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CHECKING for Understanding

Formative Assessment Techniques for Your Classroom



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Introduction

We're guilty. We admit it. But we're pretty sure we're not alone.

Writing about educational practice requires that one be willing to examine one's own practice, especially the less than exemplary moments. This means admitting that we have sometimes entered into a tacit agreement with our students. We have allowed the voice of one to speak for all.

We ask, "Does everyone understand?"

We await the answer we know will come.

A lone voice says, "Yes," and we accept that as evidence that learning has occurred.

We move on to the next topic or concept, deluding ourselves that all is right with the world.

Later, much later, we review the results of the latest quiz, test, or essay, and shake our heads in wonder. "I taught all this," we say. "Didn't they get it?"

We're pretty sure we're not alone.

Breaking Our Tacit Agreements

It is said that admitting there is a problem is the first step toward change, so we hope that you've admitted—at least to yourself—that you have done the same

thing. However, it's not enough to simply point out the error of your ways. We need to offer you a way to think about the situation in a new light. That means showing you how to check for understanding with your students.

This book is a tool kit. It contains a number of effective apparatuses for creating formative assessments—assessments that can be used to guide instruction and teacher decision making. Taken together and used regularly, these tools provide teachers with a system of checking for understanding. The key is to use these tools not in isolation, but as part of a system for determining what students know, what they need to know, and what types of instructional interventions are effective.

We have organized the book so that it radiates from the student's point of view. In the first chapter, we will define what checking for understanding is and is not. In addition, we will discuss some of the research on the importance of checking for understanding in promoting learning. We then invite you to take a seat at a student's desk to view learning from the user's perspective. Chapter 2 offers a discussion of checking for understanding through oral language, the most basic building block of communication in the classroom. In Chapter 3, we expand our focus on oral language to include effective questioning techniques employed by teachers who check for understanding. Chapter 4 follows with an examination of writing as another way students demonstrate what they know.

In Chapter 5, we examine how students collaborate with others on projects and performances, and how these can be used as something more than culminating activities. Chapter 6 is a detailed account of test development and analysis to check for understanding. We end with the work of teachers who collaborate to use consensus scoring to make teaching more precise.

Checking for understanding provides teachers with a set of tools necessary for the assembly of evidence that students are developing sophisticated understanding of the curriculum over time. We hope this book will serve as a tool for understanding. We have included a strategy analysis grid in the Afterword for monitoring your own learning. We have provided space for you to transfer learning to your own practice by making note of ideas for customizing the techniques in this book to your classroom, school, or district. We hope that you will discover that checking for understanding is an enduring understanding itself and that you will create new understandings between your learners and yourself.

Why Check for Understanding?

Checking for understanding permeates the teaching world. If you doubt that, consider the last lecture you heard. Whether the lecture was about chemical reactions, the great American novel, or the causes of World War II, the person speaking most likely checked for your understanding several times during the lecture by using such common prompts as “Any questions?” “Did you all get that?” “Everybody understand?” or “Does that make sense?”

Rather than respond to these questions, most learners will sit quietly, and the lecturer doesn't know whether they understand, they are too confused to answer, they think they get it (but are off base), or they are too embarrassed to show their lack of understanding in front of others. Such general questions are simply not sufficient in determining whether or not students “get it.”

Additionally, students aren't always self-regulated learners. They may not be aware of what they do or do not understand. They sometimes think they get it, when they really don't (Hofer, Yu, & Pintrich, 1998). If you doubt this, consider how often you have heard students comment, “I thought I knew this stuff, but I bombed the exam.”

Most of the checking for understanding done in schools is ineffective. Thankfully, there are a number of ways to address the situation. We've organized this book, and the ways that teachers can check for understanding, into larger categories,

including oral language, questioning, writing, projects and performances, tests, and schoolwide approaches. In this chapter, we'll explore checking for understanding in terms of what it is, what it is not, and how it links to other teaching initiatives.

What Is Checking for Understanding?

Checking for understanding is an important step in the teaching and learning process. The background knowledge that students bring into the classroom influences how they understand the material you share and the lessons or learning opportunities you provide. Unless you check for understanding, it is difficult to know exactly what students are getting out of the lesson.

Research suggests that an important part of the learning process in all content areas is identifying and confronting misconceptions that can interfere with learning. Consider, for instance, how appreciating and addressing students' misconceptions can inform instruction in the following areas:

- Incorrect beliefs of young children that paintings are produced in factories (Wolf, 1987)
- Elementary students' misunderstanding that an equal sign in mathematics indicates an operation, rather than a relation (Ginsburg, 1982)
- K–3 students' beliefs that Native Americans who lived in tepees did so because they were poor and could not afford a house (Brophy & Alleman, 2002)
- Mistaken beliefs about living creatures, for example, that flies can walk on the ceiling because they have suction cups on their feet, and beavers use their tails as a trowel (Smith, 1920)
- Science students' misconception that larger objects are heavier than smaller ones (Schauble, 1996)
- The belief by adolescents (and adults) that there is a greater likelihood of "tails" in a coin toss after a series of "heads"—also known as the "Gambler's Fallacy" (Shaughnessy, 1977)

The act of checking for understanding not only corrects misconceptions; it can also improve learning. In a study by Vosniadou, Ioannides, Dimitrakopoulou, and Papademetriou (2001), two groups of students participated in a physics lesson.

With one group of students, the researchers checked for understanding before moving on to the next part of the lesson. They did so by presenting students with a brief scenario and asking them to predict and explain the outcome. The other group participated in the exact same lesson but without any pauses to check for understanding. As you might expect, the findings clearly demonstrated that the first group had a significantly greater increase in post-test over pre-test performance on assessments of content knowledge.

In addition, checking for understanding provides students with a model of good study skills. When their teachers regularly check for understanding, students become increasingly aware of how to monitor their own understanding. In the classic study by Bloom and Broder (1950), students performing well below grade level were paired with students who were successful. The successful students shared the variety of ways that they used to check that they understood the material. For example, the successful students restated sections of the material in their own words, asked themselves questions about the material, and thought of examples that related to the information they were reading. The students identified as at risk of school failure first observed and then began to incorporate these strategies into their own studying. Results of this study showed a significant improvement in comprehension test scores for the students who had been performing below grade level. These findings held when the performance changes were compared with a control group who spent the same amount of time with the material but did not receive any guidance in checking their own understanding from peers.

What Checking for Understanding Is Not

Checking for understanding is not the final exam or the state achievement tests. While there is evidence that checking for understanding will improve the scores students receive on these types of assessments, they are not what we mean by checking for understanding. Final exams and state standards tests are summative exams. They are designed to provide feedback on how the student performed after instruction.

Checking for understanding is a systematic approach to formative assessment. Let's explore the difference between formative and summative assessment in greater detail. Figure 1.1 provides a comparison between the two assessment systems.