

ACTIVE/INTERACTIVE LEARNING FACILITATION IN LARGE CLASSES

WPC van Amerom

“If you believe it is your responsibility to get through to the students, you will become a better teacher. If you claim that it’s the student’s responsibility to get the material, you might as well just mail a book to him/her. If on the other hand, you accept that you have something to do with how the student performs, then it will allow you to use the student’s successes and so-called failures to learn from and become a far superior teacher. After all, students are simply responding to your level of teaching skill” (Jensen 1998:11).

ABSTRACT

Anyone who has taught a large class is aware of the physical and emotional constraints upon both lecturer and students. For students the dominant problems are anonymity, passivity and a frustration of not being able to say what is happening to them. For lecturers the dominant problems are not being able to relate to students as individuals, a feeling of being driven back to traditional teaching, being overwhelmed by assessment demands, and a sense of not being in control of the class. An increase in class size requires lecturers radically to reconsider how they deliver their courses. One such strategy proposed in this paper is that of active learning facilitation – getting students to work and think in the classroom about what and why they are doing what they are doing.

1. INTRODUCTION

According to Melodie de Jager (2003:11-12) and Stephan Joubert (2003:7) your brain:

- Weighs approximately 6 kilograms.
- Have 500 000 touch detectors.
- Have 200 000 temperature detectors.
- Has 13 billion nerve cells
- Have 2.8 million pain-sensitive structures.

A thought can whiz through your brain at 300 kilometres per second.

If you could roll out your brain it would be approximately a $\frac{3}{4}m^2$.

Your brain is a power station on its own!

Why in the world then would you want your students to sit in class like carrots, listen like carrots, behave like carrots, observe like carrots and talk like carrots?

They are not all carrots you know! OK yes, all students have a brain but their make-up differs due to their experiences in life. They observe, hear, talk and behave differently. But most important of them all – they think and learn differently.

2. WHAT IS LEARNING?

Learning is a systematic and permanent change in one's behaviour as a result of an encounter in a specific situation (Hay, 2004:148-149). For example how does one learn to switch on the light in one's bedroom? Probably through imitating the behaviour of an older person (known as the social learning theory) or through trial and error (known as the instrumental conditioning learning theory) (Hay, 2004:180,196). The more you exercise the action of switching on the light the more strongly this behaviour is learned. You all know there are different types of light switches (those you have to turn, pull or push up/down). Every time you learn a new way of switching on a light a new file is created in your brain or an existing file is adapted/updated. The first action is referred to by Piaget as the assimilation of information and the latter as information accommodation (Hay, 2004:167).

3. HOW DOES LEARNING TAKE PLACE?

According to De Jager (2003:19-22):

- Information enters your brain through your senses which is your sight, hearing, smell, taste, touch and feelings. (Touching the light, seeing the light, hearing the clicking of the switch).
- The brain then carefully considers your sensory awareness and quickly checks past memories for similar situations. Through cross-checking with past memories questions arise, for example: Have I experienced, seen, heard or felt this before? Your left and right brain thus work together in an attempt to process the information.
- Your brain then responds to this new input by allowing you to talk about it, write about it and/or act upon it. For example pull the string downwards to switch the light on or off.

4. WHAT IS ACTIVE/INTERACTIVE LEARNING?

It is about getting *students* involved in *doing* things and *thinking* about what they are doing (Bonwell & Eison, 1991:1). Let's look at the meaning of this statement.

- The statement says *students* should be involved in the learning process – not the lecturer. The only way the student can construct meaning out of his/her encounters with different types of knowledge and experiences, is

by digging into these him-/herself. If students are interested in observing actors they can go watch a movie. The variety there is so much better.

- Secondly, students must *do* things! That means they have to be active. There must be movement. Expecting students to sit on their butts for 60 to 80 minutes is a mind-killing activity. According to Dr Paul, E Dennison (in De Jager, 2003:51) "*movement is the door to learning.*" When you move endorphins (your natural mood-altering drugs) are released in your body which will make you feel better and help to improve your performance. Dennison and his wife developed a tailor-made tool kit of movements called the Brain Gym. These movements are guaranteed to improve your vitality, reduce your stress levels and stimulate your creativity (De Jager, 2003:51).
- Lastly, students must *think* about what they are doing. What do you do when you think – you exercise your mind! Now how do you expect your students to learn anything at all if you continue babbling in class for 50-60 minutes? According to Jensen (1988) "learners have brains of unlimited potential and it's a disgrace to treat the learner's brain as a wheelbarrow. The brain requires work, and work is thinking and problem-solving."

5. WHY ACTIVE LEARNING?

Why all the fuss about active learning and what are the benefits? According to Bonwell and Eison (1991:1-2) and Wilkinson (2004:122) active learning:

- Promotes long-term retention of information.
- Motivates students towards further learning.
- Assists in the development of students' higher order thinking skills (it is to analyze, synthesize and evaluate information).
- Requires students to assess their own degree of understanding and skill at handling concepts or problems in a particular subject.

6. STRATEGIES THAT PROMOTE ACTIVE LEARNING

The following strategies are very useful in trying to promote an active learning culture in one's classroom (Wilkinson, 2004:89-90; 120-121). Choose one strategy that you as lecturer and your students will feel comfortable with and practice it as much as you can. Here are a couple of options:

- (a) The modification of the traditional lecture such as the feedback lecture and the guided lecture. Lecturing does not always encourage students to move beyond memorization of the information presented. This can be overcome by allowing students to talk and write about the ideas presented in the lecture. The feedback lecture entails two mini lectures of say 20 minutes each separated by a small group discussion session during which

students can reflect on what has been learnt. The guided lecture entails students listening to a 20 to 30 minute presentation by the lecturer without taking notes, followed by a five minute session during which students must explain to others in writing how they understood the work presented.

- (b) Cooperative learning. Break up the lecture by letting students divide themselves into groups of three to five. A specific question is then given to each group after which the group's spokesperson (appointed by the group themselves) provides feedback. Group discussions not just enhances students' communication skills but also develops their metacognitive ability.
- (c) Role play. Students are normally in their element when given an opportunity to express their emotions and feelings on a certain topic. Lecturers sometimes need to allow students to discover knowledge in a playful manner.
- (d) The case study method of instruction. Case studies are stories often based on real world examples. We as professionals encounter different types of cases on a daily basis in our work. What better way then to allow students to wander into the world of problem-solving and decision-making by exposing them to situations where their reasoning ability is ultimately tested.

Each of the above strategies represent a topic on its own. Since it is impossible to cover each in depth, I have decided to shift my focus to the modified lecture.

7. HOW CAN THE MODIFIED LECTURE AS ACTIVE LEARNING STRATEGY BE INCORPORATED IN THE CLASSROOM?

In an article by the University of Waterloo (Wilkinson, 2004:124-125) and researchers Bonwell and Eison (in Wilkinson, 2004:143) the following valuable guidelines can be followed:

- 7.1 Show students the big picture first (it is your lecture outline). Begin the class with a short review of the key points from the last class and provide a preview of the topics for today's class. Pre-exposure to information provides a pattern (a mental map) which allows the brain to compartmentalize the information and as soon as all the parts of the puzzle are offered (that would be at the end of the lecture) deep, meaningful learning could be achieved.
- 7.2 Before starting with the new topic of the day, ask the students what they already know. Eg. how would YOU describe an entrepreneur? (They can discuss it or do a little mindmap) Why do this? The brain needs to make connections. Why? To increase comprehension and meaning.

- 7.3 State your key points as learning objectives for the students. Make sure the objectives are:
- set in a positive tone. Don't go and say something like "today we have to learn how to compile a balance sheet. I know this is difficult but we just have to do it." This is so negative!
 - specific and concrete. Use action verbs such as compile, solve, explain rather than vague verbs such as learn, know and understand.
 - obtainable by the end of the class. Trying to cover too many points will only demotivate the students.
- 7.4 Keep the lecture outline visible for students. Put it on a poster or leave it up on an overhead. Colour-code it to make it easy to follow. Return to the outline periodically to show your progress through the material and to reinforce key points.
- 7.5 Design your lecture in 15-25 minute blocks. According to Jensen (1988:49) adult attention spans average 15-25 minutes. After that focused time, interrupt the learning with breaks of 2-5 minutes for diffusion or processing.
- These breaks should be a total break from the content such as a breathing or relaxation exercise or a 2 minute joke session.
 - Or be an alternate form of learning the content such as peer discussion or mind mapping. Peer discussion help students understand and retain material. It develops better communication skills. Students also become aware of the degree to which other students can be a valuable resource in learning (Wilkinson, 2004:121). Did you know that students only learn 20% of what they hear, 70% of what they talk over with others and 95% of what they teach to a peer?
 - According to Jensen (1988:48) learning is best when focused, then diffused. Why? The brain needs so-called "down-time" to subconsciously sort, process and connect ideas (Jensen, 1988:307). You will never have your students' attention 100% of the time. The brain is not designed for extended periods of attention. Changes in hormones and emotions limit attention levels. Attention means your learners are "externally" processing information. The only way they can make the learning meaningful is to break from the attention and "go internal" (Jensen, 1988:111).

7.6 Stress why the lecture material is valuable for the students. Relate the content to STUDENTS' interests, knowledge, experiences and needs as much as possible. When covering a topic such as:

- the creative problem solving process use something actual such as “how to prevent students arriving late for class.”
- how to calculate an income and expenditure budget ask them to bring to class all their receipts/invoices/bank statement or whatever documents to class and work from that. This is a nice variation on these constant pre-planned exercises they have to work from.

Make the material RELEVANT! It will help to keep their attention and to remember the information.

7.7 Convey your enthusiasm for the learning material. Role model joy of learning. State how much you enjoy the subject, how it has changed your life, what you have achieved through this subject. The more excited you get about learning, the more motivated your learners are likely to be excited.

7.8 Provide hope of success. Tell success stories of previous students who succeeded (bring the body to class if possible to deliver a personal testimony. What obstacles have they overcome to succeed?). If you say in a class – Good morning ladies and gentleman, at the end of this year only 30% of you will pass the subject – do not expect your students to have a positive attitude towards the subject and to even pass the subject. Hope is a powerful drug and is essential to restoring demoralization.

7.9 If you want learners to do what you want them to do – DO NOT MANIPULATE OR CONTROL THEM all the time. Why not? They will get resentful and express it in the form of lack of discipline, frustration, rebellion or anger. How then do you handle them? Allow some learner input, provide more options for learners, more choices in how they learn. Eg. “Today we are going to distinguish between the different types of consumer products in the fast food market. Do you want to be given examples first and then you try to identify and motivate your answer or do you first want to discuss the types of products and then try to distinguish between the different examples? Do you prefer to do this activity alone or in groups of 3?” **Students buy into and take pride in doing activities which they have helped to define and over which they have some control.**

7.10 Allow for learner mobility in the classroom. Research by James Asher on Total Physical Response (Jensen, 1988:100) discovered that a person remembers information better when allowed some physical activity in the

classroom compared to remaining in one's seat the whole time. Schedule a "stand up and stretch break" every 20-25 minutes. Create a diversity of activities so that learners get to move into teams. Let them switch seats – from the left-hand side of the room to the right-hand side. This helps to create renewed attention. *"Primary sources of discipline problems include a poor learning environment filled with threat, stress, lack of choice in choosing ways to do things, lack of movement in class, the lecturer talking non-stop, unfair and unclear rules, insufficient eye-contact with learners and multiple intelligences used or not used."* (Jensen, 1988: 249, 251-252).

- 7.11 Eliminate threats in your class. "If you do not keep quiet now you are going to write a test about this work in the next class." Threatening a learner causes the brain to trigger defensiveness or a sense of helplessness in the learner (Jensen, 1988:254). The minute the brain sits in a state of stress, no proper higher order thinking can take place. Should the students write the test in the next class, they will in any case perform poorly since they feel unmotivated. The test is seen as punishment and they do not experience learning as something to be enjoyed!
- 7.12 Avoid reliance on extrinsic rewards. Giving a learner a sweetie or whatever reward every time he answers correctly or solves a problem is not a good idea. Learners feel pressured to perform like a rat in a cage. With every reward, there is an implied punishment for a contra-behaviour. Initially the technique might work, but over the long run the student's behaviour will become rote, minimized and stereotyped. Celebrate successes achieved through boosting students' self-image, confidence (not through rewards). Eg. give acknowledgements through certificates or a team report. If a student solves a problem applaud him/her. Consider this as bragging time.
- 7.13 Invite participation. How? Through creating an emotional safe environment where it is safe to make mistakes, ask any question and to make a contribution. Do not allow sarcasm or criticism in your class.
- 7.14 Keep engaging curiosity. How? By punctuating the lecture with questions.
 - Eg. if you are having a session on branding. Ask them: "Which brand do you think has the highest worth in the world?"
 - Or develop multiple choice questions where they have to vote and then persuade their neighbours of the answer within the space of say 2 minutes.
- 7.15 Last, but not least. Teach to the learner's preferred mode of learning to ensure that they learn best (Jensen, 1988:27):

- Auditory learners love to talk and listen. Create opportunities for class discussions in groups / with peers, arrange debates, have oral presentations.
- Visual learners want to see what you mean. They love handouts, PowerPoint slides, pictures and diagrams.
- Kinesthetic learners want to learn by doing. They are interested in touching, handling and holding things. Make physical activities such as demonstrations/displays part of your lecture. If you do different types of consumer products with them, bring physical products to class.

By just presenting in an auditory or visual fashion, you miss 60% of your audience. By just presenting in a kinesthetic fashion, you miss 80% of your audience. Thus, try to maintain a balance between auditory, visual and kinesthetic learning.

8. CONCLUSION

According to Bonwell and Eison (in Wilkinson, 2004:142) active learning can be successfully promoted in large classes. How? By following three basic assumptions:

- Vary the instructional strategies used during a class period.
- Make use of visuals during a class to focus students' attention and to reinforce the material presented.
- Allow students to provide their own opinion and interpretation of the material. Students learn best in this way.

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