your school's programme? Why?
- 4) What has this chapter mentioned that you think is not important to teach your students? Why? *Note: This is a great critical thinking exercise. You don't have to agree with what I write!*
- 5) How could you include the extra-curricular activities from question 3 in your class teaching?
- 6) How could you teach the extra-curricular activities from question 3 in extra sessions in your school?
- 7) Include some of what you've planned in your lessons and school!

10. Learning Difficulties

When Florina was in the first grade, she started learning to read. Florina's parents were surprised when Florina found reading difficult. She was bright and eager at home, so they thought that reading would be easy for her. It wasn't. She couldn't match the letters to their sounds or combine the letters to create words. Florina's problems continued into second grade. She still wasn't reading and was having trouble with writing.

Gerald loved school and excelled in his Malagasy and Social Science lessons. However, since the start of school he had made no progress in Mathematics. He could not even choose the right money to pay for things or add numbers larger than 10 together. He hated his Mathematics classes and rarely wrote anything or completed the class work which got him in a lot of trouble.

Marc was an average student who was successful in most subjects. However, he found social interactions with the teacher and other students difficult. During class time, he would often make funny noises, and occasionally in lessons he got angry and threw things. When this happened, he got into trouble and the school were considering asking him to leave.

Discuss

Q) Do some of these stories sound familiar? Think about students you have known who have similar problems.

Each of the students in the examples has a *learning difficulty*. This means they find it very hard to learn or behave in the same way as other students.

A learning difficulty can cause a person to have trouble learning and using certain skills. The skills most often affected are: reading, writing, listening, speaking, reasoning, mathematics and social skills.

How to help students with learning difficulties?

Firstly, with all learning difficulties it is important to realise that most students **are trying their best** to do a task that may be hard or impossible for them. Of course, they get fed up with the struggle at times. Encourage them for trying instead of telling them off.

It is also important to recognise that there is a big difference between a *lazy* student and a student with learning difficulties.

Secondly, **good teaching** is important. Ensure your lessons are clear, well managed and students are actively involved in lessons. Plan lessons to contain a variety of different activities. Try to keep notes that students must copy short and to the point.

If you teach very young students, many of their natural behaviours may look like learning difficulties. For example, young students may have a very short attention span or struggle to read and write. Most will overcome these difficulties with a little help, though a few will continue to struggle. For many students who struggle with one aspect of learning a simple intervention is enough.

If you have a student who is struggling in class, you should try the following four things:

1. Identify the problems the student has. Recognise they are probably trying their best but are just not as successful as other students
2. Talk to the student about their problems and chat about how they might improve. Often talking with a student is enough to produce an improvement.
3. Provide extra tuition and support for the student.
4. If you are successful, well done! If not, consider the strategies discussed in the rest of the chapter.

Summary of common learning difficulties

Dyslexia – difficulties in reading and writing.

Imagine it's very difficult to read something other people find easy. Or that your writing gets jumbled up and spelling can be a nightmare. Richard Branson (a billionaire businessman) is a dyslexic.

Dysgraphia – difficulties in writing the shapes of the letters.

Imagine it's very difficult to write words down, you spend all your energy getting the shape of a letter down on the page, so you can't concentrate on the ideas or thoughts you are trying to write down. The famous scientists Albert Einstein and Louis Pasteur had dysgraphia.

ADD/ADHD (Attention Deficit Disorder/Attention Deficit Hyperactivity Disorder)

This is where someone has symptoms of hyperactivity, inattention and/or impulsivity. Imagine that sitting still in one place is very difficult. Your body wants to move around and run, jump, be active, but you must stay in one place all the time. You can't concentrate on what is going on for more than 30 seconds without your mind drifting. Some students with ADD quietly lose attention and daydream. The film producer Walt Disney had ADHD.

Dyscalculia – difficulties in mathematics.

Imagine it's very difficult to do math, the numbers just don't stick in your head. When you try and read numbers, they all jump around and don't stay in order. The founder of Microsoft, Bill Gates is said to have Dyscalculia.

Autism – People who have autism have difficulty with social interaction and social community. They often have repetitive patterns of behaviour. The world is often overwhelming to them which affects their behaviour. They can struggle in a place with lots of people, find social interaction exhausting and feel very anxious if there are changes to their normal routine. The famous composer Mozart had autism.

Stunting due to malnutrition – Children who have been born to a malnourished mother or are malnourished in the first years of their life often do not grow to reach their full physical or intellectual potential. The famous scientist Voltaire and the English Queen Victoria were very small and likely stunted.⁶

Foetal alcohol syndrome – If a pregnant mother drinks alcohol during pregnancy, the child has a higher risk of learning difficulties and physical disabilities. One common symptom is ADD or ADHD.

Discuss

⁶ <http://wphna.org/wp-content/uploads/2013/03/GC-July-August-2010-blog.pdf> accessed December 2016

- 1) Are students with learning difficulties intelligent?
- 2) Can you think of a student who you teach who has one of these difficulties?
- 3) How do you think students with learning difficulties feel?⁷

More detailed information

Dyslexia

Dyslexia is defined as having problems with reading and/or writing.

Symptoms

A dyslexic student may show one or many of these symptoms:

- Reads slowly and with difficulty.
- Good at learning by listening, but struggles to learn by reading.
- Has bad spelling.
- Finds writing by hand difficult, but can give excellent spoken explanations.
- Gets the order of letters muddled when reading and/or writing.
- Writes b's as d's and vice versa.
- Finds organisation of time and materials difficult.

How can you help students with dyslexia?

Different support methods will help different students:

- Photocopy notes for student. Learning will be easier when they don't have to write lots in the lesson. They are better at learning by listening and watching.
- Never take marks off for poor spelling but do correct it. This is not always possible in school or national examinations.
- Provide a quiet area for students to work.
- Use a variety of teaching styles, not just reading text.
- Present material in small bits. Include clear step by step instructions for any tasks. This will benefit all students, in particular dyslexic or dysgraphic students.

• Use large print and big spaces between lines for dyslexia.

- Move the student to the front of the class so your writing seems larger.
- Ensure the board has good contrast, repaint if necessary.
- Use a notebook with large spaces between lines for students struggling with writing.

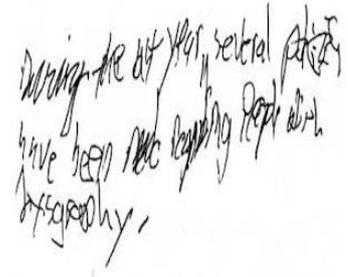
⁷Selected answers:

- 1) Normally yes, though stunting can reduce intelligence.
- 3) Students compare themselves to other students and get upset they aren't doing as well as them. They may feel frustrated they just can't do what everyone else does. Sometimes they give up and refuse to do tasks that they find very difficult.

- Don't tell students off for poor work, help them understand it's OK to find it hard, encourage them to persevere.
- Often students find typing easier than handwriting. If possible, use a typewriter or laptop.
- Dyslexic students learn best by listening to speech or discussion. Reading and writing may hinder their learning.
- **Encourage the student!**

Dysgraphia

A student is dysgraphic if they struggle to draw things including letters and words. The example on the right is for an 11 year old student who is now an outstanding academic despite their dysgraphia.



Symptoms

- Writing is very hard to read, even the student may be unable to read their handwriting.
- Finds doing any tasks with hands very difficult and may avoid these tasks.
- Struggles to write and think at the same time – can copy notes but can't think about them at the same time.
- Clumsy.
- Poor hand-eye coordination.
- Organisational issues – loses things or can't keep a diary or track of time.

How can you help students with dysgraphia?

Different support methods will help different students:

- Photocopy notes for student. Learning will be easier when they don't have to write lots in the lesson. They are better at learning by listening and watching.
- Never take marks off for poor spelling but do correct it. This is not always possible in school or national examinations.
- Teach students to write starting with large movements and then gradually getting smaller:
 1. Write as large as they can in the air.
 2. Write as large as they can on the board. Erase their writing using the same motion.
 3. Write as large as they can on a slate.
 4. Write smaller letters on a slate.
 5. Write large letters in a book.
 6. Write smaller letters in a book.
- Use a notebook with large spaces between the lines.
- Provide a quiet area for students to work.
- Don't tell students off for poor work, help them understand it's OK to find it hard, encourage them to persevere.
- Often students find typing easier than handwriting. If possible, use a typewriter or laptop for written work.
- Dysgraphic students learn best by listening to speech or discussion. Reading and writing may hinder their learning.
- **Encourage the student!**

Dyscalculia

Symptoms

- Has exceptional difficulties with mathematics.

How can you help students with dyscalculia?

- Focus on the things they will need to be able to do to succeed in everyday life.
- Give them work that is of a level they can succeed at.
- Understand it's something they find difficult.
- Encourage them to persevere. Many people with Dyscalculia persevere and improve.
- Differentiate your lessons (see the differentiation chapter). Don't expect a student with dyscalculia to be doing the complex maths you are teaching the rest of the class... but if they are sitting a national exam remember you need to teach them to obtain a few marks in the exam.

Students who struggle to focus and pay attention

Often shortened to ADD (Attention Deficit Disorder) or ADHD (Attention Deficit and Hyperactivity Disorder).

Symptoms

- Hyperactive (ADHD only).
- Impulsive (ADHD only).
- Can't sit still always moving around in seat (ADHD only).
- Gets distracted easily and struggles to concentrate for a long period of time.
- Can do silly things that disrupt the classes (ADHD only).

ADD is a quiet loss of attention that doesn't disrupt other people. ADD is often hard to spot, whereas the hyperactivity makes ADHD much more noticeable.

How can you help students with ADD or ADHD?

- Calm lessons. Avoid too much excitement but keep the lesson interesting.
- Variety in lessons. Activities should last for less than 20 minutes.
- Give the student something to squeeze in class, like a sponge. The fidgeting helps them.
- Allow the student to go for a walk when they need to.
- Give simple step by step instructions.
- Move the student to the side of the class nearer the front. This is because they have fewer visual distractions at the front and side of the class.
- Give the students a rest break. Encourage them to run around. However, running in circles makes them more hyperactive. Encourage running in straight lines e.g. 'run to the gate and back'.
- Reward good behaviour with praise, or a stamp or sticker in their book.
- Look for the student's strengths.
- Help students who do silly things to understand social expectations, e.g. 'Lili, when we are in class you should stay in your seat.'
- Remind students who have become distracted what they are meant to be doing.
- Don't allow students to use their difficulty as an excuse for bad behaviour. They need to find a way of coping with their difficulty that doesn't disrupt your class.

- **Encourage them!**

Students with Autism

Like all the difficulties already mentioned, a student will not have all the symptoms and the severity of the symptoms will differ. Many non-autistic students suffer one or two of the following symptoms:

Symptoms

- Difficulty in starting and maintaining a conversation or engaging with 'chit-chat'.
- Takes phrases literally, which can make it difficult to "read between the lines" regarding understanding proverbs, jokes and common sayings.
- Difficulty understanding different viewpoints, new ideas and broad concepts.
- Difficulty understanding other people's emotions and feelings.
- Difficulty expressing their own emotions and feelings in a socially acceptable manner. May seem calm and suddenly explode or express feelings in an inappropriate way.
- Wants to interact with other people but does not know how to do it.
- Finds it difficult to build relationships and friendships with others.
- Not sure or does not understand the 'social rules' for different settings.
- Anxious.
- Enjoys or requires structure and routine – becomes upset if routine is disrupted.
- Has a strong memory for information, routine and processes.
- Difficulty linking events or actions – understanding cause and effect. E.g. John made a rude comment, so Elise hit him.
- Not much awareness of time which can make it hard for them to complete work on time, arrive at meetings on time or give a good estimate of how long something will take.
- Repetitive behaviours as well as limited intense interests or activities.
- Obsessive interests. For example, may spend hours talking about their favourite toy.
- They can find it difficult to be in a very noisy place.
- Makes funny noises or a tic.
- Students with autism understand the world in a very logical way. Illogical things (such as people behaving differently depending on their mood) are difficult for them.

How you can help students with Autism?

- Get the attention of the child before starting a conversation.
- Speak clearly and keep your sentences short.
- Say things in the order they will happen.
- Tell them what to do. Don't tell them what not to do! E.g. 'Sit down' instead of 'don't walk around the class'.
- Don't use humour or sarcasm unless you are sure they understand and are in the right mood.
- Accept they may need some time alone.
- Try to make your feelings clear. Tell them what you feel. For example, if you are crying, tell them whether you are happy or sad.
- Explain the boundaries and rules for a social situation.
- Encourage the student to interact with others doing something they enjoy.
- Help the person to develop social interaction skills, perhaps by practicing at home or school.

- Use stories as a way of explaining appropriate ways to respond to certain situations.
- Help them understand people by explaining clearly why people act in a certain way.
- Use objects, pictures, demonstrations and written material as they learn well from these.
- Have a consistent, familiar routine in class.
- Be fair and just.
- Give brief, clear instructions.
- Help students break a complex task into smaller parts. For example, if asked to 'Write an essay about Toamasina', you might split this into smaller tasks: 'First write about what you will find in Toamasina. Then write about the things you like about Toamasina. Finally write about the things you would like to see improved in Toamasina.'
- Help the student understand how they should behave (e.g. 'We don't make noises in class').
- Be patient with the student.

Examples:

- A boy refuses to move from one classroom to another. Instead he sits on the floor and starts to cry. The teacher realises that the boy finds it hard to change room unexpectedly. In future the teacher gives plenty of warning of a change to routine.
- A girl shouts at someone in class who touches her. Later the teacher explains to the student that shouting at people makes them feel scared and it's not a good thing to do.
- A boy doesn't realise that what he is saying is offensive to other pupils. The teacher talks to him and explains that he is offending people, and this means they won't want to talk to him.

Stunting

Symptoms

If a pregnant woman is malnourished, or a child is malnourished, the foetus or child will not grow properly. Their bodies will be smaller than they could be and their brains won't develop fully. They will be less intelligent and less able to learn than other children. They are more likely to get sick and more at risk of cancer and diabetes. Around 50% of children in Madagascar are stunted.

How can we help students with stunting?

Once students are stunted, there is nothing that can be done to reverse the process. However, they still have the ability to learn and develop, though some may find it harder than others. Many famous important people from the past were stunted, so don't write them off!

It is important to teach the wider family of stunted children about good diet and family planning.

Better education for all students will improve agriculture, family planning and diet in Madagascar. These improvements should reduce stunting. If your school has many stunted children, can you teach parents how to improve agriculture, family planning and diet?

Foetal Alcohol Syndrome

Children who were exposed to high levels of alcohol in the womb may have a variety of issues. Treat the symptoms and educate parents to avoid alcohol during pregnancy.

General comments

Sometimes students may have more than one learning difficulty.

If a student has a learning difficulty it is not their fault.

There are many rarer learning difficulties. Some are bizarre. A friend associated emotions with mathematics. She enjoyed and was good at adding. However, she was bad at subtraction because the idea of taking things away upset her. If you have a struggling student, take time to talk with the student. Ask them what they find hard and how you can help them.

Questions

- 1) Discuss or write about a student you know who may have a learning difficulty.
 - a) What do you think the difficulty is?
 - b) How will you change how you teach them or treat them as a result of the lesson?
 - c) Talk to the student and ask them what they find easy and hard about your subject and what it feels like. Ask them about things you observe they find difficult.
- 2) How has this chapter changed the way you think about learning difficulties?

11. Differentiation

'There is nothing more unequal than the equal treatment of unequal people' – Thomas Jefferson, founding father of America

Discuss

- 1) Think about your most able students. What percentage of your lessons are they idle for?
- 2) Think about your average students. What percentage of your lessons are they idle for?
- 3) Think about your weakest students. How much of your lessons do you think they understand?

Differentiation is a technique you can use to ensure that all students spend most of their time learning.

I will present two lessons, one that is differentiated and one that is not. The lesson is based upon a real lesson I observed.

Lesson one: A non-differentiated lesson

Learning outcomes: Know the Romans used symbols instead of numbers

In this lesson, ask the students to copy the 'lesson' with the usual explanation:

Roman Numerals

The Romans use symbols instead of numbers:

Symbol	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	...	XIV	...	XIX	XX
Number	1	2	3	4	5	6	7	8	9	10	11	...	14	...	19	20

After 30 minutes, once the slowest children have finished copying, the lesson ends.

Discuss:

What was good and bad about the example lesson?

Discussion of lesson one:

The notes and explanation were clear, and the weakest students had something to do for the whole lesson.

However, there are several serious problems:

- Most students were idle for a large portion of the lesson. The average students spent about 15 minutes writing and 15 minutes idle. The most able students spent five minutes writing and 25 minutes idle.
- This lesson is not *differentiated* – every student is expected to do exactly the same thing. The lesson is aimed at the weakest few students, which means that most of the class don't learn as much as they could.
- There is no assessment, so the teacher does not know if the students learnt anything.

Lesson two: A differentiated lesson:

In a differentiated lesson, there are different learning outcomes for different ability students:

All students: know the Romans used symbols instead of numbers

Most students: can convert between Roman numerals and numbers for numbers up to 20.

Few students: can use roman numerals using the symbol 'C'.

The lesson is presented the same way as lesson one. However, add questions of increasing difficulty that are for the average and stronger students. The students are asked to copy one question before answering it, because they are not expected to finish all the questions in the lesson.

Roman numerals

The Romans use symbols instead of numbers:

Symbol	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	...	XIV	...	XIX	XX
Number	1	2	3	4	5	6	7	8	9	10	11	...	14	...	19	20

Questions: use the information in your note to answer:

1) Write the following roman numerals as a number:

a) I b) II c) VII d) XI e) XX

2) Write the following numbers as a roman numeral:

a) 3 b) 4 c) 14 d) 19

3) Write the numbers 12 to 18 as roman numerals

4) L = 50

Connect the following numbers with the correct Roman numeral

49	XLI
50	LI
51	LXXI
71	L
65	LXV
41	IL

5) C = 100. Write 199 and 180 as Roman numerals

Give the students 20 minutes to copy and then answer the questions.

Then swap copy books and you explain the answers to the problems. Bear in mind the level of the students who might struggle with the problem you are explaining, so for question 1 you give a very simple explanation and for question 5 you can give a more complex explanation for the very able students.

Finally carry out a formative assessment activity using *fist to five*:

1) Show me on your fingers which number is represented by the symbol:

- a) II
- b) IV
- c) VI
- d) IX

2) Write up on the board:

- 1) XVII
- 2) XIX
- 3) XXI
- 4) LXXX
- 5) CXX

Ask students to show on fingers which roman numeral is a) 19 b) 21 c) 80 d) 17 e) 120

Discussion of lesson two

In the second lesson, *weak students* will copy the lesson and perhaps attempt the first question. They might understand the explanation of the first and second question but get lost after that.

Average students will complete questions 1–3 and maybe understand the explanation of question 4 and 5.

Very able students will complete the exercise with few or no errors.

The second lesson contains something for every ability of student as well as including formative assessment so the teacher can see who understands the lesson.

Differentiation theory

Most classes can be divided into three groups of students:

- Weak students: students who struggle with the basic course ideas and are at risk of failing the course. Many classes may have 10–20% weak students
- Average students: students who are successful with the course, but there is no special 'flair' to them. Around about 60–80% of your class will be 'average'.
- Very able students: students who find the course easy and need some extra challenge, so they get the most out of your lessons. Many classes will have 10–20% very able students.

A differentiated lesson is designed so that each of these groups of students spends most of their time learning, and every student is given some sort of learning challenge that they can succeed in.

In a differentiated lesson, copybooks will not be identical as some students will complete more work than others.

There are three types of differentiation you can use:

- Differentiation by task
- Differentiation by outcome
- Differentiation by support

Differentiation by task

Different students do different tasks, depending on their ability.

Examples:

1) In a primary reading lesson, split the class into three groups based on ability. The most able two groups take it in turns to read a text to the group. The weakest group works extensively with the teacher helping them to read while the other two groups work together and help each other.

2) Similar to the example lesson, after the lesson notes have been copied students work through questions. The questions increase in difficulty and are designed to help comprehension of the lesson. Students *should not* copy all the questions before starting to answer them. If the questions are well designed, many students will not complete them all.

3) Have a task for students to do if they finish the class work. The task should be educational, for example read a book from the library, read some news about the subject or work on a project.

Differentiation by outcome

All students do the same task, however what the students produce will vary depending on the ability of the student.

Examples:

1) Write about where you live, in French. Write in as much detail as you can.

Weaker students will write a sentence, stronger students will write a paragraph.

2) Write an essay about how the digestive system functions.

3) Make as many words as you can from the letters: a r t i m s h o

4) In a writing class, accurately copy as much as you can in three minutes, then have a different student check your copying.

5) Have students research a topic themselves using a library, an encyclopaedia installed on a computer or the internet. Students then prepare a presentation about what they've found out.

6) Ask questions that are open-ended, with a variety of possible answers.

Differentiation by support

All students are expected to do the same task with the same outcome. The weaker students are given help to achieve the task.

Examples:

1) Split the class into mixed ability groups and have the groups work together to solve a set of problems. Explain everyone in the group needs to be able to explain the answer to the problems and ask the more able students to help the weaker ones.

2) Pair up stronger and weaker students, with the expectation that stronger students learn by teaching and weaker ones by being taught.

3) Encourage students to seek help from a friend when stuck before seeking help from you.

Activity

Plan how you will differentiate some lessons this week. Share your ideas with a colleague.

12. Child Protection

'Harm or abuse of children can happen anywhere.' Church of Scotland

What is harm or abuse?

Abuse is any type of harm to a child as the result of the actions, or lack of actions of an adult. There are different categories:

Physical: Physical abuse is when a child is beaten, cut or subjected to other physical pain by adults. There is a difference between commonly accepted physical punishment (e.g. smacking a child for misbehaviour) and abuse (beating a child). However, many psychologists encourage parents to use alternative methods of punishment to physical punishment. Physical abuse includes bullying by children.

Mental: Mental abuse is when children are called names, told they are worthless or otherwise bullied using words or by being excluded. This can be more damaging than physical abuse. It includes bullying by children.

Neglect: Children not receiving the love, care or food they need. In Madagascar, many children are neglected due to malnutrition. Their parents love them but are unable to feed them properly.

Sexual abuse: Children being exposed by adults to pornography or led to become involved in a sexual act with an adult. Most sexual abuse is carried out by men, but most men are not sexual abusers. Minors involved in prostitution is sexual abuse.

Radicalisation: Children being lured to follow extreme views, for example Islamic State or similar.

Child Labour: Child labour can be abusive and harmful to the development of children. Local teachers are best to judge whether a child's carers are putting unreasonable expectations on them. In Madagascar, often children must work so their family's basic needs can be met.

All abuse listed above is **wrong** and **harmful to a child** and can cause **damage that lasts a lifetime**.

Signs of abuse

There are many signs a child is being abused:

- Bruises that the child cannot explain, or in unusual places. Not all bruises are abuse!
- A dramatic change in a child, e.g. from being outgoing to withdrawn. Not all changes in children are due to abuse, for example a relative may die or there may be family problems.
- Physical signs of malnutrition. This may result in stunting.
- Young children talking about sex. This is not proof of abuse!
- Children who are very tired at school. This could be because they must work a lot at home... or play computer games all night.

What to do about abuse

Abuse in the community

If you become aware that one of your students is being abused in the community, your school should consider intervening. What to do will depend on your situation:

- Malnutrition: Help parents know what a good diet is for their child. If family size is part of the problem, educate parents in family planning. Consider providing a nutritious lunch at school or referring the children to an aid agency that can help feed them.
- If the parents are not the abusers, discuss a strategy to protect the child with their parents.
- If parents are abusive you may need to contact the ministry of population or call 147.
- Some schools will appoint a staff member who is given time to deal with abuse.
- Go to the police.
- Go to the local 'responsible' (the title given to the area leader in Madagascar).
- Help the child contact relatives who can support them if the parents cannot.
- Orphanages are not a good option; it is far better to have the children looked after in the community.

Avoiding abuse in schools

Abuse happens in many schools in Madagascar. Teachers also can be falsely accused of abuse. This section discusses how you can reduce the chance of abuse happening in schools and protect staff against false allegations.

a) Make sure employees don't have a history of abusing. A paedophile often wants to work with children to have access to them.

- Check references carefully before employing someone. Ask previous employers if abuse has happened. Require a police check for prospective employees.
- Welcome visitors to your school but don't leave them alone with one or two children.

b) Train your employees to act so they reduce the chance of abuse happening and minimise opportunities for false allegations:

- **Reduce Isolation:** Abuse tends to happen in isolated places where an adult is on their own with a child where nobody can see. Reduce isolation by designing classrooms so they can be seen into from the outside.
- **Where possible, the teacher should be with a group of children:** It is difficult to abuse children when one teacher is with many children.
- **Increase accountability:** Teachers should tell their manager when they are running extra classes or tutoring an individual student. Individual tutoring should take place somewhere that other people can see into, such as a classroom with an open door.
- **Staff needs to encourage each other to behave safely** acting in line with the guidelines above. If someone is concerned about the behaviour of a teacher, they need to know who to report it to.
- **Christian schools: Teach clearly about your faith** so children will spot the error of radicals. Teach children to know 'the voice of Jesus' so they don't follow the voice of 'the thief'.

c) Have separate toilets and changing areas for children and adults.

d) Teach children about the issues around abuse:

- Teach about things that lead to abuse – strangers luring them somewhere private alone; inappropriate touching by adults etc. They should know that abusers are often experts at getting to know children and breaking down their barriers.
- Teach about who they can talk to about abuse.
- Teach about the dangers surrounding radicalisation.
- Teach that bullying is unacceptable and help students stand up for themselves.

e) Take bullying seriously. Bullying is mental and physical abuse by other children. I taught in a school with little bullying because students were expelled if they persistently bullied other children.

f) Take underage sexual behaviour seriously.

Discuss: What should you and your school do about this issue?

13. Community involvement

There is a school in the highlands of Malaysia, in a remote area very similar to rural Madagascar. The local people are warm, friendly and prosperous. They are well educated and have a large influence on the distant national government.

Their success comes from two things: Firstly, their Christian faith which set them free from alcoholism and harmful taboos, and secondly their passion for education. Before a school was built some children would walk *a week* to get to secondary school, boarding for most of the year. When I visited it was obvious education was highly valued.

The secondary school was immaculate with beautiful gardens. The caretaker showed us round and explained that each village was responsible for part of the school. Some villages looked after a classroom; others looked after the grounds.

The local people were passionate about the education of their children, and as a result, teachers and children were hard working and successful. This remote school achieved some of the best results in Malaysia.

Across the world countries which value and make sacrifices for education are more successful. Filipino people, whose country is like Madagascar, value education highly. This gives them the skills to work all over the world sending money home. Many Asian people see educating their children as doctors, engineers or dentists as being incredibly important.

Discuss

- 1) How can we involve people from the wider community in schools in Madagascar?
- 2) What difference would it make if community were involved in a school?
- 3) What sort of challenges are there that prevents community involvement?

Parental involvement

I can usually guess which parents will see me on a Parents' evening. If the students are well behaved, studious and trying their best, their parents will visit. If the child is naughty, never does their homework and looks like they want to be somewhere else, their parents will be somewhere else.

Parents who care about education often have children who are successful students. This is because children learn a lot of their skills and interests from their parents. Some parents say there are no jobs for educated children. But just because they can't see any jobs now doesn't mean jobs don't exist or won't exist in the future. And some children will start their own businesses and make new jobs or use their education to make existing businesses more successful.

How can schools help parents get excited about education?

- **Hold parent information evenings**, where all parents are expected to attend. In an evening, you might:
 - Share what students are learning.
 - Share school news and successes.
 - Share important school dates.

- Share success stories of students who have left the school.
- Encourage parents to keep their children in school.
- Encourage parents to engage with what their students are learning, for example having parents ask their children to teach them what they are learning, or to ask about what they are learning.
- Make it a fun, social occasion with some entertainment if possible so parents *want* to come.
- **Report cards** should have more than a grade and a one word comment. Teachers should say something good about a student and something that needs to improve. This means you need to take some time to get to know the students' strengths and weaknesses. Parents appreciate you noticing some positive things about their student even if they aren't perfect.
- **Parents' meetings** are an opportunity to discuss with parents (and often the student) how they are doing, encourage them to keep going and suggest some ways to improve. It is an opportunity to help parents understand the value of what their children are doing. Even if a student is terrible you should be looking at how they can improve and find something they do well.
- **Involve parents in the school** which can increase their enthusiasm for what the school does. Not all parents have time to be involved. Examples:
 - Parents to come to school and teach something they are experts in.
 - Maintaining a classroom.
 - Planting and maintaining fruit trees in the school grounds.
 - Keeping chickens in the school for the benefit of the kids.
 - Coaching kids in football or other sport.
- If parents **cannot** pay fees, find a way for them to contribute to the school instead! Their inability to pay is often due to unemployment. Can they help with maintenance, or work in the kitchen or grounds for a few days? One school bought some land, a long way away from the school. Parents who cannot afford the fees work the land a day or two a month instead. The food from the land is used to feed the children in school. To avoid the children from being bullied and labelled 'poor', the farm is located outside of the school area and the assistance to the parents is not made public.
- Education that **costs money** engages people in education. If people must make some financial investment, it says they value the education. However, it is important that people who genuinely have no money can be educated.
- When students complete a class test, send it home to be returned with a parental signature. Keeping parents informed about how their children are doing is important.

What should parents do at home to show interest in education

- Ask children about their school day in detail, for example, 'What subjects did you have? What did you learn about in mathematics? Can you show me an example of the equations you solved?'
- Talk to students about their class tests and report cards. Praise them for the good things and encourage them to do better in the areas they struggle with.
- Help students have positive aspirations. That doesn't necessarily mean changing the family trade (e.g. farming) but might mean using their education to do it better.
- Expect children to spend time at home reviewing what they learnt at school. Provide a quiet time in the house for them to study.

- Always be positive about education, even if they are not well educated.
- Read to young children from a book. Maybe the school could develop a library of books for parents to read?
- Teach children about the things the parents are good at.
- Encourage children to read books themselves.

Some children have a carer who is not their parent. In this case you should involve their carer as you would involve a parent.

Both parental and community involvement in a school has the potential to make a huge improvement to the results of a school.

Questions

1. How positive are your school community and parents about education?
2. How could your school improve relationships with community?
3. What steps will you take as a teacher to improve your relationship with parents and community?
4. Talk to your headmaster about any ideas you think are important.

14. Lesson Planning

"If you plan for a year, plant a seed. If for ten years, plant a tree. If for a hundred years, teach the people. When you sow a seed once, you will reap a single harvest. When you teach the people, you will reap a hundred harvests." Kuan Chung

Discuss

- 1) How do you plan the lessons you teach now?
- 2) *Critical thinking:* What works well about your lesson planning?
- 3) *Critical thinking:* What could be better about your lesson planning?

Mr Rakoto turned up to class a little late after enjoying his lunch break. He wasn't sure which class he was teaching next but that didn't worry him. After letting the class in he asked one of the students what they did in his previous lesson. He thought a bit and after a couple of minutes he decided to dictate some notes about the topic. They rambled a bit and were longer than was necessary, but he had a whole hour to fill. After the dictation, the lesson finished.

Ms Clare arrived slightly early, and wrote up starter questions to get the class thinking while they came in. The class discussed the questions and Ms Clare wrote down the key points of what they said. She asked them to copy this down, and then used her concise notes to teach them what they needed to know. Then she gave them seven questions about the topic, five recall or understanding questions and two that required them to think more deeply. Just before the end of the lesson the class discussed the answers to the questions.

Discuss

- 1) Which of the above lessons is better? Why?
- 2) Which one is better planned? Why?

Good planning means you will have successful lessons where students learn well. Poor planning means time is wasted in your class, lessons are unclear, and students learn little.

There are three types of planning:

- **Long term planning** where the outline of a course is planned.
- **Medium term planning** where a topic or period of time is planned.
- **Short term planning** where what happens in individual lessons is planned.

Medium-term planning

A medium-term plan is where you plan a few weeks, or a whole topic of teaching.

In a medium-term plan, you plan each lesson very briefly. I suggest you choose a lesson title and write down a few ideas of what you might do in each lesson.

For example, a medium-term plan for this course might look like:

	Lesson title	Ideas for activities
1	Intro, what does good teaching look like and how people learn.	Lots of discussion to get students thinking.
2	What can schools teach? How do people learn? Active learning in the classroom.	Looking at school mission statements Thumbs. Electric circuit model.
3	Bloom's Taxonomy and Language in learning.	Introduce Bloom's taxonomy then do card sort. Homework – bloom's taxonomy activities in the classroom. Discuss student's language issues.
4	Learning Difficulties	Follow textbook
5	Assessment	Follow textbook
6

Planning individual lessons

Planning an individual lesson or a series of lessons on a topic will make your teaching much more successful. When you first start planning it may take a long time as you think in depth about lots of aspects of your lessons you may not have considered before. However, as you become more practiced the planning will become much quicker.

Activity

On the next page you will find a template you could use to plan one lesson. Think about each section:

- a) What is it for?
- b) Why is it important?

Lesson title:		Where and when?
		Class:
Differentiated Learning outcomes:		Homework
All students learn:		
Most students learn:		
Most able students learn:		
What a student needs to know for this lesson?		
Equipment needed:	Learning Difficulties:	Words:
		Behaviour focus:
Lesson Plan:		
Assessment:		
Review of the lesson:		

A discussion of each section in the planning document follows. I'll give examples from a lesson you could teach about nutrition.

Lesson title: A title that sums up the lesson, e.g. 'Nutrition'.

Differentiated learning outcomes: What are the important things students should learn in the lesson? You should use these outcomes to check understanding at the end of any lesson.

Bad learning outcomes: Teach about nutrition.

Good learning outcomes:

All students: Which foods provide protein, carbohydrates, fats, minerals and vitamins?

Most students: What are protein, carbohydrates, fats, minerals and vitamins and why they are important?

What a healthy diet looks like.

Most able students: How students could change their diet to make it healthier.

The bad learning outcomes are unclear as to what exactly will be taught. The good learning outcomes are differentiated and make it very clear what students should be able to do after your lesson. Once you have written clear learning outcomes planning the lesson is easy.

What a student needs to know for this lesson: What knowledge or skills must a student bring to class if they are to succeed in the lesson? You will often have to remind them of this before starting the main lesson.

For our nutrition lesson, I would write: 'Knows a variety of different foods'.

You could review the knowledge by asking students for every type of food they can think of.

You could also consider how this lesson fits into the whole topic you are teaching.

Equipment needed: Do you need to bring any special books or materials to the lessons?

Learning Difficulties: How will you support students with learning difficulties? You might write: 'Talk to Theo about going for a walk when he gets restless', or 'Photocopy a copy of my notes for Roxanna'.

Words: What words will be new for students in the lesson? Make sure you introduce each new word, get the whole class to say the word and perhaps write it in their vocabulary book. Remember it is hard to learn the meaning of a word you can't say. Language teachers often give a word list for students to learn after every lesson.

For the nutrition lesson, words would be: 'protein, carbohydrate, fat, mineral, vitamin, diet'.

Behaviour focus: Is there a behaviour you want to teach students? It might be asking students to listen to each other's answers. Or it might be improving group work.

Lesson Plan: Here you write down what is going to happen in the lesson.

Whenever planning a lesson, remember to ask yourself *what are the students going to do?* Think about how you will get students actively involved in the lesson.

An example lesson plan could be:

Starter (5min): Ask students to 'think of as many foods as possible'. Write foods on board (use left half of board as foods will stay on board for whole lesson).

Main 1 (15 min): Explain learning intentions. Active note taking: Explain what protein, carbohydrates, minerals and vitamins are and why they are important. Ensure students can say the words. Use notes in course teacher's notebook. Ask students what the key points were and write them on the board for weaker students to copy.

Main 2 (10 min): Learn through discovery: For each food that the teacher knows about, ask students whether they think protein/carbohydrates/minerals/vitamins are in it. The whole class votes thumbs up/thumbs down. Initially they will get lots wrong but by the end of it they will be able to guess better (e.g. all meat contains protein).

Main 3 (5 min): Write notes on board of knowledge students learnt in previous activity. Students copy. E.g. all meats contain protein. All vegetables contain vitamins and minerals. Rice and grains contain carbohydrate.

Main 4 (10 min): Explain a healthy diet contains protein, carbohydrates, minerals and vitamins. Think Pair Square Share: What would a healthy meal look like?

Emphasize that Rice alone is a terrible diet. Rice and beans is better. If a family cannot afford a good diet, try to include a teaspoonful of uncooked, dried, ground Moringa leaves in your daily diet. Moringa is an incredible food packed with vitamins and minerals. For those who are richer, more variety is better than less variety, lots of different colours of food on your plate are ideal. Rich Malagasy should aim for 50% fruit and vegetables, 25% protein (beans/nuts/meat), and 25% carbohydrates (rice/potatoes). Avoid sugary foods as they cause tooth decay and diabetes.

Ender (10 min): Think Pair Square Share: Discuss what your diet is like and how you should improve it.

Homework: Here you write homework given out or due. For the nutrition lesson: tell as many people as you can about how to eat more healthily.

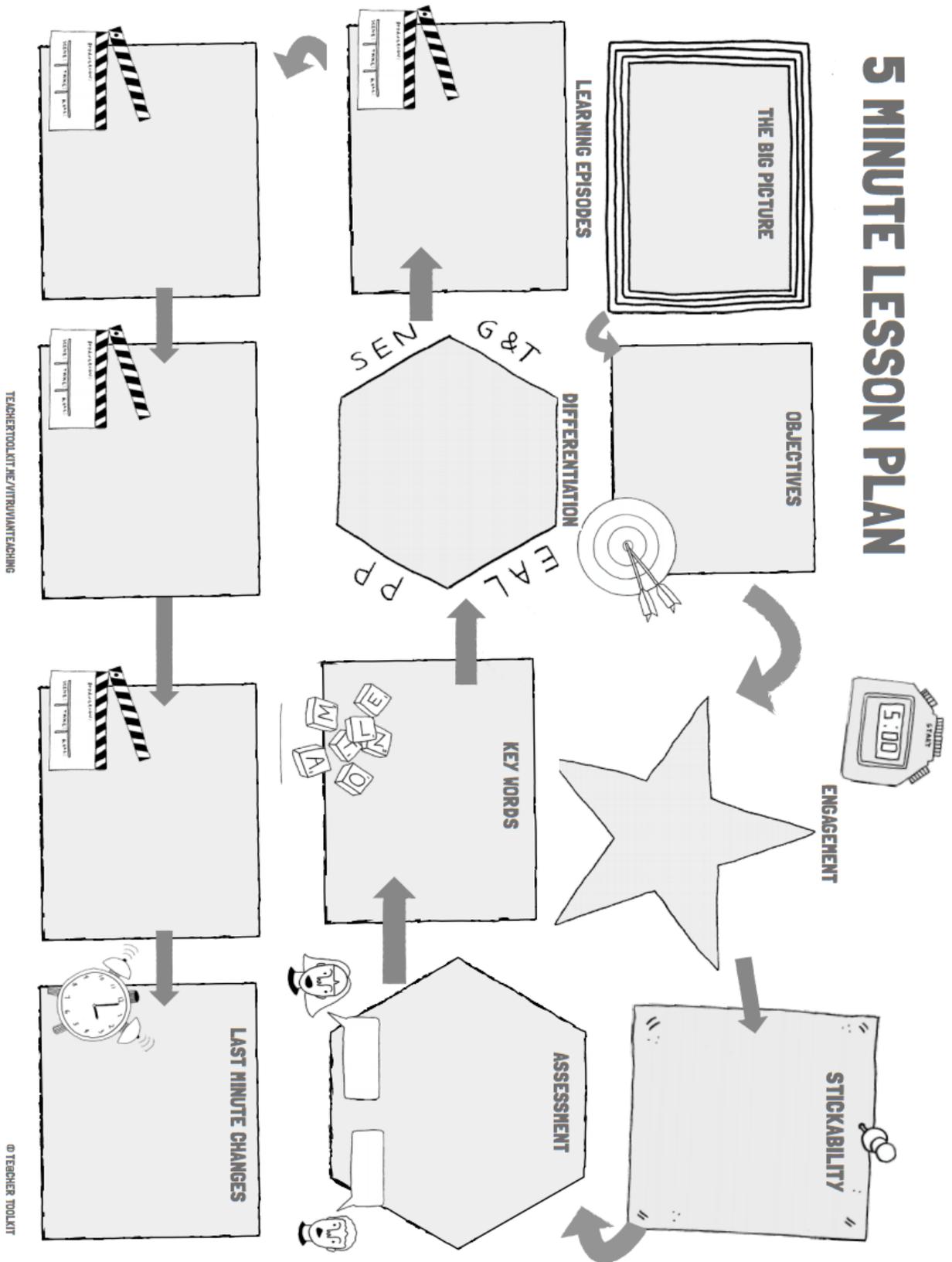
Assessment: What will you do to know the students' have achieved (or not) the learning outcomes? In the nutrition lesson, the ender activity will help you assess the students.

Review of the lesson: After the lesson, you can fill this box out. What worked well? What could you do better next time? This section will help you improve as a teacher. Remember to include positive things too. For example, you might write:

1) Activity, Main 2 and Main 3 were excellent. 2) Students enjoyed the lesson 3) There was not enough time to do the ender properly.

An alternative lesson plan template which is popular with many teachers follows:

5 MINUTE LESSON PLAN



I'll explain the bits that aren't so obvious:

The Big Picture is about how the lesson fits into the series of lessons in your subject.

Engagement is what you do to capture student interest at the start of the lesson, for example using Think Pair Square Share to discuss a question or showing them some interesting images about the topic.

Stickability is what you will do to help students remember the topic, for example using some questions after the lesson to help them remember the topic or including a memorable demonstration.

Differentiation: How will you provide a lesson that works for the weaker students and the stronger students and those with learning difficulties?

Learning episodes: A learning episode is a section of your lesson. If lessons are 2 hours long you may have more than four learning episodes.

Other lesson planning thoughts

- Students learn in a variety of different ways. The best teachers will have varied lessons containing a variety of activities.
- Split a lesson up into a start, middle and end:
 - At the start, you engage the students in today's lesson and remind them of any knowledge they need.
 - The middle is the longest bit, where students work towards achieving the learning outcomes.
 - At the end of a lesson include a formative assessment activity where you review the lesson and find out what students learnt.

Activity

Plan lessons using ideas from this chapter and one of the templates for the next few weeks. This will take time to start with.

Once you are successfully planning lessons, think about how you can speed up your planning.

15. Setting goals for students

If people have something to aim for, they will achieve more.

Discuss

Imagine you set a goal for a student: 'Improve'. Discuss if this is a good goal or not? What do you like about it? What don't you like about it?

Setting useful goals

When setting goals, it's important that they are useful. Let's look at a few goals:

'Improve': This is not a good goal because it is vague. How much should I improve? What should I improve?

'Improve in math': Better, but still doesn't say by how much to improve.

'Improve from 10/20 to 20/20 in math': Better but it is not very possible to achieve.

'Improve from 10/20 to 12/20 in math': A realistic goal, but how do we achieve it, and how quickly should we achieve it?

'Improve in three months from 10/20 to 12/20 in math by reviewing lessons when you get home, asking friends when you are unsure of something and doing homework with friends': This is a great goal. It is clear what we need to do to succeed, how quickly we will do it and how we will do it.

A good goal is:

Specific: It is clear what to improve.

Measurable: There is a clear way of measuring if the goal has been achieved.

Achievable: The goal includes a method to achieve it.

Realistic: It is a goal the student can achieve.

Time-Bound: There is a timeframe for the goal.

As a teacher, you need to help your students set goals for themselves. You can suggest goals, but a goal only works when the student wants to achieve it. I recommend setting aside some time for students to think about what they would like to improve and help them come up with realistic goals and ways that they can achieve them. Students could share their goals with their parents or other people to keep them accountable.

Discuss

- 1) In your subject, what sort of goals might students set?
- 2) In your subject, what sort of things should students do to improve?
- 3) Discuss your answers with other teachers of your subject.

16. Behaviour management

Most children appreciate being in a well-managed classroom with few behaviour problems.

Some of the most important points in behaviour management:

- Active, varied, interesting lessons reduce behaviour problems.
- When you ask your students to be quiet, don't let them continue talking. Wait until they are quiet before talking, don't allow students to talk at the same time as you.
- Be aware of what your students are doing and notice good and bad behaviour.
- Deal with misbehaviour using '1–2–3'
 1. Warn the student their behaviour is wrong: 'Jack I need you to stop talking'.
 2. Warn them again: 'Jack, if you don't stop talking you will need to ...' offering an appropriate punishment for not following your instructions.
 3. Carry out the threat: 'Jack, take your stuff and move seat to here'.
- Choose appropriate punishments:
 - For talking, moving a pupil often stops the chat because the pupil is moved from their friends.
 - Chat with the student about their behaviour after class.
 - Keep the student in class after school – detention.
 - Ask the student to write a letter explaining why their behaviour was wrong and how they will change it.
 - Call in the student's parent to discuss the behaviour.
 - Ban the student from school for a day. For serious offences.
 - Expel the student from school. This should be as a last resort.

Some other thoughts:

- Be fair. Sometimes one child steals something. The other child reacts and gets into trouble.
- Young children are more likely to get distracted than older ones. So be more lenient with them.
- Stay calm and don't lose your temper.
- Children should not be surprised to receive a punishment.
- Students behave better when they are in the classroom of a teacher that they like and respect.
- Avoid punishing an entire class for the actions of one student.
- Set clear expectations for the students regularly. At the start of a course I ask the class to tell me how they should behave. I agree with most suggestions and then share my expectations:
 - Try your best to do well.
 - Bring a pencil and exercise book to all lessons.
 - Arrive on time.
 - Be quiet and listen when another student or the teacher is talking.
 - Try and think of good questions to ask in lessons.
 - Ask for help when stuck (friends first).
- Students like to have clear rules about what is right and wrong.
- Have clear school rules. It is easier to enforce rules if all teachers are enforcing them.

Discuss

What challenges do you have with behaviour in your lessons? How can you deal with it?

17. Bilingual Education

"If you want to become perfect in knowledge then learn all languages without ever forgetting your own."⁸

In Madagascar, for students who complete secondary education, the education system aims to produce bilingual students. Students who finish secondary school should be able to:

- Read and write French.
- Read and write official Malagasy.

When the local dialect is very different to official Malagasy, such as in the south of Madagascar, students need to know three languages.

Discuss

What do you observe are the language challenges that students face in school in Madagascar?

Language issues in education

I believe that language problems are the cause of many of the educational issues in this country.

Some of the problems are:

- Many students leave school not fluent in Malagasy or French. Some have oral comprehension but their reading or writing is very poor.
- There is a high dropout rate partly caused by language challenges.
- Students with dyslexia and weak students struggle with one language. Learning a second is very difficult for them.
- Teachers may not be fluent in the languages they are expected to teach in.
- Teachers who teach a subject other than languages don't see themselves as language teachers, or don't know how to teach language effectively.
- The method of teaching means that students often learn subjects like a parrot. They don't have a clue what the words mean but they learn what words to write in response to certain question prompts. This means students may leave school having passed exams but with few useful skills other than memorisation.
- It is difficult for students to successfully complete the transition from education in Malagasy to education in French.
- Fluency in French is required to find a well-paid job.
- Many students speak a dialect of Malagasy that is not official Malagasy. This can make it difficult for students in their exams as they need to write in a dialect they are not comfortable with.

Research into bilingual education

A large amount of research has been carried out into bilingual education⁹

⁸ Quoted from the Norwegian mediaeval royal publication *Konungs skuggsjá* about AD 1200, *The King's Mirror*.

The 'mother tongue' is the language or dialect that is spoken in the child's family. In Madagascar, 0.57% of Malagasy use French exclusively, 15.82% use it sometimes and 83.61% use Malagasy every day. This chapter assumes that a local (non-Antananarivo) dialect of Malagasy is the mother tongue of your students. It also assumes that the second language to be taught is French.

Some points from the research:

- If the language used in school is switched to another language before students have acquired a mastery of their mother tongue, their learning will suffer. This may not apply in the case that two-way bilingual education is used.
- It takes 5–7 years of school education to master the mother tongue.
- If students have mastered one language, it is easier for them to master another.
- Excellent language teaching is important for a bilingual system to succeed.
- The mother tongue needs to be valued. If a school says 'your home language has no value', that says to the student that the school does not value their culture and background, and the student will lose motivation.
- It's very hard for a student to learn a language when nobody speaks it at home and there is little evidence it is valuable. Children in the bush may have never met a French speaker and so will find French harder than those with parents who speak French.

Some ways that bilingual education can be taught are:

1) Mainstream education: The mother tongue is used as the language of instruction in all subjects. When a foreign language (e.g. French) is taught, the mother tongue is used to explain the lessons. In Madagascar, this would mean all classes are taught in local dialect Malagasy.

2) Two-way bilingual education: Some classes are taught in Malagasy. Other classes are taught in French. Often Science and Maths would be chosen to be taught in French.

3) Bilingual education: Education is started in the mother tongue, and then after some years switched to the second language. In Madagascar, this means starting school with instruction in Malagasy and then switching to French at a later stage.

a) Early exit from mother tongue: Education is carried out in the mother tongue for 1–2 years, long enough to develop basic communication skills. Then the language of education is switched to the second language. Research shows this is not a successful approach.

b) Late-exit from mother tongue: Education is carried out in the mother tongue for 5–7 years. This length of time is required to develop enough language skills to discuss academic things. The language of education is then switched to the second language.

A variety of the above methods are used in Madagascar. I believe option 2) or 3b) are best.

⁹ 'Linguistic policy challenges in Madagascar', by Oyvind Dahl, outlines some of the main research relevant to Madagascar https://vid.brage.unit.no/vid-xmlui/bitstream/handle/11250/162102/OD_Linguistic_policy.pdf accessed July 2021. For further study observe the education systems of Madagascar and the Phillipines.

Discuss

- 1) Are official Malagasy and your local dialect similar enough for both to be called 'the mother tongue'?
- 2) How do students in your school react to learning official Malagasy?
- 3) How will you ensure students have good enough official Malagasy for the examinations?

Effective language teaching

Whatever system your school uses, you can make a big difference to your students by teaching language to them effectively. Students *can* succeed even if the best system is not adopted.

You are a language teacher – no matter what subject you teach!

It is very important you consider how you teach the language aspects of your subject.

A few ideas for successful language teaching:

1) Motivate your students to learn languages:

a) Imagine going to school and being told the language your parents spoke was stupid and a waste of time. You are not going to be motivated to study! Instead highly value your students' mother tongue, even if you don't teach in that language.

b) Help students to understand *why* they are learning a language. Official Malagasy is learnt because students need it to pass exams and it is used widely in print, TV and radio. French is required because it enables students to study at secondary school and to get a better than minimum wage job.

c) Make language learning fun. Playing language games such as Fady (see active learning chapter) or having students actively involved in lessons increases motivation.

2) Work to become an expert in the languages you teach in. Don't be ashamed if you aren't now, but seek any opportunity to improve your languages:

- Invest in a dictionary.
- Read well written books or newspapers.
- Attend a language class run by the best linguist in your community or school.
- Attend the excellent language courses at Alliance Francaise.

3) Highly value the student's mother tongue. Research shows that placing a high academic value on the mother tongue will improve all the languages the student learns.

4) Incorporate group work in lessons. Have students discuss answers in groups in the language they are learning.

5) Spend lots of time having students speaking in the classroom. Students need to be able to talk about the subject before they can write well about a subject.

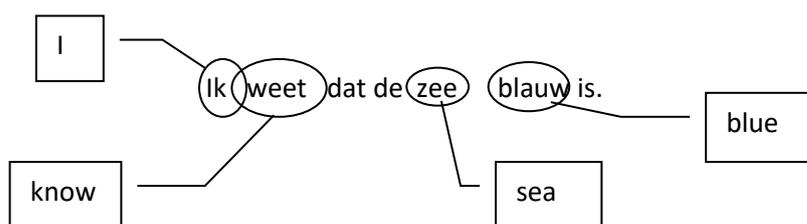
6) When teaching in a second language that your students are not good at, connect words back to the mother tongue.

Imagine you give the students the following to note down:

Ik weet dat de zee blauw is.

What does it mean to you? Many of your students will feel the same way when they are given notes in French.

Help the students connect your French notes with their mother tongue. You could do something like this:



Students already know that 'Ik' means 'I'. Make connections between the French words (which students are learning) and the Malagasy words. You may also need to teach the meaning of the Malagasy words. Even if the weaker students end up learning the French phrase by heart, they have learnt some French in the process.

Advanced French speakers will be able to understand explanations of new words in French however for beginners it is very tough.

7) Language lessons need to be active. Have students use the language they are learning for a task. For example, ask them to rewrite an explanation in a different way, using different words or grammar. Ask a group to produce a short play about something. Ask students to work in groups to come up with a good answer to a question. Or use any of the other active learning techniques in this book.

8) Ask students to make mini subject dictionaries of all the words they need for your subject. The dictionary should contain:

- Malagasy word.
- Malagasy definition of the word.
- French word (if lesson is taught in French).
- French definition of word (if lesson is taught in French).

9) If you have students who have recently started having classes taught in French, be aware that *a lot* of your work will be language teaching. This is because many of your students will know very little French. If you work hard on language teaching the students will find the subject much easier.

10) Get students to read aloud. Pick one or two words they pronounced badly and help them improve. Or ask the class to spot one or two of which words they need to improve the pronunciation.

11) Use formative assessment to check understanding of language. Don't despair if students don't understand you, instead be patient and help them with the basics.

12) Use examples that students can relate to in language classes. If there is an example like 'When in Paris I visited the Eiffel Tower', change that to something that students know in Madagascar. For example, 'When in Toamasina I visited the beach'. Often textbook examples can be hard to understand because as well as grappling with new language, the language talks about something the students have never seen or experienced.

13) If you teach in a mix of official Malagasy and local dialect, make it very clear when you are using the official Malagasy.

14) Remember not all students have access to TV, videos or the radio where official Malagasy is spoken. You might consider having a post school 'class' where students get to listen to your radio, or a Malagasy video club.

15) Emphasise understanding of language over memorisation of notes.

16) If at all possible, get students reading books. Regular reading makes a big improvement in language skills. Lots of reading is incredibly important for students to succeed in language.

17) When teaching in a class with many dialects of mother tongue, use the students as teachers. Ask them how to say things in their own dialect and compare the dialects.

18) Consider running classes for parents to improve their French.

Questions

1) How competent are you at the languages you teach in?

2) How will you improve the languages you teach in?

3) How will you change your lessons to help your students learn languages better?

18. Teaching resources and ideas

“The illiterate of the 21st century will not be those who cannot read and write, but those who cannot learn, unlearn, and relearn.” American author Alvin Toffler

Many topics are not covered in detail in my books. Great teachers are always working to improve the knowledge and understanding of their subject. This chapter gives a few ideas of where you can find out more.

Links to resources on the internet

I have a website and a Facebook page with lots of great resources that will help your teaching:

- Website: <http://mada-enseignants.org>
- Facebook page: ‘Centre de formation d’enseignants Robert MacGregor’ (<https://www.facebook.com/madaenseignants>)

The online resources include:

- All the books we have written for Madagascar for free download
 - Modern Teaching Methods 2: Advanced Methods
 - This book
 - Modern primary and preschool teaching methods.
 - Practical Physics and Chemistry for 6e
- Links to resources for your phone or computer.

If you are unfamiliar with the internet, go to any cyber and ask the staff to help you.

Books

Keep an eye out in secondhand markets for books that may help you or your students.

Societies

Consider forming a local group of teachers who work to develop teaching materials for your subject.

Training courses

We offer a variety of training courses. Sponsorship is available for needy schools who unable to pay the course fees.

Modern teaching Methods one

A 10 session, 15-hour course studying the fundamental skills of teaching. It is based on the content in the ‘Modern Teaching Methods’ book.

The course is designed for all teachers at all stages of education.

A course textbook and a completion certificate is included in the price.

Modern teaching Methods two

A 10 session, 15-hour course that helps teachers to apply ideas from the first course. It also contains modules that are based on the ‘Modern Teaching Methods 2: Advanced methods’ book.

A course textbook and a completion certificate is included in the price.

Modern teaching in the primary school

A five session, 7.5-hour course which covers the content of the 'Modern preschool and primary teaching' book.

A course textbook and a completion certificate is included in the price.

Trainers course

This course trains teachers to deliver the Modern Teaching Methods 1 course. The course is 21 hours long (14 sessions) and is free of charge. It includes a trainer's guide. Trainers must have completed Modern Teaching Methods 1 and 2 before enrolling in this course.

Practical Physics and Chemistry for College

We have developed very affordable practical work for science teachers. For example, we have developed a course where a 6e teacher can spend 15,000Ar on experimental resources for their class for an entire year. We run a one day (6 hour) course introducing some of the experimental work.

A course textbook and a completion certificate is included in the price.

Course bookings

For bookings and information, please contact:

Antananarivo (outside teaching hours please): Tahina – 034 887 5540 or Josianne - 034 061 5036
Tamatave (outside working hours please): Lili: 032 580 3630 or 034 13 762 04

Or you can contact us online:

Use the form on the website: <https://mada-enseignants.org>

Use the Facebook page: 'Centre de formation d'enseignants Robert MacGregor'
<https://www.facebook.com/madaenseignants>

And finally...

This book has covered a wide variety of ideas. You need to try out ideas in this book in your classroom. You can't do them all at once, some take years to perfect. However, try them out over the years, and keep the ideas that suit you.

Teaching is a noble and challenging profession. Thank you for being a teacher. The future of your nation lies in the hands people like you. The Malagasy people have great potential. Set them free with education!