



The focus of teaching should be on what students learn, not the amount of work they complete. Brain research supports such learner-centered concepts as student accountability and oral defense.

Giving Credit Where Credit Is Due

BY KATHIE F. NUNLEY

The educational system may be slow to change, but education practitioners are not. We have been quick to grab the wealth of brain research we have received over the last decade and have made some significant changes in the way we think about delivering instruction. Teachers are finding that some simple changes in their teaching strategy can have a huge effect on classroom effectiveness.

Research continues to reveal some basic keys to a student's brain and how it learns. First, variety in instructional strategies is one key to a successful classroom. No two brains are alike; from conception to puberty, students' brains weed out nearly 80% of their cells, keeping only the 20% or so that are most useful. And the nerve cells they do keep form pathways of differing strengths based on the frequency of their use (Ratey, 2001; Shepherd, 1998). So the first thing classroom teachers must realize is that every brain—and every student—is unique. Therefore, even the very best instructional strategy will not be best for everyone.

Second, attention is a very primitive function in the brain, but it is the gateway to learning. As James (1890/1955) noted more than 100 years ago, “Millions of items of the outward order are present to my senses which

never properly enter into my experience. Why? Because they have no interest for me. My experience is what I agree to attend to. Only those items which I notice shape my mind” (p. 402). Consequently, if a teacher doesn't have a student's attention, no learning is taking place. Providing students with assignment choices makes a student-centered classroom. The student must be attending to the task at hand, and the easiest way to get their attention is through the perception of choice and control. Any type of student-centered classroom increases learning because students perceive that they have made their own decision to do an assignment and they take ownership in the work. Although classrooms certainly need structure and routine, they should never be dictatorships. The traditional “my way or no way” type of teaching stigmatizes learning, not only because it limits choice, but also because it limits the students' perception of control.

Everyone wants to feel like they have some control over the decisions that affect them. When people have no control, they often try to take it. The vast majority of classroom management problems are control issues. Nothing reduces classroom management struggles quicker than shifting some of the control, or at least the perception of control, to the students.



PHOTO BY LORRIE COOK

Students give an oral presentation to demonstrate what they have learned.

With this shift of control comes additional student responsibility. Because students are making their own choices, they now are also responsible for those choices and the consequences of their decisions. Many students initially may balk at this shift toward personal responsibility as they adjust from a traditional teacher-centered classroom, but decisiveness and responsibility must be learned. We simply cannot control all aspects of a student's life from 8 a.m. until 3 p.m. every day for 12 years, and then turn that young person loose in society and expect him or her to make good decisions and assume responsibility for his or her actions. If students are not taught in school, they will be taught in society where the consequences can be much more severe.

Learner Accountability

The cells in a child's brain grow branches from stimulation and continue to grow throughout his or her life, although this cell branching occurs on a much larger scale during childhood and adolescence. It is this branching that results in strong, useful brains and ultimately determines the quality of our lives. We teachers might think of ourselves as gardeners, helping students grow beautifully branched brains. But for that to happen, we must first have students' attention and cooperation. We can accomplish that with choice; control; opportunities to tie new knowledge to previous knowledge; and above all else, by increasing learner accountability.

While visiting a high school classroom in Maryland recently, I stopped by the desk of a student engaged in a vocabulary assignment. He was copying the work of a classmate onto his paper. I asked him what he was doing, and he was forthright in telling me that he was "copying definitions."

Amazed at the blatant copying from another student's paper to his own, I asked, "Aren't you supposed to be doing this on your own so that you will learn these words?"

"Oh, I know all of them. I just need to copy the definitions down on paper," he said.

"Why?" I asked.

"I don't know. That's just what we're supposed to do."

Unfortunately, this scenario is all too common in schools. Students have lost (or have never found) the connection between day-to-day schoolwork, homework, and learning. Perhaps it is because teachers don't stop often enough and ask themselves, *Why? Why am I assigning this? Why are students doing this? Why this number, this paper, this task?*

One reason is that there is rarely any accountability at this level. Despite the fact that educational accountability has become a popular topic in the political arena and in the media, few people address the topic of student accountability. How can teachers and schools be held accountable for student learning until students are held accountable for their own? Accountability must be bottom-up, not top-down.

The problem is not necessarily the fault of education practitioners. It has been an integral part of the system for so long that it has become the norm. Education has focused far too long on the process to the extent that we have forgotten the product. We only ask, “Did you do your homework?” rather than, “Did you learn from your homework?” If you did the assignment, credit is awarded, thus implying that the value was in the doing without regard for any learning. We often hear even parents say, “Well, she did it; doesn’t that count?”

As many of us know, sometimes “doing” an assignment just means you know who to sit with at lunch, because the reality is that anyone can complete an assignment if he or she has enough friends. What frequently happens is that students do a lot of assignments, which gives them enough points in the grade book to offset low test scores, which leads to a passing grade at the end of the term or school year. And that is part of the reason that some students progress through grade levels and subjects learning very little, if anything.

A decade ago, when Layered Curriculum was in its infancy and still just a student-centered model primarily for high school classrooms, few people understood why I held student accountability in such high regard. Although today we see hundreds of modifications and uses for the model, accountability remains its cornerstone. The model was designed to ensure students’ attention, encourage higher-level thinking, and increase student accountability.

When curriculum is layered, assignment choices are used to gain student attention and ownership, as well as allow for the huge variety of brains in the classroom. Grades are aligned with the complexity of the assignment to encourage students to think at higher levels. And all assignments require some type of oral defense to assess learning and award points. Points, and subsequently grades, are given to students on the basis of what they learned, not on what they did.

For example, a vocabulary flash card assignment may be worth 10 points. Simply making the flash cards, however, does not give the student any points. The points come from the oral assessment. Oral assessments are done one-on-one at the student’s desk as the teacher moves around the classroom. As the teacher, I choose five flash cards at random, ask the student the words, and award two points for each one he or she can explain correctly. If the student knew four of the five vocabulary words, he or she earned eight points, two out of five would be worth four points, and so on.

In the beginning of the year, oral defense is always met with surprise and sometimes a bit of anger. Students have never been asked to defend day-to-day work. I get such responses as, “Oh, you mean I did all this for nothing?” Students are surprised to discover that if they did not learn anything from the assignment, then it was, in fact, done for nothing.

The purpose of doing an assignment like vocabulary flash cards is not to see who can make flash cards. The purpose is

to learn vocabulary. So the points come from the learning, not the doing. As you can see, this is a real shift in thinking on the part of both teacher and student.

What I’m really saying to students is, “Here is what I want you to learn. I don’t care how you learn it, just learn it. Let me give you some suggestions and ideas for how other people have learned this. It doesn’t matter which method you choose as long as you learn it.” This variety of assignment choices in the curriculum provides several options for learning a task or meeting the objective.

As another example, let’s look at a typical math homework assignment. We might say to a class, “Work these 40 sample problems for homework.” But why 40? Why not 4 or 400? We all know that some students will catch the skill by the 5th problem and some students will still not have mastered it after the 40th sample problem. What is the real purpose to the homework? To work 40 sample problems or to learn the skill?

My favorite example is from a math teacher who assigned such homework as, “Work these 40 practice problems or as many as you need to work to master the skill. But work at least 5.” Homework points were awarded in one of two ways. Students could either turn in all 40 practice problems or they could draw a 3 X 5 index card out of a pile of sample problems and work it correctly. Either way, you got the homework points.

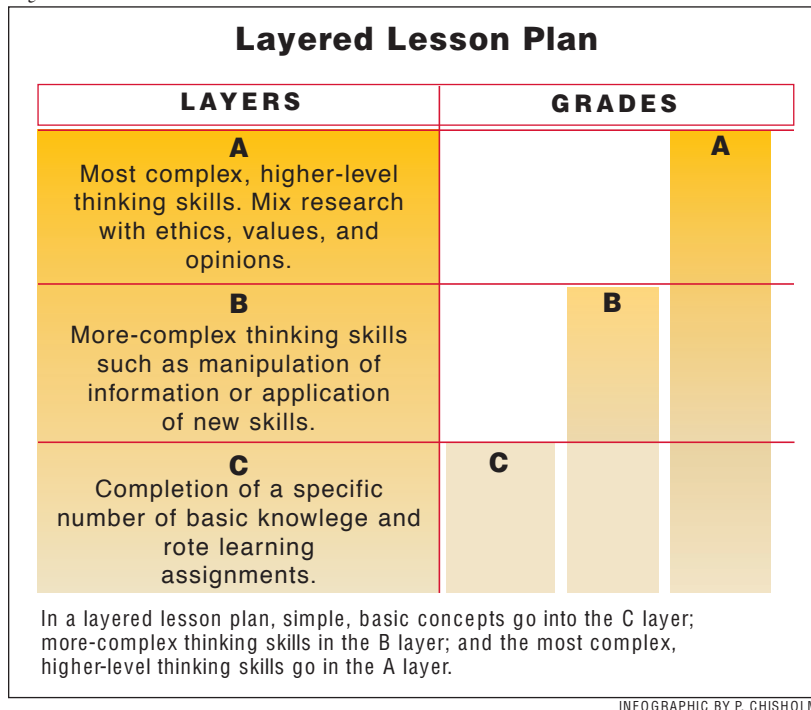
In this classroom, students understood the why of the homework. The purpose was clearly defined: “You need to be able to work this type of problem.” Running this type of classroom clearly puts the responsibility on the students. The teacher plays the role of facilitator or coach. We say to the student, “You need to learn this. How you do it is up to you. I’ll help you in whatever way I can, but the bottom line is you need to learn it, so points and grades will be awarded on what you’ve learned, not how you got there.”

Designing Layered Curriculum

In the early 1990s, I sought to integrate some of the new research into my high school science classroom. As new information emerged, changes were made and the result was the student-centered model of Layered Curriculum that integrates the three keys: choice, accountability, and increasingly complex thinking.

To write a layered lesson plan, the teacher simply takes the main concepts, tasks, and skills that need to be taught in a lesson and divides them into 3 layers based on the complexity of the task, along the lines of Bloom’s Taxonomy. Simple, basic concepts go into the C layer; more complex thinking skills in the B layer; and the most complex, higher level thinking skills go in the A layer. Labeled *C*, *B*, and *A*, the layers correspond to the actual letter grade the student earns. So a grade of C is earned by students who complete a specified number of basic knowledge and rote learning assignments. A grade of B is earned by students who work through the C layer and the B layer that includes more

Figure 1



complex activities, such as manipulating the information or applying new skills. A grade of A is earned by students who work through the C layer, B layer, and the A layer, which asks students to think critically and mix research with ethics, values, and opinion.

Each layer provides a menu of assignment choices that represent different learning styles, abilities, and disability accommodations. Students can choose which assignments they'd like to complete. Assignments vary in the number of points they are worth based on their complexity. Students work their way through the increasingly complex layers, and all assignments require an oral defense.

Successful Inclusion

Shifting the attention from doing to learning has another advantage as well: It allows more students to be successful. During a recent visit to a California high school, I had the opportunity to work with some students in a biology classroom. Many of the students were being mainstreamed into the regular classroom for the first time.

I stopped to help a young man answer some questions from his textbook. He had been staring at his blank sheet of paper for some time, so I pulled up a chair and we began what turned into a delightful conversation about the material in the text that the class had been reading. The young man seemed to be genuinely interested in the topic. We took each question from the book and discussed it.

After we finished the discussion of the entire section, I was duly impressed. "Why, that's wonderful" I said. "You really know your material! I guess you're finished with this assignment."

"No" the young man replied. "I have to write it all out."

"Why?" I asked.

"I don't know. We just have to."

And with that, he put the pencil down, put his head on the desk, and remained that way until the bell rang. At the end of class, students turned in their class work as they left the room. But this young man had nothing to pass in. He took a zero for the day rather than have to write down his answers. For this student, writing was such an overwhelming task that he would rather not receive credit for his learning than go through, for him, a very painstaking process.

Oral defense frees students from many of the obstacles that hold them back in school. It gives credit where credit is due and often determines where credit is not due. It takes time for teachers to develop efficient oral defense skills, however, especially in large classes. In the beginning, don't try to grade every assignment from every student every day. Work up to that goal. To

start, teachers may just want to visit with each student at least once during each unit. Or perhaps the students can put together a portfolio of assignments and choose two or three to discuss with the teacher. Most teachers find the oral defense gets much easier and more efficient with practice.

Shifting the power of control in the classroom from teacher to student not only makes classrooms more effective, but also puts the fun back in teaching. Most of us don't teach because of the huge paycheck, the delicious school lunch, or the dynamic faculty meetings on Monday afternoon. We teach because we love the relationships we build with our students. When you spend your class time moving around to meet students one-on-one and let them share with you what they have discovered and learned, you revel in the true joy of teaching. It is indeed what calls us back to the classroom year after year. **PL**

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