

# Active Learning Methodologies



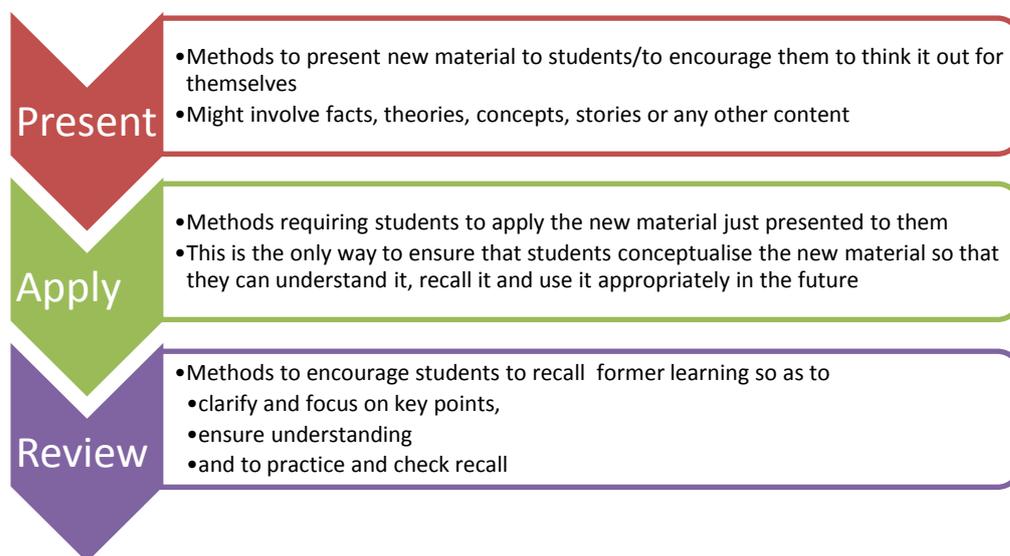


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# Teaching Methodologies Toolkit

Teaching falls into three phases, each requiring appropriate methods:



## Methodologies for Active Learning in the Classroom

### Learning Logs/Reflective Journals

Learning journals, logs and reflective diaries are terms often used interchangeably.

However, the purposes of them can differ slightly. In a learning journal, the emphasis is on recording the learning that occurs. Learning journals can be made as a tape, video, in electronic form or can be hand written. The learning journal focuses on issues that occur over time and there its purpose is that the student will learn from either the process of doing it or from the results of it. It is not simply an events diary. Journal writing is a process that allows the student to reflect on their learning. It is a record of what the student has learnt, tried and critically reflected upon.

Reflective diaries reflect on an experience, while logs are a record of events that have happened. They usually, however, all have an aspect of reflection in them. They are all written over a period of time.

The advantages of writing a learning journal include:

- To record and facilitate learning from experience
- To develop critical thinking or the development of a questioning attitude
- To encourage metacognition
- To increase active involvement in, and ownership of, learning
- To increase ability in reflection and thinking
- To enhance problem solving skills
- As a means of assessment in formal education
- To enhance reflective practice

- To enhance the students personal development
- To enhance creativity and to improve writing
- To increase communication skills

Journal writing gives students a space in which to think and reflect. It also encourages independent learning - students have to write their own journal and because they 'own' the learning, it is likely that it will be more meaningful to the student. (Rogers, 1969).

Writing a journal also provides a focusing point where students can make sense of and organise information. It encourages reflection and therefore allows students to relate their learning to their prior knowledge. It encourages metacognition and makes students more responsible for their own learning.

### **Using a learning journal with students:**

Students will get most out of using a learning log/journal if they are provided with some structure. For example, you can provide a set of “guiding statements or questions” that students can select from and respond to. If you decide to allow students to select from a list of statements or questions, be sure to limit the number of options from which students may choose.

Statements that could be included for students to answer:

- *This topic reminds me of...*
- *I've been learning about...*
- *The part I know the most about is...*
- *The part that is the most confusing is...*
- *I'd like to know more about...*
- *Knowing about this topic helps me...*
- *The part that was the newest to me was...*

Remember only to provide a limited number of questions from which students may choose to respond. However, it is good to set a minimum number or a mandatory set of questions which the students must answer.

Students should try to write something down after every new learning experience. Questions that you could give students:

- *What you did*
- *Your thoughts*
- *Your feelings*
- *How well (or badly) it went*
- *What you learnt*
- *What you will do differently next time.*

On a regular basis get the students to review what they have written and to reflect upon this.

Students could ask questions such as:

- *Have I achieved anything? If so, what?*
- *What progress have I made*
- *Have I put any theory into practice?*
- *How does what I have been doing lead to me becoming better at a skill?*
- *How can I use this to plan for the future?*
- *How can I use this to plan new learning?*
- *Experiences?*

Changes that occur in students when they develop the skills of self-reflection	
From	To
Accepting Intolerant Doing Analytical Impulsive Unskilled Communicators Reactive Concrete Thinking Lacking Self Awareness	Questioning Tolerant Thinking Being Descriptive Diplomatic Skilled Communicator Reflective Abstract Thinking Self Aware

### Success Criteria

Success criteria describe, in specific terms and in language meaningful and easily understandable to students, what successful attainment of the learning outcomes looks like. Criteria help students understand what to look for during the learning and what it looks like once they have learned. Quality success criteria make the learning explicit and transparent for students and teachers alike. They identify the significant aspects of student performance that are assessed and/or evaluated (i.e. what I am looking for) in relation to curriculum and teacher expectations. Students can use success criteria to make judgements about the quality of their learning. Before students can have a deep understanding of criteria, teachers need to be clear on what success looks like.

Creating success criteria:

- answers the questions  
“What does successful learning look like?”

“What are we to look for during the learning?”;

- makes the success criteria clear for teachers and students
- builds a common understanding of success
- lends itself to descriptive feedback
- promotes self and peer assessment
- helps identify possible next steps in the student’s learning
- leads to individual goal setting
- empowers students to take ownership of their learning
- helps develop independent learning skills

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

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

Setting clear targets for student learning involves more than posting an instructional goal for students to see. It also requires elaboration of the criteria by which student work will be judged.

Collaboratively examining student work is a good way for teachers to begin to develop a list of success criteria for a task. Teachers have implicit knowledge of the success criteria for achieving learning goals. Articulating these criteria in a way that is meaningful to students can be difficult. By examining samples of student work, teachers can:

- identify the significant traits of successful performance;
- agree on the focus of the criteria;
- express in consistent, clear language what they are looking for

Samples may be saved from previous classes, or shared among colleagues. (*Shepard et al, 2005*)

Once the success criteria have been identified, these criteria need to be shared with students. Butler and Cartier (2004, p. 1735) explain, “students’ interpretation of tasks drives their planning (e.g., objectives they set), the strategies they select and implement, and the criteria against which they judge their performance during monitoring and self-evaluation.”

For students to be able to use criteria to self-assess and improve their learning, they need to have a clear understanding of the criteria. The more they share a common understanding of the criteria with the teacher, the greater their ability to monitor and direct their learning will be.

Collaborating to develop criteria, helps students and teachers to reach a common understanding of the criteria by which a task will be assessed. By directly involving students in the development of criteria, teachers help students to deepen their understanding of what success looks like. This process invites students to share their initial ideas and understandings about the characteristics of a successful task. The teacher and the students agree on the success criteria.

## **6 Thinking Hats: Edward de Bono**

The six thinking hats technique is used to look at decisions from a number of important perspectives. This forces students to move outside their habitual thinking style, and helps the group to get a more rounded view of a situation. It encourages critical thinking and allows students to explore project ideas from a variety of viewpoints. It allows for some emotion and scepticism to be brought into purely rational decision making. It opens up the opportunity for creativity within decision making process.

### **How does it work?**

Each group is given one of six coloured hats. They have to view the problem from point of view of that coloured hat.

In a group setting each member thinks using the criteria given for the groups coloured hat. The group focusses on the same thinking challenge—this is called focused parallel thinking-- a tool that facilitates creativity and collaboration. It enables each person's unique point of view to be included and considered.

### **The six hats:**

#### **White hat**

This is the information seeking hat. The focus is on pure facts, figures and objective information. Questions that this group should ask could include:

- What are the facts?
- What information is available? What is relevant?
- When wearing the white hat we are neutral in our thinking.

#### **Red hat**

This is the emotions and feelings hat. It focusses on hunches and intuition. Questions include:

- What do you feel about the suggestion?
- What are your gut reactions?
- What intuitions do you have?

- Don't think too long or too hard.

### **Black hat**

This hat plays devil's advocate. It focusses on logical and negative judgment - on why it won't work. This is the caution hat. Questions include:

- What are the errors or pit-falls?
- What are the risks or dangers involved?
- What difficulties and problems can be identified?

### **Yellow hat**

This hat promotes sunshine, brightness and optimism. It is the hat of positive constructive thought. The traits of this hat are that it is positive and constructive. It is about effectiveness and getting a job done. Questions include:

- What are the benefits, the advantages?
- Logical reasons for decision making given

### **Green Hat**

This is the creative mode of thinking. This hat is creative and is open to new ideas, movement and provocation. In the green hat we look to new ideas and solutions. Questions include:

- What are the ideas and alternative solutions?

### **Blue Hat**

This is the control hat. It is cool and controlled. It tries to rule over other hats. It sets the focus, calls for the use of other hats. Blue is for planning.

- Let us reflect on the thinking processes used.
- What plan can we put in place

## Consider All Factors Template

Idea/Issue/scenario to be discussed:

Factor 1

Advantages

Disadvantages

Interesting Factors

Advantages

Disadvantages

Interesting Factors

Advantages

Disadvantages

Interesting Factors

## Consider All Factors

This methodology encourages pupils to think about *all* the relevant factors when making a decision or considering an idea. It is a useful tool before deciding and planning a particular course of action to gather together a comprehensive list of factors which may determine a decision or idea.

1. The teacher discusses with students the importance of considering all factors in decision-making and planning. For example, if an important factor is forgotten, a route of action which may seem right at the time may ultimately turn out to be wrong.
2. In groups students fill out the **Consider All Factors** template.
3. Once the CAF sheets are completed, students rotate in groups and view the factors which other groups have noted. They may wish to use the **Two Stars and a Wish** strategy as a means of peer assessment.
4. Students could then be given time to modify or add to their original factors based on what other groups have written on their sheets.
5. A **debrief** afterwards in order to bring together all factors as a whole group is always useful.

## Goal Setting:

The most well-known method for setting objectives is the S.M.A.R.T. way. This stands for objective that are **S**pecific (concrete, detailed, well defined), **M**easurable (numbers, quantity, comparison), **A**chievable (feasible, actionable), **R**ealistic (considering resources) and **T**ime-Bound (a defined time line).

### Specific

Specific means that the objective is concrete, detailed, focused and well defined. Specific means that it's results and action-orientated. Objective must be clear and outline the action and the required outcome. Objectives need to communicate what you would like to see happen. To help set specific objectives it helps to ask:

- **WHAT** am I going to do? These are best written using strong, action verbs such as conduct, develop, build, plan, execute, etc. This helps your objective to be action-orientated and focuses on what's most important.
- **WHY** is this important for me to do?
- **WHO** is going to do what? Who else need to be involved?
- **WHEN** do I want this to be completed?
- **HOW** am I going to do this?

## **Diagnostic Questions**

- What exactly are we going to do, with or for whom?
- What strategies will be used?
- Is the objective well understood?
- Is the objective described with action verbs?
- Is it clear who is involved?
- Is it clear where this will happen?
- Is it clear what needs to happen?
- Is the outcome clear?
- Will this objective lead to the desired results?

## **Achievable**

Objectives need to be achievable. If the objective is too far in the future, it will be difficult to keep motivated and to attain it. Objectives need to stretch you, but not so far that you become frustrated and lose motivation.

## **Diagnostic Questions**

- Can we get it done in the proposed timeframe?
- Do I understand the limitations and constraints?
- Can this be done with the resources we have?
- Has anyone else done this successfully?
- Is this possible?

## **Realistic**

Objectives that are achievable may not be realistic. Realistic means that you have the resources to get it done. These resources include skills, time, equipment, etc. required to achieve the objective. Whilst keeping objectives realistic, ensure that they stretch you.

## **Diagnostic Questions**

- Do you have the resources available to achieve this objective?
- Is it possible to achieve this objective?

## **Measurable**

Can it be assessed? It is no use setting your students goals that you or they cannot easily assess.

## **Diagnostic Questions**

- How will I know that the change has occurred?
- Can these measurements be obtained?

## **Time-Bound**

Time-bound means setting a deadline for the achievement of the objective. Deadlines need to be both achievable and realistic. Do not give students too long a time frame to complete any task. Break down very big tasks into smaller tasks for them. This makes them more achievable and manageable.

## **Diagnostic Questions**

- When will this objective be accomplished?
- Is there a stated deadline?

## **One Minute Paper**

This quick technique helps the teacher find out what students have learnt from a particular activity or from a given day's class.

In its basic format, the teacher takes the last minute (or, realistically, three minutes) of class and asks students to write down short answers to two questions:

- What was the most important point made in class today?
- What unanswered question do you still have?

Responses can be put on post it notes or on the student's own paper. Students can be allowed to respond anonymously, to encourage them to admit points of confusion they might hesitate to put their name to, or they can be asked to write their names so that the teacher can write a brief, personal response to each question or encourage thoughtful answers by giving extra credit.

The questions can be modified in various ways, but they should remain open-ended.

In one variation described by Angelo and Cross, the teacher asked each student to name five significant points that had been made in that session. This can be especially useful in identifying the range of perceptions of what has been happening in class.

## **KWL**

This method can be used as an introductory strategy in order for students to document their present level of knowledge and what gaps may exist in that knowledge, to structure progress in their learning and to analyse what new information has been learned after research. This activity builds upon prior knowledge and understanding and develops teamwork skills. If the K-W-L is carried out in groups, it may consolidate communication skills and teamwork.

1. On a K-W-L grid, students write under 'K' what they think they already know about a particular topic or issue. If pupils are working in groups, they may wish to use a **Post-It** style activity before writing their combined ideas onto the grid.
2. Students are then encouraged to think about the gaps in their knowledge by filling out what they *want* to know in the 'W' column.
3. Once the topic is completed, students return to their grids to fill in the final 'L' column. Here they confirm the accuracy of their first two columns and compare what they have learned with their initial thoughts on the topic in the 'K' column.

K W L	
<b>K</b>	<b>What I Know</b>
<b>W</b>	<b>What I Want To Know</b>
<b>L</b>	<b>What I Learned</b>

### **3B4Me: Three before asking me!**

3B4Me encourages students to become independent learners. It allows them to attempt to figure out answers for themselves before asking their teacher. This will help them to fully understand problems and help improve their knowledge and study skills without simply expecting an immediate answer from the teacher.

### **How does it work?**

- Explain to students that the list of strategies that they can do by themselves first is there for ideas – depending on the subject the students are doing, there may be other things which they feel will suit them better. These lists will be located in every classroom.
- Student should attempt three strategies before asking the teacher for help.
- Advise students to be careful with asking a peer all the time – they may not know the correct answer and they are more likely to learn if they try to figure it out themselves. If they simply get the answer from someone, they are not learning ‘why’ or ‘how’...they should ask their peer to explain if they use this option.

The list of strategies from which the student must choose and use three before asking the teacher for help include:

- Carefully re-read the question
- Refer to your book, notes, dictionary or any other resources
- Experiment! Just have a go!
- Highlight key words using the BUG technique
- Ask a peer who you think may be able to help
- Stop! Think! Reflect! Use your brain
- Ask a clarification question (“Does it mean....?”)

Jim Smith in his book “The Lazy Teacher’s Handbook” uses the following terms

- BRAIN – what do you know already?
- BOOK - read your book
- BUDDY – ask the nominated class expert for this topic
- BOSS – lastly ask the teacher!

### **Fishbowl Listening Activity:**

Fishbowl activities force participants to listen actively to the experiences and perspectives of a specific group of people. A student fishbowl gives teachers an opportunity to hear the experiences, ideas, and feedback of current students while giving the students an opportunity to be active in their learning.

### **How does it work?**

1. Divide the class up into small groups. Each group writes down their thoughts and views on the particular question or topic on a piece of flip chart paper with a marker for about 10-15 minutes.

2. The whole room then re-groups, moving their chairs into 2 circles: one circle is a large “fish-bowl” round the outside of the room and the other small circle is the “fish” in the middle of the room. This is a listening exercise.
3. The small circle contains the fish, and one person from each original group should sit in this small circle. The fish tell everyone in the room about what was discussed in their group. The fish are the only ones who can talk at this stage. One person from the fish group volunteers to write all the main ideas on a flip chart paper in the middle.
4. Students in the large circle are the fish-bowl and they are the listeners – they must listen very carefully to what the fish are saying, to check that this is an accurate description of the views put forward by their little groups
5. Any listener who disagrees with what is being said by the “spokes-fish” of their group, or wants to add something, can go up and tap them gently on the shoulder. This means that they will swap places.

**Variation:**

One variation is to have the fish bowl run for a certain period of time – say 15 minutes. The teacher stops the discussion in the fishbowl circle and invites those not in the inner circle to offer their comments or additions to what they are hearing in the inner circle.

Adapted from: NCCA Working with others toolkit.

**Think-Pair- Share Square**

This strategy allows you to quickly engage the whole class without losing any time moving furniture or formulating groups. Think-Pair-Square-Share is a series of steps that enables the students move through the stages of individual work, paired work and group work before feeding back to the whole class very simply.

**Think:** The students spend time in silence writing or thinking about their own ideas.

**Pair:** Students turn to the person next to them to discuss their ideas with a partner.

**Share:** Students share their answers with another group

**Square:** Two pairs work together as a new group to complete the task of agreeing on a response from the first two answers that the pairs have come up with. They also elect who will be speaking. This stage is crucial for extracting the high level explanation behind why an answer was chosen. This reduces the amount of answers that a teacher has to elicit from a class. It helps promote student learning as students discuss and teach each other.

## **Snowball**

This technique allows students to think about their own responses to issues and to begin a collaboration process with those around them to consider their thoughts on the same question. It is a useful way of encouraging less vocal pupils to share ideas initially in pairs and then in larger groups. It also ensures that everyone's views on an issue may be represented and allows a whole class consensus to be arrived at without a whole class discussion.

### **How does it work?**

1. A relevant question is asked or a scenario is described by the teacher.
2. Students individually write down their thoughts, opinions and/or suggestions as in think- pair-share.
3. Students form pairs and compare answers. They discuss their answers and reach an agreed answer, which they then record.
4. Students move into groups of four and undertake a similar process. Another agreed answer is reached and recorded.
5. The group of four becomes a group of eight and the process is repeated. A further agreed answer is reached.
6. This is then repeated with the last two groups of 16 and one person from each group is nominated as spokesperson.
7. A final whole-class position is then discussed and justified.

### **Placemats:**

In this strategy, students are divided into small groups of 4 students and gathered around a "placemat". The "placemat" is organised with sections for each student to record their ideas and a central section for students to summarise their individual ideas. First, students individually think about a question and write down their ideas on their own section of the placemat. Then students share ideas to discover common answers, which can be written in the centre of the placemat.

Using a placemat technique will provide all students with an opportunity to share ideas and learn from each other in a cooperative small group discussion.

By using the placemat technique the students will:

- have an opportunity to reflect and participate in their learning
- feel that their ideas are valued
- extend their learning by listening to the ideas of others a

The placemat strategy can be used with a wide variety of questions and prompts. It can be used to activate the sharing of prior knowledge amongst students and to help students share problem-solving techniques. It also facilitates peer review and coaching.

It can be used to summarize learning after the lesson and be used as an opening review for the subsequent lesson. Groups of four students are the ideal number for the placemat activity.

## **My Little Book Methodology**

The Little Book Methodology is a way of getting students to learn small pieces of information (e.g. definitions) by teaching each other.

1. Divide the material to be learned by the students into a number of small parts.
2. Teach the students how to make The Little Book

### **Preparing the little book for use**

Instruct students to

- Write the title of the book on the front cover
- Write their name on the front cover
- Number each page
- Place a title (e.g. definition term) on each page

### **Using the Little Book**

Each student is given a slip of paper with a small amount of information.

They learn their piece of information and write it in their own words on the appropriate page in their book. The teacher takes back the slips of paper (to ensure that they explain the information to each other and do not simply copy it)

The students' task is to fill their book.

Student A teaches student B the piece of information he/she has learned. When student A is satisfied that student B knows it, student B writes it onto the appropriate page in his/her book and student A checks that B knows the information and then initials the page to confirm this.

Student B then does the same.

The students circulate around the class until they have all completed their little book

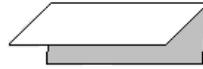
### **Notes**

It is recommended that students teach their piece of information at least three times before being given permission to teach something they have been taught by a class mate.

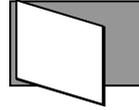
## Making the Little Book

Take an A4 or A3 piece of paper

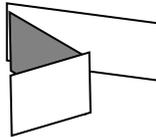
1. Fold it in two on the long side



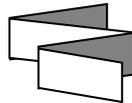
2. Fold in two along the short side



3. Fold the front part in two back on itself



4. Fold the back part back on itself – there should now be an accordion type of movement possible



5. Split the top of the front and the back of the accordion



You now have a book with five leaves (one very thick leaf in the middle)



## Students generate their own questions for tests

*Rule 1: Allow the students to generate as many questions as they can. Do not let them simply copy them from past exam papers.*

The difficulties that you may find with this are:

- **Students struggle trying to produce the questions:**

Give them time to think. Repeat the question focus and the rules but do not give examples of questions.

- **Students ask for examples:**

Do not give examples. When you give examples you are setting direction for the questions. If they are completely stuck, you can use question starters. For example: “You can start a question with words like *what*, *when* or *how*. Use one of these words to produce a question about ..... Question starters are a good strategy for when students are stuck or when they have produced very few questions.

- **Groups are working at different pace:**

While some of your small groups will have lots of questions, others will not. This should not matter. The work during this exercise should not be judged by the number of questions students produced. If some of your groups are slow in producing questions, just make sure they stay on task by reminding them of the rules.

- **Some students are not participating or one student is producing all the questions:**

Remind students about the task and the rules. All group members should contribute questions, including the scribe. Remind students of this first rule. All questions are welcomed and valued which will allow the reluctant student to participate.

*Rule 2: Do Not Stop to Discuss, Judge, or Answer Any Question*

Some students may want to answer a question as it comes up. This rule says it all: do not stop to answer, judge, or discuss. Let students know that there will be opportunities for discussion and addressing the questions in other steps of the process.

*Rule 3: Write Down Every Question Exactly as It Is Stated (Levels the Playing Field So All Questions and Voices Are Respected.)*

Sometimes it will be difficult for the scribe to keep track of the question and all the words. The challenge is to make sure each question is captured, especially if there’s a flurry of questions. Remind students that the whole group is responsible for each question to be written exactly as it was asked. Group members can help the scribe in remembering and recording all the questions.

*Rule 4: Change Any Statement into a Question (Insists on the Discipline of Phrasing, Asking, and Thinking in Questions, Not Statement).*

**If students get off task and start talking:** Make sure students stay focused on asking questions. Sometimes you will see students getting off-task — talking or discussing. Other times they might think they have asked a question when they have not, using statements or even phrases rather than questions. If you see any of these happening just ask them to change what they were talking about or the statement they wrote into a question.

### Card Ranking:

This activity allows pupils to prioritise ideas and information and discuss justifications for their choices.

### How does it work?

1. Small groups of students receive a range of cards.
2. Students arrange cards in order of importance/priority. They might do this in a straight line or build up tiers.
3. Students might then compare each other's ranking as a starting point for class discussion of the issue.
4. Further tools such as the Five Questions below might be used to explore ideas even further.

### Five Questions

This is an information gathering activity which enables the teacher to break down a topic into smaller sub-themes or tasks. This makes the topic or task easier for the student to engage with.

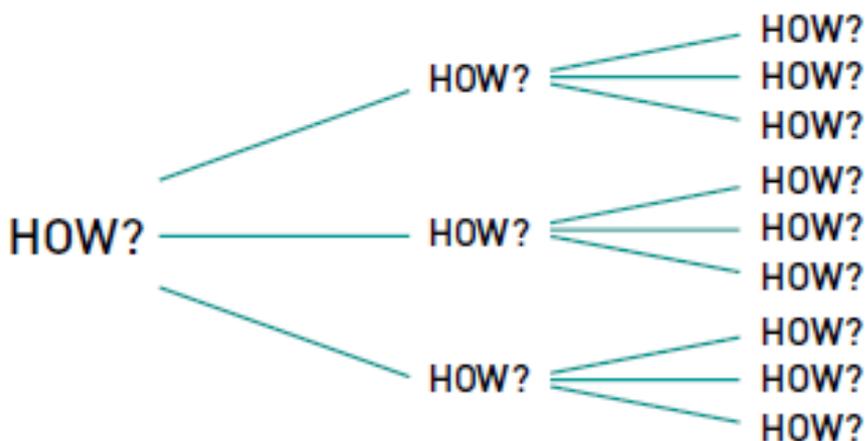
The teacher asks an initial comprehension question starting with How or Why. The teacher then continues with a series of connector question stems such as:

How are...and...similar?

How are...and...different?

How does...tie in with...that we learned before?

The question must always start with either the How or Why.



## **Diamond Ranking**

Most people will have come across the idea of a Diamond 9. Take nine statements and asks groups of students to rank these in order. But rather than ranking in a straight line, using the diamond template (one on the top, two on the next row, three on the middle row, then two, then one) removes the need for exact ranking and leads to a more constructive discussion. The template is on the next page.

To increase discussion and learning the group could be given eight statements and a blank card for their own contribution. The number of blanks could be increased according to the group and/or the topic. This increases the thinking process and can be used as a differentiation tool in the classroom.

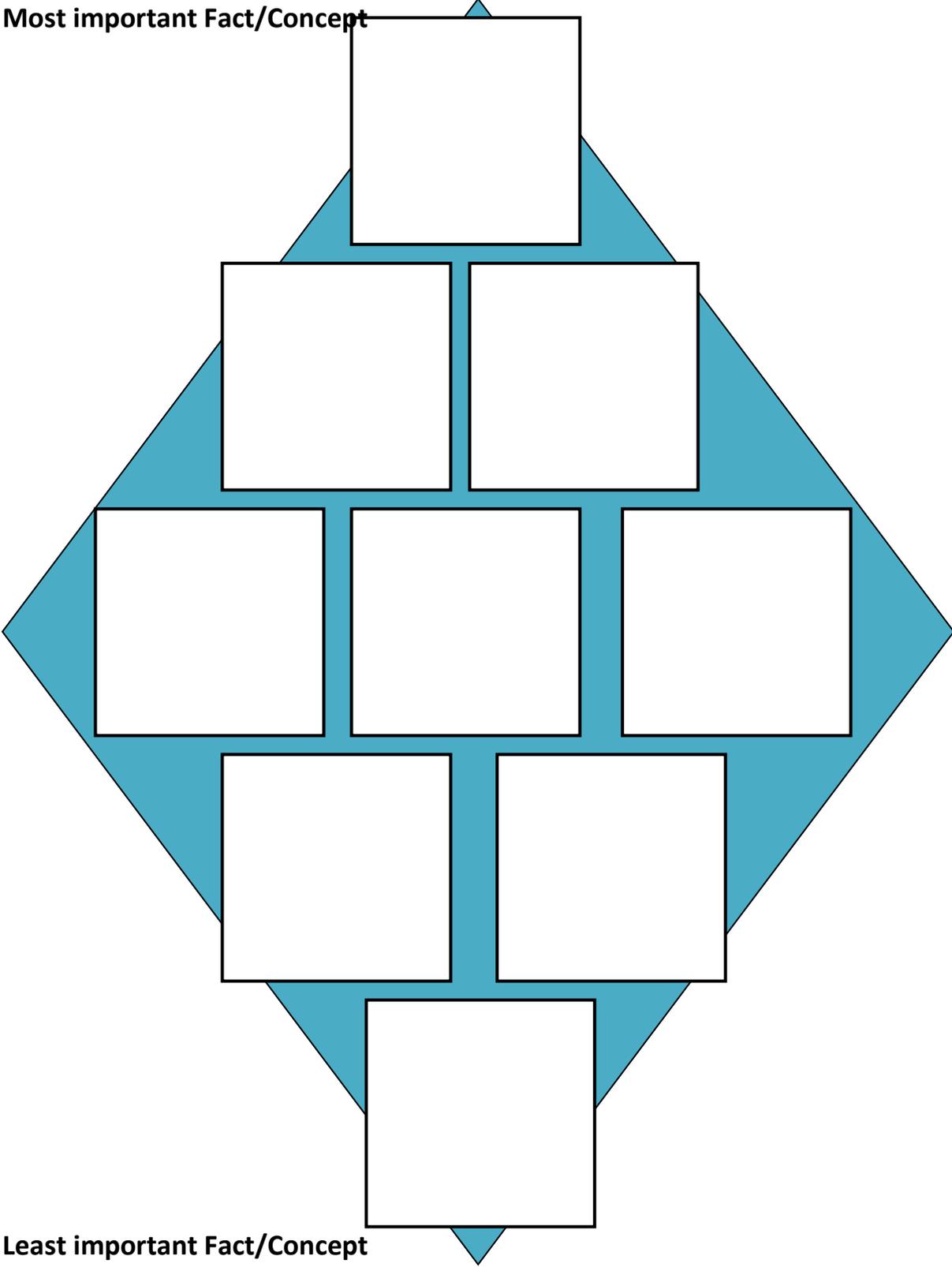
### **How does it work?**

1. Students receive (or write out beforehand) nine ideas based on a particular question on card or post-its. If each pair is given more than 9 items, they first have to select 9 items, in relation to the criteria.
2. They place their first priority card at the top, followed by two in second place, three in third place, a further two and then the card which represents the lowest priority at the bottom. This forms a diamond shape as shown in the diagram on the next page.
3. Students should strive for a consensus amongst themselves. This may involve various discussions on the order of cards involving justification.
4. Each pair links up with another pair and shares their own rankings with the other and makes a third consensus diamond if necessary.

### **Reflection**

1. At first, what were the differences and similarities between the two diamonds?
2. In developing a third diamond, how did your group arrive at consensus?
3. Was it hard or easy to reach consensus? Why do you think that was?
4. Did everyone feel that their ideas were listened to?

**Most important Fact/Concept**



**Least important Fact/Concept**

## **In the Hot Seat**

This creative in-role activity can be a useful tool to encourage discussion about a particular issue and share information. A single hot seat should be placed facing the group. Alternatively, in order to facilitate more relaxed interaction between students, the hot seat might be placed in the middle of a circle.

### **How does it work?**

1. Students are allocated a particular character, or alternatively they think of a role themselves relevant to the issue in question. The role can be researched by a group or individually.
2. Other students in groups think up challenging questions for the person in the hot seat. This can be done with the help of the teacher.
3. The character in question is put in the hot seat and questioned by the other students. This can help students to feel empathy for a particular person or viewpoint, particularly a view which they do not normally share.
4. An idea or issue could also be placed on the hot seat, instead of a student. Using this technique, answers can come from anyone in the class.
5. A mystery game could also be played out using this technique, with class members having to guess the identity of the person in the hot seat.
6. A **debrief** afterwards could involve asking pupils what they learned, what they found interesting and if they would challenge anything which the person in the hot seat said.

## **Mind Maps/Concept Maps**

Adapted from [http://www.mindtools.com/pages/article/newISS\\_01.htm](http://www.mindtools.com/pages/article/newISS_01.htm) and <http://www.mind-mapping.co.uk/make-mind-map.htm>

Mind Mapping is a useful technique that can help students learn more effectively, by improving the way that information is recorded. Mind maps support and enhance creative problem solving.

Mind Maps were popularised by Tony Buzan. They use a two-dimensional structure, instead of the list format conventionally used to take notes.

Mind Maps are more compact than conventional notes, and are usually drawn on one sheet of paper. They help students to make associations easily, and generate new ideas.

A good Mind Map shows the relative importance of individual points, and the way in which facts relate to one another. This means that they're very quick to review. They can be used as effective mnemonics - remembering the shape and structure of a Mind Map can give you the cues you need to remember the information within it.

Mind Maps are useful for:

- Brainstorming – either individually or as a group.
- Summarising information, and note taking.

- Consolidating information from different research sources.
- Thinking through complex problems.
- Presenting information in a format that shows the overall structure of the topic
- Studying and memorising information.

### How to make a mind map

<p><b>1. Take a blank piece of paper, A4 or larger.</b></p>	<p>Blank paper allows 360° of freedom to express the full range of your cortical skills, whereas pre-drawn lines restrict the natural flow of your thoughts.</p>
<p><b>2. Use the paper in landscape orientation.</b></p>	<p>Words and images have more space in the direction we write, so they don't bump into margins as quickly.</p>
<p><b>3. Start in the centre.</b></p>	<p>Thoughts start in the centre of our mental world. The Mind Map page reflects this!</p>
<p><b>4. Make a central image that represents the topic about which you are writing/thinking:</b></p> <p><b>Use at least three colours.</b></p> <p><b>Keep the height and width of the central image to approx. 2" or 5 cm (proportionately larger for bigger paper).</b></p> <p><b>Allow the image to create its own shape (do not use a frame).</b></p>	<p>A picture is worth a thousand words. It opens up associations, focuses the thoughts, is fun and results in better recall:</p> <p>Colours stimulate the right cortical activity of imagination as well as capturing and holding attention.</p> <p>This size gives plenty of space for the rest of your Mind Map, while making it large enough to be the clear focus of the topic.</p> <p>The unique shape makes it more memorable and enjoyable. A frame makes the centre a monotony of shape and disconnects the branches.</p>
<p><b>5. The main themes around the central image are like the chapter headings of a book:</b></p> <p><b>Print this word in CAPITALS or draw an image.</b></p> <p><b>Place on a line of the same length</b></p>	<p>The main themes, connected to the central image on the main branches, allow their relative importance to be seen. These are the Basic Ordering Ideas (BOIs) and aggregate and focus the rest of the Mind Map.</p> <p>Printing allows the brain to photograph the image thus giving easier reading and more immediate recall.</p> <p>Word length equals line length. An extra line</p>

<p>The central lines are thick, curved and organic i.e. like your arm joining your body, or the branch of a tree to the trunk.</p>  <p>Connect directly to the central image.</p>	<p>disconnects thoughts, length accentuates the connection.</p> <p>Curved lines give visual rhythm and variety and so are easier to remember, more pleasant to draw and less boring to look at. Thicker central lines show relative importance.</p> <p>Connected to the image because the brain works by association not separated, disconnected lines.</p>
<p><b>6. Start to add a second level of thought. These words or images are linked to the main branch that triggered them.</b></p> <p><b>Remember:</b> Connecting lines are thinner.</p> <p>Words are still printed but may be lower case.</p>	<p>Your initial words and images stimulate associations. Attach whatever word or image is triggered. Allow the random movement of your thought; you do not have to 'finish' one branch before moving on</p> <p>Connected lines create relationships and a structure. They also demonstrate the level of importance, as from a branch to a twig. The size and style of the letters provide additional data about the importance and meaning of the word/image.</p>
<p><b>7. Add a third or fourth level of data as thoughts come to you:</b> Use images as much as you can, instead of, or in addition to the words. Allow your thoughts to come freely, meaning you 'jump about' the Mind Map as the links and associations occur to you.</p>	<p>Your brain is like a multi-handed thought-ball catcher. The Mind Map allows you to catch and keep whatever 'thought ball' is thrown by your brain.</p>
<p><b>8. Add a new dimension to your Mind Map. Boxes add depth around the word or image.</b></p>	<p>To make some important points stand out.</p>
<p><b>9. Sometimes enclose branches of a Mind Map with outlines in colour:</b> Enclose the shape of the branch and hug the shape tightly.</p> <p>Use different colours and styles.</p>	<p>The outlines will create unique shapes and will aid your memory: These provide immediate visual linking.</p> <p>They can also show connection between branches by using the same colour outline.</p>
<p><b>10. Make each Mind Map a little more:</b></p> <ol style="list-style-type: none"> <li>1. BEAUTIFUL</li> <li>2. ARTISTIC</li> <li>3. COLOURFUL</li> <li>4. IMAGINATIVE</li> <li>• DIMENSIONAL</li> </ol>	<p>Your eyes and brain will be attracted to your Mind Map: It will be easier to remember. It will be more attractive to you</p>

There are a number of free mind mapping software tools online such as:

<http://mind42.com/>

[http://freemind.sourceforge.net/wiki/index.php/Main\\_Page](http://freemind.sourceforge.net/wiki/index.php/Main_Page)

<http://www.edrawsoft.com/freemind.php>

<https://bubbl.us/>

## **Concept Mapping**

Adapted from

<http://cmap.ihmc.us/publications/researchpapers/theorycmaps/theoryunderlyingconceptmaps.htm>

Concept maps are graphical tools for organising and representing knowledge. They include concepts, usually enclosed in circles or box and relationships between concepts indicated by a connecting line linking two concepts. Words on the line referred to as linking words or linking phrases, specify the relationship between the two concepts.

Another characteristic of concept maps is that the concepts are represented in a hierarchical fashion with the most inclusive, most general concepts at the top of the map and the more specific, less general concepts arranged hierarchically below.

Another important characteristic of concept maps is the inclusion of cross-links. These are relationships or links between concepts in different segments of the concept map. Cross-links help us see how a concept in one domain of knowledge represented on the map is related to a concept in another domain shown on the map.

Concept maps are not only used as learning tools but can also be used as an evaluation and assessment tool. Concept maps are also effective in identifying both valid ideas and misconceptions held by students.

In learning to construct a concept map, it is important to begin with an area of curriculum content that is very familiar to the student constructing the map. The next step is to identify the key concepts that apply to this topic. Usually 15 to 25 concepts will suffice. These concepts could be listed, and then from this list a rank ordered list should be established from the most general, most inclusive concept at the top of the list to the least general concept at the bottom of the list.

The next step is to construct a preliminary concept map. This can be done by writing all of the concepts on Post-its which allow the concepts to be moved around easily. Computer software programs are even better in that they allow moving of concepts together with linking statements and the moving of groups of concepts and links to restructure the map. Once the initial map is built, the cross-links should be written. These explain how the concepts are related to each other. This process involves what Bloom identifies as high

levels of cognitive performance, namely evaluation and synthesis of knowledge. Concept mapping is an easy way to encourage very high levels of cognitive performance, when the process is done well. This is one reason concept mapping can also be a very powerful evaluation tool (Edmondson, 2000).

There are some free concept mapping software packages that are available to download

<http://cmap.ihmc.us/download/>

<http://www.xmind.net/>

<http://vue.tufts.edu/>

## **Role Plays**

### **Simulation**

This creative role-play activity is a useful tool for encouraging students to engage in discussion about a particular issue and to share information.

#### **How does it work?**

In simulations students react to a specific problem within a structured environment such as a mock court, parliamentary hearing, council meeting or a facilitation meeting. It is extremely useful for promoting expression of attitudes, opinions and values, fostering participation and developing empathy. However, it can be time-consuming as it requires a considerable amount of preparation. The scenario should be relevant and realistic, provide adequate information to give students a comfort zone when acting out their roles and build up confidence by using group simulations before they are asked to carry out individual role plays.

### **Using Photographs**

Photographs can be used to stimulate discussion and in role play. Ask students to develop a role play or simulation based on a photo, image or cartoon.

The photographs can be used by students in the following ways:

- Students name individuals in a picture
- invent relationships between them
- imagine how each person feels
- Take on the roles of the people in the photograph and act out what they think is happening and what might happen next. Each student could choose a character from a photograph and take on the role. Other class members can then question them in role.

## Conscience Alley

This role-play strategy allows students to gain a quick synopsis of all the issues related to a specific topic. It has the advantage over 'standard' role play in that it can be carried out reasonably quickly. It might be particularly useful for younger or less able pupils since they do not have to remain in role for very long. They also do not need to know a great deal of information about the issue as their role card will simply state who they are and how they feel about the particular topic.

### How does it work?

1. Explain the scenario
2. Place each student into role by giving him or her each a role card which explains who they are and briefly how they feel about the situation
3. Get students to stand in two lines facing each other, with a pathway up the middle of the room.
4. Select a student randomly and ask them to state their role.
5. Ask remaining pupils to think of one statement they would like to make to this student.
6. The selected student then walks between the lines and the remainder of the class make their statements as they pass by.
7. Debrief by asking the selected pupil which arguments they found convincing and what their view is on the scenario.
8. The activity can be repeated by selecting others to walk in role through the "Conscience Alley".

## Walking Debate

The walking debate will give every student the opportunity to express their opinion on the issues under discussion.

### How does it work?

1. Place **agree** and **disagree** signs on either side of the room. Gather all students in the centre of the room.
2. Invite students to indicate whether they agree or disagree with the following statements by standing under the agree or disagree signs:
3. Draw feedback from students after each statement is read. Ask why they took the position they did – note if any students changed position based on the contributions of others.

## WWW – Who – What – When for evaluating websites

The w's that students should use for evaluating websites

- Who wrote the page? Is he, she, or the authoring institution a qualified authority?
- What can the URL tell you? What's the bias?
- When was it written? Is it current, timely?

- Is information cited authentic?
- Does the page have overall integrity and reliability as a source?
- Could the page or site be ironic, like a satire or a spoof?
- If you have questions or reservations, how can you satisfy them?

### **Skimming** (From Between the Lines Page 48)

Use this strategy when introducing a new textbook or topic. If introducing a new book allow students time to savour the enjoyment of a new book when they get it for the first time. For example students could:

- Look at the cover and discuss impressions
- Examine the title

They could find out

- Who wrote the book?
- Who illustrated the book?
- Who printed it?

Then go to the Contents page: Complete some exercises with the students where the students have to

- Check how many chapters/sections are in the book
- Find topics within sections of the book
- Find a chapter
- What page is \_\_\_\_\_ on?
- Talk about what's in the book

Skimming is useful techniques for students to learn, particularly students with reading difficulties, as they, more than any other students, generally believe that they have to read every word in order to read successfully.

Skimming should help students to:

- read more quickly
- decide whether they want/need to read something in more detail
- think about their reading and ask questions

Skimming allows students to read something very quickly just to get an idea of what it is about. Tell students to skim over the surface of the text to find the main point and don't read every detail. Students need to be quite good at reading before you try skimming.

## How does it work?

- 1 Start off with a short piece e.g. a short text task. Tell students to get as much information as they can **before they begin**. They can do this by answering the following questions:
  - What sort of piece is it?
  - What is the title?
  - Is there a picture or diagram to help?
- 2 Tell students to let their eyes move over the text quickly looking out for important words. Instruct them not to bother with little words like 'the', 'to' and 'are' or the descriptive words like 'very'
- 3 Find out as much information as quickly as possible.

### Tips for Students

- Don't read every word.
  - Don't read every sentence.
  - Let your eyes move quickly.
  - Keep thinking about the meaning.
- 4 Tell students to skimm the whole article. Concentrate on:
    - the title
    - any diagram/pictures
    - the first paragraph
    - the last paragraph
    - the first line of the other paragraphs

Skimming Examples :Newspaper Article

Before you start, read the 'How To Skim' sheets.



- Read the **headlines** .
- Read the **first and last paragraph** only.
- Read them as quickly as you can.
- Think what the newspaper article is about.
- Answer the questions at the end of the article.



Questions for students:

- 1 From reading the first and last paragraphs, what do you think the article is about?
- 2 What specific information does it give you?
- 3 Now read the whole article. What extra information did you get?
- 4 Did it change your idea of what you thought the article was about?

### **Scanning** (From Between the Lines page 49)

Scanning is used when we are looking for particular information. For example:

- Looking up a phone number
- Finding the price of an item in a catalogue
- Finding a topic in an index.

You don't need any special equipment or materials for skimming and scanning. Ordinary textbooks, an old Yellow Pages or phone book, tool hire or mail-order catalogue, a bus or train timetable, recipe books, Guinness Book of Records, quiz book, local directories and newspapers, event guides, whatever is appropriate to a particular subject can be used.

These types of materials are encountered frequently by students and can be used to practice the techniques in class.

#### **Example: Using the telephone directory**

Scanning involves very close reading to pick out the information you need.

Scan the phone book to find the phone number of Peter Murphy, 6 Meadowgrove, Mytown.

Murphy

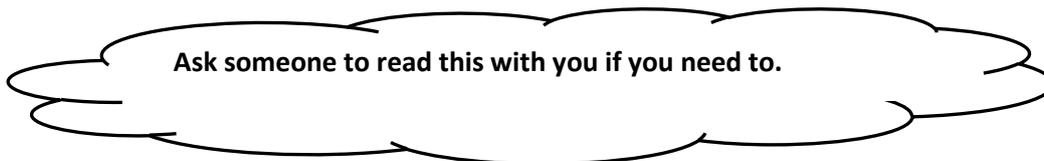
- . Peter, 13 Harbour View, Mytown 9672 4423
- . Peter, 14 Buttercup Pk., Mytown 8876 9876
- . Peter, 16 Waterpark, Mytown 2472 6543
- . Peter, 12 Cedar Downs, Mytown 3498 6754
- . Peter, 22 Redwood Cl., Mytown 7456 7654
- . Peter, 14 Lobilia Downs, Mytown 9876 5665
- . Peter, 454 Lower Rd., Mytown 6670 9877
- . Peter, Ferrycarrig Rd., Mytown 1847 4683
- . Peter, 6 Meadowgrove, Mytown 3487 6183



- . Peter, 36 Sweetmount Pk., Mytown 6298 7634
- . Peter, 34 Hazel Lawn, Mytown 5821 3452
- . Peter, 56 Ashwood Rd., Mytown 456 8754
- . Peter, 54 Oldfield Ave., Mytown 4842 4864
- . Peter, 34 Mannix Rd., Mytown 7857 4523
- . Peter, 19 Castel Pk., Mytown 5382 6762
- . Peter, 64 Main St., Mytown 6677 5654
- . Peter, Mountain Rd., Mytown 4805 7258
- . Peter, Thorndale Cres., Mytown 3342 9099

After students have learned the techniques of skimming and scanning it is essential that they have regular opportunity to practice on a variety of materials.

### How to Scan



If you want just one piece of information from a text (e.g. name, an address, the time of a TV programme or a word you want to spell) you need to scan for it. This means looking through very quickly without really reading the words. All you have to do is find the word(s) you want.

Look at the list below. Tick the things you would use scanning for:

reading instructions	
finding a telephone number	
finding out who a letter is from	
reading a book	
finding a street on a map	
looking up the time of a bus	
finding a plumber in yellow pages	
finding a word in the dictionary	
studying an agreement	
checking that a cheque has been signed	

## Steps for Scanning

- Think about what you are scanning for.
- Write it down and try to get a picture of it in your mind.
- Keep thinking about what you are looking for and let your eye run over the page.
- Don't read the words. Don't read the sentences. Just look.
- If you don't find it first time, try again.
- Keep thinking about the words you want and keep your eyes moving quickly.

If you don't do it quickly then you are not really scanning, you're stopping to read the other words.

You might need a lot of practice before you can scan well, but it will save you time in the end. It's very useful for looking up all sorts of things.

If you are not good at reading yet, you can still scan. Try finding words you know well, like Liverpool or your own name, in a page of writing.

## **SQ3R** (from Between the Lines page 50)

Another strategy that uses the skills of skimming and scanning to help students read for meaning is SQ3R.

SQ3R stands for

- Survey,
- Question,
- Read,
- Review and
- Recall

Students use skimming techniques to get a flavour of the text and identify the questions they want answered by a more thorough reading. It is an oral activity best done with the whole class initially until they are competent with the technique. Later the students can work in pairs/fours.

It is a technique that can be used to introduce any new textbook or piece of text. It encourages students to approach the text in an active way, anticipating and expecting that their questions will be answered, the information found and meaning revealed.

## **Survey**

- Look at the cover, the title, illustrations, first sentence, headings and last paragraph.
- What you know about the topic already, what's the author's purpose in writing this,
- Is this fact or opinion? Is there any evidence of bias?

## Question

- Ask yourself what is this about? What do I need to know?
- Are there questions I have to answer?
- Is there specific information I must find?
- What evidence is there for the points made?

## Read

- Read the passage carefully
- Can you identify the main idea and details
- Can you follow the sequence of events
- Can you distinguish between facts and opinions?

## Review

- Reread the parts you think are important and any parts you are not sure of
- Note down the key points
- Summarise the points for your classmate.

## Recall/Recite

- This is done with the book closed.
- Have the question been answered?
- Remember the keywords or main points.
- Tell your classmate/partner.
- **SQ3R Template**

<b>Survey</b>	<b>Look at the cover, title, headings, pictures, first &amp; last paragraph.</b>
	<b>What do you know about this topic already?</b>
<b>Question</b>	<b>Ask yourself what is this about?</b>
	<b>What do I need to know?</b>
	<b>Are there any questions I have to answer?</b>
	<b>Is there specific information I must find out?</b>

	<b>What evidence is there for points made in the text?</b>
<b>Read</b>	<b>Read the passage carefully. Identify the main ideas and details.</b>
<b>Review</b>	<b>Reread the parts you think are important and any parts you are not sure of. Note key points and summarise them.</b>
<b>Recall</b>	<b>This is done when the book is closed. Have the questions been answered? Remember the keywords and main points. Tell you classmate.</b>

### **Q Notes**

Q notes are a form of graphic organiser that is useful to use with Leaving Cert students. Q notes combine two well-known and powerful methods: SQ3R and Cornell Notes. It is called “Q-Notes” because students write Questions in the left-hand margin. When students are preparing for a Quiz or as revision, the Questions serves as CUES to remind them of what they need to know. When using these notes as study aids, students can fold the right



## **Cooperative Learning Strategies**

When humans cooperate we work together to achieve common / shared goals. All members benefit when the goal is reached. We have support, encouragement and help on the journey. Cooperation forms the basis of effective community building. Cooperative Learning uses small teams for teaching purposes. Students work together to help each other and to maximise their own and each other's learning.

Cooperative learning differs significantly from traditional group work in that the lessons are structured in such a way that students need each other to complete assigned tasks. A culture/ethos of cooperation is established in the class and a wide array of methodologies have been developed to assist with developing this ethos. Cooperative learning leads to significant improvements in student achievement, behaviour, self-esteem and attendance.

Cooperative learning can be defined as student centred learning that includes the attainment of educational goals beyond information transfer, such as development of critical thinking, teamwork and interpersonal skills (Koppenhaver, 2006)

### **Types of Cooperative Learning Groups**

#### **Formal Cooperative Learning Groups**

These groups can last for one chunk/section of learning i.e.: one chapter, one topic, one project, report, experiment, problem or for a period of several weeks. Students work together to ensure that they and their group members have learned/understood or completed the required learning task. Any curricular area in any subject can be structured for cooperative learning.

The teachers' role is to:

- Clarify the objectives/outcomes for the lesson
- Allocate students to groups, explain the task and assign materials/resources
- Monitor progress and intervene
- Evaluate learning and help students to process how well the group functioned.

If students need help they are encouraged to ask another student before asking the teacher. Students share materials, ideas and support and encourage each other. They orally explain and elaborate on concepts.

#### **Base Groups**

Base groups are long term support groups that can last for the entire year. They can even continue into the following year. Their primary purpose is for members to give each other assistance, encouragement and support to progress in school. They provide students with long term positive relationships in school. Typically they would meet twice weekly in

secondary schools. They can ensure that each member is completing homework and progressing. They can inform absent students of work covered and collect resources for them. They tend to improve attendance and quality and quantity of learning. They can also provide personal support. They can listen when a member has problems with another student, parents or other classes. The larger the class or school and the more complex and difficult the subject matter the more important it is to have base groups. Each school can decide on a suitable agenda for base group meetings. They can also take care of routine tasks such as taking rolls. It is important to set an agenda in the base group. The group may agree areas of mutual support e.g.: catching up on absence/homework etc. They may also agree on the ways in which that support can be given.

### **Informal Cooperative Learning Groups**

Informal cooperative learning groups are ad hoc groups that last from a few minutes to an entire class period. During direct teaching such as a lecture, demonstration or film/video, quick informal small groupings are used to:

- focus students' attention on the material to be learned,
- set a mood conducive to learning,
- set expectations as to what will be covered,
- ensure that students cognitively process the material being taught
- provide closure to the lesson.

Rather than let students sit passively during the lesson, these groups ensure active involvement with the work by summarising, explaining it and integrating it into existing conceptual structures. Informal cooperative learning groups can also ensure that gaps in understanding and misconceptions can be corrected. The teacher can set questions/problems relating to the material being covered. Three to five minute focused discussions before and after a direct lecture period and two to three minute discussions interspersed throughout direct teaching/demonstration are recommended.

Below are some of the strategies that are used in cooperative learning.

### **Read and Explain Pairs**

This is an excellent strategy to use whenever you give material to students to read. Students are more likely to read it more effectively in cooperative pairs than individually. It is useful for any subject where a plethora of information or rather dense material such as theory etc. has to be absorbed and understood by students.

### **How does it work?**

- Divide material into sections/paragraphs suited to class-group
- Students form pairs A and B
- Both read section one
- Assign roles:
- A is SUMMARISER whose job is to turn page down and summarise the contents of the paragraph in one's own words

- B is CHECKER whose job is to listen carefully and correct any mis-statements and add in anything omitted.
- Both read next section
- Reverse roles
- Continue until all the material is read and the general meaning agreed and understood by the pair

## **Read and Explain Pairs**

Whenever you give material to students to read students may read it more effectively in cooperative pairs rather than individually.

### **How does it work?**

Assign students to pairs (one high reader and one low reader in each pair). Tell students what specific pages you wish them to read. The expected criterion for success is that both members are able to explain the meaning of the assigned material correctly.

The task is to learn the material being read by establishing the meaning of each paragraph and integrating the meaning of the paragraphs. The cooperative goal is for both members to agree on the meaning of each paragraph, formulate a joint summary, and be able to explain its meaning to the teacher.

The procedure the student pairs follow is:

- Read all the headings to get an overview.
- Both students silently read the first paragraph. Student A is initially the summariser and Student B is the accuracy checker. Students rotate the roles after each paragraph.
- The summariser summarises in his or her own words the content of the paragraph to his or her partner.
- The accuracy checker listens carefully, corrects any misstatements, and adds anything left out. Then he or she tells how the material relates to something they already know.
- The students move on to the next paragraph, switch roles, and repeat the procedure. They continue until they have read all the assignment. They summarise and agree on the overall meaning of the assigned material. .
- During the lesson the teacher monitors each reading pair and assists students in following the procedure,
- The teacher ensures individual accountability by randomly asking students to summarise what they have read so far
- The teacher reminds students that there is intergroup cooperation (whenever it is helpful they may check procedures, answers, and strategies with another group or compare answers with those of another group if they finish early).

## **Reading Comprehension Triads**

This strategy works very well when the students need to be encouraged to create high quality material to answer questions or to solve problems. It promotes higher order thinking and is ideal for generating answers to questions, exam or otherwise, in all subjects.

### **How does it work?**

- The teacher prepares the material – chapter, poem, handout etc.
- Students form groups of three
- The teacher assigns the following roles
  - Reader – the job of the reader is to read carefully, slowly and with expression
  - Recorder – the job of the recorder is to write down all the good ideas the group generates and to record the final answer agreed by the full group
  - Checker – the job of the checker is to ensure that everyone in the group shares ideas, demonstrates understanding, diagnoses any problems and ensure all can explain the final agreed answer.
- Practice roles – the teacher completes some preliminary work with group to ensure they understand their roles e.g. what does ‘demonstrating understanding’ look like
- Share criteria for success – the teacher tells the group that only one set of answers is allowed from each group and all members of the group must be able to explain them.

### **Tasks for Students**

1. Read material (hand-out, chapter, poem) and answer the questions.
2. Practice the skill of checking

### **Roles for Students**

- Reader: Read through the material slowly, carefully and with expression so that group members never forget it for the rest of their lives.
- Recorder: Write down all of groups’ good ideas. Make sure that there are three possible right answers then circle the one that you like best as a group. (use split page methodology LHS - What? One sentence definition, RHS - How? Three different ways to do task or possible answers)
- Checker: Ensure that everyone in group is sharing ideas. Require other group members to demonstrate comprehension and help diagnose problems. Also act as gatekeeper - before anyone signs make sure that they know/can do it.

### **Criteria for Success for students**

- One set of answers is allowed from each group. Everyone must be able to answer all questions correctly.
- Each group member must be able to explain the groups' answers to a member of another group.

### **Inter-group Cooperation**

Whenever it is helpful check answers, strategies with another group

### **Bookends**

This can be used before a new topic is introduced. The group summarises together what they already know about the subject and come up with questions they have about it. When the students have done this, they answer questions, discuss new information and formulate any new questions they have. This can be used for any type of activity.

### **Sustained Silent Reading**

Before silently reading, group members summarise to each other what they previously read and predict what they will read this time. After reading, students share summaries and evaluations of their books.

### **Three - Step Interview**

Three – Step Interview (Kagan, 1990) is a co-operative structure in which members of a team interview one another on a particular topic.

#### ***Example: Team of three***

- Students decide whether they are A, B or C
- A interviews B, while C records observations from the responses
- The roles are then rotated after each interview to ensure that all members of the group have had an opportunity to be interviewed

#### ***Example: Team of four***

- A interviews B and C interviews D at the same time
- The roles are then reversed
- The group comes together and every member of the group has an opportunity to share their **partner's** responses

### **The Three – Step Interview and Social Skills**

The Three – Step Interview is also a great structure for practising a range of social skills, including listening and communication skills.

### **Using the Three – Step Interview in the Classroom**

The Three – Step Interview can be integrated into any lesson and the content of the interview can be very flexible. Some ways in which this structure might be used is as follows:

<p><b>Sharing Personal Experiences/Expressing Opinions</b></p>	<ul style="list-style-type: none"> <li>▪ What qualities do you most value in a friend and why?</li> <li>▪ What type of film do you enjoy?</li> <li>▪ Who is your all-time favourite teacher and why?</li> <li>▪ What is your favourite song and why?</li> <li>▪ What is the most frustrating experience that you have had with a computer? What is the best discovery you've made with a computer?</li> <li>▪ What leader do you most admire and why?</li> <li>▪ If you could visit or live anywhere, where would it be? Why?</li> </ul>
<p><b>Introduction to a new topic</b></p>	<ul style="list-style-type: none"> <li>▪ What do you already know about this topic?</li> <li>▪ What questions would you like to ask about this topic?</li> </ul>
<p><b>Summarise learning in a lesson</b></p>	<ul style="list-style-type: none"> <li>▪ One thing you have learned today</li> <li>▪ One question you still have after today's class</li> <li>▪ One strategy you enjoyed and why?</li> <li>▪ How will you revise what we have done today?</li> <li>▪ What could have helped you to learn more today?</li> </ul>
<p><b>Reviewing homework</b></p>	<ul style="list-style-type: none"> <li>▪ What was the most interesting part of your homework?</li> <li>▪ What was the most difficult part of</li> </ul>

	<p>your homework and why?</p> <ul style="list-style-type: none"> <li>▪ What were the key points in the piece of text you were reading last night?</li> <li>▪ What questions have you got about the text you were reading last night?</li> </ul>
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### **Name Tags**

The purpose of this exercise is to get students to know more about each other as members of a group. Good relationships improve learning.

#### **How does it work?**

1. On their own, students write their first name in the centre of the card. They need to write it large enough so that other people can read it at some distance
2. In the upper left – hand corner, students write the names of two places: where they were born and their favourite place to be
3. In the upper right – hand corner, students write down two favourite activities. These could include sports, hobbies, pastimes, jobs etc
4. In the lower left – hand corner, students write down three words that could be used to describe them
5. In the lower right hand corner, students describe something they are looking forward to in the future e.g. going on a holiday, getting a job, etc
6. They may include some pictures/drawings on your card
7. The students pin the card on to their shirt/jumper
8. Students find people in the group whom they don't know and discuss each other's cards
9. Students wear their name tags until everyone in the group/class knows each other

### **People Bingo**

#### **How does it work?**

1. Distribute a 'People Bingo' sheet to the group
2. The group reads the statements in each box
3. Each member of the group puts their initials in the boxes that contain statements that are true for them
4. The team then looks to see if they can score a Team Bingo i.e. three boxes in the same row, column, or diagonal

Born in another country	Has brown hair	Dislikes meat
Favourite colour is blue	Has been to another country	Plays a sport
Walks to school	Likes music	Has brothers or sisters

**Task:** Which statements are true for every member of the team?

### Blank 'People Bingo' Worksheet

#### This is Me:

- I am happiest when: \_\_\_\_\_
- I am most proud of: \_\_\_\_\_
- I get excited when: \_\_\_\_\_
- I get angry when: \_\_\_\_\_
- I put trust in: \_\_\_\_\_
- I am frightened by: \_\_\_\_\_
- I feel safe when: \_\_\_\_\_
- I feel sad about: \_\_\_\_\_
- I am annoyed by: \_\_\_\_\_
- Things that make me happy are: \_\_\_\_\_

### Initiating Relationships

The purpose of this warm up is to provide opportunities for students to talk to students they don't know and to share initial feelings and thoughts with other individuals.

#### Some topics for discussion in pairs are:

- What song means the most to me and why
- What it is that I like most about myself
- What animal I would like to be and why
- My ideal holiday destination and why
- A favourite childhood memory
- A good book I have read

### Birthdays

1. Tell the students that when you blow the whistle, they are to find everyone in the room whose birthday falls within the same month in which they were born
2. After giving them a few minutes to organise themselves, count down the months starting with January, having the students raise their hands as a group to make sure everyone from a given month is together
3. After this grouping has been accomplished, tell them that you're going to give them a minute to develop a group cheer

4. Allow each month give their special cheer, beginning with January. Keep the pace rapid and tell the students not to applaud after each cheer. This will avoid any competition during the warm – up.
5. When you’ve completed December, have everyone stand and give themselves a standing ovation

Tip: If you are doing this warm – up with a small group, you can reach the same goal by asking the students to divide up according to the season in which they were born.

### Quick Warm Ups

It is a good idea to use the following warm-ups to see how quickly students can process data and arrange themselves in a particular order

- Have students arrange themselves by height. Shorter people at the front of the line and taller people at the back
- Use first names in alphabetical order
- Use second names in alphabetical order
- Divide based on whether walk to school, get a bus, arrive by car, cycle etc
- Students line up in order of their birthdays, date, month starting at New Year’s Day and working the whole way around to New Year’s Eve

### Paper Caper

- Take a blank piece of paper and change it in a way that will reveal something about you to your team
- Try to use the piece of paper to highlight something they don’t already know about you
- You may wish to fold, crunch, rip or draw on the piece of paper
- Then give your team members an opportunity to guess what you are trying to reveal

### Warming Up

Instruct students to complete this chart for themselves and then complete it for their team members.

	Self	Team Member	Team Member
Your birthplace			

Country you would like to visit			
Favourite holiday spot			
Favourite ice cream flavour			
Best school memory			
Favourite time of the day			
Favourite recreational activity			
Your hero/heroine			
A special friend			
Favourite food			
<b><i>How are you all alike?</i></b>			

### **.Jigsaw**

The jigsaw technique is a well-structured cooperative learning structure that emphasizes both individual accountability and achievement of group goals, both of which are critical for improved student learning in cooperative settings.

In a jigsaw, the class is divided into several teams, with each team preparing separate but related assignments. When all team members are prepared, the class is re-divided into mixed groups, with one member from each team in each group. Each person in the group teaches the rest of the group what he/she knows, and the group then tackles an assignment together that pulls all of the pieces together to form the full picture, hence the name **jigsaw**.

The jigsaw is an effective way of engaging students both with course material and with each other. The peer teaching aspect requires that each student understands the material well enough to teach it to others (individual accountability), and each student is required to contribute meaningfully to a group problem-solving component (group goals). Research on this and other cooperative learning techniques shows significant benefits for students not only in terms of level of learning but also in terms of positive social and attitudinal gains.

### **Jigsaw in 10 Easy Steps**

1. Divide students into 5- or 6-person jigsaw groups. The groups should be diverse in terms of gender, ethnicity and ability.
2. Appoint one student from each group as the leader. Initially, this person should be the most mature student in the group.
3. Divide the day's lesson into 5-6 segments.
4. Assign each student to learn one segment, making sure students have direct access only to their own segment.
5. Give students time to read over their segment at least twice and become familiar with it. There is no need for them to memorise it.
6. Form temporary "expert groups" by having one student from each jigsaw group join other students assigned to the same segment. Give students in these expert groups time to discuss the main points of their segment and to rehearse the presentations they will make to their jigsaw group.
7. Bring the students back into their jigsaw groups.
8. Ask each student to present her or his segment to the group. Encourage others in the group to ask questions for clarification.
9. Float from group to group, observing the process. If any group is having trouble (e.g. a member is dominating or disruptive), make an appropriate intervention. Eventually, it's best for the group leader to handle this task. Leaders can be trained by whispering an instruction on how to intervene, until the leader gets the hang of it.
10. At the end of the session, assess the material so that students quickly come to realise that these sessions are not just fun but really count.

### **Muddiest Point**

The purpose of this technique is to force the student to think about the material and to let you know if there is something that is unclear or confusing them about the lesson.

#### **How does it work?**

After the lesson or at a natural break in your presentation, ask the question, "What was the "muddiest point" in today's lesson?" or "What was the "clearest point" in today's lesson?" You can also use this question after a reading assignment.

This is a variation on the one-minute paper, though you may wish to give students a slightly longer time period to answer the question.

Here you ask

"What was the "muddiest point" in today's lesson?" or, perhaps, you might be more specific, asking, for example: "What (if anything) do you find unclear about the concept of .....?"

You can then address the unclear points.

### **Throw the Ball**

Throw a soft ball around the classroom to control and encourage discussion. Whoever catches the ball answers the questions. This technique gives each student a voice. It encourages full participation and focuses all the students on the task at hand. It stimulates class interest and attention. It gives the teacher immediate feedback.

It helps to generate a positive group dynamic and shifts the balance from teacher to students. It also assists auditory and kinaesthetic learning.

#### **How does it work?**

1. Use a soft ball.
2. Give the item to a student and then ask a question.
3. The student with the ball answers the question, and if correct, throws the ball to another student.
4. The recipient must catch the ball and respond to the next question.
5. If anyone fails to answer correctly, he or she may pass the ball, knowing that it will eventually come back.
6. The teacher may at any time intercept the item and give the ball to a particular student.

### **Fill in the Blank**

Students watch short, unfinished clips of a video and fill in the blanks for themselves.

This technique gives relevance to abstract concepts and encourages critical thinking and problem solving. It reveals embedded preconceptions and reinforces cause-effect sequences. It provides a forum for visual and auditory learning and also stimulates creative thinking.

### **How does it work?**

1. Play a brief segment of a video or audio clip and stop the clip before the end of the sequence.
2. Ask students to write what they think happens next in the video.
3. Let them share their thoughts and ideas with a partner.
4. View remainder of clip.
5. Discuss the potential outcomes and differences between the clip and what they imagined.

### **Lesson Bingo**

Lesson Bingo makes a game of identifying important points in a lesson. The teacher creates a variety of cards that have different key concepts in each of nine squares. Students participate by marking boxes when they are brought up during the lesson. This ensures that students are "actively listening" and participating in the lesson.

### **How does it work?**

1. Bingo cards can be created with learning points written on each of the nine squares. Additional cards should be made with the same learning points, placed in different squares.
2. Students mark their card as the points are identified from the lesson.
3. When a student gets three vertical, horizontal or diagonal marks they should yell "Bingo!"
4. Identify a prize or some kind of reward so students will be motivated to participate.

### **Portfolios**

David Sweet provided a good description of Academic Portfolios in "The Consumer Guide," (<http://www.ed.gov/pubs/OR/ConsumerGuides/classuse.html>) produced by the Office of Research, Office of Educational Research and Improvement (OERI) of the U.S. Department of Education:

Student portfolios allow teachers to:

- Track student development
- Reveal learning progress
- Highlight the students' best work

- Connect students to work
- Involve students in assessment process

### How does it work?

1. Ask students to collect their work during the term.
2. Ask students to identify criteria that they would use to evaluate each other's portfolios.
3. Have them select what they want to include in their portfolios.
4. Ask students to reflect on their work and add additional content, including specifications, purpose, outcomes, and other related information.

An introduction to using portfolios in the classroom is available to download from:

<http://www.ascd.org/publications/books/197171.aspx>

### Class Brainstorm

The teacher requests as many ideas as possible from the whole class asking questions such as:

- What are the advantages of .....
- What caused.....?
- What can you tell me about.....?

The teacher or a student compiles the answers on the board, classifying them by writing them in groups. It is important to be non-judgemental at this stage.

This method involves the whole group. Optionally you could ask students to brainstorm in groups and then each group shares their ideas with the class.

### Decisions-Decisions (From 25 ways of Teaching with Talking by Geoff Petty)

Students, working in pairs are given a text or watch a video etc, along with:

'Summary cards' which purport to summarise key points from the text, some of which are true and some of which are false: e.g.

- The left ventricle feeds the lung
- Heart rate is measured in beats per minute, and if you are very fit your heart rate will probably be lower than average.

'Consequences cards' which state consequences of the facts given in the text. These consequences are not actually stated in the text itself. Again some are true and some false E.g.

- If you blocked the left ventricle no blood would get to the head
- Furring of the arteries would usually raise blood pressure.

The pairs of students must decide which cards are correct, and what is wrong with the incorrect ones. This is a greatly enjoyed activity with the atmosphere of a game.

## **Group Presentations**

Students prepare a presentation on a topic in groups. It helps if the topic being studied can be divided up so each group presents a different sub-topic. Don't tell students what their subtopic is until after they have studied the topic as a whole, to ensure that they learn the whole topic.

Often junior students will not have the IT skills to make good presentations. Why not create IT Buddies to overcome this. Create a mentor group with students who have advanced IT skills. This could be a TY or senior class who make themselves available one day a week to junior classes. It could also be a student whose IT and mentor skills comes to the attention of a teacher. Mentors can help Junior Cycle students create power-point presentations. Set success criteria and allocate marks to each of the criteria.

### **How does it work?**

- All groups assess each presentation using the agreed and explained success criteria allocating marks after each performance on their scoring grid or rubric.
- Students then give their mark sheet to a group member to whom they offered summative and formative feedback, meaning no one keeps the mark sheet they were scoring on as it has gone to the person you were writing about.
- This mark sheet is stuck in the portfolio of the person being assessed.. This helps to raise the quality of the comments.

## **The Backward Test**

Why not give students the test questions in advance. Then in small groups students prepare the answers to each question and teach each other how to answer them in a test. The group should take turns in the role of Explainer (explaining how to answer the question) and Accuracy Checker (verifying that the Explainer is correct and seeking help as needed). The roles can be rotated until everyone understands the material on which they will be tested. They could also agree the marking scheme for each question.

## **RIP Marking** (From the Lazy Teacher's handbook by Jim Smith)

### 1. Communicate the Focus

At the launch or during the start of the learning experience communicate the assessment focus. Why would you not do this, having planned your assessment focus? Get the students to plan how they will know that they are working towards achieving the focus and allow time for them to check their work *as they go along* - otherwise it is a bit like giving the builder the plans for your new extension when he has finished building.

### 2. Give students checking time in class

Give students five to ten minutes in class before they hand in their work to check it thoroughly. Value this time and develop strategies to give students ideas of how to check. For example, they could swap books and ask a partner to check or look at some exemplars that are available. The key is that they engage in this checking phase. With many students finding this bit boring, you could introduce a fine system for any mistakes which were meant to have been corrected, such as capital letters for names of people. The twist here was the fine was given not to the person whose work it was but the person who was checking the work!

### 3. Check from the end

Tell students to check their work starting from the end. They read the last sentence, then the second last sentence, and so on. This helps them to focus on the details of each sentence such as grammar or spelling rather than the overall sense, so there should only be one stage in the checking of work.

### 4. Do me out of a job!

Ask students to write the comment they think you should write and justify why by writing comments in the margins of really good pieces of work that meet the success criteria.

### 5. Encourage experimentation and risk taking

Encourage students to experiment with new words and expressions by including them in their written work and indicating that they are experimenting by putting a question mark and a comment. Explain that you will get credit for these - not penalties.

## **PPPB (Pose, Pause, Pounce, Bounce)**

This is a simple, yet sophisticated AfL questioning technique to help teachers move from good to outstanding. It also helps address differentiation in the classroom and encourages teachers to slow down, take risks and tease out student understanding. It is also a useful focus for differentiating objectives and learning experiences by varying questioning techniques.

### **How does it work?**

It is a simple four-part approach.

#### 1 Pose

- a. Give the context of your PPPB approach to the class. It is important they know what is happening.
- b. Insist on “hands down” before the question is delivered.
- c. Provide a question or a series of questions, ensuring that you ask the students to remain reflective.
- d. Pose the question to the class; not an individual.
- e. Then Pause...

#### 2 Pause

- a. This is the difficult part. To **stop talking**...
- b. Ask the class to **hold** the thought... think... and think again...
- c. If students are captivated and engaged, try holding the silence for a little while longer (take a calculate risk) and...
- d. Still push the boundaries. Keep the reflection for as long as possible....before you,
- e. Pounce!

#### 3 Pounce

- a. Insist that the answer to the question comes from student A and possibly student B, directly and as **fast** as possible!
- b. Of course plan in your mind who you are going to ask, before speaking to the class.
- c. Name student A to respond and don't move from the student...
- d. Possibly don't speak and nip any comments, grunts or noises in the bud!
- e. Wait for an answer... pause... decipher the support needed, especially if no response is evidently on its way.
- f. If student A does manage to answer, then.....

#### 4 Bounce

- a. Ask another student B their opinion of student A's answer (immediately) after the Pounce response.
- b. This can be developed by asking student B and C their opinions to student A's response, irrespective if the answer is correct or not.
- c. An additional strategy is to Bounce the question onto a group A...and subsequently, a sub-group B if group A do not deliver a suitable way forward.
- d. This ensures the teacher is engaging a significant number of students with the question at hand, whilst using this strategy. It also ensures the entire class can be called upon at any given time by just returning to Pose or Pounce.

- e. Ensure that all your students understand the concept. Test it before moving on. Try it tomorrow. Don't accept student E or student K shouting out the answer to maintain pace or behaviour. Don't allow student X to answer the question because you know they won't let you down.

## Gallery Walk

Gallery Walk is a discussion technique that gets students out of their chairs and into a mode of active engagement. A Gallery Walk can be conducted with computers (a "Computer Run"), with pieces of paper on tables, or with posted chart paper. It can be scheduled for fifteen minutes (a "Gallery Run") or for several class periods. For teachers, it's a chance to gauge the depth of student understanding of particular concepts and to challenge misconceptions.

1. The teacher prepares several discussion questions. Student teams in a Gallery Walk typically number three to five. So, for a class of thirty write six questions with five students per group (or two sets of five questions with three students per group) Questions can gauge knowledge and comprehension or can tap higher order thinking skills involving analysis, synthesis, and evaluation.
2. Questions are posted on different "stations" on classroom walls, placed on pieces of paper on desks in different locations around class, or typed on different computers. Plan on sufficient space for groups to congregate and discuss questions.
3. At each posted question a student team reviews what previous groups have written and adds new content. After a short period of time, say three to five minutes but the exact time will depend upon the nature of the question, say "rotate." The group then rotates, clockwise, to the next station. The rotation continues until all posted questions are addressed.
4. As students discuss questions, the teacher can circulate around the classroom, clarifying questions, gauging student understanding, and addressing misconceptions. Write down any misconceptions or lapses in student understanding and address these problems before the end of the exercise. In such a way, Gallery Walk becomes a valuable tool for informal assessment.
5. When the group returns to the station where it started, the group synthesizes comments and makes an oral report, the "reports out" phase of Gallery Walk," to the class. This stage of the Gallery Walk is a great chance for involving the entire class in discussion and to address misconceptions. Group or individual written reports can be completed in lieu of oral reports.



**K W L**

<b>K</b>	What I Know
<b>W</b>	What I Want To Know
<b>L</b>	What I Learned