

# A Professor's Observations About Student Conducted Lecture Interlude

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## Abstract

*Conventional lecture format can easily lead to passive student behavior and discourage classroom interaction. This paper describes a student conducted mid-lecture break that provides a change of pace, allows a refocus of attention, and presents useful information that can be incorporated into the on-going lecture-of-the-day. Students gain an additional opportunity to prepare and make an oral presentation.*

## Introduction

Notwithstanding all of the assessment, evaluation, and criticism of the lecture format in college classrooms, the lecture is a time-tested approach that remains the primary method for presenting course material. Decreasing resources that promote larger class sizes will encourage the lecture format and it will likely continue as a basic teaching technique. Numerous authors have discussed limitations of the lecture. The mechanics of a good lecture have been reviewed (Miller, 1981). To improve lectures, it has been recommended that students actively participate during the class period (Frederick, 1986; Waldren, 1992). Milford (1991) provided a comparison of the conventional lecture approach with a systematic design that rigorously requires student questions, talk, feedback and reinforcement. In an introductory soils course, students receiving the latter form of instruction performed significantly better than those experiencing a conventional lecture.

Anderson and Harrison (1985) reviewed student concerns about conventional lectures. These concerns included:

- length
- monotony and boredom
- need for variety
- too much material presented
- size of lecture classes

Numerous opportunities exist to close the gap between a completely conventional passive lecture format and the highly interactive design of Johnson (1987) as tested by Milford (1991). Many simple techniques have been suggested to change the pace of lectures by giving students a more active role during the class period. Anderson and Harrison (1985) proposed a 5-minute lecture break midway through each lecture of an introductory crops course. During these breaks a variety of activities could be undertaken that would temporarily change the flow of the class and allow students to refocus their attention. Proposed activities

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include short quizzes, discussion of newspaper articles, demonstrations, question-and-answer session, review of course objectives, and others. Student evaluations of the lecture break practice were very favorable. Students noted that the short break from the lecture presentation allowed them to clear their minds and increased their concentration during the last half of the lecture period.

## The Idea

My class in soil genesis and classification, which starts at 8:00 AM and is 75 minutes long, could certainly benefit from a technique to keep students alert and active. The class meets twice a week and relies on lectures to present most course material. Student surveys suggested that I needed to enliven the class especially with the early meeting time. As I began a plan to incorporate a lecture break in my spring semester soil classification class, I realized that as the instructor, I would generally remain the focus of attention in the classroom. If I wanted to achieve a complete change of pace and focus for the class, I should temporarily step out of the picture. This conclusion led to the idea of a lecture break that would be totally conducted by students. A student would conduct class for a 5-minute period and be solely responsible for the class lecture during this period.

## The Plan

During the first class meeting of the semester, students are introduced to the "lecture interlude" concept. The class role is randomized and each student is assigned a date for conducting the interlude. The activity begins the second week of the semester. To facilitate the process a handout was prepared to describe what was expected and how it would be handled. (See appendix for actual class handout). A few example ideas are provided in the handout but students must select their own topic. They are free to choose a subject to present with only the guidance that it have some relevance to the course or soil science in general. Over 95% of the students select and prepare the "interlude" independently. A few will discuss an idea with me before their scheduled presentation but most don't because I do not approve topics. For me it is interesting and stimulating to be "surprised" by their subject.

## Examples of Interlude Topics

The following list illustrates the variety of topics presented:

- Global warming impact on soil
- Farm Bill (Conservation compliance, Sodbuster, Swampbuster)
- Soils of wine growing areas of the world

Comparison of a 1920 and 1990 county soil survey report  
 Comparison of soil classification and job classification  
 Compaction on golf greens  
 Erosion in New Zealand soils  
 Construction of golf greens by USGA specifications  
 Landfill liners  
 Soybean production in Brazil  
 Tillage pans  
 Soil crusting  
 Lower Coastal Plain drainage design  
 Land application of municipal and industrial residuals  
 Underground home construction  
 Soil judging team activity  
 Man-made soils  
 Resource Conservation and Development (RC & D)  
     watershed project  
 Soil factors and irrigation  
 Evaluation of test questions for soil classification  
 History of eating soil  
 An engineer's view of soil  
 Review of Blackland soils of eastern N.C.  
 Alternatives to conventional septic systems  
 Constructed wetlands  
 Flue-cured tobacco production  
 Universal soil loss equation  
 Productivity estimates in forestry based on soil proper-  
     ties  
 State regulations on waste disposal  
 Animal waste lagoon design  
 Hydric soils definition  
 Personal observation of soils on my farm  
 Comparing soil acidity and acute stomach gastritis  
 Stream hydrographs  
 Ultra-mafic rock and related soil and vegetation  
 Factors affecting "Sceptor" absorption and bioactivity  
 Groundwater monitoring wells  
 Aquaculture  
 Soil and baseball field construction  
 Failures of asphalt parking lots  
 Soil incorporation of pesticides  
 Peat as a restrictive layer on coastal barrier islands  
 Geographic information systems  
 Pesticide-soil interaction  
 Where not to build a house  
 Conservation tillage  
 Assessing groundwater contamination from leaking  
     tanks  
 The cost of soil erosion  
 Locating a low-level radioactive waste repository  
 How ASCS monitors crop acreage  
 Wetland mitigation project  
 Use of peat in a golf green mixture

The foregoing list reflects the diversity of students taking the soil classification course. Fifteen different curricula/options are usually represented among the 40 or more students in the class. These commonly include the fields of agronomy, botany, natural resources, agricultural engineering, forestry, biological science, agricultural education,

geology, landscape architecture, civil engineering, and wildlife management at both the undergraduate and graduate levels.

Many of the interlude topics selected offer a brief glimpse into subjects to which some of the students may not otherwise be exposed. The interlude, in addition to serving as a lecture break and providing a opportunity for an oral student presentation, provides valuable technical information as well.

## Student Evaluation

I have used this technique over the past 8 classes and have conducted class surveys to assess student reaction to the interlude. Using a four category scale (strongly agree, agree, disagree, strongly disagree) the following results were obtained from over 250 students:

94% either strongly agreed or agreed that the lecture interlude provided a change of pace that improved attention upon return to the regular lecture

95% either strongly agreed or agreed that the lecture interludes were generally informative or interesting

100% indicated that topics should not be assigned but should remain open and unconstrained

96% indicated that the activity should be continued.

## Integrating Student Interludes

A challenge and opportunity is afforded by the transition from the brief student conducted interlude back to the ongoing subject matter-of-the-day. I usually boast to the class that I can relate any topic they select to whatever we are discussing that period. Current course material could involve the factors of soil formation, the principles of soil taxonomy or specific soils of the State. Incorporation of the student topic back into the lecture can be an interesting challenge since I am not aware of their topic before their presentation. The ability to relate such diverse subjects to a given specific aspect of a soil classification course provides credibility for the course and its varied applications. Such discussions can be very effective and productive in illustrating concepts that may seem remote and academic when initially presented. However, they take on new relevance when suddenly correlated with a seemingly unrelated topic that the instructor didn't originate. Such impromptu examples are especially important in a class of diverse interest and background.

## Additional Experience Learned

The assignment handout reflects several changes that have been incorporated over the 8 semesters of student conducted interludes. Allocating a portion of the course grade was not originally planned but was found to have clear impact on the quality of the presentations. To insure the attentiveness of the class, students are required to keep a short log and description of each interlude. It was also recommended by students that I not allow short quizzes to be used as an interlude topic. While these provided a good review of the material, students felt they gained much more from specific and substantive presentations. I agreed and

deleted quizzes from the list of potential interlude subjects.

The ideal class size for interludes is one where one student interlude can be presented each lecture period. As my class has grown to 50 students, I have included 2 or 3 student interludes per lecture. This can consume lecture time and may force an alternative procedure wherein not all of the class members will be able to complete the activity.

An instructor utilizing this teaching tool must maintain tight control on the amount of time committed to the activity. Since the presentations are enjoyable and beneficial, an instructor could find that the students are doing the teaching and excessive time is taken up with the interlude.

## Conclusion

Implementation of a 5-minute student conducted lecture interlude has provided an effective break in a 75 minute, twice per week class in soil classification. The activity not only afforded a change of pace and refocus of student attention but allowed an additional opportunity to practice oral communication by the students. Subject matter presented by the students expanded the course content and introduced diverse topics to which some students may never have been exposed. Utilization of the student topics as impromptu examples of the actual daily course material provided reinforcement and credibility to the subject of the course.

## References

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## APPENDIX

### The Assignment Handout SSC 452 Soil Classification Lecture Interlude

In order to provide a brief change of pace in the 75-minute lecture period, SSC 452 will have a 5 minute lecture break at approximately the midpoint of the lecture period (8:40). This interlude will be planned and conducted by a member of the class. The 5 minute period may take several forms at the discretion of the student. A short stand up and stretch will begin the break while the class member in charge proceeds to the front of the class. The topic, activity or discussion presented at this break should have some relevance to the course or Soil Science in general. Some potential ideas are as follows:

1. Lead a discussion on the current subject matter in the course to clarify a topic.
2. Discuss a personal experience where soil conditions were an important factor in a land management decision.
3. Share a recent news article where the land resource was a major issue or factor.
4. Highlight an upcoming event or activity such as a seminar, club meeting, or other activity that would be of interest to the class.
5. Share a recent soils discussion you may have had with a Soil Scientist (county Soil Conservation Service, consultant, etc.).
6. Visit with the Soil Scientists involved in the soil survey in your county if a survey is in progress currently or talk to the SCS District Conservationist or Extension Agent about their use of the survey if one is available, share the discussion with the class.

7. Prepare a short quiz on the course material to help clarify important concepts.
8. Lead a discussion (prepare questions) on laboratory material where you feel additional clarification from the instructor is needed.
9. Review the main kinds of soil at your home and their major limitations or management needs.
10. Share a topic from another course where soil properties are being discussed
11. Be innovative, do your own thing, but be relevant.

At the appointed time the student-of-the-day will stand up to get the attention of the instructor (instructors sometimes lose track of time), write his/her name on the chalkboard, and proceed to conduct the session keeping it within 5 minutes. The class is expected to participate in any discussion.

Selection and schedule of students to lead the lecture break will be at random and a list will be prepared.

*This Activity will be Allocated 3 Percent of Your Course Grade*

To receive this credit in full:

1. a brief (one page) written summary will be given to the instructor by the presenter at the time of the presentation.
2. Each member of the class will write a short description of each topic discussed to include what was learned. A continuous log or list of these will be maintained by each student. These synopsis reports will be collected at various times throughout the semester.

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