

WANT TO IMPROVE EFFECTIVENESS OF YOUR LECTURES? TRY GUIDED NOTES

William L. Heward
The Ohio State University

WHAT ARE GUIDED NOTES?

Guided notes are instructor-prepared handouts that provide students with background information and standard cues with specific spaces to write key facts, concepts, and/or relationships during the lecture. {See example on page 6} Guided notes (GN) require students to actively respond during the lecture, improve the accuracy and efficiency of students' notetaking, and increase students' retention of course content. GN can help organize and enhance lecture content in any discipline or subject area. Instructors can develop GN for a single lecture, for one or more units within a course, or for an entire semester-long course.

SOME PROS AND CONS OF THE LECTURE METHOD

Lecturing is one of the most widely used teaching methods in higher education. The format is simple and straightforward: the instructor talks (and illustrates, demonstrates, etc.) and students are held responsible for obtaining, remembering, and using the most important content from the lecture at a later time—most often on a quiz or an exam.

Advantages of lecturing. Although some educators consider the lecture method outdated and ineffective, it offers several advantages and reasons for its continued use (Barbetta & Scaruppa, 1995; Michael, 1994).

- *Lecturing is an efficient use of the instructor's time.* A good lecture can be presented from one semester to the next, subsequent planning and preparation time limited to review and updates.
- *Lecturing is versatile.* It can be used with large or small groups, for any curriculum area, and can last from a few minutes to several hours.
- *When lecturing the instructor has complete control over the level of detail and degree of emphasis with which course content will be covered.*
- *Lecturing enables coverage of content not available in published form (e.g., just-completed or on-going research projects).*
- *The lecture method can be used to supplement or elaborate course content that is particularly important or difficult for students to learn directly through text-, web-, or field-based activities.*
- *When lecturing instructor can probe students' understanding and make on-the-spot adjustments to the lecture if warranted.*
- *Lectures can be personalized and tailored to students' interests and backgrounds.*
- *Lectures can be motivating for students* because they can see and hear their instructor's level of enthusiasm for and commitment to the discipline.

The entire Fast Facts series is available at: <http://ada.osu.edu/resources/fastfacts/>

This publication is funded by the U.S. Department of Education under grant #P333A020033-03. For additional copies or more information, please contact: Margo Izzo, Ph. D., Phone: 614-292-9218, Email: izzo.1@osu.edu or visit our web site at <http://ada.osu.edu/resources/fastfacts/>

Disadvantages of lecturing. The lecture method also poses some significant challenges for students and instructors.

- *Course content is often presented via lecture in unorganized and uneven fashion.* This makes it difficult for students to determine the most important aspects of the lecture (i.e., What's going to be on the exam?).
- *Students can be passive observers.* The typical lecture does not require students to actively participate. One of the most consistent and important educational research findings is that students who make frequent, relevant responses during a lesson learn more than students who are passive observers do. (Brophy & Good, 1986; Fisher & Berliner, 1985; Greenwood, Delquadri, & Hall, 1984).
- *Many college students do not know how to take effective notes.* Although various strategies and formats for effective notetaking have been identified (e.g., Sasaki, Swicegood, & Carter, 1983), notetaking is seldom taught to students.
- *The listening, language, and/or motor skill deficits of some students with disabilities make it difficult for them to identify important lecture content and write it down correctly and quickly enough during a lecture.* While writing one concept in his notebook, the student with learning disabilities might miss the next two points (Hughes & Suritsky, 1994).
- *Instructors sometimes get off-track from the primary content and objectives of the lecture.* Professors—especially those who really know and love their disciplines—are famous (infamous!) for going off on tangents during lecture. Although anecdotes are interesting and provide enriching context, they can make it difficult for even the most skilled notetakers to determine the most important content.

WHY USE GUIDED NOTES?

Guided notes offer benefits for students and instructors:

- *Students produce complete and accurate lecture notes.* Students who take accurate notes and study them later consistently receive higher test scores than students who only listen to the lecture and read the text (Baker & Lombardi, 1985; Carrier, 1983; Kierwa, 1987; Norton & Hartley, 1986). Inaccurate and incomplete lecture notes are of limited value for subsequent study. GN can help level the playing field between students with and without good notetaking skills.
- *Students' active engagement with course content increases.* To complete their GN, students must actively respond to the lecture's content by listening, looking, thinking, and writing.

Guided notes take advantage of one of the most consistent and important findings in recent educational research: *students who make frequent, lesson-relevant responses learn more than students who are passive observers do.*

- *Students can more easily identify the most important information.* Because GN cue the location and number of key concepts, facts, and/or relationships, students are better able to determine if they are getting the most important content.

“Guided notes are wonderful, especially during a lecture. They clue you in on what is important.” – College student with learning disabilities.

- *Students are more likely to ask the instructor questions.* Austin, Gilbert, Thibeault, Carr, and Bailey (in press) found that during lectures when GN were used students in an introductory psychology course asked more questions and made more comments than they did during lectures when taking their own notes.
- *Students earn higher quiz and exam scores.* Experimental studies have consistently found that students across all achievement and age/grade levels earn higher test scores when using guided notes than they earn when taking their own notes (Austin et al., in press; Heward, 1994; Lazarus, 1993)
- *Instructors must prepare lecture carefully.* Constructing GN requires instructors to examine the sequence and organization of lecture content.
- *Instructors are more likely to stay on-task with the lecture’s content and sequence.* Because GN let students know what’s supposed to come next, instructors are less likely to stray very far from the planned content. And if and when an instructor does wander, the instructor and students know that the information is, at most, supporting context or enrichment, and not critical course content for which the students will be held responsible.
- *Help instructors prioritize and limit lecture content.* Many instructors try to pack their lectures with much too much information. While this tendency is understandable — instructors want their students to learn as much as possible—when it comes to how much new lecture content students can learn and retain, less can be more (Nelson, 2001; Russell, Hendricson, & Herbert, 1984). Constructing GN requires decisions about what is really important, what the key concepts are that the instructors want their students to learn.
- *GN content can easily be converted into test/exam questions.*
- *Students like GN and appreciate instructors who prepare them.* Students appreciate and give positive evaluation ratings to instructors who develop and provide GN.

“Last semester I developed guided notes for my two lecture-based courses, and the feedback I received from students was very positive. Several of my colleagues told me students in their classes asked if they would use guided notes, too.” – Faculty member in education department.

GUIDELINES FOR CONSTRUCTING AND USING GUIDED NOTES

Constructing an initial set of GN is easy; especially for lectures that have been developed previously.

- *Examine your existing lecture outlines (or create one them necessary) to identify the most important course content that students must learn and retain via lectures. Remember: less can be more. Student learning is enhanced by lectures with fewer points supported by additional examples and opportunities for students to respond to questions or scenarios.*
- *Delete the key facts, concepts, and relationships from the lecture outline, leaving the remaining information to provide structure and context for students' notetaking.*
- *Insert formatting cues such as asterisks, lines, bullets to show students where, when, and how many facts or concepts to write. For example, the box below might be included on the first page of GN.*

~ Explanation of Symbols in Guided Notes ~

∫, Ω, O, ∂	Write a definition, concept, key point, or procedure next to each bullet, asterisk, star, or numbered circle.
_____	Fill-in blank lines with a word or phrase to complete a definition, concept, key point, or procedure during lecture/class.
*	The pointing finger comes into play when you review and study your notes after class. It is a prompt to think of and write your own examples of a concept or ideas for applying a particular strategy.
📖 <i>Big Idea</i> 📖	Big ideas are statements or concepts with wide-ranging implications for understanding and/or applying course content.

- *Use overhead transparencies or PowerPoint slides to project key content. Visually projecting the key facts, definitions, concepts, relationships, etc. that students must write in their GN helps ensure that all students access the most critical content and improves the pace of the lecture.*

- *Leave ample space for students to write.* Providing about three to four times the space needed to type the content will generally leave enough room for students' handwriting.
- *Do not require students to write too much.* Using GN should not unduly slow down the pace of the lecture. Two studies found that students' exam scores for lectures taught with GN that could be completed by writing single words and short phrases were as high as their scores on tests over lecture taught with GN that required more extensive writing to complete (Austin & Sasson, 2001; Courson, 1989).
- *Enhance GN with supporting information, resources, and additional response opportunities.* Consider inserting diagrams, illustrations, photos, highlighted statements or concepts that are particularly important (e.g., Big Ideas), and resources such as bibliographies and websites into GN. Sets of questions or practice problems interspersed within the GN give students additional opportunities to respond and receive instructor feedback during the lecture.
- *Make GN available to students via course website and/or photocopied course packets.*

TWO FAQs ABOUT GUIDED NOTES

Q: Isn't providing students---especially college students--with guided notes making it too easy for them? Are we just "spoon-feeding" them the information?

A: To complete their guided notes students must actively respond—looking, listening, thinking, and writing about critical content—throughout the lecture. We make it too easy for students when we teach in ways that let them sit passively during class.

Q: Why not just pass out an outline of my lecture or a copy of the guided notes already completed?

A: Distributing "completed" guided notes deprives students of the opportunities to respond—one of the two functions of notetaking and reduces the necessity of thinking and responding during class. Or even of attending class at all.

II. FIVE GUIDING PRINCIPLES FOR PROMOTING GENERALIZED OUTCOMES

1. Eliminate the need for generality as much as possible.

A. Prioritize the settings in which the learner will most often function.

In addition to the learner's current environment(s), consider the environments in which the learner will function in the immediate future, and later in life.

B. Prioritize the knowledge and skills that will frequently be required of the learner.

Why? Because you cannot teach everything (or even every aspect of any one skill).

The most important skill-setting combinations should always be taught directly

Don't relegate the most critical outcomes to the not-for-certain technology of generalization programming.

2. Probe for generalized outcomes before, during, and after instruction.

A. A generalization probe is *a direct and objective assessment of the learner's use of the target skill in a non-training setting or situation.*

EX: We can assess the extent to which a student has generalized the skill of solving two-digit minus two-digit arithmetic problems with regrouping by presenting her with problems of the same type on which she has not received any instruction or guided practice.

* student writes another example here when reviewing notes after class

B. Generalization probes can often be made more efficient by *contriving meaningful opportunities for the learner to use her new knowledge or skill.*

EX: Instead of waiting for (and perhaps missing) naturally occurring opportunities for the learner to use her new conversational skills in the generality environment, enlist the assistance of a "confederate" peer to approach the learner.

* student writes another example here when reviewing notes after class

C. Probing for generalization *before instruction* provides 3 important kinds of information.

1. Probes prior to teaching might reveal that the learner | already performs some or all of the components of the target skill in the generality setting, thereby lessening the teaching task.
2. Probes prior to teaching are the only objective way to know if learner's performance of the target knowledge/skill | after instruction truly is a G.O.
3. Probes prior to teaching | enable observation of the contingencies operating in the generality setting

REFERENCES & RESOURCES

- Austin, J. L., Gilbert, M., Thibeault, M., Carr, J. E., & Bailey, J. S. (in press). The effects of guided notes on student responding and recall of information in a university classroom. Journal of Behavioral Education.
- Austin, J. L., & Sasson, J. R. (2001). A comparison between long-form and short-form guided notes in a university classroom. Manuscript submitted for publication.
- Barbetta, P. M. , & Scaruppa, C. L. (1995). Looking for a way to improve your behavior analysis lectures? Try guided notes. The Behavior Analyst, 18, 155-160.
- Courson, F. H. (1989). Differential effects of short- and long-form guided notes on test scores and accuracy of note taking by learning disabled and at-risk seventh grade students during social studies instruction. Unpublished Ph.D. dissertation, The Ohio State University, Columbus.
- Carrier, C. A. (1983). Notetaking research: Implications for the classroom. Journal of Instructional Development, 6(3), 19-25.
- Heward, W. L. (1994). Three "low-tech" strategies for increasing the frequency of active student response during group instruction. In R. Gardner, D. M. Sainato, J. O. Cooper, T. E. Heron, W. L. Heward, J. Eshleman, & T. A. Grossi (Eds.), Behavior analysis in education: Focus on measurably superior instruction (pp. 283-320). Monterey, CA: Brooks/Cole.
- Hughes, C. A., & Suritsky, S. K. (1994). Note-taking skills of university students with and without learning disabilities. Journal of Learning Disabilities, 27, 20-24.
- Kierwa, K. A. (1987). Notetaking and review: The research and its implications. Instructional Science, 16, 233-249.
- Lazarus, B. D. (1993). Guided notes: Effects with secondary and post-secondary students with disabilities. Education and Treatment of Children, 14, 272-289.
- Lazarus, B. D. (1996). Flexible skeletons: Guided notes for adolescents with mild disabilities. Teaching Exceptional Children, 28(3), 37-40.
- Michael, J. (1994). How to teach a college course. Unpublished manuscript. Kalamazoo, MI: Western Michigan University.
- Nelson, C. (May, 2001). What is the most difficult step we must take to become great teachers? National Teaching and Learning Forum Newsletter, 10(4).
- Norton, L. S., Hartley, J. (1986). What factors contribute to good examination marks? The role of notetaking in subsequent examination performance. Higher Education, 15, 355-371.
- Russell, I. J., Hendricson, W. D., & Herbert, R. J. (1984). Effects of lecture information density on medical student achievement. Journal of Medical Education, 59, 881-889.

About the Author

William L. Heward is Professor of Special Education, School of Physical Activity and Educational Services, The Ohio State University. His current research interests include “low tech” methods classroom teachers can use during group instruction to increase student participation and achievement. Heward has collaborated on more than a dozen classroom studies evaluating guided notes, and he uses guided notes in all of his lecture-based courses. He received OSU’s Distinguished Teaching Award in 1985.