

THE USE OF LECTURES?

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Isaacs (1994) observes that “received knowledge is that lectures are not a very effective way of teaching in higher education – especially if the aim is to teach thinking, or to change attitudes or other higher aims beyond the simple transmission of factual knowledge” (p.203).

He briefly overviews the debates from 1972 – 1992:

Defenders of Lectures:

Beard and Hartley 1984: lectures are efficient

Defenders of Lectures with qualifications:

Lectures can be useful if

- ways are found to make them a more active and interactive experience for students to minimise their deficiencies, such as, inducing passivity, limited retention, constraining higher order thinking, as well as for lecturers to be able to monitor student learning from lectures (Andresen, 1984; Gibbs, 1992)
- over-reliance on transmission of information is avoided and variants are developed for different purposes, for example: formal oral essays, expository or provocative lectures, lecture-demonstrations, lecture-discussions and lecture-laboratories (Lowman, 1984) – there is some overlap between Lowman’s suggestions and the terrain covered by Andresen and Gibbs above.

See Andresen 1984, included on this VULA site. The value of Andresen’s compilation is that it

- is in the form of an easy-to-read guide of strategies that university lecturers have found successful when teaching large groups
- draws on original sources that are not readily available to university teachers given their preparation for the Nuffield Foundation’s Group for Research and Innovation in Higher Education. However, he notes that many of the teaching methods discussed under the rubric of ‘lecturing to large groups’ can be found in Huczynski (1983) and Unwin and McAleese eds. (1978)

Criticisms of Lectures:

Lectures have a very limited function (Bligh, 1972; Ramsden, 1992 and Gibbs, 1992)

It is valuable to focus on Bligh’s ‘What’s the Use of Lectures?’ as it is a classic that has as yet not been surpassed for its combination of theory-informed and survey of empirical evidence on the limits of lectures, and it informs most of later writing on the subject.

In addressing the question his book poses, Bligh argues that the function or purpose and context in which lectures is used are vital. He considers the following purposes:

- The acquisition of information
- The promotion of thought
- Changes in attitudes

Context refers to the

- nature of the discipline and disciplinary demands on learning, for example, sciences with complex formulae or 3-dimensional information in architecture or medicine
- place of lecture amid other methods: whether lecture is preceded or followed by other teaching methods in a thoughtfully constructed and *specifically sequenced arrangement*
- effectiveness of the lecturer (as in above sequence design consideration) and technique employed.

Bligh examines whether the lecture is a suitable tool for achieving the above 3 purposes outlined in the Hale Report by turning to the evidence. Table 1 below summarises Bligh's analysis.

FUNCTION OF LECTURES	
Function	Evidence
Acquisition of information refers to 'knowledge of principles, simple comprehension and knowledge of facts'; surveyed teaching staff in the UK (Hale Report, 1964) most commonly cited the function of lectures as 'introducing and opening up a subject' and the provision of a framework for reading'; particularly valuable in the sciences for the gradual build-up of complex diagrams and presentation of 3-dimensional information in models or by demonstrations	Majority of studies show no significant difference between lecturers and other methods. Some examples: lecture v. reading; lecture v. discussion; lecture v. projects.
The promotion of thought: 'awakening critical skills in the student' and problem-solving would require a different organisation from the aim to provide information.	Less experimental evidence than for acquisition of information; where it does exist, there is either no significant difference (minority of studies) or lectures are less effective (majority of studies). Some examples: lecture demonstration v. problem-solving groups; lecture v. discussion; lecture v. 'non-directive' free group discussion.
The stimulation of thought: The ability to apply principles & combine them to form new, higher order principles (citing Gagne, 1965)	Majority of studies show lectures are less effective. Some examples: lecture v. reading v. group discussion v. individual work; lecture v. discussion; lecture v. problem projects
Changes in attitudes: <ul style="list-style-type: none"> • interest and enthusiasm for subject; • acquisition of values associated with subject, eg. professional ethics; • changes in personality, eg. personal adjustment to professional role, self-awareness and sociability 	There is even less controlled experimental data for this dimension and it is more complex to investigate; Bligh cautions against extrapolations from these findings: most of the research shows there is no significant difference between lectures & other methods, and slightly more that lectures are ineffective. The comparison of methods is similar to those already cited.

Massification of Higher Education: Lectures are here to stay. What's to be done?

Commensurate with the massification of higher education, increasing pressures of financial accountability and quality assurance in the 1990s, writers on teaching methods acknowledge that lectures will continue to be one of the key teaching methods. That being so, there is a need to highlight strengths and weaknesses and minimise the deficiencies, especially in the context of increasing student diversity that is one of the main features of massification.

THUS

LECTURES offer the following **ADVANTAGES**

- can communicate large amount of material efficiently
- can be used to supplement or elaborate curriculum
- good if material has to be organized or presented in a particular way
- can model how professionals work through disciplinary questions or problems
- can provide introduction to unfamiliar area
- **very efficient for expert-to-expert transmission (how many UG's are experts?)**
- can be used to present material not available elsewhere or hard to discover because of originality, complexity, or difficulty
- effective lecturers can communicate the intrinsic interest of a subject through their enthusiasm.
- is effective if lectures are skillfully delivered, with clear, enthusiastic, modulated voice, good eye contact, and appropriate gestures
- good mainly for auditory learners
- **be aware of different modes of presentation & consider ways to assist students to make the connections between different representations, especially students whose first language is not English (Wood, et al, 2007)**

BUT

LECTURES also have the following **PROBLEMS**

- fail to provide instructors with feedback about the extent of student learning
- students are often passive because there is no mechanism to ensure that they are intellectually engaged with the material.
- student attention wanders periodically and decays with time, starting at about 10 minutes into the lecture
- tends to promote lower-level learning of factual information.
- makes unwarranted assumption that all students need same information, presented orally at the same pace, impersonally and without dialogue with the presenter; have high memory capacity, have same prior knowledge, good note-taking strategies and skills, and are not susceptible to information-processing overload.
- students tend not to like it
- entertaining and clear lectures can mislead listener about the complexity of material being presented.
- emphasize learning by listening, which is a disadvantage for students who have other learning styles.
- **not suited for teaching higher orders of thinking such as application, analysis, synthesis, or evaluation; for teaching motor skills, or for influencing attitudes or values.**
- not well suited for teaching complex, abstract material.
- Lectures require effective speakers

Derived from Johnson, D et al 1991 (p. 5:1-5:9), Bonwell, 1996 (combined):

ENEMIES OF THE LECTURE include

- preoccupation with outside affairs
- emotional moods of listener
- disinterest in material
- failure to understand
- feelings of isolation and alienation from others on the part of he/she being lectured to.

Bonwell and Eison (1991) provide **practical guidelines informed by research**, to enhance success of lectures and suggest the following strategies:

1. Lecture with Periodic Pauses

Format: Lecture 12-15 minutes

Pause for 2 minutes:

students work in pairs to review, discuss and revise their notes
(repeat this pattern three times)

Last 3 minutes of class: "Write everything you can recall from the lecture."

Results: ("treatment" and "control" groups in two different courses over two semesters) on a 65-item multiple-choice quiz given 12 days after the last lecture, comprehension and retention of the lecture material was consistently much better, in some cases up to 2 letter grades better.

2. Lecture with Immediate Test based on the empirically based observation that people comprehend and retain material better when tested quickly and frequently.

Format: give a test on that day's lecture at the end of the lecture, every time

Results: doubled the retention of the lecture material on a test given 8 weeks after the last lecture.

3. "Feedback" Lecture

Format: Before class: students do "study questions"

20 min.: lecture

10 min.: small groups discuss teacher-provided question related to the lecture

20 min.: lecture

After class: students do "study questions"

Results: 99% of students liked the method and 93% said they in fact did do the study questions before and after class.

4. "Guided" Lecture

Format: 30 min.: lecture (students take NO notes)

5 min.: students take notes on what they remember

15 min.: small groups discuss teacher-provided question related to lecture

Organisational Formats for Lectures to Promote Thinking

Bligh (op cit), recognising the predominance of the lecture as a teaching method, suggests the following organisational formats to enhance the method's contribution to promoting thinking:

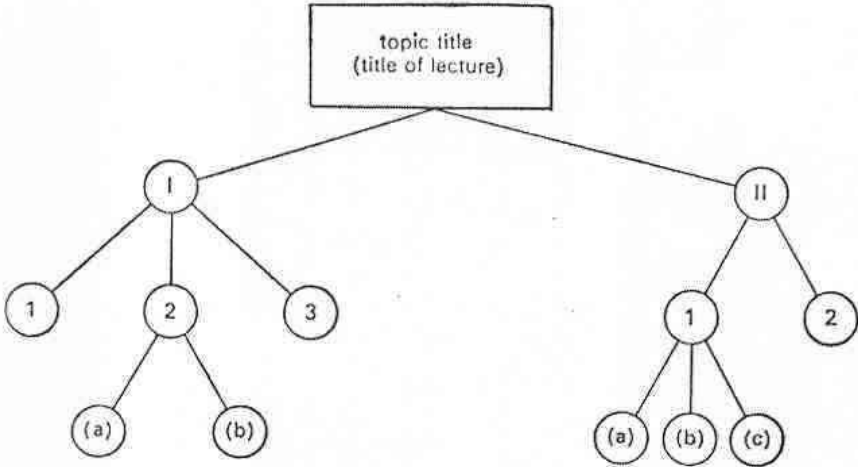


Figure 12 An example of the classification hierarchy form to show 'links'

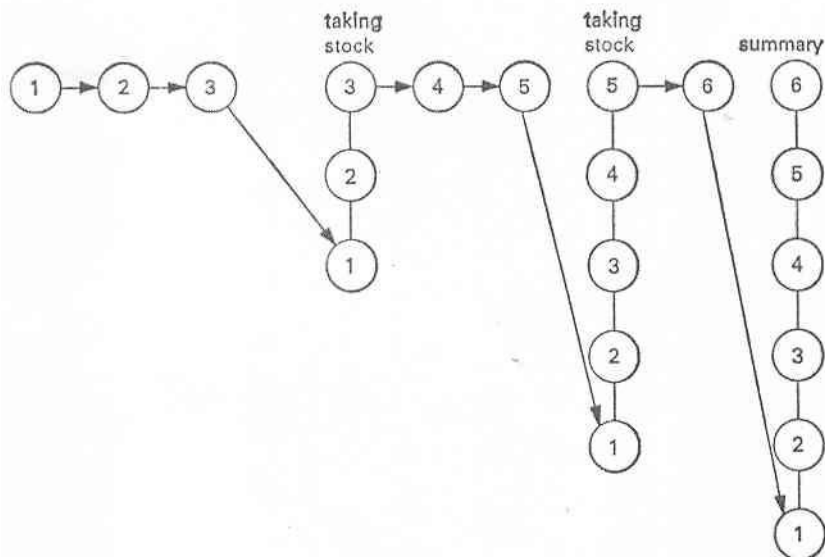


Figure 15 Diagram to illustrate the organization of a six-point chaining lecture with a summary and two periods of taking stock

<u>Upper limb</u>	<u>Lower limb</u>
1.	1.
2.	2.
3.	3.
4.	4.
<hr/>	
<u>Similarities</u>	1.
	2.
	3.

Figure 17 Compare and contrast ...

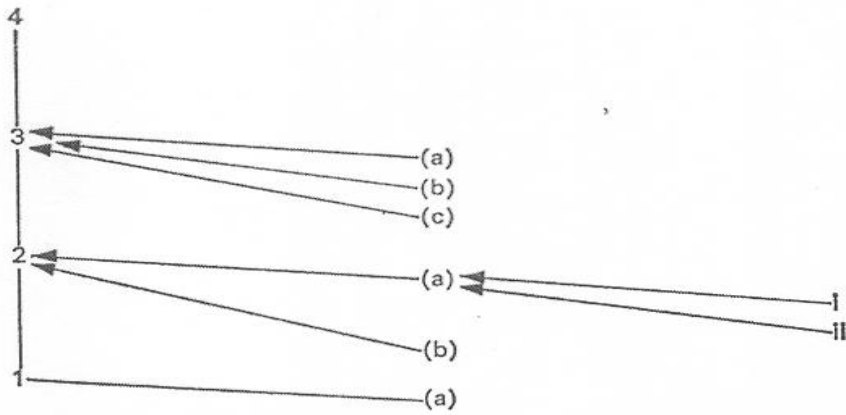


Figure 18 The form of a thesis lecture. Proposition 4 represents the *hypothesis*, or solution to the lecture's central issue. If the thesis is being argued for, it is likely to be presented in the order 1, 2, 3, 4. If it is being questioned it is more likely to be presented in the order 4, 3, 2, 1

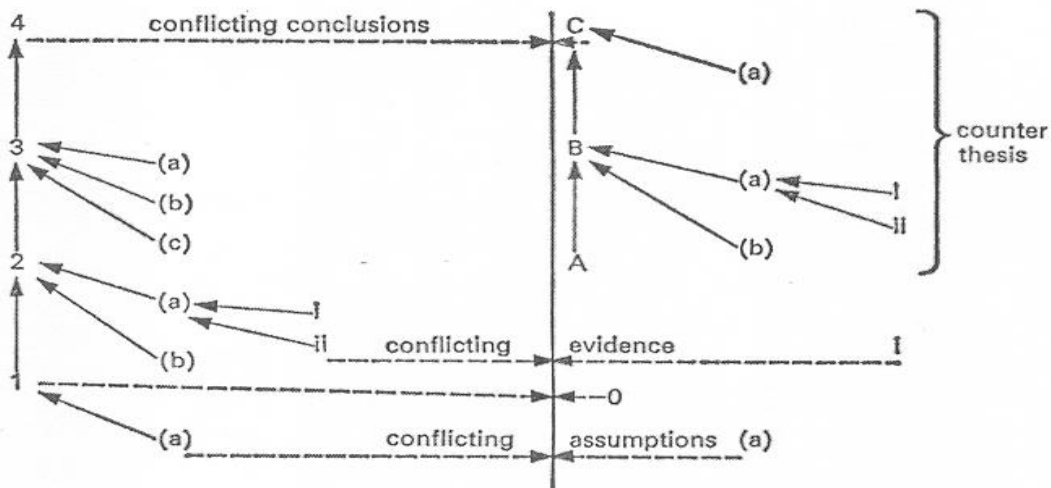


Figure 19 Diagram to illustrate the relationships between points in a thesis lecture including both sides of an argument. Each number or letter represents a point made by the lecturer. As in Figure 18, the arrows represent lines of reasoning (inferences) towards the conclusion. Dashed arrows represent opposed points

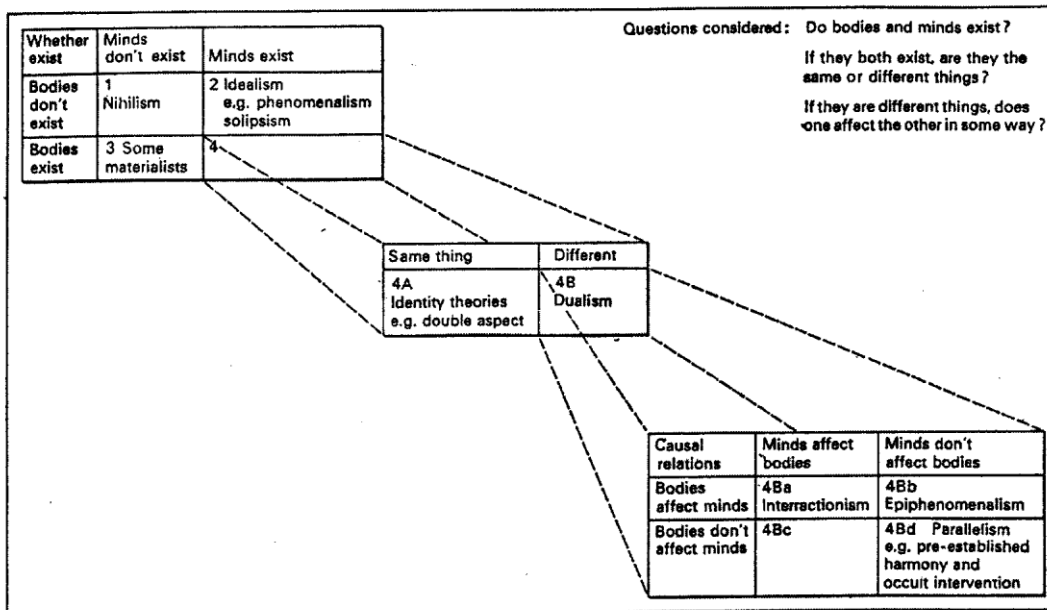


Figure 21 An example of visual presentation of abstract ideas. The purpose of this diagram was to relieve the short-term memory load of students not used to abstract thought. Students recognized its limitations, and thereby raised questions they would not otherwise have considered (e.g. What is it 'to exist', 'to be the same thing', 'to cause something'?). They thought more about the topic because they identified themselves with a particular cell

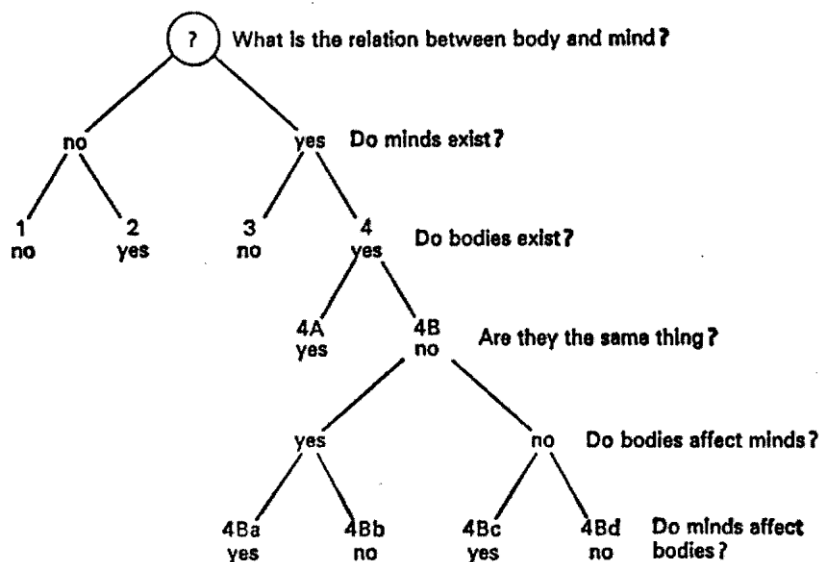


Figure 22 An attempt to depict dichotomies in hierarchic form. Some students prefer this diagram to Figure 21, some the other way round, and others prefer no visual representation at all

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