



Millennial Students and Middle-aged Faculty: A Learner-centered Approach toward Bridging the Gap

By Joan Flaherty, University of Guelph,
Canada
jflahert@uoguelph.ca

The problem is my age. It relentlessly advances while the faces staring back at me in the classroom remain the same, fixed between late adolescence and early adulthood. In short, I grow old while my students do not. And the increasing gap between our ages causes me some concern, pedagogically speaking.

At the heart of the matter lies technology. My pre-1980 birth date means I do not share my students' lifelong history with digital technology. Neuroscientists tell us that this history has shaped the cognitive functioning of the millennial generation, strengthening certain neural pathways through repeated use and weakening others through infrequent use. Student comments such as "I don't like reading" or "I can text and listen to you at the same time" suggest that these strengthened and weakened pathways are the polar opposite of those that exist in my own brain. I am, therefore, despite more than 20 years of postsecondary teaching, sometimes completely confounded by the way my students think—and not always certain that the fault for this confusion is theirs.

To help overcome these differences, I've enthusiastically embraced teaching practices that accommodate some of the more highly publicized traits of the millennials. For example, my classes typically revolve around 10- to 15-minute "chunks" of fast-paced activity designed to address students with short attention spans who are easily bored. My extended availability via electronic media into the evenings and

weekends targets the preference for constant (but not face-to-face) connectivity. And detailed grading rubrics for every assignment provide a highly structured route to an A paper—a path and outcome that particularly resonate with many of my students. I've adopted these practices in the name of fashioning a learner-centered environment.

But recently I've begun asking myself a disconcerting question: what if these practices don't match my course's learning goals?

For example, I teach writing, a process-oriented subject where progress moves slowly. The essence of good writing is strong thinking skills: the ability to generate a coherent, logical flow of information or ideas, integrating material that, at first glance, resists integration. This takes time. It requires venturing down blind alleys in pursuit of an idea, backtracking when that idea turns out to be weak, and tolerating frustration when another refuses to immediately take its place. It requires faith that blind alleys, backtracking, and frustration can lead to insights. The journey, in other words, is the thing.

"The journey," however, no longer figures prominently in my classroom.

Gone are the days of reflecting on an assigned reading for an entire class period—or even expecting that the entire class has done the assigned reading. Examining its structure, debating its logic, and savoring its rhetoric would take up time, require sustained focus, and might not necessarily lead to the "right answer"—impediments to busy, parallel-processing students who are anxious to get it right once and for all. These imped-

iments have been replaced with the quicker, more streamlined approach of fast-paced classes, instructor availability "on demand," and detailed instructions.

But are these efforts shortchanging my students by reinforcing who they are right now—admittedly, as portrayed by media-hyped generalizations—at the expense of who they might become if guided beyond their current comfortable boundaries?

I don't have a clear answer to that question. I only know that in asking it, I feel less like the teacher and more like the learner—searching for the right path, not always certain of the direction, and sometimes anxious about the outcome. I feel, in other words, just as my young students must often feel.

Perhaps the gap between our ages doesn't have to distance us after all. In fact, perhaps it can be a catalyst to keep us both learning. The students' digitally enhanced perspectives have certainly

PAGE 3

In This Issue

Group Testing: A Study Finds It's Not Effective	2
The 'I Deserve a Better Grade on This' Conversation	3
Why Doesn't Teacher Feedback Improve Student Performance?	4
Developing Students' Self-Assessment Skills: Is It Possible?	5
'What Works' in the Messy Landscape of Teaching and Learning	6



**Editor-at-Large**

Maryellen Weimer, Ph.D.
E-mail: grg@psu.edu

Editor

Rob Kelly
robkelly@magnapubs.com

President

William Haight
whaight@magnapubs.com

Publisher

David Burns
dburns@magnapubs.com

For subscription information, contact:

Customer Service: 800-433-0499
E-mail: support@magnapubs.com
Website: www.magnapubs.com

Submissions to *The Teaching Professor* are welcome. When submitting, please keep these guidelines in mind:

- We are interested in a wide range of teaching-learning topics.
- We are interested in innovative strategies, techniques, and approaches that facilitate learning and in reflective analyses of educational issues of concern.
- Write with the understanding that your audience includes faculty in a wide variety of disciplines and in a number of different institutional settings; i.e., what you describe must be relevant to a significant proportion of our audience.
- Write directly to the audience, remembering that this is a newsLETTER.
- Keep the article short; generally between 2 and 3 double-spaced pages.
- If you'd like some initial feedback on a topic you're considering, you're welcome to share it electronically with the editor.

The Teaching Professor (ISSN 0892-2209) is published 10 times per year by Magna Publications Inc., 2718 Dryden Drive, Madison, WI 53704. Phone 800-433-0499; Fax: 608-246-3597. Email: support@magnapubs.com. Website: www.magnapubs.com.

One-year subscription: \$89 (Multiple print subscriptions and Group Online Subscriptions are available, call Customer Service at 800-433-0499 for information.) Photocopying or other reproduction in whole or in part without written permission is prohibited. POSTMASTER: Send change of address to *The Teaching Professor*, 2718 Dryden Drive, Madison, WI 53704. Copyright ©2012, Magna Publications Inc.

Authorization to photocopy items for internal or personal use of specific clients is granted by *The Teaching Professor* for users registered with the Copyright Clearance Center (CCC) Transactional Reporting Service, provided that \$1.00 per page is paid directly to CCC, 222 Rosewood Drive, Danvers, MA 01923; Phone 978-750-8400; www.copyright.com. For those organizations that have been granted a photocopy license by CCC, a separate system of payment has been arranged.

Group Testing: A Study Finds It's Not Effective

Across the years, a number of articles on group or team testing have been highlighted in the newsletter. Some of these have described the mechanics of letting students do exams or quizzes in groups, and some have been research-based, exploring the impacts of this strategy on test and course grades as well as student perceptions of the activity. An email from a reader indicated that most of the articles reviewed claimed positive benefits for the strategy. The reader attached a copy of the article referenced below. Research reported in this article did not find that a team testing experience positively affected direct measures of learning, in this study, defined as quiz and final exam scores.

Here's how the team-testing experience worked in this study. Students were randomly assigned to groups (in five sections of a marketing research course), and membership in these groups stayed the same across the semester. For group tests, students first completed the multiple-choice questions individually, submitted those answers, and then met with their groups to complete the same exam collectively. Students also took some tests individually, allowing comparison of the two exam formats. Various statistical analyses revealed that the team-testing experience had no impact on these direct measures of learning.

But students thought it did. Ninety percent of the students responding on the survey "said that group quizzes had at least a small positive effect on their learning." (p. 353) Seventy-five percent "said the experience had at least some positive effect on their interest in the class." (p. 353) Eighty-nine percent preferred the group-testing format over the individual format, and 87 percent said they would recommend that other teachers use group testing.

Researcher Bacon (who had done other excellent research on group work)

makes three points about these findings that are worth considering. First, this is only one form of team testing and in both the literature and practice, a variety of forms are being used. This is a good illustration of the problem in thinking that group testing (or any other strategy) might be one of those "what works" solutions. Group testing isn't, because although other research indicates some formats "work," that can't be said of all of them. Second, this research, like so much pedagogical scholarship, was done in one class and at one school. Third, the direct measures of learning used in this study were test grades. What kind of learning do test grades measure? Do they measure all relevant learning outcomes?

Bacon does make one observation that is an interesting and important caution. "The results presented here show that students may rate a pedagogical experience as being highly effective when in fact it is not effective at all." (p. 355)

As with all his work, this study includes an excellent and balanced review of the literature. Now that pedagogical research is being done in so many fields, using many methods and treatments, results are difficult to compare, and that makes general conclusions about any strategy virtually almost impossible to draw. "What works" depends, which means when using strategies that have worked for others, we shouldn't conclude they're automatically effective when used with our content, for our students, and by us.

Reference: Bacon, D. R. (2011). Comparing direct versus indirect measures of the pedagogical effectiveness of team testing. *Journal of Marketing Education*, 33 (3), 348-358. 🌳

The ‘I Deserve a Better Grade on This’ Conversation

It’s a conversation most faculty would rather not have. The student is unhappy about a grade on a paper, project, or exam or for the course. It’s also a conversation most students would rather not have. In the study referenced below, only 16.8 percent of students who reported they had received a grade other than what they thought their work deserved actually went to see the professor to discuss the grade.

Even though faculty might not want to increase the number of grade conversations they have with students, there is an interesting question here. Why didn’t more students come to talk about the grade they didn’t think they deserved? Maybe they really didn’t have a problem with the grade but only wished they had done better. That might be true for some students, but this study tested (and verified) two theoretical frameworks that identify some of what makes these conversations difficult for students. They need to persuade the teacher, who has complete control over the grade, to change his or her mind—the grade decision has already been made, and most teachers feel some pressure to defend their decisions. Teachers also know how badly students want good grades whether they deserve them or not.

According to the theories that this research attempted to test, students must also behave in a socially appropriate way or they risk jeopardizing their overall relationship with the teacher, which may influence the grades they receive on subsequent assignments. One would hope that experience and maturity would enable teachers to maintain their objectivity, but students are often personally vested in their grades and are not always sophisticated communicators. They may be defensive and angry and unfairly accuse the teacher. Most of us have had a few conversations like this, which is why most of us would rather not discuss contested grades with students.

But these exchanges can be moments of learning for students and teachers, and

they need to be thought of in that way. Teachers need to begin by listening to student objections and concerns about the grade. If it’s a case of “you don’t understand how hard I worked on this paper,” it’s an opportunity to discuss how difficult it is for teachers to assess effort and how grades are more about performance than effort. It’s also an opportunity to ascertain whether the student understands the feedback that has been provided. Can he or she read the teacher’s comments? Does the student understand how and why the partial credit is awarded? If a problem is persistent through the performance, can the student identify unmarked examples of it?

It’s possible the grade should be changed. Teachers need to have these conversations recognizing that grading (especially lots of it) is not an infallible process. It is probably best to let the student make the case for the change, ascertain whether the feedback provided is correctly understood, but defer the decision to change or not change the grade until the work can be reviewed without the student sitting across the desk.

The learning potential of these conversations is a function of how forward-looking they are. “So, what have you learned from this experience that will help you with the next assignment?” “What are you going to work on?” Here, depending on the student, it might be wise for the teacher to provide some guidance. “Let me identify three things to work on. All three would significantly improve the quality of your work, and if there is improvement in these areas, that will definitely be reflected in your grade.”

If the student has conducted himself or herself appropriately in the conversation, that deserves a comment. “I appreciate the maturity you’ve demonstrated in this conversation, and although I’m sure you’re disappointed that I haven’t changed my mind about your grade on this paper, I do think these conversations are very important.” And they are important. Teachers need to know when a stu-

dent thinks a grade is unfair. They need to review their decisions, and they need to try to help the student understand why the grade stands.

How do teachers make it more likely that students will discuss concerns about grades and discuss them constructively? Teachers talk more about the importance of these conversations. They invite students to come to the office to talk about grades the students don’t think they deserve. They explain why these conversations are challenging for students and teachers, and they give students good advice about what to say and not say about the grade they want changed.

Whether you’re the teacher or the student, these aren’t easy conversations. It’s not in either party’s interest to back down. But that need to defend a position should not become an obstacle that compromises what both parties can learn from these conversations.

Reference: Henningsen, M. L. M., Valde, K. S., Russell, G. A., and Russell, G. R. (2011). Student-faculty interactions about disappointing grades: Application of the Goals—Plans—Actions Model and the Theory of Planned Behavior. *Communication Education*, 60 (2), 174-190. 🌱

BRIDGING THE GAP FROM PAGE 1

made me venture into new territory, trying to harness—and emulate—their quick thinking, parallel-processing energy. But similarly, my predigital perspective can also open up new territory for them, showing them the surprising amount of ground they can cover by moving slowly and reflecting deeply.

Perhaps figuring out how to honor the two perspectives in the classroom can offer us the best of both worlds: a learner-centered classroom for *both* teacher and student. 🌱

Why Doesn't Teacher Feedback Improve Student Performance?

Sometimes the feedback does lead to better performance, but not all the time and not as often as teachers would like, given the time and effort they devote to providing students feedback. It's easy to blame students—do they even read the feedback? Most report that they do, but even those who pay attention to it don't seem able to act on it—they make the same errors in subsequent assignments. Why is that?

Sadler, author of the article referenced below and an expert on how assessment can be used to improve learning, contends that “regardless of levels of motivation to learn, students cannot convert feedback statements into actions for improvement without sufficient working knowledge of some fundamental concepts.” (p. 537) Because they evaluate student work so regularly, teachers bring to the task a working knowledge of these concepts. Unfortunately, they provide feedback assuming students have the same knowledge, which Sadler contends they do not.

Before describing the necessary conceptual knowledge, Sadler spends time exploring the components of teacher feedback. Their feedback begins when teachers specify the nature of the task students are to complete—this “feedforward” includes descriptions of the assignment and the criteria that will be used to assess it. The criteria may be detailed, as they frequently are when rubrics are used.

The feedback on completed work contains the teacher's overall assessment of the work. Usually this includes the grade and the rationale for the grade. Most teachers also provide advice as to how the work could be improved. “General recommendations in the literature about the desirable properties of feedback include telling students about the strengths of their works; telling them (gently) about deficiencies, where they occurred and their nature; telling students what would have improved their works; and pointing them to what could be done next time they complete a related type response.” (p. 538)

Whether it's giving students instructions on how to complete an assignment or feedback on how well they completed it, Sadler says this feedback before and after the fact shares an important characteristic. “As one-way messages from the teacher to the student, they are essentially about telling, or disclosure. Yet despite the teachers' best efforts to make the disclosure full, objective and precise, many students do not understand it appropriately because ... they are not equipped to decode the statements properly.” (p. 539) Most teachers understand that how they deliver the feedback is very important, and so they spend time thinking about the best way to phrase the messages. Sadler counters, “Complementary attention should be directed to what students make of the feedback, rather than just its composition.” (p. 539)

In order for students to be able to act on feedback provided by the teacher, Sadler contends that they must develop appraisal expertise and that relies on knowledge of concepts in three areas: task compliance, quality, and criteria. **Task compliance** refers to whether the student does what the assignment requests. Haven't we all read student answers, sometimes even good ones, that don't address the question? It doesn't make sense that a student would go to the effort to construct an answer that purposefully doesn't answer the question. When confronted, students are often surprised and don't seem to understand what the problem is. That means they did not understand the question or the task.

Quality refers to the ability to make holistic judgments that differentiate excellent work from work that is not. Sadler points out that quality is often difficult to define in the abstract but easy to see in examples. Teachers grade so much student work, the quality judgments are made easily. But when a student compares his answer with that of a fellow student who received more points, the student frequently objects that his answer is just as good. The issues here involve quality and the student's inability

Editor's note: *This issue contains two longer articles that offer new perspectives on the involvement of students in assessing their learning. They argue that students need to develop self-assessment skills and those skills develop best with practice. Both suggest ways to develop those skills, and neither recommends letting students grade their own work.*

to see what distinguished the colleague's answer from his own.

Some **criteria** teachers use in assessing student work are simple and straightforward. Either the spelling is correct or it is not. But most criteria are considerably more abstract, according to Sadler. He uses “coherence” as an example. “How well do students understand this concept? Can they recognize low and high levels of it in particular works? Do they effectively recognize this property but use different terminology for it (such as ‘linked together’)? Can they sense and work towards building coherence into their own productions while construction is under way?” (p. 545)

Sadler follows with a key point. “The crucial test of whether students understand the (assessment) criterion of coherence is not whether they can define it formally. It is whether they can make sound judgments about the coherence of their own works and those of others ...” (p. 545) Students need practice to develop this appraisal expertise. The teacher-telling model does not work as well as practice.

This is an interesting, well-documented, and thoughtful article. The ideas would make rich discussion for a faculty reading group.

Reference: Sadler, D. R. (2010). Beyond feedback: Developing student capability in complex appraisal. *Assessment & Evaluation in Higher Education*, 35 (5), 535-550. 🌱

Developing Students' Self-Assessment Skills: Is It Possible?

Here's an interesting thought: as students complete their assignments, they are assessing their work—asking themselves if they have written enough, whether their solution is correct, if they've used enough references, for example. They answer those questions, thereby giving themselves feedback. If students are already assessing their own work, why aren't we working to build those abilities?

That's the question raised by an article on formative assessment and self-regulated learning. Most teachers want students to be more self-regulated. Students need to be able to set learning goals, decide on the strategies they use to achieve those goals, manage the learning resources at their disposal, react to feedback, and produce quality work. The authors of this article note that interest in learner-centered approaches has changed a variety of instructional practices, but those changes have not included assessment activities. "In higher education, formative assessment and feedback are still largely controlled by and seen as the responsibility of teachers." (p. 200) The authors view this as problematic. "If formative assessment is exclusively in the hands of teachers, then it is difficult to see how students can become empowered and develop the self-regulation skills needed to prepare them for learning outside the university and throughout life." (p. 200)

To appropriately get students involved in self-assessment activities, the authors propose "seven principles of good feedback practice" that can be used to facilitate skill development in this area. Here's a list of those principles and a brief explanation of each.

- **Good feedback practice helps clarify what good performance is.** When teachers design assignments and other learning activities, they have goals they hope those assignments and activities will accomplish. But successful accomplishment depends on students setting goals for those assignments and activities that overlap with the teacher's goals. Teachers already try to help stu-

dents understand assignment goals with detailed descriptions and discussions of assignment parameters. The authors recommend that teachers also consider providing students with exemplars and letting students apply criteria and standards to those samples.

- **Good feedback practice facilitates the development of self-assessment (reflection) in learning.** Students need "opportunities to practice regulating aspects of their own learning." (p. 207) This includes practice in developing assessment standards and criteria. When students look at their own work, they often don't use specific or appropriate criteria. Teachers can tell them what criteria they should use, but at some point students need to be able to generate appropriate criteria on their own, and these authors argue that's a skill that develops with practice. Activities that can be used include letting students identify areas where they would like to receive feedback, identifying some of the strengths and weaknesses of their work before they hand it in, and reflecting across a course (or part of it) on their progress.
- **Good feedback practice delivers high-quality information to students about their learning.** "Feedback from teachers is a source against which students can evaluate progress, and check out their own internal constructions of goals, criteria and standards. Moreover, teachers are much more effective in identifying errors or misconceptions in students' work than peers or the students themselves." (p. 208) Although this may sound like what teachers do now, there is a difference. The goal of teacher feedback here is to help "students troubleshoot their own performance and self-correct." (p. 208) The authors recommend providing feedback when students still have time to make changes, limiting the amount of feedback, and prioritizing areas for improvement.
- **Good feedback practice encourages teacher and peer dialogue about learning.** Students will better be able to

assess their own work if they have the opportunity to discuss feedback with the teacher. That's difficult when one has many students. However, students can discuss feedback with peers, including discussion of what particular comments mean based on the criteria used to assess their work.

- **Good feedback practice encourages positive motivational beliefs and self-esteem.** Research cited in the article documents that motivation and self-esteem are enhanced in courses with many low-stakes assessment tasks and when feedback provides information about progress and achievement rather than focuses just on success or failure or how students compare with each other.
- **Good feedback practice provides opportunities to close the gap between current and desired performance.** The only way to tell if students are learning from the feedback is to see improvement in their work. Students need to be able to use the feedback to close the gap between what they are doing and what they should be doing. The authors are in favor of letting students resubmit work or providing feedback on work in progress. They also recommend having students develop action plans in which they identify where and how they will use the teacher's feedback.
- **Good feedback practice provides information to teachers that can be used to help shape the teaching.** If teachers are going to provide good feedback, they need data on how students are progressing, not just on the assigned work, but how their self-assessment skills are developing. There should be regular discussions with students, particularly about those areas students find difficult.

One thing missing from this otherwise fine article is any discussion of the pressure most students feel to get good grades and how that pressure compromises their

‘What Works’ in the Messy Landscape of Teaching and Learning

The title is borrowed from text in an excellent article that challenges our use of the “what works” phrase in relationship to teaching and learning. Biology professor Kimberly Tanner writes, “... trying to determine ‘what works’ is problematic in many ways and belies the fundamental complexities of the teaching and learning process that have been acknowledged by scholars for thousands of years, from Socrates, to Piaget, to more recent authors and researchers.” (p. 329) She proceeds to identify six reasons why the phrase hinders rather than fosters an evidence-based approach to teaching reform (in biology, her field, but these reasons relate to all disciplines). “Language is powerful,” she notes. (p. 329) We use it to frame issues, and when we do, it guides our thinking.

“What works” is incongruent with the nature of science. Her point applies more broadly. The phrase implies that “what works” is readily applicable to all contexts. It also conveys the sense that once you know “what works,” there is no need for further investigation. You’ve got the answer. There is no equivalent phrase or sentiment used in scientific investigations of the natural world. “Why should our evidence-based investigations and view about the issues in teaching and learning of biology be any different?” (p. 330)

“What works” ignores individual students and their brains as key variables. If the solution works, then it works for all students, or at least most of them. Lots of research now documents that “what works” for students depends on a host of demographic variables, including gender, language background, levels of family education, and ethnic identity. And then there is the individuality of student brains, which Tanner describes as “individual both in terms of architecture and information previously stored within.” (p. 330) “What if the right way to teach is *not* any singular way, but rather the use of a variety of teaching techniques intertwined to

benefit a range of learners and their experiences in a heterogeneous classroom? What if the closest we get to ‘what works’ is to teach using *all* of the available techniques and not just one?” (p. 330)

“What works” assumes uniformity in instructor experience and skill. Also lurking within the “what works” assumption is the premise that it “works” for all instructors. Interestingly, when a technique is tried and it doesn’t work, blame is usually affixed to the technique, not the instructor. For example, “group work” is labeled a bad technique rather than being recognized as a technique that was used ineffectively. The success of instructional strategies, especially complex ones, depends on the experience and skill of the instructor.

“What works” requires defining what is meant by “works.” This problem with the phrase has two parts. The first is that the definition for “what works” is largely left to the user. Typically “what works” means the strategy or technique promotes learning as measured by test scores and course grades. Tanner points out that grades may improve, but the technique may have had no effect on student motivation or interest in the discipline.

The second definitional problem with the “what works” phrase and accompanying thinking is evidence that supports the effectiveness of a particular solution is based on short-term measures, again mostly grades. “‘What works’ for short-term performance in a course ... may or may not be the same as ‘what works’ for deep conceptual change and long-term retention, yet we have little to no evidence beyond a single semester time frame.” (p. 332)

Building a common language about the substance of the “what” in “what works” is not trivial. There is no common lexicon for instructional strategies. We toss strategy names about, assuming we all define them similarly, but in execution, even simple strategies such as think-pair-

share look very different. If that’s true for comparatively straightforward techniques, imagine the variation involved in complex strategies such as problem-based learning or in whole approaches such as learner-centered teaching.

In sum, Tanner explains that “at some level ‘what works’ arises from a desire to give scientists [and the rest of us] a shortcut to effective teaching, but there may not be any shortcuts.” And what should we be saying and thinking in lieu of this phrase? “We can perhaps refocus on what has been shown again and again to be the path to effective teaching and learning: the development of reflective instructors who are analytical about their practice and who make iterative instructional decisions based on evidence from students sitting right in front of them.” (p. 329)

Reference: Tanner, K. D. (2011). Reconsidering “what works.” *Cell Biology Education*, 10 (Winter), 329-333. 🌱

SELF-ASSESSMENT SKILLS

FROM PAGE 5

willingness to talk openly with teachers about the quality of their work. Why would you want to point out a weakness to the person who’s going to grade it? Students need to understand how it is in their best interests to be able to accurately judge the quality of their work before the teacher does. This is an important skill, useful in college, but especially relevant in professional contexts where work is not graded like it is in courses.

Reference: Nicol, D. J. and Macfarlane-Dick, D. (2006). Formative assessment and self-regulated learning: A model and seven principles of good feedback practice. *Studies in Higher Education*, 31 (2), 199-218. 🌱