

Activity template

What is the activity?
Grade
Subject
Lesson topic
What is the (learning) objective of the activity?
Resources used
How is the activity carried out? Write all the steps in detail.

Assessment for Learning for Key Stages 1&2

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Introduction

When we hear the term 'assessment', we often think of exams, tests, marks, stress and pass or fail. It is easy to view it as an end product that is separate from the learning and teaching process. This, however, is only one type of assessment: assessment of learning (summative assessment). It takes place after the learning and tells us what has been achieved.

Assessment for Learning (AfL), on the other hand, focuses on the learning process (rather than the end product) and attempts not to prove learning, but rather improve it. It is formative assessment. It is a way for us to take stock during the learning process and can help inform us of how the learning is progressing.

Summative assessment and AfL (formative assessment) are not opposing or contradictory practices. That is, the use of AfL in the classroom does not mean you will suddenly stop marking pupils' work; summative assessment will always have a place in educational practice. Instead, they are complementary approaches, as the use of AfL can help pupils perform better on summative assessment tasks and summative assessment can reflect the impact of AfL.

While the Revised Curriculum does not require you to integrate AfL practices into your classroom(s), we strongly recommend the use of AfL as best practice. The introduction and regular use of AfL in the classroom can help you to fulfil other statutory components of the revised curriculum (like *Thinking Skills and Personal Capabilities*, *Learning for Life and Work* (at Key Stage 3), and *Personal Development and Mutual Understanding* (at Key Stages 1 and 2)). In addition, AfL offers significant advantages for pupils.

This document will:

- explain what AfL is;
- introduce its elements; and
- introduce some practical strategies to plan and promote AfL in your school/classroom.

'Assessment for Learning is the process of seeking and interpreting evidence for use by learners and their teachers to decide **where** the learners are in their learning, **where** they need to go next, and **how** best to get them there.'

Assessment for Learning: 10 Principles
The Assessment Reform Group, 2002

Rationale and Overview

Assessment for Learning is based on extensive research conducted by Paul Black and Dylan Wiliam. In their 1998 study *Inside the Black Box*, they refined the term 'formative assessment' by emphasising that assessment is only formative when:

- it is an integral part of the learning and teaching process; and
- assessment evidence is actually *used* to:
 - modify teaching to meet the needs of pupils; and
 - improve learning.

Unlike summative assessment, AfL is conducted during day-to-day classroom practice and takes place *during* learning. It also gives pupils an active role in the assessment process. Pupils work with the teacher to determine what is being learned and to identify what the next steps should be. Both parties then use the feedback (which includes information on how the pupils are learning, their progress, the nature of their understanding and the difficulties they are having) to improve the learning.

This emphasis on the pupils' role in the learning process is founded upon the constructivist view of learning, which says: however neatly we may design, package and deliver learning experiences, in the end learning is a process that is instigated and managed by the *learner*. It's the learner who constructs the learning.

No matter what artistry we employ as teachers, learning is still something that learners have to do for themselves.

In Assessment for Learning:

- there is a high emphasis on *transferable learning*;
- assessment becomes a much more *transparent process* because it is based on critical information that is shared with learners; and
- learners are able to *take responsibility* for their own learning and, eventually, for their own assessment, too.

It is not something extra or 'bolted on' that you have to do. Rather, it neatly integrates with your existing classroom practice.

AfL involves the following key actions:

- sharing *learning intentions*;
- sharing and negotiating *success criteria*;
- giving *feedback* to pupils;
- effective *questioning*; and
- encouraging pupils to *assess and evaluate their own and others' work*.

Why Introduce AfL to Your Classroom(s)?

Adopting strategies that support Assessment for Learning can transform learning and teaching and take away the stigma that haunts assessment. In fact, research has shown that Assessment for Learning can have a significant effect on how well pupils achieve in terms of their attainment, behaviour, motivation, engagement and their ability to work independently.

It Improves Performance

Black and Wiliam's 1998 literature review examined 250 research articles from 160 journals published over a nine-year period. From this, they documented significant, and often substantial, quantifiable learning gains due to AfL practices. Their review of over 20 studies on classroom assessment showed increases in primary and post-primary performance ranging from 15 to 30 percent compared to control groups. In post-primary, differential effects were measured at approximately half a level at Key Stage 3, over half a grade at GCSE, and two full grades at GCSE after two to three years. They concluded that no other single improvement initiative improved performance levels to the extent that formative assessment did. Subsequent research in UK schools has substantiated these figures. For instance, research conducted in primary schools through the Gillingham Partnership's Formative Assessment Project 2002 indicated improved standardised test scores in reading and numeracy as well as improvements in writing levels.

It Increases Learning Independence

The impact of AfL on learning independence is as important as its benefits to performance. AfL practices make clear what is being learned, why, and how success will be measured. Pupils who understand their own goals and their role in learning are more independent in managing their learning; they know what to do, how they have to work and take more responsibility for their own learning and assessment. Assessment for Learning helps cultivate these valuable skills by giving pupils a role in determining these components of the learning as well as experience in providing feedback and assessing themselves and their peers. The learning is no longer something they receive; it becomes something they pursue and have a hand in shaping. This benefits learners later in life as well as in the classroom.

It Improves Morale, Motivation and Risk-Taking

Knowing the goals and success indicators may help pupils to gain learning independence, but they are not the only influencing factors. Morale and motivation are also pivotal components, and here, too, AfL plays an important role.

Black and Wiliam found that many assessment approaches used in classrooms compare pupils with one another – particularly those that focus on marks and grades. Evidence shows that pupils interpret the prime purpose of these assessments to be competition rather than personal improvement. As a result, feedback from these types of assessment actually reduces pupil morale. It teaches them, particularly low-attaining pupils, that they lack ability, leading them to believe they are unable to learn.

These findings correlate with those of Carol Dweck, Professor of Psychology at Stanford University. For over 20 years Dweck has been researching students' motivations for learning. Her research concludes that conventional assessment approaches produce students who purposely avoid risk and difficult tasks.

Dweck found that practices that focus on rewards like gold stars, grades or place-in-class ranking encourage learners to focus on and prize their performance over their learning. In turn, pupils (especially high-achievers) avoid risk-taking or extending themselves, which is part and parcel of new learning, because risk means decreased likelihood of reward.

AfL practices, in contrast, emphasise the learning over the performance (grading or ranking). In some cases, it omits grades altogether. In this atmosphere, pupils are more free to experiment, take risks and extend themselves; there isn't necessarily a performance reward to secure or a prize to compete for with their classmates. This places a value on learning for learning's sake and promotes a 'you can do' ethos, because pupils discover first-hand that getting into difficulties and making mistakes is all part of effective learning. Every pupil's confidence is improved because the expectation is that they can achieve.

It Enhances Relationships and Reflection

AfL also helps foster a more positive classroom environment. It strengthens teacher-pupil relationships by increasing two-way communication. These high-quality interactions between you and your pupils can make them more motivated to learn and more aware of their learning.

And finally, Assessment for Learning can also improve planning and delivery of learning. This is because AfL practices lead you to analyse and make the underpinning rationale for learning explicit to both yourself and pupils. It creates an opportunity to quality assure and amend activities to ensure they meet the learning needs.

But to realise these advantages, AfL must be embedded as part of normal classroom practice.

Ties to the Revised Curriculum

Although AfL stands on its own merits, it is also an extremely valuable tool for implementing the revised curriculum. The aim of the Northern Ireland curriculum is:

to empower young people to achieve their potential and to make informed and responsible choices throughout their lives.

Assessment for Learning practices contribute strongly to this aim by:

- giving pupils a framework that empowers them to take charge of their learning;
- emphasising that everyone has the potential to succeed; and
- encouraging pupils to accept responsibility for their own development.

What's more, AfL supports the revised curriculum's statutory elements: *Thinking Skills and Personal Capabilities, Personal Development and Mutual Understanding, and Learning for Life and Work.*

Like AfL, these cornerstones of the curriculum seek to promote learning as active, meaningful and collaborative. These areas also emphasise pupil choices, challenging tasks, developing a shared language of learning and reflection on learning, all of which are fundamental aspects of AfL.

Assessment for Learning is directly linked to *Thinking Skills and Personal Capabilities*, as both promote the concepts of:

- setting open-ended challenges;
- making thinking important;
- making thinking and learning explicit;
- effective questioning;
- enabling collaborative learning;
- promoting independent learning; and
- making connections.

Adopting AfL practices in your classroom, therefore, allows you to fulfil many aspects of the revised curriculum through a single initiative.

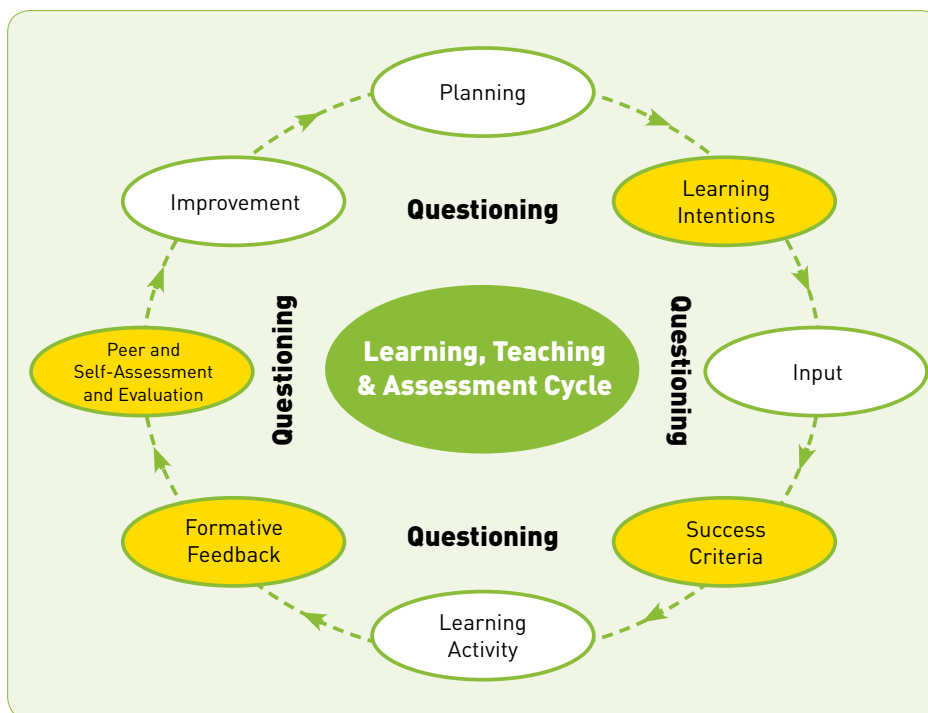
Putting AfL Into Practice

Assessment for Learning is not a revolutionary concept. You probably already use learner-centred approaches and a range of formative assessment strategies in your classroom. However, AfL requires the application of specific elements to produce the desired results. As stated earlier, these are:

- **learning intentions and success criteria** – so that pupils understand what they are trying to learn, why and what is expected of them;

- **feedback** – about the quality of their work and what they can do to make it better;
- **questioning** – to create a classroom climate where pupils come up with their own ideas, think aloud and explore their understanding; and
- **peer and self-assessment and self-evaluation** – to enable them to recognise success in their own and others' work and to focus on *how* they are learning as well as *what* they are learning.

These elements have most value when they are seen as integrated and mutually supportive of the process of learning rather than having discrete effects. The diagram below illustrates how these elements can be an integral, embedded part of the learning-teaching-assessment cycle.



When integrating AfL into your classroom practice, we recommend that you take one area at a time and allow for its development rather than rush into a succession of rapid changes.

Also, do not underestimate the time, effort and planning required to effect real improvements. It can be very easy to engage with the suggested strategies at a superficial level. It is important for you to take time to understand the rationale underpinning each element and to make sense of it in your own classroom context.

Advice on the whole-school planning of AfL is available in the planning booklet provided with your *Curriculum Support and Implementation Box*.

Key Elements of AfL

Sharing Learning Intentions

A learning intention is simply a description of what you want your pupils to know, understand or be able to do by the end of a lesson. It tells pupils what the focus for learning is going to be.

The concept of learning intentions is not new – as a teacher you devise learning intentions regularly. However, you may, instead, call them ‘learning objectives’, ‘learning goals’ or ‘learning aims’. In AfL, the word ‘intention’ is used purposely because it puts greater emphasis on the process of learning rather than the end product.

Why Use Learning Intentions?

Firstly, discussing learning intentions helps focus you and the pupils on the learning rather than the activity.

Informing pupils about what they are going to learn and why they should learn it gives pupils the tools they need to take more responsibility for their own learning and achieve learning independence. Practice shows that pupils who regularly receive this information in the classroom are:

- more focused for longer periods of time;
- more motivated;
- more involved in their learning; and
- better able to take responsibility for their own learning.

This step also immediately and actively involves pupils with their own learning, even before the activity or lesson has begun, and it offers opportunities for key interactions between you and your pupils.

‘The first ‘active’ element of formative assessment in the classroom is the sharing of learning intentions with children... Without the learning intention, children are merely victims of the teacher’s whim.’

Shirley Clarke, 2002

Framing and Delivering Learning Intentions

Learning intentions need to be shared with pupils before they begin an activity or lesson. For best effect, you should follow these five steps when using learning intentions to introduce a new activity:

- Identify what pupils will be learning (We are learning to ...).
- Explain the reason for the learning (We are learning this because ...).

- Share (and sometimes negotiate) the learning and the reason with pupils.
- Present the information in language that they can understand.
- Revisit the learning intention throughout the activity or lesson.

It's very easy for both you and your pupils to confuse what they are **doing** with what they are **learning**. Remember, learning intentions are most effective when they **focus on the learning** rather than the learning activity.

When writing learning intentions it is best to:

- separate the task instructions from the learning intention; and
- be clear about what you want pupils to **learn**.

Defining the Learning

To frame learning intentions, you need to define the learning. We are all familiar with learning being described in terms of what pupils know, understand and are able to do. You can, therefore, express the learning in terms of:

- knowledge;
- understanding; and
- skills.

Knowledge is factual information, for instance the parts of a plant, key events of World War One, etc. Understanding typically concerns concepts, reasons or processes (the need for a healthy diet, the difference between convection, conduction and radiation, etc.). Skills are proficiencies, dexterities or abilities acquired through training or experience (for example applying techniques, drawing conclusions based on evidence, using a multiplication grid, collaboration, etc.).

What Makes a Good Learning Intention?

The most useful learning intentions are those that focus on generic, transferable skills. This means that pupils can take these skills away with them to use and apply in other contexts. It also encourages them to make connections across the curriculum and recognise where they are using the same or similar skills in unfamiliar contexts.

For example, some quality learning intentions are as follows:

- We are learning to work effectively in groups.
- We are learning to use evidence to support an opinion.
- We are learning to carry out a fair test.
- We are learning to interpret data.

Another advantage of generic learning intentions is that pupils of all abilities are able to achieve them; the differentiation is in the way the pupils achieve or demonstrate the intention, not by creating different learning intentions for pupils of different abilities.

Putting Learning Intentions Into Practice

Here are some tips for using learning intentions effectively.

1. Start small.

You don't need to have a learning intention for every lesson. You could start with one aspect of the curriculum, like narrative writing within Literacy, and highlight its respective learning intentions. If you do want to use learning intentions on an ongoing basis, you will probably only need to create learning intentions two or three times per week, as that is approximately how often new learning is introduced in classrooms.

2. Separate the learning from the task/activity.

This helps pupils (and you) to focus not on the activity, but on what they will have learned by doing it.

3. Tell them why they are learning something.

This can motivate pupils and also help them to see connections in the curriculum. When possible, give a real-life rationale for the learning.

4. Use appropriate language.

Remember to use the language of learning: better to say 'we are learning to' rather than 'we are doing'.

5. Display the learning intention.

This helps pupils to maintain focus while they are working – you could use an interactive whiteboard/flip chart/WALT board, etc. A display will also help remind you to refer back to the learning intention throughout the lesson, and the pupils can take a role in designing the display, if you choose.

6. Discuss the learning intention with pupils.

This allows the pupils to internalise and explore what is required of them. You can also use the learning intention as a focus for evaluation during plenary sessions. Encourage your pupils to use the language of thinking and learning when they reflect on whether they have achieved a learning intention.

Sharing Success Criteria

If learning intentions describe what pupils will learn during an activity or lesson, then success criteria are the statements that help pupils recognise if they have been successful in their learning. They summarise the main teaching points (key ingredients) or processes (key steps), and they always link directly to the learning intention. They essentially spell out the steps required to achieve the learning intention, offering explicit guidance on how to be successful. By referring to the success criteria, pupils know if they have achieved the learning intention.

In AfL, success criteria:

- are linked to the learning intention;
- are specific to an activity;
- are discussed and agreed with the pupils prior to beginning the learning activity;
- scaffold and focus pupils while they are engaged in the activity; and
- are used as the basis for feedback and peer and self-assessment.

Why Use Success Criteria?

Sharing and agreeing success criteria are important part of AfL for a number of reasons. The most significant benefits are that success criteria can help to cultivate independent learners, provide effective feedback and create confident pupils who contribute to activities.

First of all, sharing success criteria encourages an independent approach to learning. When pupils have success criteria at hand, they are more informed about how they will be assessed. Consequently, they are better able to assess their own work to identify success and areas for improvement. This involves them in their own performance and learning. In time, pupils who have experience of working to success criteria and contributing to the development of success criteria are more likely to use these to assess their own achievements, address their own concerns and identify areas for improvement without relying upon others for guidance. This learning independence is a quality and skill that benefits pupils both in the classroom as well as in life beyond the classroom.

‘...success criteria summarise the **key steps** or **ingredients** the student needs in order to fulfil the learning intention – the main things to do, include or focus on.’

Shirley Clarke

Success criteria also allow you and the pupils to give accurate feedback – they keep you both focused on the criteria that the work will be assessed against.

Also, best practice suggests that you discuss and agree success criteria with the pupils in advance of lessons and activities. This discussion aspect is particularly important in the classroom because:

- it helps foster a positive classroom environment;
- it encourages pupils to be involved in the learning and upcoming activity even before it's begun;
- it can help build pupil self-esteem by offering them opportunities to contribute; and
- its collaborative aspect is a useful tool to strengthen the teacher-pupil relationship.

Creating Success Criteria

When creating the success criteria, it is important to focus on process and characteristics rather than the final effect. Take a look at the example provided below:

Learning Intention: We are learning to write a narrative.	
Activity: Write a ghost story.	
<p>I will be successful if:</p> <ul style="list-style-type: none"> • people enjoy reading my story; and • it frightens them. 	<p>I will be successful if I:</p> <ul style="list-style-type: none"> • set the scene in the opening paragraph; • build up tension/suspense; • use spooky adjectives and powerful verbs; and • end with a cliffhanger.

In this example, there are two sets of suggested success criteria. Which set is more helpful to pupils?

The criteria on the left are not success criteria because they focus on reaction rather than guidance on how to achieve the effect.

You can see that the success criteria listed on the right, however, provide pupils with the key ingredients needed to show that they fulfil the learning intention. If they can do these things, then they have shown they understand how to write a narrative.

How to Share Success Criteria

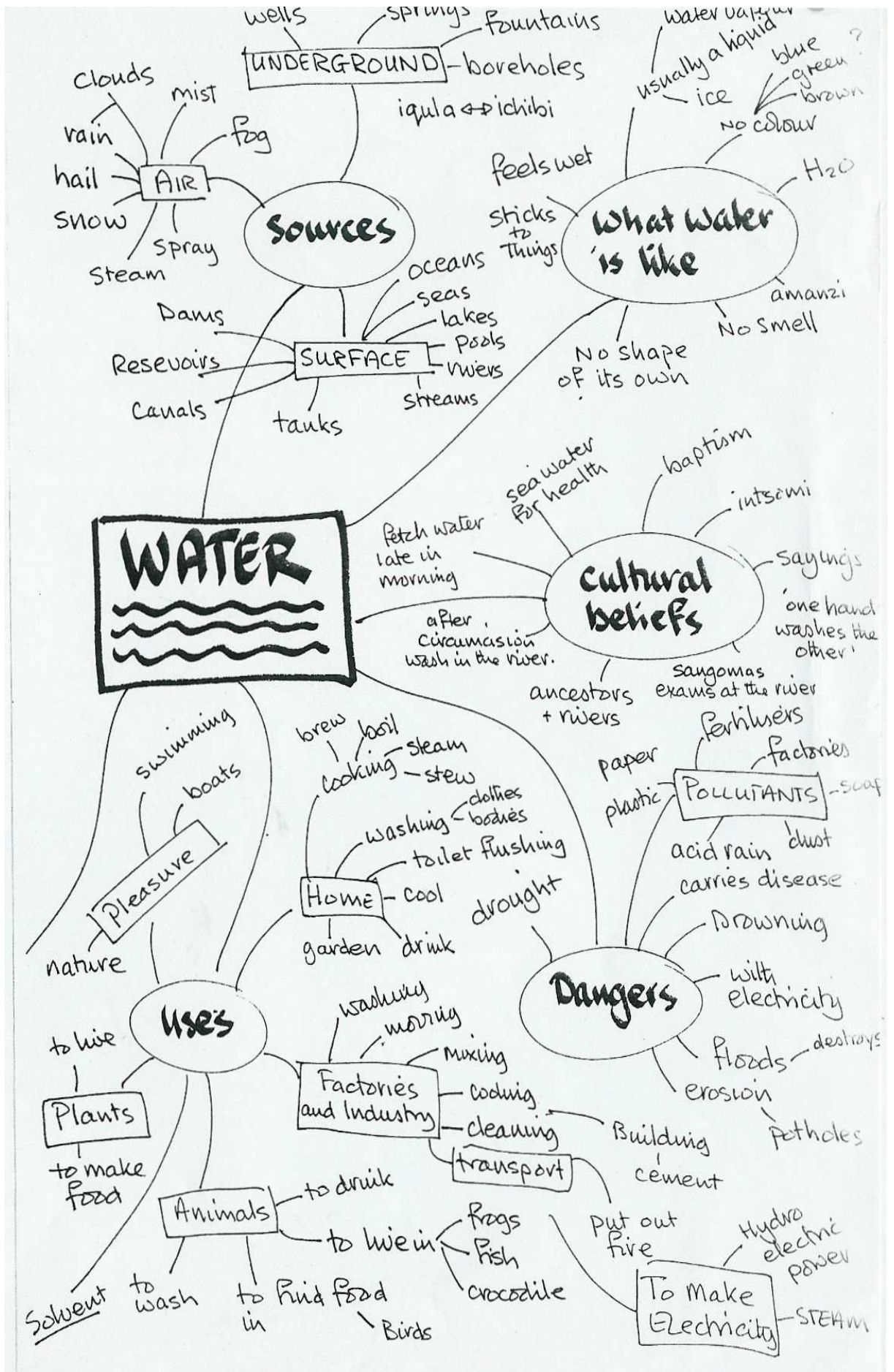
As a teacher, generating quality success criteria will come to you quite easily. However, pupils can't be expected to recognise success immediately or understand how to use success criteria. The process takes time and needs to be developed. However, you can help your pupils along by:

- modelling the process for them;
- putting the criteria into child-friendly language;
- allowing time to discuss the criteria; and
- letting the pupils work in groups to practise creating and using the criteria.

Modelling the process is particularly important for helping pupils understand the value and purpose of success criteria. You may initially want to create success criteria yourself and then simply discuss them with your pupils. Using a sample work is another good way to help pupils recognise success. By taking a piece of work (perhaps from another class), you and your pupils can use it to draw out essential features, qualities and aspects that meet its success criteria.

Success criteria should also be in child-friendly language to ensure they understand exactly what is expected. However, success criteria needn't always be in written form. You can use images (for example digital pictures or different stages of an experiment/practical activity) to illustrate the process.

Planning time to discuss and negotiate success criteria with your pupils will provide them with a clear understanding of what is required prior to undertaking the activity. Allowing pupils to work in groups to prioritise and agree success criteria will give them an opportunity to contribute and gain experience with the process while benefiting from a sense of safety in numbers.



Ground Rules

What are Ground Rules?	Why do we need them?	Who forms them?
<p>Ground rules define the <i>principles</i> of working with peers, such as everyone should share all relevant information about the topic.</p> <p>They also outline <i>procedures</i> that should be followed during group work, such as taking turns to handle ICT resources.</p>	<p>Group work is effective when pupils work well with each other. Research has shown that ground rules are useful for this purpose.</p>	<p>Ground rules are democratically and collectively formed by the pupils generally in consultation with the teacher.</p> <p>Observations are the best way of forming ground rules. When a problem is observed, its solution is suggested. When the solution is accepted by most group members, it becomes a ground rule.</p>



Watch the **video**ⁱ for your group: Herbert Putschta shares some of his ideas about ground rules for pupils who learn English as their second language. Importantly, he suggests ways of forming ground rules in the classroom.



Ground rules are effective only when they are followed explicitly and implicitly. Teachers have to model this so that pupils learn to follow the rules.

Sometimes you may have to moderate the rules that children make if they are too difficult or unrealistic to follow. Other times you may have to clarify the language so that everybody clearly understands the rules.

Some examples of ground rules are:

- Encourage everybody to contribute during group discussion
- Respect contributions of other members
- All group members have responsibility for completing the task
- Try to agree with each other before presenting work
- Check that everybody has learnt the concept before moving to the next task
- Give reasons for your ideas
- Listen carefully
- Return equipment to its place after use
- Challenge ideas if you do not agree
- Be critical about the idea not the person

GROUP TASKS

1. Form at least five ground rules for working in your group at present. You can list all ideas on a mini blackboard or paper, then decide five rules that all of you agree with and pledge to follow implicitly and explicitly. Finally list them on this sheet...

RULE 1:

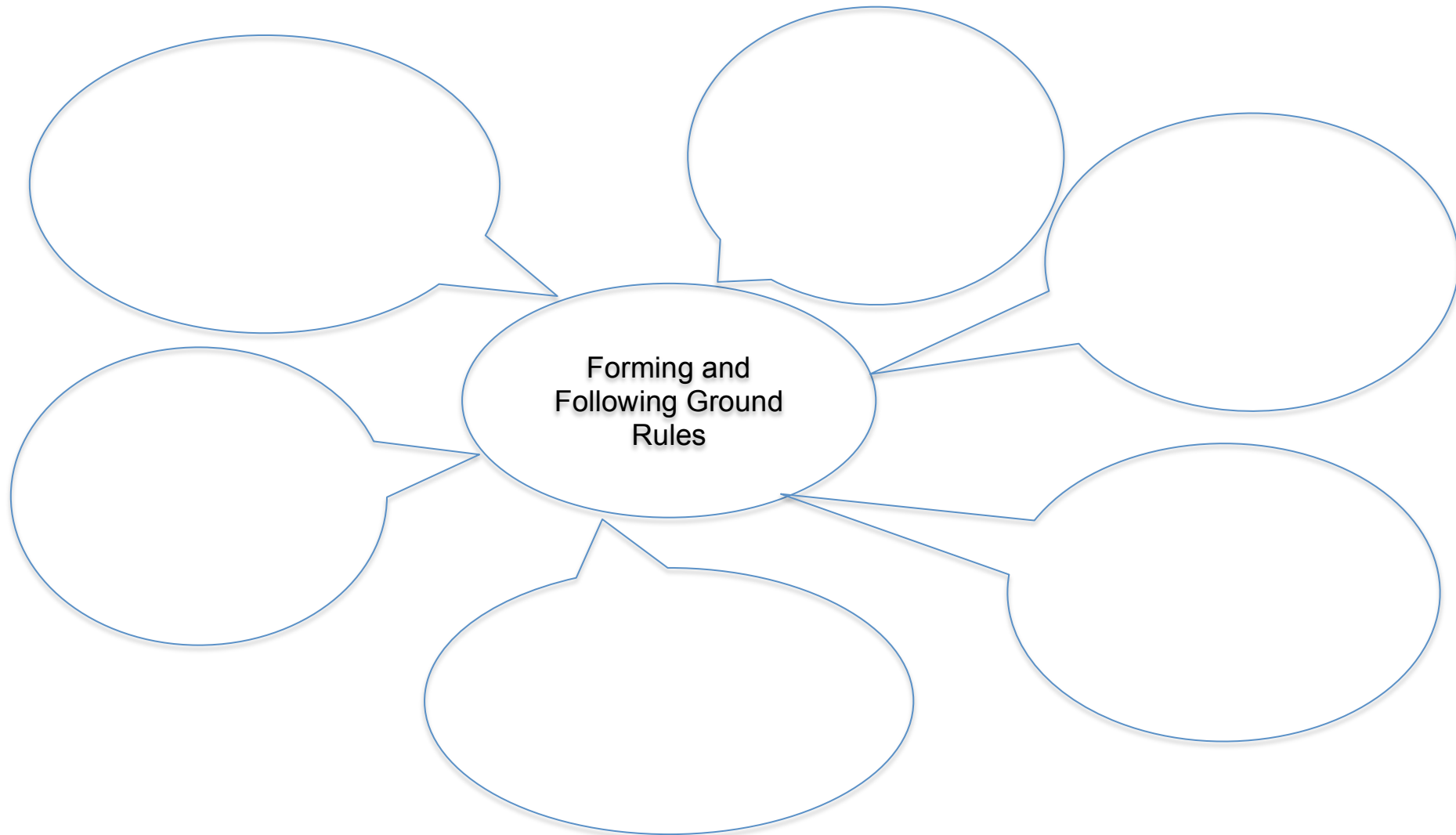
RULE 2:

RULE 3:

RULE 4:

RULE 5:

2. Discuss how will you get your pupils started on forming ground rules and following them. Decide on realistic ideas that you can actually carry out in your class or school. (Clues: display on charts, ground rules monitor, golden points for following rules). Map your points here:



3. The other groups are working on different aspects of group work. For their benefit, prepare a presentation of about 3-5 minutes about 'ground rules'. Include ideas about getting pupils started on forming ground rules and following them and examples of your own group's ground rules.

(If you were not a member of the group working on Ground Rules, you can use this space for writing your thoughts while watching the presentation.)

Sources:

Some examples of ground rules have been taken from Lyn Dawes' (2008) worksheets available at The Thinking Together website (<http://thinkingtogether.educ.cam.ac.uk/resources/>)

ⁱ http://www.youtube.com/watch?v=uBk4Hq4IEx8&feature=results_video&playnext=1&list=PL4EEFE75F9DA0AE2E

Group Composition and Formation

Group Type	Random	Same-pace	Mixed-pace	Engineered	Friendship
Definition	<p>Pupils are grouped together without any specific criteria.</p> <p>This increases the chances that pupils work with others with whom they may or may not have worked before.</p>	<p>Pupils of same achievement level or pace of working in a subject are grouped together.</p> <p>The groups vary for different subjects because pupils' level or pace in different subject areas may differ. For example, a pupil may achieve highly in mathematics but at a middle level for language.</p>	<p>Pupils working at a high, middle or low achievement level or pace of working in a subject are grouped together.</p> <p>The groups vary for different subjects because pupils' level or pace in different subject areas may differ. For example, a pupil may achieve highly in mathematics but at a middle level for language.</p>	<p>Pupils' attributes such as sex, age, language proficiency, drawing proficiency, etc. are used for grouping.</p> <p>Groups can have same-attribute pupils such as, an all girls group OR Groups can have different-attribute pupils such as one pupil with language proficiency, one with drawing proficiency and one with presenting proficiency.</p> <p>A mixed age group is another example.</p>	<p>Pupils who enjoy working and playing together are grouped for the learning task.</p>
Advantage(s)	<p>Pupils learn social skills of negotiating and collaborating with new pupils.</p> <p>Reduces expectations that one group always performs better or lower than other groups.</p>	<p>Differentiated instruction can be provided to pupils according to their pace or achievement level.</p>	<p>Social labelling of pupils that can have a negative effect on achievement is avoided.</p> <p>It is more realistic because generally assessment is not differentiated for different pupils.</p>	<p>Uses pupils' strengths for group work.</p> <p>Discussion on certain topics may be more open in same-attribute groups.</p>	<p>Pupils can work in their comfort groups with less chance of conflict.</p> <p>Pupils can work out-of-school hours for completing the group work.</p>

<p>Ways of Forming Groups</p>	<p>All pupils stand in a queue. For forming four groups, each pupil says '1', '2', '3' or '4' at their turn. All '1s form Group1, all '2s form Group2 and so on.</p> <p>Write the name of each pupil on a slip of paper. Throw the slips into a container. To form groups with say five children in each group, pull out five names to form Group1. Pull out the next five names to form Group2 and so on.</p>	<p>Assess the <i>achievement</i> level of the pupils based on tests, observations of their classwork and homework, discussion with teachers who have previously taught them and discussion with parents.</p> <p>Categorise pupils into high, middle and low ability to form different groups.</p>	<p>Assess the <i>achievement</i> level of the pupils based on tests, observations of their classwork and homework, discussion with teachers who have previously taught them and discussion with parents.</p> <p>Categorise pupils into high, middle and low achievement. Then choose one or two pupils from each category to form Group1 and so on.</p> <p>Ask pupils about how <i>confident</i> they are about a specific topic - high middle or low confidence. Then randomly choose one or two pupils from each confidence group to form Group1 and so on.</p>	<p>Based on your knowledge of pupils' <i>attributes</i> and the topic you are teaching, decide in advance which pupils should be in different groups. Write the names on a chart and display so that pupils know which group they belong to, or announce the names in class.</p> <p>Ask pupils about how <i>confident</i> they are about a specific topic - high confidence, middle confidence or low confidence. Then randomly choose one or two pupils from each confidence group to form Group1 and so on.</p>	<p>Ask pupils to sit next to the person with whom they wish to work. Announce how many pupils should be in each group. When pupils have organised themselves assign group numbers: Group1 and so on.</p> <p>Announce the task and number of pupils required in each group. Then randomly ask one pupil to choose four other people for their group called Group1. Similarly ask another pupil to choose four other pupils for Group2 and so on.</p>
<p>(Homework) Write lesson objectives suitable for the group composition ...</p>					

GROUP TASKS

1. Given below are some lesson objectives to be achieved through group work. Discuss which group composition(s) you will use for achieving these objectives. Briefly write reasons for your choices.

Lesson Objective	Group composition?	Reasons?
To read a historical story and present the events as a time-line on a chart.		
To work out problems on problems on division on a calculator and discuss instances when a remainder is left.		
To learn about changes in boys and girls during puberty.		
To identify examples of solids and liquids that can dissolve in water.		
To collect information about the average income from 20 families and present them as bar graphs.		

2. The other groups are working on different aspects of group work. For their benefit, prepare a presentation of about 3-5 minutes on 'group composition and formation' with examples of objectives that you can achieve through various compositions. Of course add reasons to your examples...!

(If you were not a member of the group working on *Group Composition and Formation*, you can use this space for writing your thoughts while watching the presentation.)

Reference for information about some group types:

Criticos, C., Long, R., Moletsane, R., Mthiyane, N., & Mays, T. (2009). *Getting practical about classroom-based teaching for the National Curriculum Statement*. South Africa: Oxford University Press.

Group Size and Seating Arrangement



Decision about size of a group and seating arrangement for group work depends on factors

- class and classroom sizes
- availability of resources (both ICT and non ICT)
- pupils' age and previous experience of working in groups and
- *most importantly*, the **objective** of group work.



such as:

Features of group sizes and recommendations for use:

Group size	Formal features i.e. attributes of group size	Process features i.e. how group of this size functions	Recommended when...	Seating Arrangement
2-3	<p>Equal agreement as well as majority- split in the group.</p> <p>Ample time for each member to contribute.</p> <p>Loss of even one group member can affect outcome.</p>	<p>Greatest possibility of sharing very strong opinions.</p> <p>Easiest to ensure that all members have learnt.</p>	<p>Ideal for working with computers.</p> <p>Useful for drill and practice of previous concepts as well as exploring new concepts.</p> <p>When sharing of personal experiences (specially on sensitive issues) is expected.</p> <p>When use of one resource is expected by all group members at the same time.</p>	<p>In a line next to each other ○○ ○○○</p> <p>In a line with ICT in front ○○ ○○○</p> <p style="text-align: center;">□ □</p> <p>In a triangle ○○ ○</p>
4-6	<p>Chances of agreement, equal splits as well as majority-minority splits.</p> <p>Reasonable time for each</p>	<p>Optimum possibility of listening to many ideas through brainstorming <i>and</i> every member getting a chance to contribute.</p>	<p>When objective is to explore a new concept rather than drill and practice.</p> <p>When turns can be taken to</p>	<p>As a square or rectangle ○○ ○○○ ○○ ○○○</p> <p>May or may not be around a table. Floor is</p>

	member to contribute.	<p>Works well if group members have defined roles (to ensure that everybody learns and to avoid free rider effect).</p> <p>Group pressure can make members conform to norms.</p>	<p>use resources within the group.</p> <p>For group work outside the classroom as peers ensure each other's safety and peer pressure keeps focus on learning.</p> <p>Useful when the expected outcome is in written form as well as performance form (drama).</p>	<p>also a good alternative.</p> <p>As a horseshoe</p> <p style="text-align: right;">U</p> <p>In a circle</p> <p style="text-align: right;">O</p>
7-12	<p>Greater chances of equal splits and majority-minority splits.</p> <p>Less time for each member to contribute.</p>	<p>More possibility of hearing ideas than chances of contribution.</p> <p>Group pressure is high.</p> <p>Active structuring of group tasks and assignment of roles is required.</p>	<p>When outcome is expected in the form of performance, such as drama or puppet show as more time can be given for each presentation.</p> <p>When concept requires further sub-grouping.</p>	<p>In a circle</p> <p style="text-align: right;">O</p> <p>As a horseshoe</p> <p style="text-align: right;">U</p> <p>In subgroups of 2, 3, 4, 5 or 6 (see above for arrangement)</p>

Group work with group size more than 12 pupils is not recommended as it is practically similar to working in the whole class.

GROUP TASKS

1. Below are some lesson objectives to be achieved through group work. Discuss which group size and seating arrangement you will use for achieving these objectives. Briefly write reasons for your choices.

Lesson Objective	Group size?	Seating arrangement?	Reasons?
To read a historical story and present the events as a time-line on a chart.			
To work out problems on problems on division on a calculator and discuss instances when a remainder is left.			
To learn about changes in boys and girls during puberty.			
To identify examples of solids and liquids that can dissolve in water.			
To collect information about the average income from 20 families and present them as bar graphs.			

2. The other groups are working on different aspects of group work. For their benefit, prepare a presentation of about 3-5 minutes on 'group size and seating arrangement' with examples of objectives that you can achieve through various compositions. Of course add reasons to your examples...!

(If you were not a member of the group working on *Group Size and Seating Arrangement*, you can use this space for writing your thoughts while watching the presentation.)

Reference: Atherton J S (2011) *Teaching and Learning; Group size* [On-line: UK] retrieved 12 May 2012 from http://www.learningandteaching.info/teaching/group_size.htm

Read more: [Group size http://www.learningandteaching.info/teaching/group_size.htm#ixzz1ufDvEDvs](http://www.learningandteaching.info/teaching/group_size.htm#ixzz1ufDvEDvs)
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INTRODUCTION

A **Mind Map** is a diagram used to represent words, ideas, tasks, or other items linked to and arranged around a central keyword or idea. Mind Mapping is a graphical way to represent ideas and concepts. In a Mind Map, information is structured in a way that resembles closely how the brain actually works.

Mind Maps can be created on paper, on a blackboard or whiteboard or with a computer (digital). A digital Mind Map can be developed by using productivity software, such as MS PowerPoint or MS Word, or with more advanced and specialized Mind Map software solutions. **Concept Mapping** is a similar idea, but focuses on connections between concepts in different, diverse patterns, while Mind Maps are based on radial hierarchies denoting relationships around a central governing concept. In this toolkit, both ideas are used interchangeably.

Mind Mapping as an instructional design is a powerful concept in education as it brings a new, non-linear perspective on the construction of ideas, knowledge and insight and as such innovates and transforms interaction between teachers and learners.

TEACHING AND LEARNING

Education Purposes

In education, Mind Maps can be used to:

- * **Brainstorm:** Learners can develop ideas on a given topic and list all ideas related to the topic.
- * **Categorize ideas:** After listing all ideas, learners can try to find relations between them and categorize them in order to make the Mind Map systematic and easy to analyze.
- * **Identify problems and solutions:** In some cases, Mind Maps help to identify problems for learners and to find out appropriate solutions.
- * **Record and present ideas:** Learners can use Mind Maps to record their ideas, to take note and to visually present their ideas to an audience.

In classroom teaching

Mind Maps can be used at different times during a lesson for different purposes:

- * **To introduce the new lesson:** The teacher can give learners a topic and ask them to list ideas around that topic.
- * **For learners to attain new knowledge:** The teacher can ask learners to develop a

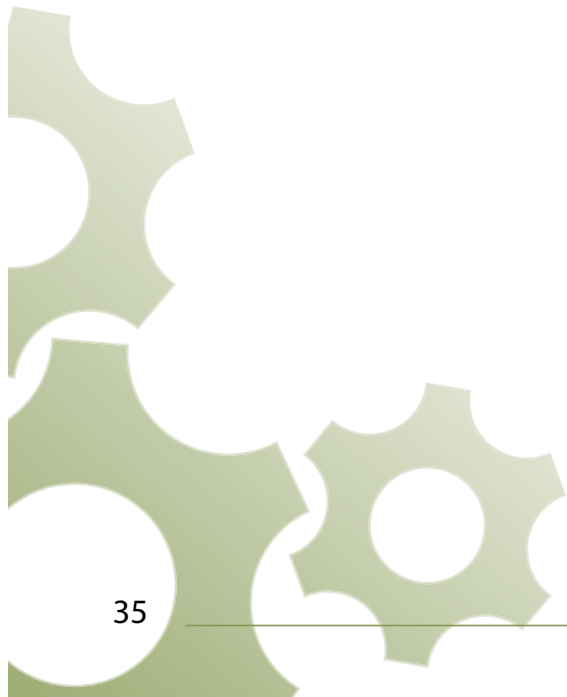
Mind Map to review and summarize key issues which they have just learnt, which helps them to consolidate the lesson. The teacher can also combine a Mind Map and questions on the topic, which helps learners to understand better and to master knowledge systematically.

- * **To review and evaluate learning outcomes:** The teacher can ask learners to draw Mind Maps on a learning topic, through which she/he can assess their level of mastery.

Subject Examples

Some inspiration for use of Mind Maps in different subjects:

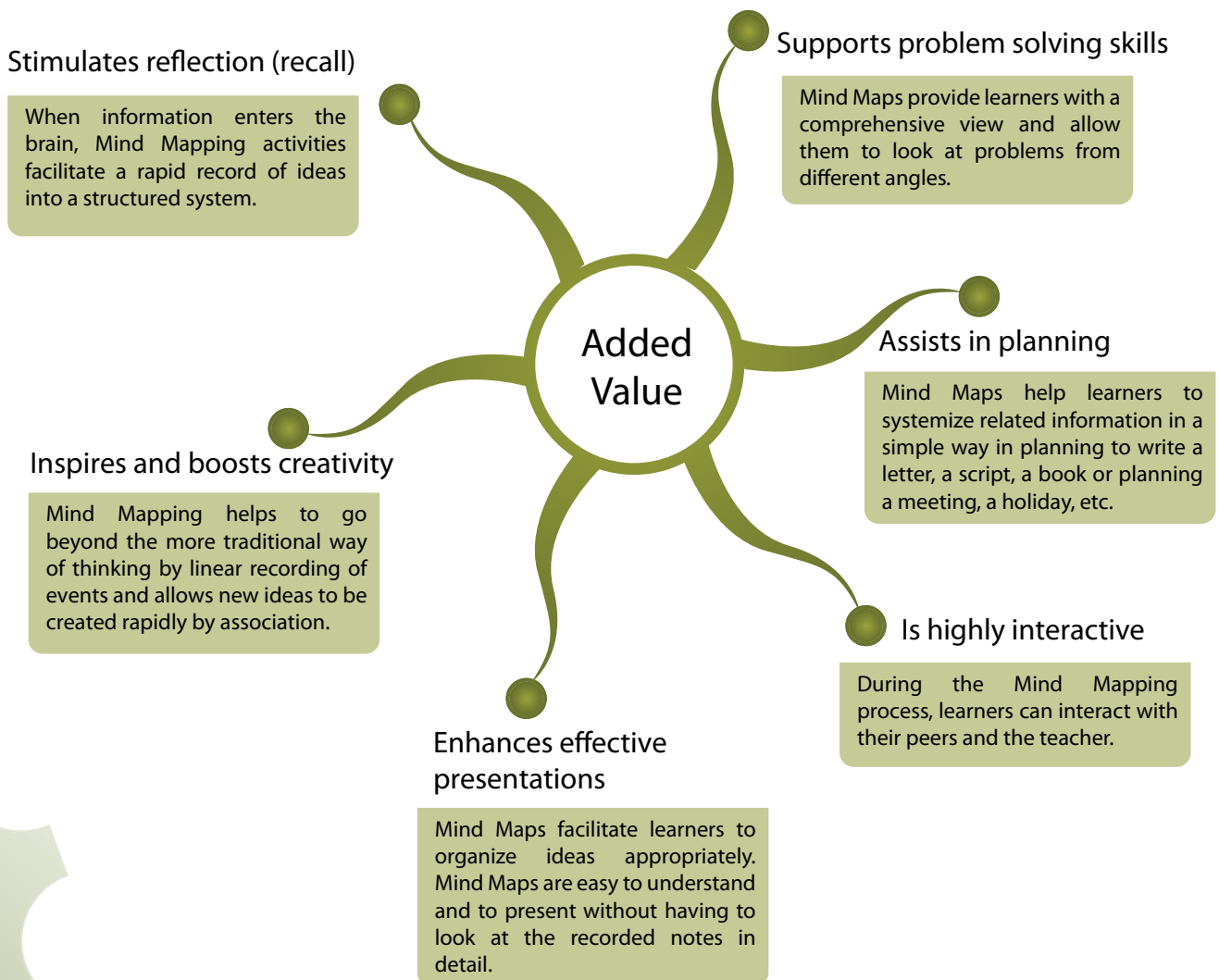
- * Chemistry: To brainstorm about chemical features of agents.
- * Technology: To systemize overall knowledge on breed, food and living habitat.
- * Pedagogy: To systemize teaching methodologies at pre-schools.
- * Biology: To present plants' growth processes, the nutrition pyramid (designing daily meals according to nutrition pyramid), relations in animals' population and community, and the structure of organs.
- * History: To identify historical stages of a country and give related information in each stage.
- * Literature: To summarize a story (roles, situation, climax, action, etc.).
- * Foreign languages (English): To identify negative adjectives and categorize them according to prefixes (ir-, un-, in-, im-, dis).



Added value

Using Mind Maps in teaching and learning helps transforming “chalk and talk” teaching into more constructivist approaches to develop insight and knowledge. Mind Maps are ideally developed in a step by step process where teachers and learners interact with each other. Since it is an activity that is both analytical and artistic, it engages the brain in a rich way, helping in all its cognitive functions. Mind Maps can be used in many different contexts, it is simple and fun.

Mind Mapping ...



Mind Mapping can support Shared Writing activities, as they can inspire and assist in planning. For the same reasons they can be used to design a scenario for a Photo Story. Mind Maps can easily be integrated in Presentations.



the learning files

QUESTIONING THE QUESTIONS

3

Have you ever questioned the questions you ask in your class? Do they lead to the intended outcomes?

Questions are used as instructional cues or as assessment tools. From all teaching methods it is

the second most used strategy (after lecturing).

But are we doing the right thing? Is it time to question our questions? What can we learn and improve? These are some questions which we hope to answer in

this learning file.

Poor responses from students are often blamed on the lack of understanding of the students. However, it is crucial to reflect on "You get what you ask for".

Experiment and research

We asked 27 members of staff of a Zambian college to write down 5 questions they had asked during their last teaching moment. The lecturers then in pairs evaluated their own questions. They identified the level of their questions, using Bloom's taxonomy. The results were an eye opener for all: the majority of the questions asked were related to lower order thinking skills.

Research shows that in general

- lecturers over-emphasise factual information
- lecturers ask very few higher-order thinking questions
- lecturers provide too little time

after asking the question. The wait time between student's answers and the next statement by the teacher is also too short.

The good news is that improving on questioning techniques has a direct impact on student learning and achievement.



The learning files are an initiative of the National CPD Task Team. They are written by and for the Colleges of Education and deal with topics that concern education in general and education in colleges more specifically. The files give a mixture of literature, good practices, self-testing and tips and tricks to tackle a certain problem. In this case: **Questioning the questions.**

Do you feel like contributing ideas or topics, please do not hesitate to contact us: info@vvob.org.zm.

How do you get the right answers?
By asking the right questions, of course!

What questions should we ask?

We should ask many types of questions. We should ask questions that have one right answer (closed questions), questions that have many possible answers (open questions), questions that stimulate different levels of thinking, questions about content and definitions and interpretations, questions about processes and procedures and even questions about questions. But most important: we should ask questions that relate to the intended outcomes of the lesson.

An overview:

1. Questions that promote **different kinds of thinking**

Do not only ask memory questions but also text-implicit questions; inference questions (questions that ask about implied meaning); interpretation questions (asking the students to paraphrase text in their own words); transfer questions (apply the same in another context); hypothesis questions; evaluative questions (make judgements); reflective questions (make students think about their thinking). See also page 4 of this learning file for Bloom's taxonomy.

2. **Deep versus surface** questions

Surface learning refers to learning that involves 1 idea or some ideas (e.g. *What is...? What events led to Zambian independence?*)
Deep learning refers to relations between ideas and extending ideas (e.g. *How does ... affect...? What would happen if...?*).

3. **Open and closed** questions

Closed questions are factual and focus on a correct response. They can be simple (e.g. *Who was the first president of Zambia?*) but also complex (e.g. *How did character b show his disappointment?*).
Open questions have several correct answers (e.g. *How would you approach this problem?*). They tend to demand higher order thinking skills.

4. **Essential and guiding** questions

Essential questions are universal questions that have no definite answers (e.g. *Is time a cultural concept?*).
Guiding questions are more specific and are sometimes called "curriculum" questions (e.g. *How many seconds are there in an hour?*).

5. Questions that clarify students' **values**

These questions help students reflect on who they are, where they are going, how they are approaching work and tasks, what are their moral standards, their ideas about gender, equity, etc.... (e.g. *Will you consider a possible alternative? Do you believe women can do this job? How will this affect you in future?*)

And our students?

It is one thing to ask the right questions as a lecturer. But do you give you students also chances to ask questions? Do you help them ask the right questions? Do you stimulate them asking questions in your class? If they will have to ask good questions when they become teachers, then they must be given a good model by you and the chance to ask many questions.

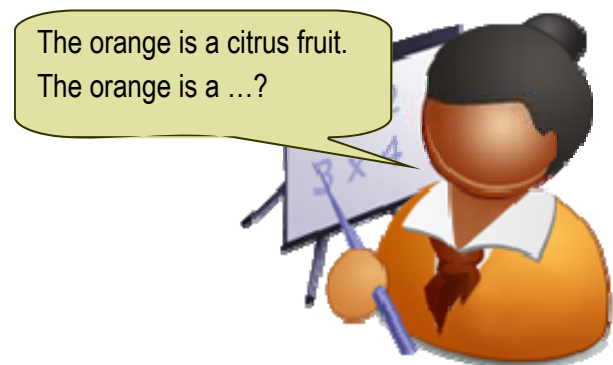


Figure 1: This popular type of question doesn't lead to any learning

	<p>Socratic questioning: http://www.youtube.com/watch?v=2QSXvpbyZeM&feature=related</p> <p>Open and closed questions: http://www.youtube.com/watch?v=WfKIVPC9uuA</p>
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How to get started?



Tips and tricks

enhance the analytic and problem-solving skills of students by allowing sufficient wait times before responding, both after posing a question and after the answer is given. This allows everyone to think about not only the question but also the response provided by the student. Three to five seconds in most cases; longer in some, maybe up to 10 seconds for higher-order questions.

“To reach higher order thinking skills you need to prepare the questions in advance”

1. Prepare your students for extensive questioning. Lecturers who use lots of questions in a classroom might create the impression that they are evaluating the students. Students need to know that questions seek clarification and elaboration of students' ideas in order to make their thinking visible, and to help the teacher address misconceptions.

2. Use both pre-planned and emerging questions. Prepare your questions, based on the desired outcomes of the lesson. Research shows that when questions are not prepared, they tend to relate more to lower order thinking skills. Questions derived from the discussion/lesson itself can help guide the discussion.

3. Use a wide variety of questions. Use a variety of open and closed questions. Make sure you address higher and lower order thinking skills. Use Bloom's Taxonomy. Avoid yes and no questions because they tend not to trigger a lot of thinking before answering.

4. Avoid the use of rhetorical questions. Rhetorical questions are those to which answers are already known, or merely seek affirmation of something stated previously such as the following: Right?, Don't you?, Correct?, Okay?, and Yes? More often than not, rhetorical questions are unintentional, and are suggestive of habit or nervousness.

5. State questions with precision. Poor wording and the use of rapid-fire, multiple questions related to the same topic can result in confusion. Easy does it. Repeat the question, and explain it in other words if students don't seem to understand. One question at a time or else students won't know how to respond.

6. Pose whole-group questions unless seeking clarification. Direct questions to the entire class. Handle incomplete or unclear responses by reinforcing what is correct and then asking follow-up questions. Ask for additional details, seek clarification of the answer, or ask the student to justify a response. Redirect the question to the whole group if the desired response is not obtained.

7. Use appropriate wait time. Wait time encourages all students to think about the response, as they do not know who is going to be called upon to answer the question. The teacher can significantly

8. Select both volunteers and non-volunteers to answer questions. Female students frequently take longer to respond; give them adequate time to do so. Picking on the student who is first to raise his or her hand will often leave many students uninvolved in the discussion. Some teachers use a randomized approach where they pick student names from a hat, so to speak. This ensures equitable participation, and keeps students intellectually engaged.

9. Engage all. Use activities such as think-pair-share, think-write-pair-share, entrance and exit slips and personal white boards or slate to make sure that all students are answering.

12. Maintain a positive class atmosphere. Not all students will be completely clear in their thinking or enunciation and, invariably, some won't be paying attention. Nevertheless, avoid the use of sarcasm, unreasonable reprimands, accusations, and personal attacks.

13. Interrelate previous comments. As the discussion moves along, be certain to interrelate previous student comments in an effort to draw a conclusion. Avoid doing the work of arriving at a conclusion for your student.

14. Equitably select students. Remember that males have a tendency to "jump up and shout out" responses whereas females tend to be more circumspect and, therefore, delayed in responding. Control situations where inequitable responding is likely to occur.

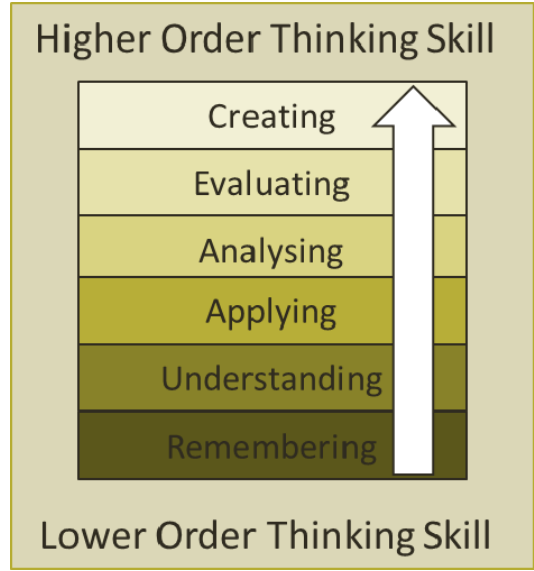
“The quality of answers in my class improved drastically once I started giving students more time to think”

Bloom's taxonomy

Benjamin Bloom is known for his taxonomy which describes levels in learning. The (revised) taxonomy can help us develop the right questions which lead to higher order thinking skills. The discussion whether we prefer the original or the revised taxonomy is not relevant here. Crucial is that we reflect on whether we give our students enough opportunities to develop their higher order thinking skills.

On these pages you will find for each level some verbs that typically belong to this level, guiding questions and some examples of questions set in a Zambian context.

Can Bloom help us?



Remembering



Remembering previously learned material

Verbs

- Label
- List
- Name
- State
- Outline
- Define
- Locate
- Repeat
- Identify
- Recite

Questions

- What do you remember about...?
- How would you define...?
- How would you recognise...?
- What would you choose...?
- Describe what happens when...?
- How is...?
- Which one...?
- Why did?
- ...

Examples

- Name all Zambian provinces and their capitals.
- What crops are grown in Eastern Province?
- How many vowels does Nyanja have?
- State the formula for the area of a circle.

Develop your own:

- ...
- ...

Understanding



Grasping the meaning of material

Verbs

- Discuss
- Explain
- Observe
- Diagram
- demonstrate
- Answer who, what, when, where, why questions
- Illustrate
- Define in your own words
- ...

Questions

- How would you clarify the meaning ...?
- How would you differentiate between ...?
- What did you observe ...?
- How would you identify ...?
- What would happen if ...?
- Can you give an example of ...?
- ...

Examples

- Who was the key character in Zambia's independence?
- What is the difference between socialists and communists?
- Explain the formula for the area of a circle in your own words.

Develop your own:

- ...
- ...

Applying



Using information in concrete situations

Verbs

Report
Construct
Solve
Illustrate
Exhibit
Modify
Design
Develop
Use

...

Questions

How would you develop... to present...?
What would be the result if ...?
How would you present ...?
How would you change...?
Why does ... work?
Can you develop a set of instructions about...?
What factors would you change if ...?

...

Examples

Compute the area of the round square in front of the administration building
Identify all forms of punishment you have observed in the video recording of a lesson taught in Gr3.
Identify examples of metaphors in this poem.
NOTE: a student writing "15" next to "3 times 5 equals" is not applying but remembering/understanding.

Develop your own:

- ...
- ...

Analysing



Breaking down material into parts and understanding their relationship to the whole

Verbs

Sort
Analyse
Investigate
Classify
Survey
Debate
Graph
Compare
Contrast
Distinguish

...

Questions

How can you classify ... according to ...?
How can you compare the different parts ...?
What explanation do you have for ...?
Discuss the pros and cons of ...?
What is the analysis of ...?
How is ... similar to ...?

...

Examples

What strategies do you need to solve this math word problem?
Listen to the speech of the president: distinguish facts and opinions.
Compare the major differences in the economic policies of President Kaunda and President Chiluba.

Develop your own:

- ...
- ...

Evaluating



Judging the value of a product for a given purpose, using definite criteria

Verbs

Justify
Self evaluate
Conclude
test
Group discussion
Justify
Judge
Criticise
Appraise
Recommend

...

Questions

What criteria could you use to assess ...?
What data was used to evaluate ...?
What choice would you have made...?
What is the most important...?
How could you verify ...?
Is there a better solution to...?
What do you think about...?
Do you think this is a bad or a good thing?

...

Examples

Write a review for the novel you have read and specify the type of audience that would enjoy this.
Observe another teacher (or yourself) and determine the quality of the teaching performance in terms of the teacher's appropriate application of questioning techniques.
After solving the math problem, determine the degree to which that problem was solved as efficiently as possible

Develop your own:

- ...

Creating (+synthesising)



Putting parts together into a new whole

Verbs

Invent
establish
Design
Formulate
Hypothesize
Re-tell differently
Report
Experiment
Generate
Compose
...

Questions

What alternative would you suggest for ...?
What changes would you make to revise...?
Predict the outcome if...?
What could you invent ...?
How would you compile the facts for...?
If you had access to all resources how would you deal with ...?
Compose a song about ...
Design a ... to ...
...

Examples

How could you re-write this story with a city setting?
Write an essay or a poem.
Write a set of rules to prevent what happened in this part of Zambian history.
Apply the strategies learned in educational psychology in an organised manner to solve this educational problem.
Apply and integrate several different strategies to solve a mathematical problem.

Develop your own:

- ...
- ...

The more you deliberately design questions, the easier it gets.



More ideas: <http://www.teachers.ash.org.au/researchskills/dalton.htm>

“Judge a man by his questions rather than his answers.”

(*Voltaire*)

Handling answers

1. **Listen** carefully to your students as they respond; let them finish their responses unless they are completely missing the point.
2. **"Echo"** their responses in your own words.
3. Acknowledge correct answers and provide positive **reinforcement**. Identify incorrect responses (try to find out the reasoning behind it) and ask for alternative explanations from other students.
4. **Repeat** student answers when the other students have not heard the answers.
5. Periodically restate the **goal** of the discussion so that it is clear for the students. It is particularly important to ask questions near the end of your discussion that help make it clear whether or not the goal has been achieved. Identify areas in need of clarification.
6. Ask **probing** questions to trigger more responses, to adjust or to redirect.
7. **Don't ignore wrong** answers, follow-up.
8. Sometimes student will restate the teacher's questions in their own words and ask the teacher for a response -- getting the teacher to do the intellectual work. When such an event occurs, **restate** the question, and pose it to the class.
9. If you don't know the answer to a student's question, nor anyone in class, **make a plan for finding the answer**.

How good are your questioning skills?

	yes	no
I prepare questions as part of my lesson preparation.	<input type="radio"/>	<input type="radio"/>
I make sure I use a variety of questions.	<input type="radio"/>	<input type="radio"/>
I always count to 3 after posing a question.	<input type="radio"/>	<input type="radio"/>
I make sure all students get an opportunity to answer a question.	<input type="radio"/>	<input type="radio"/>
I actively engage all students in thinking.	<input type="radio"/>	<input type="radio"/>
I use a variety of prompts to encourage further reasoning and answers.	<input type="radio"/>	<input type="radio"/>
I use student answers as a start for further (probing) questioning.	<input type="radio"/>	<input type="radio"/>
I try to follow the line of thought of a student who gave a wrong answer.	<input type="radio"/>	<input type="radio"/>
I involve other students in the discussion after 1 student has given an answer.	<input type="radio"/>	<input type="radio"/>

How to use this learning file in CPD?

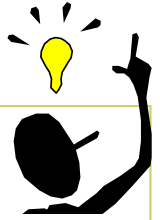
Steps to follow (as a department or section or a group of people who would like to improve their classroom questioning techniques)

1. Discuss the learning file (e.g. during CPD time). See if there is a shared understanding. Feel free to add on more information that might for example be specific for your subject.
2. Reflect on your current practice. Compile a list of typical questions asked during some recent lessons.
 - a. How much variety do you observe in the questioning? (see the learning file)
 - How far do these questions require different levels of thinking? Check if you can place the questions in one of the categories of Bloom's taxonomy of questions
 - How far were the questions asked open or closed?
 - b. Try to come up with some more open questions that stimulate higher order thinking that you could have asked. Discuss in pairs and in the group.
3. Lesson study approach
 - a. In groups (or as a section), plan a demonstration lesson in which features of good questioning techniques will be used.
 - b. Somebody volunteers to teach the lesson; other observe and one person records the lesson on video. People observing could in advance agree to focus on different features of questioning techniques (different types of questions but see also tips and tricks and handling answers)
 - c. Exchange notes and views about the questioning techniques used in the lesson in pairs and then as a whole group (the video could be played again to aid the discussion)
 - d. Agree on lessons learned and next steps
4. Alternatively, personal action plan approach,

This is a short term commitment to implementation by all members of the group.

 - a. They answer a simple question: what am I going to put into action during the coming week? e.g. "I will prepare at least 5 questions, based on lessons learned from this learning file, for each lesson I will teach in the coming week."
 - b. Try out and individual reflection (did I do what I promised to do? How did it go?)
 - c. Group meeting: exchange of experiences, challenges, finding solutions.
 - d. Agree on lessons learned and next steps
5. Invite each other to observe each other's lesson and coach each other
6. Discuss the experiences during a whole staff CPD meeting

Reflections



What did you take with you from this learning file in terms of knowledge, insights, skills, attitudes?



How will you use what you've learned?



What questions do you still have?

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Research: Hans Casier, Lieve Leroy

Editing: Patrick Kayawe, Lieve Leroy, Crispin Maambo

Critical readers: Hans Casier, Geoffrey Chilika, Leonie Meijerink, Webster Mwape

General editing, photographs and graphical design: Lieve Leroy

Publishing: VVOB-MOE Teacher training support programme

Contact: info@vvob.org.zm

