25 ways for Teaching Without Talking: Presenting Students with New Material in Theory Lessons Draft 1.0 Feb 2002

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A. Introduction

Teaching falls into three phases, each requiring appropriate methods. (See PAR paper)

1. **Present**: Methods to present new material to students, or to encourage them to think it out for themselves. This might involve facts, theories, concepts, stories or any other content.
2. **Apply:** Methods requiring students to apply the new material just presented to them. This is the only way to ensure that students conceptualise the new material so that they can understand it, recall it, and use it appropriately in the future.
3. **Review:** Methods to encourage students to recall former learning so as to clarify and focus on key points, ensure understanding, and to practice and check recall.

This paper concentrates on active methods to **present** material to students. Other papers deal with methods for the **apply** and **review** phases.

Commonly used 'present' methods such as teacher talk can bore students if they go on for too long, so active 'present' strategies are particularly useful. Ideally an active presenting strategy, could include an '**apply'** activity and be followed by a brief active reviewing strategy. Then all the learners needs are met in an active way.

B. Why use Active 'presenting' Strategies?

Research shows that it works:

- All research shows that we learn by Doing. That is, by applying what we have learned, in order to answer questions for example. This makes learners process the information and make their own sense of it. This is called 'constructivism'.

Research emphatically shows that active methods:

- create deeper learning and higher achievement (2)
- create better recall by students
- develop high order reasoning skills in students
- are more enjoyed by students

- Active learning makes students form their own meaning of the material and come to their own understanding of it. This is what we call learning

It checks learning:

- You get feedback on whether students understand the material and can correct misunderstandings.
- Students develop their reasoning skills, as well as the factual knowledge of the subject and practise the skills they will be assessed by.

It makes your life easier:

- It fosters active, constructive student participation
- Your lessons have more impact, and are more interesting
- It may give you a break, and a chance to mark the register!

C. Using the list of teaching strategies

A list of teaching strategies follows with references for further reading. You can use this list in three main ways:

You can browse: Use the following list of teaching strategies to find ones that will suit you and your students. Choose whichever strategy bests helps you to achieve your goals (fitness for purpose)

You can create a Teaching Strategy Manual in your team: A subject, unit, or course team can use the list (available in an editable electronic form) as part of a strategy to:

1. Find methods which work in your subject
2. Choose particular strategies for particular topics or lessons etc
3. Pool your team's best teaching strategies to add to the list
4. For given lessons, topics, sections of the syllabus or units etc, develop a Teaching Strategy Manual to go with the Scheme of Work. Share out the work to develop the strategies and their resources in detail. Ideally the Manual has a (suggested or required) activity for every lesson or at least every topic on the Scheme of Work.
5. Publish your Manual in electronic and/or document form.

Assisting in the development of an 'Active Scheme of Work' or 'Topic Plan' which gives a student activity for every topic or substantial sub-topic so that students process the information given them.

You can create an Active Scheme of Work in your team: You can create a Scheme of Work or Topic Plan which gives suitable activities for each stage in teaching a topic. This can be created by your team, so that your best methods are available to the whole team.

D. List of Active Learning Strategies for presenting students with new material

Methods requiring the least preparation are given at the beginning of each section of the list:

- D (i) Methods requiring very little preparation or resources
- D (ii) Methods requiring resources such as handouts or sets of cards.
- D (iii) Activities that require a bit more preparation; simplest first

D (i) Methods requiring very little preparation and no resources

1. Teaching by asking

Rather than 'teaching by telling', start the topic by asking students a question which leads to what you want to teach. For example:

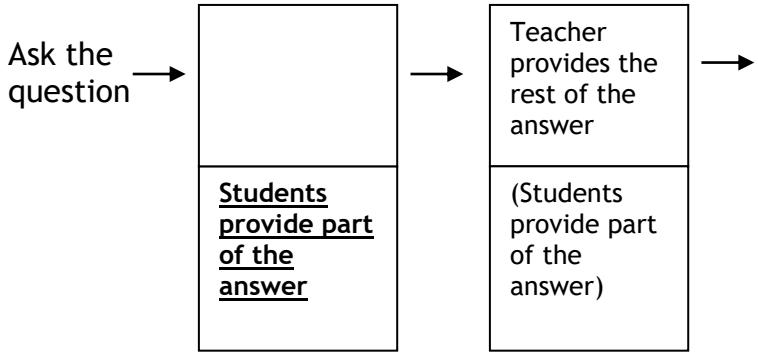
"What methods are used to market food products? Think of as many as you can."
"Why do you think managers value staff training?"
"Who would have supported Cromwell, who would not, and why?"
"Here is a maths problem you can't solve with the methods we have seen so far - how would you solve it?"

Students work in pairs or small groups (buzz groups) to answer a question or series of questions using common sense, experience, and prior learning. Students can all have the same questions, or they can be given different questions on the same topic. This group discussion can last for literally a minute or less, or for 20 minutes or longer.

Ensure each group has a scribe, and check their attention to task, and the quality of their work, by checking what the scribes have written down. Ask them if they need more time, and if they have finished, ask each pair or group for one idea they have had, ensuring that each group offers something. Write the strong ideas on the board saying a little in support of each idea if you wish. Allow the class to discuss any points of disagreement until they have agreed a common answer. (See section E for more detail on this.)

When the class has its common answer, 'top up' the answer with any additional points the class has missed, and correct any misunderstandings. If students get half of the answer, it saves half of the teacher talk, and generates interest and thinking skills.

See Effective Management of Active Learning Strategies for more detail on how to manage this activity, and the activities which follow.
(See also "interrogating the text" below, where students are given a handout or other material to help them answer the "Teaching by Asking" question you give them.)



2. Snowball

This is like 'teaching by asking' above. Instead of starting by 'teaching by telling', you ask a question that leads to what you want students to learn. Then:

(1) each individual writes down their thoughts without reference to others,
(2) students then share what they have written in pairs or threes
(3) Optionally the pairs or threes combine to create larger groups which again compares their answers, and then agrees a group answer.
(4) The teacher asks each big group in turn for one idea they have had, and writes the useful ideas on the board, perhaps saying a little in support of each idea.

Like 'Teaching by Asking', the teacher then tops up and corrects the class answer.

3. Class Brainstorm

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

What are the advantages of prior booking?
What diseases are common in childhood?
Why might Hamlet not have taken revenge straight away?

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

This method involves the whole group and can enliven a dull session. Optionally you could ask students to brainstorm in groups and the session then becomes like 'teaching by asking' above.

4. Thought Experiment (or Empathy)

Students are asked to imagine themselves in a given situation, and are asked questions about the situation. For example Health Studies students being asked to imagine they are a child who has just been admitted to hospital. Students learning interviewing skills are asked what the interviewer would be looking for.

5. Round

This method is useful for small groups if the experiences of the students are a particularly useful resource. For example Managers on a part time management course sharing experiences of how new staff are inducted into their organisation.
Each person has a minute say, to describe their experiences on a given topic and to express their point of view while others listen. Students can 'pass' if they wish. Used to mine useful experience and elicit a range of viewpoints and build a sense of safe participation.

D. (ii) Methods requiring resources such as handouts or sets of cards.

The strategies below require students to understand text, videos, CD Roms, Internet sites and other resources, and make their own sense of it. The explanation often refers to 'text' or 'handouts', but clearly any appropriate resources will do, and the more varied the better.

Well designed activities like these will usually produce better understanding recall and engagement than conventional 'teacher talk'. However, it is rarely sufficient to let students see material and take notes from it. Learning requires an 'apply' activity that goes beyond the information given directly in the resources - for example an exam style question on the material, to ensure they have processed the material and developed their own understanding.

The Methods

6. Cooperative Learning – Learning Teams do questions on resource material

This is the same as 'teaching by asking', except that resources are provided.
Students are given a handout or similar resources. They are asked to use the text to answer a question(s) prepared by the teacher.

- These questions relate to the key points in the text and to the key lesson objectives. They should be thought provoking. E.g. "Who supported Cromwell and why?"
- The answer to the question(s) should <u>not</u> appear baldly and simply stated in one place in the text. Students should need to read, understand, and then reformulate (i.e. think about) the text to answer the question. This requires that students construct their own understanding and don't just repeat the text back to you.
- There should ideally be a range of materials of differing difficulty which must be shared by the group. Alternatively, different students can be assigned different resources, and then be required to cooperate to answer the questions.
- It helps a great deal to give students individual roles in their group such as scribe, vocabulary checker etc as described in the section on Managing Group Work for maximum participation.

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Students work in groups, and when they have finished, feedback can be elicited from the groups one idea at a time, as it is in 'teaching by asking'.
It is useful to test learning at the end with a test, quiz or an exam style question on the subject, on which students work individually.

7. Key points

1. Students are put in groups and given an unfamiliar piece of text or other resources. They are asked to read the text alone for a few minutes with an eye on the next task.
2. The group identify, say, five key points made by the text. (It helps if the number of key points is the same as the number of groups.)
3. The teacher then asks each group to give one key point (that has not already been mentioned by another group) with a full explanation and justification. The class agrees or changes that point and the teacher writes it on the board.

Students can of course physically highlight the important sections in the text.

‘Key points’ can be adapted to become ‘How does it work?’ as shown below.

8. How does it work?
Students are given an unfamiliar piece of text, a worked example, a labelled diagram, a set of accounts, a policy, etc.
They are asked to study this and to summarise an explanation of ‘how it works’ or ‘how it could be used’ etc in, say, five key points.
Feedback: The teacher asks each group to summarise one key point, writing those points the class agrees on the board.
Alternatively students can be asked to answer questions that require them to explain the material.

9. Interrogating the text
Students are given an unfamiliar piece of text. In pairs or small groups they are asked to:

1. Formulate important questions the text should be able to answer, or they hope the text will answer.
2. Read the text, highlighting key points,
3. Discuss the key points and agree answers to the questions formulated in ‘1’.

10. Transformation
Students are given text in one format and are asked to present it in another. For example a health leaflet could be turned into a newspaper report., or a set of instructions could be turned into a statement about how the devise works and when it would be useful. A chronological account could be reformulated under given, non-chronological headings etc.

11. Peer explaining
Students in pairs are given two related texts about topics that have not been explained to them, for example one about measles and another about mumps. They each study one of these alone for say 5 minutes. Alternatively they could use the same text/video etc, but look at different aspects of it. For example students could watch a video or read a text on the marketing policy of a small company, and one student could look out for strengths in the policy and another for weaknesses.

Each student explains their topic to the other who asks questions until they understand.

Integrative task: The pair then works together at a task that requires them to work together on both topics. A useful question for this is to ask students to “State what is the same, and what is different about measles and mumps.” Or “Considering both strengths and weaknesses, what do you think of the marketing policy? How could strengths be built upon, and weaknesses addressed?”

12. Headings
Students are given a handout with no headings or subheadings, but with space for these. Students read the handout and decide headings *that summarise what follows in that section of text in the form of a statement*. This produces headings such as ‘The heart is a blood pump’ ; ‘The heart has four chambers’; ‘Arteries take blood from the heart’. Etc.

You can of course adapt an existing handout by removing existing headings, and or by asking students to write a ‘heading’ for each paragraph in the margin.

You can do this activity the other way round, that is provide the headings and ask students to find out about each heading and then write a short section on this. This is a good way of structuring independent learning.

13. Flowcharts/digrams/drawings

Students are given a text on an unfamiliar topic. For example the quality system in a manufacturing company. They are asked to study the text in pairs and then to produce a flowchart/diagram that summarises the process described in the text.

14. Summarizing

Students, working in pairs must summarise the key points in the text, expressing them as briefly and as clearly as possible. "Headings", "Peer Explaining" and other activities above would be useful introductory activity for this summary activity. This is similar to 'Key Points' above.

D (iii) Activities that require a bit more preparation; simplest first

15. Decisions-Decisions
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.

16. Student Presentation
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 they do not overspecialise. Students could study the material using one of the other strategies described here.

17. Explaining Exemplars (Carroll 1994) – For skills teaching
An exemplar is a model of good practice or worked example. This strategy can be used in almost any subject from mathematics to craft catering. Try it with calculations, written work, exam question answers, case studies, assignments, essays, craft artefacts etc.

1. Give pairs or small groups of students examples of good practice, and perhaps some examples of bad practice or examples containing a few common errors. They may have the same, or different exemplars.
2. After examining and discussing it, each group critically appraises the exemplar to the rest of the class. This might focus on the methods used to create the exemplar as well as its quality. They could 'mark' the work, either informally or against agreed criteria.
3. Get the students to summarise general statements of good practice.

Exemplars in pairs:
This strategy will be explained by example. It could be used with any subject:

1. Each pair of mathematics students is given the same four worked examples. The examples solve slightly different problems or use slightly different methods, and are correct in each case.
2. Each individual student takes two of the four worked examples. They study these, and prepare to explain and justify the method to their partner.
3. Students explain and justify their examples to their partners
4. Together the pairs agree 'How to do it' advice.
5. Class discussion to agree 'how to do it'.
6. Students do some similar questions themselves.

You can of course give students worked examples including common errors, and ask them to find these. This works well as a follow up activity.

Carroll's Research into teaching algebra suggests that showing students a large number of varied worked examples can work better than the more common strategy of 'showing them a couple on the board and then getting them to do lots themselves'. This is true even if the amount of time spent doing examples is reduced to make time to look at the worked examples. Low achievers make particularly good achievements.

Examples of work with common errors are instructive and good fun.
Asking students to examine exemplar essays or assignments immediately after completing one of their own with the same tasks is also very instructive.
This strategy is underused, and is particularly helpful for right brain students because it gives students an holistic 'feel' for the characteristics of good work.

18. Peer Teaching – For skills teaching
Explaining: Students explain to each other how they did something, for example, solving a problem. It has been found that students who explain their method to each other learn mathematics much faster than those who do not.
By explaining conceptual relationships to others, tutors define their own understanding.

Question Pairs: Learners prepare for the activity by reading an agreed text, and generating questions and answers focused on the major points or issues raised. At the next class meeting pairs are randomly assigned. Partners alternately ask their questions of each other, and provide corrective feedback on the answers.

Learning Cells: Each learner reads different selections and then teaches the essence of the material to his or her randomly assigned partner.

19. Jigsaw. A Cooperative learning method
Jigsaw is one of many cooperative learning methods with high effect sizes*.

1. Divide a topic up into, say, four sub-topics. For example childhood diseases could be divided into mumps, measles, whooping cough and German measles. Alternatively students can be given four different key questions or 'spectacles' that require students to analyse the same materials from a different point of view. For example all students are given the same information about the beliefs and policies of the Nazi party, and different groups look at this from the point of view of women, the working class, the middle class and the church.
2. Divide students into four groups. The teacher chooses the groups and they should be mixed ability, experience, ethnicity gender etc. Don't use friendship groups. Students may complain at first but will soon accept it if you are insistent.
   Each group studies one disease or question with the help of texts and worksheets etc. This is usually done in class time, though you might be able to adapt the method for students to do their learning outside of class time. (See Independent Learning)
3. The students now form new groups. Each new group is a 'jigsaw', with one student from each of the four original groups. Any students left over act as pairs in a full group. Each group now has one 'expert' in each of the four childhood diseases. (They may have two experts in one disease)

4. The new group now completes an activity that requires them to Peer Teach each other about their disease, and requires them to cooperate with the rest of the group over a combined task that requires them to integrate the four topics. For example they could be asked to:
    a. Explain your disease to the rest of your new group, using the same headings as for the earlier tasks. (incubation time, mode of transmission etc)
    b. Cooperate to find three things all the diseases have in common
    c. Cooperate to find, for each of the four diseases, four unique characteristics.
    d. Design a leaflet on childhood diseases. In your leaflet:
    e. Place the four diseases in order of:
        i. Severity of potential consequences
        ii. Ease of protection

Cooperative learning is very big in the USA with tons of materials on the internet about it. Some people have used it for years, many more will soon. Ninety years of research and 600 studies shows that cooperative learning really works. It is related to high attainment high order reasoning skills, creative thinking, and excellent transfer of learning to unrelated topics. It is excellent for 'bonding' groups, developing social skills, working with others, and for promoting equal opportunities.

How to decide groupings with jigsaw
You can do jigsaw with any group size and with any number of 'subtopics' if the following rules are followed:

If you have N students and X subtopics then:

You must start with X groups, (with N/X students in each group.)
These then jigsaw to N/X groups (with X students in each group.)

Obviously N>X. Ideally N>2X so all groups have at least two students.

Help! I have a remainder when I divide N by X.
Doesn't matter!. Let some subtopic groups be one student bigger than the others. Then pair students up in these larger sub-topic groups. For example if the remainder is two, you will have two subtopic groups that are one bigger than the others. Pair up two students in each of these groups and let them share the tasks.
This pairing up strategy will always work, whatever the remainder.

Alternatively, if the remainder is large, and you want to avoid pairing up too many students then consider the following:
Again allow some of your sub-topic groups to be one larger than the others. Number off and form 'teaching groups' in the usual way. You will find that some of the teaching groups are one 'expert' short. You can take the place of these missing experts by visiting these groups in turn.
If you would like a fuller explanation of how to group with jigsaw please e-mail me from my website and I will send a paper on it.

20 Academic Controversy – A Cooperative Learning Method with a very high effect size see: http://www.clcrc.com/pages/academic.html#what

This method is for a topic where there are two or more conflicting points of view. The method is described as for two points of view only, but is easily adapted for more. The controversy could be around anything from a major schism, to a minor controversy e.g.

Do prisons work?
Is this marketing policy effective for a small country hotel?

1. Students are allocated one of the points of view and given materials that explain it if necessary. They research and prepare their point of veiw, and ensure they understand the arguments for their point of view, preparing a persuasive 'best case possible' for their position.
2. Students are arranged in pairs with opposing points of view, or put in groups of four containing two students with each point of view. Each side presents their position in as persuasive a manner as possible.
3. Students engage in an open discussion in which they argue forcefully for their position, rebutting attacks, while arguing against the opposing view.
4. Student's swap positions and present the other position as accurately, completely, persuasively, and forcefully as they can. Its best to tell students this is coming so they listen to the opposing view! However, if you feel mischievous you can spring this on students and make a teaching point about how badly they listened earlier on!
5. (Optional) Students check each other's arguments for the swapped positions.
6. Integration: Students drop their advocacy roles. They try to reach a consensus on the issue by synthesising the two positions.

This method works best if used in conjunction with 'peacemaking' approaches.

More on Cooperative Learning: **http://www.clcrc.com/**

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21. Snowballing questions

Students are given resources on the topic to be learned along with past paper questions or multiple choice tests. The questions should require more than just copying answers from the resources.
Students work on the resources and the questions individually or in pairs. It sometimes helps curiosity and focus of the student's reading if they read the questions before studying the resources.
Students combine individuals into pairs, or pairs into fours. They compare answers to the questions and combine their work to produce a 'best answer' without further consultation of the reading unless really necessary. This promotes discussion, requires student to justify their points of view, which encourages good learning.
Students are shown the answers with any reasoning or working made clear, and then mark or score themselves.

It helps if students are given roles such as ‘teacher’ or ‘questioner’ as described below in section E.

22. Independent Learning

1. Any easy section of the syllabus is identified and this is not taught.
2. Instead students are given an assignment which describes in detail what they must learn. More experienced independent learners might need less direction.
3. Students work on this material in pairs or small groups, usually outside of class contact time. The activities set require students to work in pairs or groups, are thought provoking, and are not entirely ‘book and biro’. At least one task requires students to go beyond recall of ideas in the materials, and to apply their learning. This is to encourage deep learning, otherwise students may simply collect information and write it down without really thinking about it or understanding it.
4. Student’s work is monitored by a designated ‘leader’ in their group or by the teacher.
5. The learning from this work is assessed in a short test. The student’s notes are not usually marked, instead their learning is assessed by a short test. Optionally students can be required to retake tests, or do other remedial work if their test result is unsatisfactory.
6. After completing this independent learning assignment, or indeed before, students use an independent learning competences questionnaire to identify their weaknesses as an independent learner, and to set themselves targets for their next independent learning assignment. See Geoff or Teaching Today for this questionnaire or devise your own!

This is not an easy teaching method to use but it is greatly enjoyed by students if it is managed well. For more detail see the chapter on it in ‘Teaching Today’ by Geoffrey Petty.

23. Spectacles

This method is best explained by examples. Suppose a teacher of accountancy wanted to teach students about building society accounts, bank accounts, shares, and other ways of saving money. She asks her students to study materials on these accounts in order to complete an evaluation matrix (i.e. table) like this:

How should we save?				
	Rate of interest	**Can the value go down as well as up?**	**Ease of withdrawal**	**etc**
Building society account				
Bank account				
Shares				
etc				

If the evaluation criteria are well chosen the students must study and understand the different methods of saving very well in order to make their judgements. The judgements the students make show the teacher whether the learner has understood the method of

saving. Groups can compare their judgements by placing them on a class grid provided on a flip-chart, board, or OHT. They enjoy this, and the controversy this creates can help clarify misunderstandings.

Students could then be given a scenario, and asked to make a judgement as to the most appropriate method(s) of saving for a particular person.
Like the other methods described in this document the aim is to get students to learn content (in this case, methods of saving) without direct explanation from the teacher. However, using this method, students will also develop their evaluation skills.

Other examples include:

- learning about childhood diseases by evaluating them against criteria like 'method of immunisation' 'ease of immunisation' 'likelihood of permanent effects' etc.
- Learning about computer printers by evaluating them as three star two star one star or no star against criteria like cost, speed, etc. This produces a matrix similar to the ones produced by consumer organisations like 'Which?', and product reviews in magazines.

This method is greatly enjoyed, and is best done in groups.

24. Skill judging
Not all learning is based on factual content. Some learning is skill based. This is a very powerful method to teach a skill such as writing an essay, lab report, computer programme, menu, care plan, marketing policy; delivering a presentation, carving a joint etc.

First students work as a class or in groups do devise criteria for good practice in the skill. Alternatively they could use exam board grading criteria but work on interpreting and expanding this. For example they could add a few examples of how the criteria could be met in practice.
Second: students are given examples of the skill to judge with their criteria, e.g. example essays. It helps if these examples include some that appear at first sight to be good practice, but are actually flawed. For example, an essay with lots of impressive detail, but that does not address the topic in the title well.
Third: Students discuss the examples given and write strengths and weaknesses for them. They could also give marks or grade the work. Optionally, they work to improve their evaluation criteria at this stage.
Fourth: the teacher tells the students the 'offical' strengths and weaknesses, grades or marks for the exemplars. It helps if this is a shock for the students. For example, the longest essay did not get the biggest mark!

This is a very instructive activity that is greatly valued by students.

25. Compare and Contrast
Comparing and contrasting has been found to improve students understanding of the topics compared by much more than one grade. It is a preferred method for helping students to clarify concepts that are often confused, or poorly understood.

Students are put in pairs or small groups, and are given a grid like the one below (only much bigger!) on flip chart or A3 paper. They work in groups to make a bullet pointed list

of important similarities and differences between the two concepts. They can work from previously unseen, or from other notes to do this. Clearly this could be used in any subject to help teach almost any pair of similar concepts. For example:

Fractions and Percentages
Charles I and Charles II relations with Parliament
Osmosis and diffusion
Shares and Bonds
Commas and semicolons
Etc

<table>
<tr><td></td><td colspan="3">Similarities</td></tr>
<tr><td rowspan="3">Comparing Kinetic Energy and Momentum</td><td colspan="3">They both:</td></tr>
<tr><td colspan="3">Differences</td></tr>
<tr><td>Kinetic energy… But Momentum…</td><td colspan="2">Momentum… But Kinetic energy…</td></tr>
</table>

E. Effective Management of Active Learning Strategies to maximise participation.

Using roles to maximise participation.
All the activities above are best done in pairs, or small groups. However, some can be adapted for individual students. It helps to give students in groups specific roles such as those which follow. It is unlikely that you would use all these roles at the same time. Useful combinations of roles are given later.

Role descriptors are given in a manner suitable for level 3, or adult learners. Please change these descriptors to suit your students.
Students enjoy these roles and soon get used to them. But don't expect them to use the roles effectively without practice. Just after the first time you use these roles it would be useful to reflect with the class on how to make them work well.
Consider ensuring that each student in a group has at least one role. This avoids some students becoming 'passengers'. Consider rotating the roles during the term.

Role card descriptors:

Teacher.
"Your role is to study the aspect or a section of the materials that the teacher gives you, and to explain this to the other students in your group/pair.
You will be the only student in your group/pair to study your particular aspect of the topic, so make sure you understand it well and practice how to explain it! You can ask the teacher for help if you get stuck."

Checker:

"The teacher will choose students at random from your group to report back on what your group has learned and decided. The teacher may ask questions of more than one student from your group. They may also set a quiz or test on the material. Your role is to check that **all** the students in your group understand your group's findings, and can report it to the rest of the class clearly. Do this by preparing and asking questions of your group. You are allowed a full (five?) minutes to do this. If one of your group can't answer the teacher's questions - guess whose fault this will be!"

Scribe:

"Your role is to summarises the key points that your group is making, check that the whole group agrees with them, and then write them down. You may also be expected to explain your group's findings to the rest of the class. There is much more to being a Scribe than just writing!"

Questioner.

"Your role is to 'skim' the resources and then decide on important questions that the resources should answer. For example "Who supported Cromwell and why?" The aim is to focus the group's attention on the key points. You then give your questions to the group for it (including you!) to answer.
You can add to, or change your questions as you get more familiar with the materials.
You may also ask supportive and clarifying questions to help the group complete its task(s)".

Vocabulary chief:

"There is some technical vocabulary in this material. Your role is to research and explain the meaning of all the technical terms. You could devise a 'glossary' for your group if you think this would help. You will need to run a quiz with your group to check everyone can explain each technical term."

Leader:

"Your role is to lead and manage your group in a democratic way, to ensure that the group completes all its tasks in the time available. You can give other students in your group specific roles if you think this helps. You will need to share out the resources in a way that helps the group to work with maximum effectiveness."

These roles work best if the teacher makes sure that s/he will test every student's learning after the activity. This can be done during feedback or with a quiz or test warned of in advance. If they know that any member of their group might be asked questions on the material, they will work with their **Checker** to ensure that all members understand all the points.
You can spice this up (at some risk!) by saying that any student who gets one question wrong, will automatically get the next question and so on until they get one right. The risk of course is that you put humiliating pressure on a weak student, but if you have some easy questions up your sleeve this can be avoided if you judge it necessary.

The roles of **questioner** and **checker** etc help to show students good practice in reading text. Do point this out to students. For example, good readers formulate important questions that the text might answer; ask themselves 'do I understand this?' and 'is this important?' as they read. They also check they know the vocabulary and summarise key

points etc. Hence the roles are not arbitary or purely managerial, but model good study practice.

Students can be given ‘role cards’ with all the roles described until they get used to it. Roles can rotate from lesson to lesson.

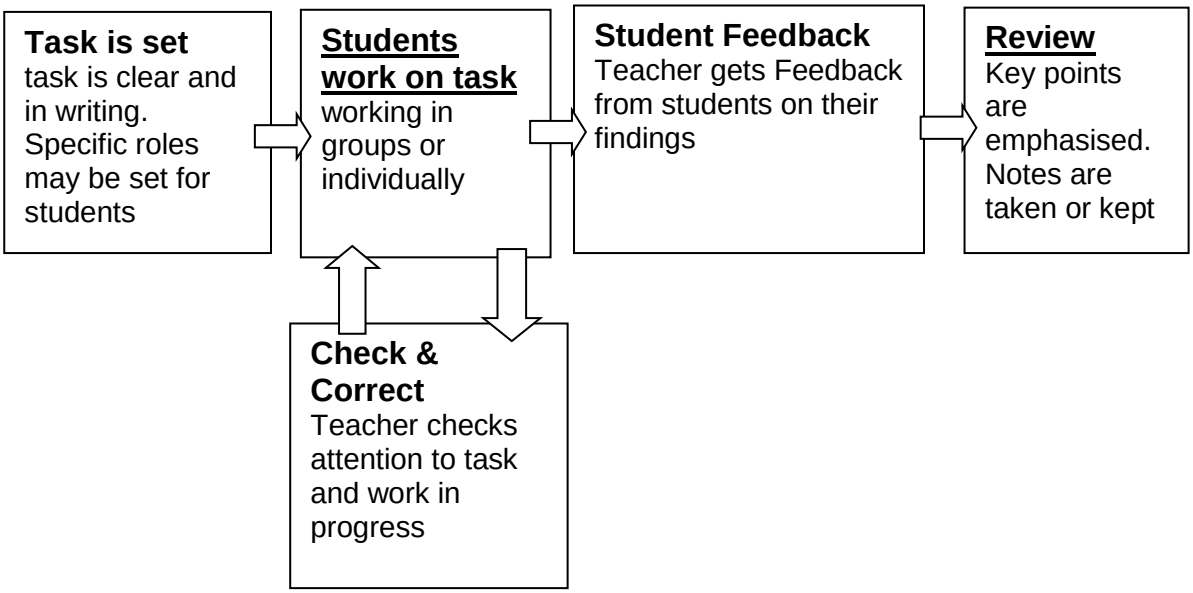
Useful combinations of roles for your groups:
Try to give every student in the group a role

1. Two or more ***Teachers***
2. A ***Scribe*** and a ***Checker***
3. Two or more ***Teachers*** and a ***Checker*** (who is <u>not</u> also a teacher)
4. Two or more ***Teachers*** and a ***Checker*** and a **Leader**
5. Two or more ***teachers,*** a ***Vocabulary chief*** and a **Checker** who checks material other than the vocabulary
6. A ***Leader*** who is also a ***Questioner***, a ***Scribe*** and a ***Checker.***
7. A ***Leader*** a ***Questioner***, a ***Scribe*** and a ***Checker.***
8. ***etc!*** (Miss out the Checker at your own peril!)

Task Design
A useful checklist to ensure your tasks and supporting materials cover everything:

1. Check/review any necessary prior learning.
2. Establish purposes, tasks, and questions etc.
3. Locate information and resources.
4. Plan how to complete the task successfully delegating if necessary
5. Get to work on the tasks
6. Monitor progress and understanding.
7. Make a record.
8. Evaluate information and task completion
9. Check the groups’ understanding
10. Communicate findings to rest of the group and teacher
11. Teacher tests the understanding of the whole class

Managing Group work, individual learning, practical etc



Pointers for success in groupwork:

Prepare: review or confirm any learning required for success at the task

Task is set

- The task is clear and in writing. There may be different tasks for each group.
- A 'Scribe' is identified by the group or the teacher. There may be a task sheet to fill in
- Time allowed for the task is given in advance. Require all learners to be prepared to feedback for their group and justify their answer.
- Tasks differentiate by being open, graduated and/or there are some stretching tasks
- At least some of the tasks are high on Bloom's Taxonomy, that is, requiring: analysis ('why' questions) synthesis ('how' questions) or evaluation ('which' or 'how good is this' questions)
- As well as scribe consider giving some students roles such as: Teacher, Checker, Vocabulary checker, Questioner, Summariser, Leader etc..

Students work on task

- Groups are formed, preferably random e.g. by numbering round the room.
- A group scribe is appointed (by group or teacher) to record ideas in progress. Avoid students with dyslexia unless they can work verbally as they are slow writers. Rote such roles from lesson to lesson.
- Teacher checks attention to task by visiting groups and examining the scribe's material
- Challenging time constraints are given, i.e. the task doesn't go on too long
- The Scribe role rotates from time to time

Check and correct

- Check Scribe's notes to determine the group's progress.
- Ask for their ideas and listen. Ask clarifying questions if necessary. Do not overhelp. If they are having trouble leave them with a clarifying question and say you will come back in a couple of minutes or so.

- Encourage and cajole. Feedback is 'medal and mission' at least some of the time: a 'medal' for progress made to date, effort, ideas etc, and a 'mission' challenging them to go further.
- Challenge with support

Feedback and review
- Every group is asked for their findings and no single group provides all the answers (for example, each group is asked to make one point only, one group at a time.)
- Consider appointing a 'Checker' and then picking anyone in a group at random to explain their findings.
- Key learning points are emphasised and written up on the board/oht
- 'Assertive questioning' style is used where the teacher gets a number of answers just saying 'thankyou'. The 'correct' answer is not given away. The class are asked to agree a class answer. "Okay, some groups say..... and others say ..... Who's right and why?" (see Teaching Today)

Review
- Students are asked to state their key learning points these are improved by discussion.
- There is a tangible outcome: Notes, mind-map, summarising handouts given out etc.
- Key points are reviewed by quiz, test or by Q&A at some later time

A plea for help
Please tell Geoff Petty of any other approaches, or of ways of improving this.

Some References:
Many of these ideas are from:
Teaching Today a Practical Guide Geoffrey Petty
from: http://nsccux.sccd.ctc.edu/~eceprog/bstprac.html#thoughtful
Gibbs. G. (1992) "Improving the quality of student learning" Technical and Educational Services Ltd
Carroll, W.M.(1994) Using worked examples as an instructional support in the algebra classroom, Journal of Educational Psychology, 83, pp360-367

http://www.clcrc.com/ is useful for Cooperative Learning