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"It Ain't Necessarily So": Uncovering Some Assumptions About Learners and Lectures

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A friend of mine in the History Department relates a story about lecturing to his enormous introductory American history class one day and drawing a brilliant analogy between some obscure crisis during the Revolutionary War and the Cuban missile crisis of the Kennedy administration. He was well into his tale when he suddenly realized he was looking into a sea of blank faces—blank, *young* faces. This brought him to an abrupt halt. After a significant pause he said, "You know, I've just realized that most of you are too young to *remember* the Cuban missile crisis, and this example is meaningless, isn't it?" Later, he told me that this incident made him acutely aware of the assumptions he had been making about his students and their backgrounds and skills.

We have all been guilty of making similar assumptions about our students at one time or another. In fact, each time we choose a particular teaching method, we are making assumptions about the students' learning styles and skills. Sometimes, these assumptions are conscious assumptions, and the decisions based on them are deliberate

choices; more often, the assumptions are unconscious ones, and the decisions are made more by default than by design. This is especially true for teaching methods that have been around for a long time, such as lecturing. Many of us lecture without thinking about what student skills are necessary in order to learn from a lecture. The purpose of this essay is to bring some of these unconscious assumptions about learning from a lecture to a conscious level, so we can examine their implications for instructor behavior.

ASSUMPTION 1: The topic is of sufficient interest to students to capture their attention.

As instructors, we often have blind spots about the inherent interest value of our material. To us, it is obvious that our material is worth learning. Not so to the students, who don't have sufficient backgrounds to know what is important or why. To assume that the topic is of inherent interest to the students is dangerous. It is more likely the case that the instructor needs to make the topic interesting, and there are several ways this can be accomplished. Three factors involved in generating and maintaining interest are relevance, curiosity, and style.

Relevance in teaching used to refer to social causes or world events. Today's students have a much more personal and practical approach to relevance. One type of relevance for today's students is their interest in doing well on the evaluation. Showing the relationship of the content of a given lecture to the eventual evaluation activities goes a long way toward piquing students' interest in learning it. A second type is the relevance of the content to a task which must be accomplished or a job skill which must be performed. For example, the best time to teach students how to use the library is when they begin to work on a research paper. Their immediate need for this skill increases their interest in the topic.

A less immediately practical motivator is curiosity. Beginning the lecture with a question from the personal experience of the students arouses curiosity and sets the

stage for the lecture to follow. For example, asking "Why is the sky blue?" might open a lecture on light refraction. Or, an instructor might introduce a lecture on mutation and survival with a paradoxical statement such as "Mammals are a more highly evolved life form, yet it is more likely that insects can survive major environmental upheavals." Interest can also be aroused by asking students to respond to a questionnaire or to an ungraded set of content questions at the beginning of the hour. Answers to the questions then form the basis for the lecture. Each of these techniques tries to get at the curiosity we all have about the unanswered question or the puzzling paradox.

A good presenter also tries to develop an interesting, lively presentation style which will attract and hold the listener's attention, even if the content doesn't. This doesn't mean becoming a stand-up comic or great orator. It may mean simply incorporating more variety into the presentation by using visuals or other support media. It may involve including different types of content from facts to anecdotes to quotes. It may be done by using different activities such as questions to and from the class, debates, or panels. One of the simplest ways of making your style more interesting is to let your own enthusiasm for the topic show.

The main idea is that we cannot assume the students come to us already interested in what we have to say. We need to help stimulate that interest.

ASSUMPTION 2: Students can listen to and absorb a continual flow of information for 50+ minutes.

Even if the lecturer succeeds in capturing interest, he or she cannot expect every student to pay constant attention throughout the lecture. It is impossible for anyone to take in continuously and process 50 minutes of information efficiently. In a group of 50 people, there will be 50 different attention span patterns operating, so that at any one time, only a portion of the audience is listening. The effective speaker arranges the flow of

information and activity to insure that most of the listeners are listening when the most important things are being said. The listener's attention can be guided in several ways. Among them are direct cueing, information breaks, and attending to the amount of information given.

One way to help the audience be more efficient is to provide direct cues for attention. For example, good visual cues can capture attention immediately. Using visual aids such as overhead transparencies to highlight main points increases the probability that most of the audience will be attentive when a point is being made. A second technique uses verbal cues, phrases such as "the first main point is . . .", to direct attention to the statement which follows. Verbal cues are particularly effective with academic audiences, who have had experience trying to take notes in lectures. Varying vocal cues is a third attention-getting method. A good speaker learns to use his/her voice at many different volumes and pitches to indicate when critical information is coming. For example, raising the volume and slowing the pace when giving information which is critical sets that information apart from comments which are delivered casually in a normal tone and speed. The slow pace also makes it easier for the students to record the idea in their notes.

A technique for directing attention which we seldom consider is the judicious use of "information breaks." In addition to signaling the audience when important points are being made, the effective speaker allows time in the presentation for relaxation of attention. One can almost see the audience relax as a lecturer begins a story or anecdote. This relaxation is not to the point of inattention, but simply a lessening of tension that provides an opportunity for consolidation of information and for checking understanding. The use of humor or questions provide sanctioned interruptions to the flow of information and an opportunity to make noise, which is often a welcome relief. Laughter even stimulates oxygen intake and blood flow, both of which contribute to a renewal of energy. Elaborations and examples also allow some faster learners a chance to think about the material in

more depth while the slower learners get another chance to understand before the presenter proceeds to the next topic.

Finally, the good presenter also recognizes that there is a limit to the amount and complexity of information which the students can absorb in any period of time. We are tempted to tell everything we know about a subject for fear the learners won't be exposed to it. But exposure to a topic and learning it are two different things. It is the presenter's responsibility to provide the organization and overview of a topic, not every detail. The presenter must choose which points are critical and which are not and include discussion on the three or four (depending on time) points which will have the greatest impact on the listener's understanding of the organization of the material. The details should supplement and clarify main points rather than make them more complex.

We as lecturers should remember that we can say a lot more in 50 minutes than the student can absorb. We must decide which parts of those 50 minutes we want the audience to master and then arrange the lecture to highlight those parts.

ASSUMPTION 3: Students are aural learners.

Presenting information by lecture implies that students will learn it just by hearing it. There are at least two problems with this assumption. First, the aural processing of information is very slow in comparison to visual processing. The old maxim "one picture is worth a thousand words" has a basis in fact. Part of the delay in aural processing is that the information presented this way comes serially. To be stored and recalled, the information must be analyzed and organized into a "gestalt" which is consistent with the learner's existing understanding. Visual information comes with a ready-made "gestalt" and is often stored in memory by that image. The second problem is that people differ in their preferred modes of learning; some prefer to hear about a thing, others to see it, others to read about it, and others to do it. Information presented by only one of these methods is maximally

effective for only a portion of the population. To have the most wide-spread impact, information should be provided through several channels. Not only will more people's learning preferences be accommodated, but each person individually will benefit from having multiple sources. The effective presenter does not rely solely on aural learning, but provides visual support, active participation, reading materials and so on in order to use as many information channels as possible.

ASSUMPTION 4: Students are skilled listeners and notetakers.

If the purpose of a lecture is the transmission of information, then the long-term storage medium for that information is the notes the student takes. Notetaking does not make the student listen more attentively or process the information more effectively; it is simply a way of storing that information so that it can be retrieved later. If this is so, those notes had better be accurate and complete if they are to aid the student in later studying. As lecturers, we assume that if we said it in class, the students got it down in their notes correctly. Sadly, this is not necessarily the case. Some of our students are good notetakers and, because they have good notes, do well on subsequent exams. More of them are not and have to reconstruct the lecture content as best they can from inadequate or inaccurate notes. These students may not do so well on later exams. One might argue that exams assess accurate notetaking rather than grasp of the material. A good lecturer prefers not to leave such things to chance, but structures the lecture to improve the students' own notes. Some ways of enhancing notetaking are cueing, providing an outline, training, and monitoring the audience.

Direct cueing was discussed earlier as a way of enhancing attention. Use of visual aids, verbal cues and vocal/body variety can help students discriminate main from minor points and guide notetaking.

A second very effective technique is to provide the students with an outline of the lecture. Beginning a lecture

with an overview or placing an outline of the talk in a prominent position where it can be referred to throughout will help listeners follow the flow from one main point to the next. A review of main points at the conclusion of a talk also helps the notetaker detect gaps in his/her notes.

If one will be working with a particular group over an extended period of time, a little time at the beginning of the semester devoted to notetaking can pay off in the long run. For example, a lecturer can provide a set of sample notes after delivering the first lecture. These can be used by the students to compare to their own notes to determine the extent to which they accurately identified main themes.

The lecturer should also learn to watch the audience for feedback, primarily non-verbal, to help pace the presentation. Watching when the listeners write things down or fail to write them down allows the speaker to monitor audience awareness of major points. This same audience writing behavior alerts the speaker about when to pause, when to continue, when to repeat, when to be quiet and so on. The facial expressions of the audience are important indications of understanding, interest, and appropriateness of speed.

ASSUMPTION 5: Students have sufficient background and vocabulary to follow the lecture.

A constant complaint against lecturers is the use of jargon. While some may be guilty of using such words to set themselves apart from the audience, most of us use this verbal shorthand unconsciously as a natural part of our vocabulary. Specialists in language have proposed that part of becoming "socialized into a discipline" is learning to speak the language so as to communicate with and be accepted by others in the discipline. In most teaching situations, however, the speaker is not talking to others who have also been socialized into the discipline, but rather to novices or non-specialists who do not share the same language. It is the responsibility of the speaker to be clear in communicating, and this requires an awareness of the background of

the listeners so that the vocabulary chosen, the examples used and the analogies made will be appropriate. This was precisely the error being made by our history lecturer in the introduction to this essay. It did him no good to try to explain one concept by using an analogy of another concept which was also meaningless to the students. To be useful, analogies, examples, and vocabulary must be meaningful to the students. Drawing on their own experiences for relevant analogies enhances both interest and speed of learning.

Of course, there are some instances in which technical terms and phrases *must* be used or in which the speaker is trying to teach the verbal shorthand to the listeners. In those cases, the speaker must define all new terms as they are used and should highlight and elaborate on them as appropriate throughout the lecture. Unfamiliar terms can be handed out in a vocabulary list or written on the board before each lecture to insure that students recognize them. After that, consistency of use and familiarity will help students incorporate these terms into their own vocabulary.

ASSUMPTION 6: Students can monitor their own comprehension.

An important component in learning is the recognition of correct versus incorrect understanding of concepts. This recognition comes about when a student receives feedback on his or her interpretation of a concept. Feedback is always present when learning is occurring; the problem is that it is not necessarily accurate feedback. The students may go a long time believing that they understand what is being said when in reality not only do they *not* understand, but they don't know that they don't understand. That's what is meant by monitoring one's own comprehension, the ability to recognize when one doesn't understand. Because most lectures are paced by the presenter with very little opportunity for the listener to test understanding, a student can go for a long time believing that he or she is learning something

when that is not the case. It is one level of learning to understand when a lecturer goes through a problem solution and quite another to be able to solve a problem yourself. It isn't until the student leaves the lecture and attempts to apply the concepts presented that things turn out to be less clear than they seemed in class. A wise lecturer will include opportunities for students to test their understanding during the presentation itself so that mistakes can be corrected before it's too late. This can be done by asking questions, real or rhetorical, by including small group discussions in the course of the lecture, by having the students solve short problems based on the content, all while they are still in class and can receive feedback on their answers. Active monitoring of comprehension assists students in recognizing gaps in their own understanding and reinforces the content at the same time.

ASSUMPTION 7: Students are assertive enough to speak up when they don't understand.

Even if our students are sophisticated enough to monitor their own comprehension, they need the related skill of doing something about it. Their willingness to speak up when they don't understand varies with their levels of self-confidence and maturity, the size of the group, the difficulty of the content, the presenter's response to questions, and many other variables. A classic instructor statement, delivered with his or her back to the group while erasing the board, is "Are there any questions?" It takes a fairly self-confident learner to speak up at that point. It also requires a few minutes for most learners to consolidate the information sufficiently enough to formulate a question in response to that invitation. The presenter should be sensitive to these problems and take steps to allow questions to surface. Pausing long enough for the audience to think about what questions they might have is an important first step. The phrasing of questions can encourage or discourage students as well. Saying "What questions occur to you at this point?" is more of an

invitation to speak than "Does everyone understand?" Another technique involves planting a "shill" in the group, someone who has been specifically requested by the instructor to raise a question during class. This first question often will break the ice, especially when the speaker gives a supportive response to that person, thus indicating the desirability of speaking up. The speaker must be aware of facial expression, body language, and phrasing of answers to encourage questions. Comments such as "good question" or "that's often a confusing point" encourage students to voice their questions. Even the most self-confident professional can be reluctant to ask a question in front of a group if the presenter seems forbidding. It's also important to give full attention to the student while the question is being asked and not to interrupt even if you've heard that question dozens of times before. Active attention will indicate you are interested in making sure that that student's question is answered, thereby encouraging other questions as well.

ASSUMPTION 8: Students can translate what they hear into action.

The final assumption in lecturing is that once students have heard something, they can use it. As noted earlier, the process of watching someone else solve a problem is quite different from solving the problem yourself. Even adults need guidance in making this transition. Telling is not teaching. Hearing is not understanding. Comprehending is not learning. The instructor needs to incorporate opportunities for students to apply actively what they glean from the lecture in order for the learning to become usable in the future.

IN CONCLUSION

There are many good reasons to choose the lecture format as a primary teaching mode. It can be very stimulating when done well; it provides for the presentation of overviews and new information which may not be

available in other formats; it is economical. However, we must also accept that there are constraints and problems associated with student learning from lectures. In this essay we have examined some of the problems which could arise if we allow assumptions about learning to go unchallenged. We have also examined what an instructor can do to alter lectures and avoid those problems once the assumptions are brought into the open. Neither the potential assumptions nor the possible solutions are exhausted here. To identify others requires that one reflect on the nature of learning, of teaching, and their interactions. We haven't said much about what assumptions lecturing makes about the skills of the teacher; this is another area which needs examining. We have concentrated only on lecturing, but similar assumptions may also be present and equally unchallenged in other instructional methods. I urge you to apply this process of reflection to all your instructional decisions, so that you can take steps to insure that instruction is as responsive to the needs and abilities of the learner and the teacher as possible.