
REDUCING TEST ANXIETY WHILE INCREASING LEARNING

THE CHEAT SHEET

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Abstract. Student learning is greatly enhanced by studying prior to an exam. Allowing students to prepare a cheat sheet for the exam helps structure this study time and deepens learning. The crib sheet is well defined: one double-sided page of notes. An award for the best and most creative cheat sheet allows the instructor to appreciate the students' efforts. Using the cheat sheet also reduces student anxiety during testing.

Keywords: *assessment, cheat sheet, student anxiety*

A *cheat sheet* is defined as "a piece of paper on which one has answers or notes for a test, used to cheat on or prepare for a test; also called crib sheet, crib."¹ I have found that one kind of "cheating" in the classroom can both increase student learning and reduce test anxiety.

Many of the courses I have taught dealt with subjects that students found difficult and for which they often were not well prepared: statistics, research methods, methods of teaching mathematics, and computer use in education. One of my goals at the beginning of each class was

to reduce student anxiety, as high levels of anxiety interfere with learning.

These particular types of courses require all levels of learning in Bloom's taxonomy (1956), and particularly the first three levels: a certain amount of rote learning of facts and formulas; the understanding of the principles behind these facts; and application to real-life situations. Much of the students' anxiety in these courses centers on the actual mathematics and formulas, the lowest level of learning in this taxonomy. This information is also the easiest to find in a real-life problem-solving situation. One of my efforts in these classes focused on administering tests that assessed students' abilities to understand and apply what they had learned while providing them with basic information that

is reasonably accessed when needed. I changed the format of the exam to maximize learning and reduce test anxiety and fear; this approach tends to enhance student performance, particularly for students who are well prepared. Knowledge does not exist if it does not surface even under optimal conditions (Tests and Stress 2005).

Functions and Types of Tests

Tests do more than assess student learning; their structure contributes directly to student learning (Jacobsen 1993). In a culture where grades begin to be important during childhood, studying for exams is one of the best ways to acquire knowledge. Students study to maximize their grades, and they prepare for the type of test they anticipate. Because I want students to learn more than facts, I never give multiple-choice tests and usually include a mix of short-answer questions and longer essays in my exams. I usually teach small classes, so this is not difficult to do. However, Cameron (1991) discusses a way to assess higher-order thinking skills in multiple-choice exams, such as labeling items according to the level of thinking they require.

I have tried several approaches to major midterm and final exams: take-home exams, in-class exams that include a subset of questions handed out before the exam, open-book exams, and in-class exams with basic information such

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as formulas provided by the instructor. All of these approaches had various advantages and disadvantages that often became apparent in extreme cases. Plagiarism, in the form of external help, becomes a problem with take-home exams. For example, a tutor for one of my students with poor English skills provided professional-level writing on all assignments done out of class; consequently, the quality of the student's English and conceptual understanding varied widely between in-class and out-of-class assignments. Open-book exams, meanwhile, lulled students into too much of a sense of security and, if they had not prepared adequately, the book was not very useful anyway. Students sometimes copied from the book, even directly rewriting the first sentence in each paragraph from the applicable section of the book. When they received poor grades—mostly because their answers did not respond to the questions—they sometimes argued, pointing to the text. In such cases, I mention plagiarism and show the students how their answers missed the point of the questions. Boniface (1985) also presents evidence that open-book exams reduce student effort prior to the exam and that this format does not help underprepared students perform better.

The Cheat Sheet

I finally settled on in-class exams taken with a "cheat sheet," an informational piece of paper prepared by each student rather than by me. Instructions for the cheat sheet are as follows: (1) no more than one 8.5-by-11-inch sheet of paper; (2) no copying from other students—students must prepare their own cheat sheet, although I do encourage forming study groups to prepare for the exam; and (3) no

photocopies of text from books or articles. Pretty much anything else goes.

The first time I used cheat sheets, I was amazed at the students' ingenuity in creating a variety of formats. Some had used tiny fonts and brought magnifying glasses to read them, others had used multiple-print colors to code the information, and a few had simply scribbled information on lined paper. I decided to award a candy bar to the creator of the most information-laden cheat sheet. That eventually became part of the ritual and also helped break the tension of the exam, as a touch of humor often does (Berk 2000). The most creative cheat sheet I saw really pushed the envelope: the student had pasted multiple layers of smaller pieces of paper on one sheet, organized by topic—a cheat sheet of mini-flipbooks.

Students loved the idea of cheat sheets. They found, however, that they rarely needed them. Preparing the cheat sheets proved to be sufficient for learning what was on the test. This was the major difference between handing out information composed by me and having the students find their own. Students tailored the information to their own needs and wrote down information they still needed to learn. The act of writing and organizing the information for the cheat sheet allowed most students to fill in the holes in their knowledge.

Other instructors have found crib sheets useful in their courses (Davis 1993; Janick 1990; Weimer 1989). Limiting the cheat sheet to one page eliminated one problem encountered by Vessey and Woodbury (1992): students who copied directly from crib sheets sometimes failed to answer the question.

I now allow cheat sheets in any course with in-class midterm and final exams. Because the questions usually require

some form of application, inference, or analysis, students are never able to ace the exam simply by copying the basic information from their sheets. The cheat sheet is a security blanket and provides basic information; it enhances learning, improves test performance, and reduces test anxiety. It works for students who take test preparation seriously.

One of my former students, now a high school teacher, uses cheat sheets in her own classroom. As in my classes, she finds that they are very popular with students and have many advantages—including that students no longer feel the need to turn their arms and hands into crib sheets with indelible ink.

NOTE

1. *Webster's New Millennium Dictionary of English*. 2005.

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