

Bringing More Critical and Active Thinking into Lectures.

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Sources: Bean, J.C., (2011). *Engaging Ideas: The Professor's Guide to Integrating Writing, Critical Thinking, and Active Learning in the Classroom*, 2nd ed. Jossey-Bass : San Francisco. Chapter 11, P202-210 ; Bligh, D.A., (2000). *What's the Use of Lectures?* San Francisco: Jossey-Bass; Brown, G., Atkins, M., (1988). *Effective Teaching in Higher Education*. London: Methuen. Angelo, T.A., Cross, K.P., (1993). *Classroom Assessment Techniques: A Handbook for College Teachers*, 2nd ed. Jossey-Bass : San Francisco. Heppner, F., (2007). *Teaching the Large College Class*. San Francisco: Jossey-Bass. Exley, K., Dennick, R., (2004) *Giving a Lecture: From Presenting to Teaching*. London: RoutledgeFalmer; <https://www.cte.cornell.edu/teaching-ideas/engaging-students/active-learning.html>

Problems and solutions to traditional lecturing

By nature, lectures "imply a transmission of theory of knowledge in which-students receive the ideas and information sent by the instructor" and are thus passive (Bean, 2011, p202).

They are a reality that most university teachers have to use on some level. However, they "are not as effective as discussion for promoting thought [or changing attitudes]" (Bligh, 2000, p3), and most students begin to lose attention and retention after a maximum time of 20-25 minutes of listening to a teacher talk (Heppner, 2007). As the latter puts it, "straight lecture equals death" (p92).

However, Bligh also points out **that a lecture which is well planned and given can actually be "as effective as other methods for transmitting information"** (p3), and as teachers we can easily improve our lectures by combining them with one or two active, critical thinking, structured engagement, activities, that can be as short as a few minutes long.

Active learning is defined as "deep processing" by Bligh, or, by Bonweel & Eison (1991, p2 by Cornell University) as "anything that involves students in doing things and thinking about things that they are doing". Active learning strategies can help make *more engaged, inquisitive* and *better thinking* students that can *argue better and retain more information* (Bean, 2011). Additionally, this allows the lecturer to check the students' prior knowledge and assumptions about a particular topic (Exley and Dennick, 2004, p84).

Teachers often worry that using such activities in their lectures takes away from their valuable teaching time and the amount of material they can cover. However, research and teacher experiences increasing shows that **less "lecturing" doesn't necessarily mean less learning**. As Exley and Dennick note, "the more a lecturer teaches, the less they [the student] will understand" (2004, P51). As "learning comes from engaging with the material in a stimulating way, not trying to memorize reams of facts passively" (p88), limiting the content and punctuating with active learning activities can stop over-saturation, allowing them to engage with the topic and think critically. This is probably why, when given the opportunity, most students prefer interactive over traditional lectures (p85).

9 Strategies—both formal and informal—to promote this through lectures are outlined below:

During lecture activities

During the lecture- tasks are designed which can only be completed if the SS pays attention to the lectures- exploratory tasks that recycles the concepts or information (freewrites in class or thinking or forum activities). For example, linking lecture material to their own experiences, apply to new concepts, argue for or against prepositions of lectures, or ask new questions.

1) Quiz- type activities.

Using online quiz makers are a relatively easy way to design questions and students can respond using their phones or devices. (Kahoot.com is a great one, which also allows an option to survey opinions on a topic, a who wants to be a millionaire is another fun option :

<http://www.superteachertools.com/millionaire/>

Such tools can serve 3 functions: (Exley and Dennick 2007, p118).

- A few simple Questions to check understanding- this reassures SS they are on track, and tells them what they need to review again. Gives feeling of closure for lecture and of community.
- Response to questions to guide next part of lecture (if get wrong can revisit and expand that part of lecture)
- Get a discussion going, set a brain teaser, and they vote, get them to discuss with neighbours (team play)- which involves active discussion too.

2) Ask Students to Question Your Lectures

- At the beginning of the lecture, introduce a question or contention that your lecture will tackle. Students have to summarise your argument and respond through analysis and further questioning.
- Helps students to understand that lectures are argument not merely information!

3) Using short writing activities, or "Minute Papers".

- The "minute paper," a term coined by Angelo and Cross (1993, p148-153), allows the instructor to stop at an appropriate point in a lecture and ask students to freewrite for several minutes in response to a question (Questions could range from "What is currently puzzling you?" to any kind of disciplinary problem connected to a current point in the lecture.)
- Alternatively, students could write a question down.
- The instructor collects several and reads them out (could be during or after class)
- This serves to refocus student's attention and increase listening for the next part of the lecture, and also provides feedback and insight into students thought processes.

4) **Alternative activities to use during lectures could be:** (Exley and Dennick, 2007, p95; 99; 100):

- Search for, select and organise info supplied
- Abbreviate, or summarise information supplied
- Solve problems and answer questions
- Set problems and ask questions
- Make a judgement on a case or situation
- Predict the outcome of an experiment or an intervention
- Estimate the cost of a design choice or a business decision
- Make a diagnosis
- List and prioritise

5) **Using handouts can structure any of the above activities-** some examples of hand outs are:

- Complete a picture / passage of text / definitions, formulae etc.
- Draw up lists / a graph
- Label a graph / fill in values in a table
- Correct the errors in a calculation, a translation, a music score etc.
- Interpret the experimental results provided
- Annotate a label or diagram / put arrows on a flow chart/ plot positions on a map
- Represent information as a pie chart, bar chart, etc.

6) **With any of these lecture-activities, once students have completed the task, depending on the desired process, they can use this information to:**

- Compare with a neighbour
- Interview their neighbour about his list
- Compare/ reach a consensus with neighbour
- Combine both and prioritise top 3
- Then can combine pairs, and again, up to whole class if necessary. This inverse pyramiding' can improve logic and answers as the views and debate continue.

7) **Develop writing tasks before your classes**

- Exploratory writing or pre-class assignments before the lecture can also be used to engage students with a problem that the lecture will address, or activate personal experience and prior learning, which facilitates new material to be learnt.

8) **Develop writing tasks after your classes integrating the previous lecture(s) content**

- Also makes sure students have understood lecture material and promotes better listening - could create an assignment that compares an argument from your lectures, or series of lectures, with an alternative they found in readings or research.

- An example is to have students write a 1-page or paragraph summary of your lecture. This allows you to check their understanding, and means students remember (therefore learn) more and give feedback to the instructor to adjust future lectures.

9) Change how you give your lecture

Narrative Lectures That Model the Thinking Process

- Be the model for critical thinking. Sometimes give a lecture that shows students your own thinking process in tackling a problem or summarises the literature on a problem. First, pose the problem that puzzled you or other scholars, then recreate your (or the scholars') thinking process, not forgetting false hunches and false starts, frustrations and excitement. This is effectively a lecture version of an exploratory essay.

Vary what students hear and see in a lecture (Exley and Dennick, 2007, p89-92)

- Give them a break from your voice through audio /video recordings, guest lecturers, visual aids, demonstrations, or classes in different locations.

See these ASK guides for additional information:

- Lecture preparation: <http://repository.urosario.edu.co/handle/10336/14476>
- Pre-lecture activities for professors: <http://repository.urosario.edu.co/handle/10336/13921>
- Post-lecture: What to do: <http://repository.urosario.edu.co/handle/10336/13919>
- Critical thinking skills for teachers: <http://repository.urosario.edu.co/handle/10336/13398>