

NOTES TO POWERPOINT PRESENTATION: ACTIVE LEARNING

These notes are intended to explain and support a set of slides, in the form of a PowerPoint Presentation, on "Active Learning", which can be found at:

www.davidsmawfield.com/resources-practitioners/

The notes *should also be used in conjunction with the following two handbooks, which can be downloaded, for free, on the same web page:*

- *"A Practical Introduction to Group Teaching".*
- *"Classroom Layouts and Organisation".*

Slides 1 to 10 are concerned with "Signal Response" techniques. The intention is to highlight more-active and more efficient methods than are typically used in many classrooms.

The context for **Slides 1 to 5** is an imaginary lesson about England. Towards the end of the lesson, the teacher is wishing to obtain some feedback to assess the understanding of the class and the learning that has taken place. The first question to the class is "What is the capital city of England?"

Students raise their hands: **Slide 1**.

What does the teacher now know? The answer is very little. It would appear that 5 students know the answer (their hands are raised), and three students do not know the answer. However this is not a reliable conclusion. For example, Florin is ready to give the wrong answer ("Manchester"!).

Andrea knows the answer, even though her hand is not raised. She is a very shy student and does not want to risk the embarrassment of drawing attention to herself. There are many students like Andrea in classes around the world. It is a challenge for the teacher to engage them more and make them more active.

In the example in **Slide 1**, the teacher chooses Daniela to answer the question and Daniela answers correctly.

In most classrooms, this is what happens next: The teacher confirms to Daniela that yes, London is the correct answer, offers some praise, and then moves onto the next question.

However, let us reflect again on what the teacher now knows about the knowledge and understanding of the class. The only thing that the teacher knows for certain is that Daniela knows the correct answer!

A better way to proceed, therefore, is as follows: The teacher should say "Thank you for your answer Daniela", **but not reveal whether she is right or wrong**. The teacher can then ask the following powerful question: "Who agrees with Daniela?" (**Slide 2**). This yields much more information about the understanding of the class.

Another, similar, powerful question (**Slide 3**) is "Does anyone have a different answer?" In the example in **Slide 3**, the teacher can now be sure that Bogdan and Florin have a learning difficulty that needs to be addressed.

At the end of the questioning process, the teacher can always go back to Daniela and thank her for her correct answer.

Slide 4 summarises “powerful” questions. It includes the question “Why? (do you think that is the correct answer)” This can help to tease out learning difficulties or confirm the level of understanding.

Slide 4 also makes reference to the technique of “Check with a partner”. Before students put up their hands to answer a question, they must first take a few seconds to discuss/check the answer with their nearest partner. This technique has several educational benefits. Among these: it allows for mutual learning, it makes all students active, and it is a technique that students find fun – contributing to increased motivation. It is not a technique to be used all the time: just an extra technique to add to the “teacher’s toolbox” to add variety. It is a very effective technique nevertheless – and so simple to apply. The two partners should discuss their answer and agree on it. They should both be prepared to raise their hands if they have an answer to offer. (What we do not want to see is one of the partners with a raised hand, and the other not!)

Slides 5-7 introduce the technique of “Stratum Sampling”

Slide 5 is an introductory analogy using the example of searching for oil or gold. If we wish to establish whether or not there is oil or gold to be found (and oil and gold can be a metaphor for “learning”), we do not dig up all of the land: this would be too expensive and time consuming. It is also inefficient. Instead, we take a series of samples and this helps us to build an overall picture of the composition of the soil/rock.

Similarly, if we want to establish the learning of the class, we do not need to ask every student in the class the same question. We can use a systematic sampling methodology to help us build an overall picture.

The strategy is a **secret strategy** known only to the teacher – the students are not aware of what the teacher is doing. It is based on the teacher knowing the students in the class and their abilities, etc.

Mentally, the class is divided into three levels: **Slide 6**.

The teacher takes samples from the three levels, through questioning, and uses these sample findings to make generalisations about the learning/understanding of the whole class.

For example (**Slide 7**): If Horia is one of the best students and struggles to give the correct answer, the teacher can form the hypothesis that the rest of the class (i.e. less-able students) must be having similar or greater learning difficulties.

Conversely, if Elena is a weak student and can confidently give the correct answer, the teacher can hypothesise that the rest of the class can answer correctly with similar or greater ease.

Initial hypotheses should be confirmed by systematically asking a few more questions from different stratum levels of the class.

Slides 8 and 9 show a signal response technique suitable for use in mathematics. Rather than raising hands to signal an answer, students make their answer from a set of number cards and display the answer to the teacher. The great values of the technique are that: it is fun(!); it makes everyone

active; and the teacher can immediately see the knowledge/understanding of the whole class: who knows the correct answer and who does not. Again, this is a technique that should not be over-used. It is something to add to the “teacher’s toolbox” for variety and occasional use to enhance the evaluation of classroom learning.

Slide 10 shows the use of true and false cards. These can be used in a similar way. The teacher can fire off, say, twenty quick questions in five minutes, requiring a true or false answer – and the teacher can very quickly see who knows what: much more efficiently than the traditional raising of hands. Again, the technique is great fun, if used occasionally, for variety, and appropriately. It makes all students active.

Slides 11 to 24 are concerned with classroom layouts and group teaching.

Slide 11 makes the point that a modern curriculum emphasises skills and knowledge that are additional to those traditionally taught. Active learning methods are better suited to developing these new skills.

There are implications for the increased use of group work and the layout of the classroom.

Slides 12 and 13 provide examples of the interactive climate it is wished to create.

Slide 14 highlights the need for teacher training. There is one important thing that is wrong with this layout. What is it? (Answer: desks should be rotated though 90 degrees, so no student has his/her back to the teacher, when the teacher is giving instructions from the front of the class.)

Slide 15 shows a very versatile layout that will work well in a teacher training context as well as in the classroom. There are a number of key characteristics:

- The layout will work well for formal teaching; the layout will also work well for pair work and group work.
- Tables are arranged informally to give a more relaxed feel (i.e. not in rigid rows and columns).
- All tables are angled towards the front (shown by the arrows on the slide), so that only a slight turn of the head is required when formal teaching is taking place.
- The slide initially shows groups of 4 members. A fifth group member is then added. Note the positioning, so the fifth member does not have his/her back to the front.

The layout in **Slide 16** is used to make three points:

Note the position of the teacher. Traditionally, the teacher sits at the front of the class in a position of “authority”. Positioning the teacher’s desk to the side creates a “less authoritative” feel (if this is what is desired). It seems to say that the teacher is more of a “friend” of the students (one of the class), and a facilitator of learning, rather than an authority figure.

Note the position of the furniture (cupboards). Normally, it might be expected that these would be conveniently placed for access by the teacher. This is not the case in this layout. But who uses the cupboards? Perhaps in this classroom the students take more responsibility for their own learning. It is students that go to cupboards to collect and return textbooks, worksheets, and other learning

materials. This is the kind of classroom culture towards which we should be aiming – a good example of “active learning” in its broadest sense.

Lastly, this layout can be used to discuss behaviour management. Where might a teacher place a persistently naughty student: especially one who tends to misbehave when the teacher’s back is turned? Answer: close to the teacher, **and** where the student is sitting with his/her back to the teacher’s desk. In this position the disruptive student has to turn round to check whether the teacher is looking before attempting to misbehave. In this position, it is more difficult for the student to get away with bad behaviour. It is easier for the teacher to monitor the student.

Slides 17 to 24 draw heavily from the following two resources, where much more background information can be found on the educational principles the slides highlight:

“A Practical Introduction to Group Teaching”.

“Classroom Layouts and Organisation”

The two handbooks can be accessed and downloaded at:

www.davidsmawfield.com/resources-practitioners/

Slide 17 is used to examine what could the “As” and “Bs” shown represent. (e.g. more-able students/less-able students, boys/girls, friends, interests, students studying different subjects, etc, etc). Also, when would it be appropriate and why to organise students as shown in Layout 1 and when would it be appropriate and why to organise students as shown in Layout 2?

Slide 18 is used to examine what could the letters A-E represent? (Different levels of activities, different topics within the same subject, different activities, etc). If the activities are rotated in a subsequent lesson, in what circumstances should the students move tables and in what circumstances should the resources move from table to table?

Again, much more background information can be found in the handbooks *“A Practical Introduction to Group Teaching”* and *“Classroom Layouts and Organisation”*.

Slides 19 to 23 explore the idea of how different types of activity can place different levels of demand on the teacher (low demand, medium demand, and high demand). The point of the slides is to show how different levels of demand can be managed successfully with differentiated group teaching. Much more background explanation is provided in the handbook *“A Practical Introduction to Group Teaching”*.

Slide 24 shows a “Noise Meter” that can be used to negotiate and manage appropriate noise levels in the classroom for different types of activity. For further information see: *“A Practical Introduction to Group Teaching”*.

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