

Delivering Powerful Lectures

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Overview

- Why lecture? When to lecture?
- Objectives; Opportunities
- Conveying the information
- Student learning outcomes
- Student preparation
- Effective presentation of content material
- Linking the lecture to discussion groups or lab sessions
- Enhanced lecture formats
- Assessing student learning
- Evaluating your lectures

Quotes that give lectures a bad name

- *The first duty of a lecturer: to hand you after an hour's discourse a nugget of pure truth to wrap up between the pages of your notebooks, and keep on the mantelpiece forever.* – Virginia Woolf
- *“College is a place where a professor's lecture notes go straight to the students' lecture notes, without passing through the brains of either”* – Mark Twain
- *“Some people talk in their sleep. Lecturers talk while other people sleep”* – Albert Camus
- *“My lecture was a complete success, but the audience was a failure”* – Anon

Sloman, John and Mitchell, Chris (2002). *The Handbook for Economic Lecturers*.

Why Lectures?

- The term “lecture” can encompass a range of styles, approaches and formats
- Lectures are a most effective option, as part of a class period, if they have several objectives that aim to:
 - Motivate and challenge students
 - Give them insights
 - Focus on student learning

When to Lecture?

Is most successful as a “bookend approach”

For example:

- At beginning of class: Presentation of topics to be discussed
- 10-12 minute lecture followed by in-class assignments (individual or group projects) best suited to work on a specific problem or question (builds understanding) -
- short discussion of results of assignments
- Short lecture to summarize and highlight key issues, concepts, or ideas.

Introduces active and collaborative learning

Brighton, John A. (2001). *Case for Interspersing Active Learning Elements with the Lecture.*

Objectives of the Lecture

- To arouse student curiosity and motivation to learn
- To model an approach to specific styles of thinking: e.g., problem solving, case studies
- To give a skillfully assembled background knowledge summary that is not otherwise available
- To adapt very complex, sophisticated, or theoretical knowledge to one's students' level and needs in a way unavailable in any other source

Objectives of the Lecture

- To present a particular organization of the material, one that clarifies the structure of the textbook or the course or that helps students organize the readings
- To add your personal viewpoint on the material, including your own related research
- To present up-to-date material that is not yet available in printed form.

Nilson, Linda B. (2003). *Teaching at its Best*. Bolton, MA: Anker, p. 95.

Opportunities of the Lecture Format

- Efficient way to convey and prioritize information about the subject in a condensed format
- Provides a suitable framework for further study
- In a research university, provides a link between research at the forefront of knowledge and teaching
- Newer approaches to teaching and learning (such as active learning) can be embedded in the lecture format so that the learning outcomes of students are significantly improved

Conveying the information

- Pacing (time for processing)
 - the average number of items that can be held in short-term memory is 7 (± 2) [Miller, 1956]
- Attention span: about 15 minutes (Healy, 1991)
- Information:
 - structured in a logical fashion
 - Demonstrably meaningful to students (importance of context to learning)
- Content: 2 or 3 key concepts or points
- Focus of instructor: intended learning outcomes

Learning outcomes linked to forms of learning

- Surface learning: focus on memorization of words, formulae, and theories rather than building relationships and connections
 - Characterized by:
 - Excessive amount of course material
 - Assessment methods that emphasize recall
 - Poor or little feedback on progress

Learning outcomes linked to forms of learning

- Deep learning: ability to organize understanding in a coherent whole rather than a set of disassociated facts
 - Encouraged by
 - A choice over content and study methods
 - Teaching methods that build on existing knowledge and experience
 - Active involvement by students in their learning
 - Long-term engagement (by both student and instructor) with the subject

Learning outcomes linked to forms of learning

- Strategic learning: adopting whichever approach will maximize the grade
 - Surface approach if exams reward memorization of disparate facts
 - Deep approach: Holistic understanding of key ideas and how these apply in different circumstances if assignments are carefully designed

Student preparation for a lecture

- Preparatory work by students helps them to see the relevance of the lecture -
 - Search web for relevant background information (recent debates and issues [e.g., environmental groups, trade disputes]);
 - Revisit relevant theory covered in earlier lectures (e.g., revise relevant parts of a theory)
 - quick quiz at start of lecture
 - Ask students to identify a set number of issues relevant to the topic (contextualizes the material and its relevance)
 - Post answers to a discussion board
 - Assign related readings (e.g., recent articles)
 - quick quiz at start of lecture
- In all above cases clear guidance must be given about what is required

Effective presentation

Five issues

1. Aims and learning objectives
 - Stated clearly at the beginning of the lecture
2. Overview and clarity of structure
 - A lecture map: to outline the structure of the lecture in terms of main topics, issues, and theory.
3. Use of examples; reasonable pace
 - Examples: Judiciously selected: to tie theory to reality; relating concepts to the concrete
 - Pace: vary the tempo and nature of the material.
 - What do you want students to do? (listen, complete a diagram or proof, respond to questions, express a point of view, role play...)

Effective presentation

4. In-class quizzes at the beginning (or end) of a topic: , true/false listings, multiple-choice
 - Active participation: allows students to check on their understanding and learn from their mistakes
5. Diversity in methods of presentation
 - Graphs, diagrams, equations, models, case studies
 - Give students partially complete proof or diagram for them to complete (time to reflect and focus on key point)
 - Present an incomplete model: students fill in the next step individually or with a neighbor
 - Provide incomplete lists (advantages/disadvantages) for students to complete
 - Present a case study for brief analysis and discussion of key issue

Effective presentation

5. Diversity in methods of presentation (Cont'd)
 - PowerPoint Presentations
 - Videos
 - Weblogs (“blogs”)
 - Electronic discussion boards (Blackboard, WebCT)
 - Chat rooms
 - Public response systems (“Clickers”)

Linking the lecture to discussion groups or to lab sessions

Careful integration of the two is important

Questions to address:

- How much time should students spend on follow-up study after the lecture before coming to the discussion or lab?
- Will you refer back to material or activities in previous discussions?
 - Advantage: gives students a greater understanding of how course is structured

Linking the lecture to discussion groups or to lab sessions

- Do the discussion's issues/questions directly relate to the material covered in the lecture?
 - Decide whether the lecture material needs reinforcing through discussion questions or whether the discussion should be used for follow-up work
- If short activities are included in lecture (completing proofs, brief case studies, etc.) can more creative activities be undertaken in discussions? (debates, role play, mock interviews, in-depth analyses of key policies)
- Is some of the time in discussion or lab sessions used to allow students to ask about points they did not understand in the lectures?

Enhanced Lecture Formats

“Guided Lecture”

- Goal: to help students synthesize lecture material and develop their note-taking skills
 - Lecture objectives given in advance of the session.
 - 20-30 minute lecture (students take NO notes)
 - 5 minutes: Students record what they can recall
 - 15 minutes: Groups (dyads or triads) discuss instructor-provided question(s) related to lecture, and, in the process, complete their notes
 - Instructor is available: (questions for clarification are encouraged)
- Study guides, well-designed questions, pre- and post-session mini-tests are part of the process

Enhanced Lecture Formats

“Feedback Lecture”

- Goal: Increase student participation in the learning process
 - In addition to the assigned readings a supplementary study guide provide students with learning objectives, pre- and post-tests, and, in some cases, an outline of the lecture notes.
 - Before class students work on study questions
 - In class two 20-minute mini-lectures are separated by a study session
 - Students form dyads or triads and discuss the questions provided by the instructor or the study guide
- 88% of students surveyed indicated that they preferred this format over the standard lecture (Bonwell and Eison, 1991)
- Requires extensive planning and preparation

Enhanced Lecture Formats

“Lecture with Periodic Pauses”

- Goal: Improve comprehension and retention of the lecture material
 - 12-15 minute lecture
 - 2-minute Pause: students work in pairs - review, discuss, revise their notes
 - Repeat this pattern 3 times
 - Last 3 minutes of class: “Write everything you can recall from the lecture”
- Experiment: “treatment” and “control” groups in two different courses over two semesters
- Results: on a 65-item multiple-choice quiz given 13 days after the last lecture, comprehension and retention of the lecture material was consistently much better, in some cases up to 2 letter grades (Bonwell and Eison, 1991). .

Assessing student learning

- Lecture may be tested directly:
 - The discussion following the lecture could begin with an objective test, a short essay, a problem, a case study
- Lecture could be directly relevant to an examination or an assignment
- Student lecture notes could be assessed
 - Clear grading criteria are given
 - Students read and provide written comments on each other's notes: this commentary is then assessed by instructor and feedback is provided [advantage: peer review, reflection on the process of note-taking]

Assessing student learning

- Depending on class size each student could be asked to provide a reflective commentary on each lecture which would be electronically distributed to other students and formally assessed.

Advantages:

- encourages students' reflective approach to the lectures
- Helps develop writing and critical skills
- Provides useful feedback to instructor
- Creates a community of learners

Evaluating your lectures

- Standard student evaluations (questions relate to clarity, pace, and relevance)
Disadvantages:
In most cases questions focus on instructor as “performer” not on student learning outcomes
- Self evaluations: judged against criteria
 - Reflections on what you are planning to do or have done in terms of student learning objectives

Evaluating your lectures

Reflective questions to ask before the lecture:

- What do I want my students to get from the lecture?
- How will the lecture achieve this objective?
- Will I cover the right amount of material, given the abilities, experience, and motivation of the students?
- Are there better ways of organizing the material?

Evaluating your lectures

Reflective questions (cont'd)

- Are the examples appropriate?
- Are the visual aids clear and the right length?
How could they be improved?
- What activities for students are planned? What do I want students to gain from these activities?
- How will the materials that I provide to students complement the lecture? Will they encourage or discourage attention or attendance?

Evaluating your lectures

Feedback during the lecture

- Public response System (“clickers”): could be used for multiple-choice questions - instant display of students’ choice or “vote”
- One-minute paper
 - One or two short questions about specific aspects of the lecture

Evaluating your lectures

Feedback after the lecture - supports students' learning

- Invite comments about the lecture via the electronic discussion board
 - Students are asked to identify topics they have not understood, questions they'd like to ask, discussions to which they would like to contribute
 - A section on Blackboard devoted purely to general feedback on the lectures
 - Create a FAQ section where you post the answers (eliminates repetitive questions)
- Invite a colleague to visit your class

In short...

The lecture:

1. Is only one among many pedagogical tools.
2. Introduces active and collaborative learning
3. Has, as pedagogical objectives:
 - Motivate and challenge students
 - Give them insights
 - Focus on student learning
4. Gives a skillfully assembled background knowledge summary that is not otherwise available
5. Adapts very complex, sophisticated, or theoretical knowledge to students' level and needs in a way unavailable in any other source
6. Requires a diversity in methods of presentation

Assessment of student learning is linked to student assignments and student notes

Self-evaluation and reflection on learning outcomes is an ongoing process

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