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Feature Article

Hassle-Free Assessment: Pipe Dream or Reality?

The goal of assessment is to keep the teacher on track, to ensure that the instructional presentation is clear and effective...to ramp up, revamp, tune up, and fine tune instruction. The process of determining if "what the teacher is doing is effective" is what assessment is all about. However, this is different than what most teachers are trained to do. Most teachers are trained to look at students' responses to figure out if the students are "getting it."

But, it is easy to slide down the slippery slope from using student feedback to determine what to do next...to becoming entrained (e.g., trapped in the rut) of letting student responses drive instruction.

Sidebar Note: It is the ski jump to the bottom of this slippery slope that brings education to the "super-deep snowdrift" of the No Child Left Behind Act (NCLB). and all blizzard of stress that is created by high-stakes-test-driven instruction. The art of teaching requires a balance of using student feedback and of sticking with known-to-work strategies and best practices.

Instantaneous feedback, even if you could get it, cannot always reveal...

the progress that students are making in building complex learning skills

the progress that students are making in acquiring and constructing knowledge

the maturing of attitudes and beliefs that are key components in your students' life-long-learning habits and personal success

Training students to produce the "one-right-answer" develops skill sets suited for the assembly line factory floor, but not those skill sets required of modern information workers.

Instantaneous feedback also tends to focus upon "short-term memory" responses to knowledge and comprehension levels of Bloom's Taxonomy.

Information workers (the career paths of most of your students) require skills (strengthened through practice) of: Higher-order

Thinking Creativity Intuition Problem-solving Decision-making Communication Collaboration Negotiation Project Management Presentation Delivery Positive Self-help Belief Systems Morals and Ethics Teachers who become addicted to the easy-route, the one-right-answer rut; can stagnate students' thinking (and limit students' future employability) with practice directed toward lower-order skills.

The "80 / 20 Rule" of Checking Student Feedback Checking every student response, all the time, could generate lots of data. In fact, teachers could create so much data that they experience "data overload." The technical term for the "gridlock" caused by too much available data is "analysis-paralysis."

Examples of too much, next-to-useless data are the item-by-item, objective-by-objective student response printouts that teachers receive for every student in their class who suffered through the state-sponsored, mandatory high-stakes test.

The technical term for this data is "summative assessment" (Individual teacher's terms for this "data" are not spoken in front of children.) even though...The test is administered too early in the year to account for the accelerated learning spike normally occurring during the last two or three months of the school year (the real summative target date)

The printouts arrive too late in the school year for the teacher to extract trends and inferences, and too late for the teacher to make corrections in instruction

The high-stakes-test will be used for purposes for which its creators did not design or develop the test for (i.e., evaluating teachers) Sidebar Close behind in the "Uselessness Parade" are the school district's Benchmark Test reports that mimic the high-stakes test, and demonstrate the bureaucracy's "commitment" to improving test scores.

Collecting data also fuels the "Benchmark Testing" myth. (See our previous newsletter article: The Flaws, Fallacies and Foolishness of Benchmark Testing)

Teachers do not need high-stakes test printouts, or even feedback from every student before making action-based decisions and course changes (no pun intended).

But, compulsive folks may argue: "But I don't want any student to fall through the cracks."

This "falling through the cracks" myth is responsible for teachers collecting lots of unused and unusable data. This myth also is responsible for maintaining a "teacher-centered" classroom Sidebar Almost all current educational research recommends that a teacher-centered approach should be relegated to a chapter in The History of the Industrial Revolution, but abandoned as irrelevant for the skills future workers need in an Information Economy.

Building a gigabyte database (student response data) file just moves the focus of improving instruction away from the teacher and onto the students...a big mistake.

In addition, collecting data and doing nothing about it is worse than not having data.

Teachers should develop a strategy for improving instruction that applies the "80/ 20 Rule". This means that: 80% of students will learn by any method that the teacher chooses to apply

20% of instructional delivery will result in 80% of the improved learning that students achieve

No matter what strategy of instruction the teacher initiates, 20% of the students will require individual tutoring. Master teachers focus upon the "20% strategies" that result in 80% learning improvement, and make teaching look easy. Making educated and intuitive guesses, and observing how students' performance improves involves a higher-order problem-solving and assessment process. This strategy is superior to manipulating data. Another way of defining the "20% strategies" needed to improve instruction is that the 20% are the approaches that address "trends." The Data Imperative: Collecting data creates an imperative to uncover trends through analysis. Then, by discovering trends, the teacher must provide solutions to remedy any negative developments.

What solution does verifying negative trends from analysis of the data point to? Answer: Some sort of individual, on-demand tutoring is required for some students almost all the time.

If the teacher (or school district) does not have the personnel (trained and available) and funding (enough tutors are available for every student) mechanisms in place, it may be better not to collect the data. Feedback vs. Data vs. Grading vs. Assessment: Feedback is the usable, generally ad hoc information that teacher obtain by observing, obtain by asking students to reveal their thinking process, and obtain by asking students their opinions.

Data are collections of responses, generally (difficult to interpret) numbers.

Grading is the political (and semi-metaphysical process) of evaluating students in a "Cover you Backside against complaint" kind of way.

Assessment is the higher-order process of interpreting and evaluating the instructional course of action. Assessment contains cognitive, affective and psychomotor components...with the non-cognitive components generally summarized by the terms, "teacher intuition and creativity."

Assessment is key for teacher improvement. and teachers must be sure that assessment is kept separate from "analysis of student feedback" and "grading." Grading: There is a tendency to view grading as assessment when the connection is only a "face validity," and slight of hand.

Grading focuses upon one correct answer, because answering these kinds of questions is the only "fair" way to assign a grade.

Other kinds of questions are more "subjective" and therefore, not "fair." "Non-one-right-answer questions" bring real-life issues to the fore, are the kinds of questions that knowledge workers grapple with minute-by-minute, and are next to impossible to grade.

What is the focus of the questions that you ask your students?

Clickable Gadgets to the Rescue? There has been a recent development in the feedback/ data/ grading/ assessment dialog...the clickable gadget. These technical innovations are marketed under a variety of names, i.e., audience response, classroom performance, real-time opinion survey, wireless voting systems, etc.

Do these clickable gadgets hold promise for assessing the changes needed to improve instruction?

The first obstacle associated with the gadgets is that they are expensive. The classroom units from one company range in price from about \$1,500 to nearly \$3,000 USD.

And, there must be a computer in the classroom where the units will be used.

The advertising and compelling sales pitches from the makers of these devices could lead teachers to believe that collecting data and pulling out responses from shy students is assessment. The technical jargon for testing students to determine if the teacher is teaching well is "formative assessment."

The problem is that there is no direct (one to one) connection between the independent variable, i.e., what improvement the teacher makes in delivering instruction, and the dependent variable, what the students learn. (This is the reason that teaching remains an art, and the reason that software cannot replace teachers. This is also the reason that the "20% Trend Solution" is the most efficient method of addressing instructional improvement.)

In the language of database development, the relationship between what a teacher does (and the myriad of other influences upon learning, some under the control of the teacher, others, not) is a "Many to Many relationship."

This means that there are likely more variables that the teacher cannot control that are affecting learning than there are variables that the teacher can control.

The master teacher discovers what controllable variables improve learning and makes integrating these (the 20% Solution) into a repertoire of efficient instructional habits.

Of course, systems that record individual responses and analyze trends would be useful, if they ease one or more of the tasks that teachers must perform.

Even though higher-level assessment would demand lots of creative innovations to frame insightful questions, could the clickable devices save time in grading? Less Work or More? Teacher like the clickable gadgets, one of the worst complaints being the trouble of changing batteries. Of course the batteries only discharge when the units are in use all the time, so this should be interpreted as a "good sign."

Students also seem to like these gadgets.

But, the school district needs to have a great IT Department and super support if a teacher's entire instructional delivery and instructional management system depends upon this technology. This means that the classroom computer must always function, and it means that replacement systems, backups of software and data must remain 100% current.

So, what will these gadgets do if the IT infrastructure offers 99.99% uptime?

One maker of "clickware", eInstruction® lists the following benefits: Streamlined grading: Integration with paper and pencil tests; Collection of district-wide benchmark test scores; Allowing even shy students to participate. Another maker of

clickable gadgets, Quizdom[®]; claims that their technology allows instructors to communicate directly and privately with each student. This also seems to be a benefit since one motive for checking on the responses of every student, in real time, is to inform the student whether their answers are correct.

Still another seller of these response-gathering gadgets, Option Technologies Interactive[®]; lists the benefits of these devices as making meetings interactive.

Unfortunately, none of these benefits address the issue of higher-order assessment for instructional improvement. Sidebar Grading, the bane of every teachers' midnight oil, is faster and more accurate when gadgets and technology are used. But, grading is more a function of politics, public relations and customer service than assessment. In fact, teachers should communicate how little grading has to do with assessment, so that, over a period of years, their constituents come to appreciate the difference.

And, remember, it is more important for a teacher to discover what students are thinking and how students derive their answers, than to know how many students chose the correct answer.

An additional benefit for the purchase of a clickable system for an entire grade level may be to get teachers to work with each other since developing a database of quiz or test questions is time-intensive. Several teachers, each sharing the workload of creating test questions may decrease the amount of work that each has to do.

Of course, teacher sharing and a unified database of response questions requires an even higher level of IT support. Other Learning Issues Delivering a lesson, then asking questions about the lesson relies upon short-term memory. Asking the same questions a week, three weeks, and six weeks later would determine if the learning "stuck." In addition, there are a lot of other kinds of information besides answers to questions that factor into higher-order assessment thinking. Choices, decisions, opinions, votes and associations are a few examples. Perhaps you can think of others... (See what I mean? I just modeled what teachers need to do to stimulate more than one right answer with this previous statement.)

Another issue is whether lots of students'-response data cause a teacher to fixate (stagnate) on knowledge and comprehension-type-questions. And, how much creativity and innovation a teacher needs if they wish to develop higher-order questions (and if they wish to ignore knowledge and comprehension ones).

Not that a teacher would fall into this scenario (trap), but as higher-order questions are presented, greater numbers of students can be expected to take longer to arrive at the "correct" answer. And, greater numbers of students can be expected to make choices other than the "correct" answer.

What is important to the master teacher is not whether the students arrive at the correct answer, but what each student's thought process entails.

What might become important to the "Newbie" teacher is that students feel a sense of success, so positive reinforcement of easier questions might prompt a trend toward knowledge and comprehension questioning by the novice teacher. The Master teacher will continue challenging the thinking of each student. Assessment Best Practices Remember that instruction is more than the teacher explaining concepts. To teach to the way that most children think and process information, visual and hands-on experiences must comprise most of the students' learning activities. When there is talking to be done, the talking needs to be done by students, to students, and sometimes by students to the teacher.

Also, since grading is a political, rather than an instructional process. And, since harsh, i.e., failing grades in the first few grades are still the best indicator of what students will eventually leave school (drop out) when they become old enough to legally do so, teachers need to ensure that every student is successful. Ensuring that no child "falls through the cracks" means that on-demand tutoring needs to be provided to every child that requires it. Sidebar Administrators and bureaucrats could demonstrate their commitment to education by funding this tutoring instead of expecting that teachers will compensate for the lack of an appropriate tutoring program by donating hours of uncompensated time to make up for what the system fails to deliver.

Best practices to keep in mind are: Student thinking is more important than "a single correct answer" Questions with a "Yes or No" or "one right answer" should be asked of students maybe only ten percent of the time Multi-step thinking is more important than "one-step-recall"

Student Responses consist of more than answers to questions Voting Prioritizing Associating Surveying Deciding Speculating Question created by students are often more meaningful than questions created by teachers

How the answer was "thought up" is more important information than whether the answer is "correct"

Students tutoring other students is a viable option suggested by higher-order assessment of student-centered instruction, and part of the 20% Solution

Homework should be creative and highly motivating Homework should never be an excuse to trick parents into providing the tutoring that the school district failed to fund How much you make higher-order assessment a part of your teaching habits determines whether your students' successes are the reality that you dream of. Start today and develop a strategy of making higher-order assessment part of your instructional repertoire.