



Creating a Classroom Culture that Inspires Student Learning

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Higher education seems reluctant to admit that classroom culture plays a critical role in student satisfaction, retention, and learning. Yet students tell us that if they do not feel comfortable in a particular class, or with a particular professor, they are less likely to attend or participate in the course, less willing to seek out extra help, and less apt to rise to intellectual challenges. As college and university faculty, we must begin to think about the classroom conditions that we can intentionally foster, conditions that will increase student engagement in the learning process.

Research has identified a number of conditions that help increase students' motivation to set and meet learning goals. We will discuss eight identified by author Quaglia in research published in 1999 and 2003. These conditions cost nothing, require no additional degrees, make a significant difference in teaching and learning, and best of all, they can be cultivated in our classrooms. Consider this set of eight.

Create a sense of belonging in your classroom. The more your students feel that they are part of the classroom community, the more likely they are to become connected to the course, the subject, and even the school. At the same time, it is critical to recognize your students as individuals who have their own skills, talents, and interests. *Question to Consider: What percentage of my students do I know by name?*

Recognize that your students look up to and admire their professors. Like it or not, you are a hero to your students. Your position makes you a role model. What you say to them — either positive or neg-

ative — has an impact. Take your role seriously. *Question to consider: What do I model for my students?*

Recognize your students' accomplishments, not just their grades. Today's students have grown up in a world of high-stakes testing, and they place enormous significance on the grades that they achieve. Yet so much learning results from the effort students put into the learning process and in the advances they make, no matter how small, in understanding, knowledge, and skill over the course of the semester. Take time to acknowledge and celebrate the growth not measured by grades but by perseverance. *Question to Consider: Do I talk with students about growth and learning as often as I talk about grades?*

Build moments of fun and excitement into the course. There is nothing wrong with having a good time in class! Don't forget to laugh and have a sense of humor. In doing so, you show students that learning can be fun and that it is not disconnected from the real world around them. The moments that give students happiness are ones they value and share with others. *Question to Consider: When was the last time laughter filled my classroom?*

Encourage your students to be creative and curious about the subject matter. Students need to be able to explore and ask the "why/why not" questions. Those kinds of questions encourage them to make their own connections to the subject matter and to be more engaged in the class. As professors, we have the opportunity to add wonder and possibility to the learning process. *Question to Consider: How do I make time and space in my classroom for creativity and curiosity?*

Encourage healthy risk-taking by making it safe for students to both fail and succeed. Students' innate spirit of adventure so

often gets checked at the classroom door. Yet that spirit is what helps students take academic risks, whether speaking up in class, debating an idea, or writing a difficult paper. *Question to Consider: How often do I see students taking risks in my classroom?*

Provide opportunities for students to be leaders in the classroom and to take responsibility for their choices. When students feel that they are an important part of the classroom, that their opinions matter, that they have the chance to lead, and that they are held accountable for their decisions, increased enthusiasm for learning results. *Question to Consider: Are leadership and responsibility regularly shared with students in my classroom?*

Celebrate when students act on their beliefs. When your students believe in something, recognize their commitment. Cultivate their self-confidence so that they take action — whether in the classroom, the college community, or in their own lives. They can make a difference, and so can you. *Question to Consider: Do students regularly express their views in my classroom? How do I respond when they do?*

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- 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.

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Creative Ideas for Enhancing Learning on Exams

As part of a number of course design changes aimed at making an introductory plant identification course more student and learning centered, professor Laura Deeter tried several new exam techniques. Her goal was to find methods that enhanced the learning potential of these exam experiences at the same time they decreased the amount of counterproductive anxiety provoked by testing situations.

In the first technique, she let students help her develop the exam. Students discussed with each other and with her aspects of the content that they felt were important. Usually they started by listing these concepts as words. Using those words, Deeter challenged students to generate questions that would assess their understanding of these concepts. As the questions emerged, she wrote them on the board and then the class discussed correct answers to them. She then used some of these questions on the exam, and that motivated student participation when she repeated the activity. It sounds to us like an effective way to structure an exam review period.

An interesting side benefit for the instructor emerged out of this activity. In those discussions, it became clear that students interpreted questions quite differently. She writes, "For me, this was the most valuable aspect of this exercise; I was able to see how one question could be interpreted. In the end, I became better at seeing these possibilities and started thinking more about the questions I write for exams. As a new teacher, this lesson was invaluable to me." (p. 51)

Deeter also used a second-chance exam technique. Attached to the back of each exam was a blank piece of paper. Students could use this sheet to write down any questions that they could not answer or questions where they were unsure of the answer. Students then removed this sheet from the exam, took it with them and prepared answers to those questions. They were allowed to consult any resource

except the teacher and their revised answers had to be submitted the next class period. If they missed the question on the original exam but answered it correctly on this second chance exam, half of the credit lost was removed.

Students reported that this technique greatly reduced their exam anxiety. From the instructor's perspective, the technique helps students learn from their mistakes. They are not told the correct answer, instead they have to think about what the question is asking, come up with an answer and then determine if that answer is the correct one. There is one drawback with the technique: it means more grading for the instructor, which makes it a less appealing option in a large class.

Finally, Deeter used an interesting pre- and post-test strategy. During the first lab period of the course, students took a short exam that included 20 true-false questions, 10 matching questions, and one fertilizer calculation. The exam was scored and discussed but not returned to students. At the end of the course, students took the same test, this time as a surprise quiz. Once graded, it, along with the first one, were returned to students. Students had in their hands tangible evidence of what they had learned and how much progress they had made in the course.

Deeter honestly reports her own nervousness to try these and the other techniques she used (which are described in the article referenced below), but student endorsement (after some initial hesitation) convinced her of their merit. "In my opinion, this group of students not only learned a great deal about plant identification, but about the teaching and learning process as well." (p. 51)

Reference: Deeter, L. (June, 2003). Incorporating student centered learning techniques into an introductory plant identification course. *NACTA Journal*, 47-52. ♥

Research and Practice: A Bridge at Last?

If you have read this newsletter for more than a few seasons, you will likely recall at least one (if not more) occasion when the editor has waxed eloquent (at least tried to write with conviction) about the unfortunate and destructive disconnect between research and practice. The objections raised against those who research are twofold; they often don't ask questions that are meaningful and relevant to those of us who work in the classroom; and when the work is relevant, they usually don't spell out the instructional implications, as in tell us what we might do as a consequence of their findings. For those who practice, the objections involve the continuing ignorance and occasional flagrant disrespect of the research-based knowledge that should inform instructional practice coupled with the all-too-regular lack of systematic exploration and analysis of why what we do works. This criticism is delivered more gently because many who read the newsletter are committed to grounded instructional practice.

It was then with some excitement that this month's reading for newsletter materi-

al uncovered a long but well-written and exceptionally useful review of research on student motivation (highlights of its contents next month) that begins by summarizing some new thinking from the research side about basic (or pure) research and applied research. The proposal is that we abandon thinking that positions these two at opposite ends of a continuum and instead see them as two dimensions that when crossed result in the familiar two-by-two matrix with four quadrants.

These quadrants have been described and named by D. Stokes who writes about them in a 1997 book, *Pasteur's Quadrant: Basic Science and Technological Innovation*. In one of these quadrants belongs work that has a high value for scientific knowledge but low utility, called Bohr's quadrant, after the physicist who only concerned himself with understanding atomic structure, not with its practical applications. In another quadrant is work that is highly useful but is not explored to advance scientific knowledge. This quadrant is named after Edison, the great inventor who focused his attention on the

practical uses of electricity but not with any intent of deeper scientific understanding. Then there is an unnamed quadrant for work with low scientific value and low utility. An example might be the research done by those learning to do research.

Of most interest however, is the quadrant that contains work that has both high scientific value and high usefulness, named after Pasteur who added to the basic scientific understanding of microbiological processes of disease at the same time he developed procedures that prevented staples like vinegar, wine, beer, and milk from spoiling. This cell also called use-inspired basic research is especially relevant and appropriate for research on teaching and learning. Writing specifically about research on motivation, P. Pintrich, author of the review and one of the foremost researchers on motivation, observes, "We should be striving for both goals of contributing to basic scientific understanding of motivation as well as **developing useful ideas and design principles to improve motivation**

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A Resource to 'Measure' Intrinsic Motivation

Some days it feels as though the entire educational enterprise is driven by extrinsic motivation — students doing what they do because they "have" to. They take the course because it's "required." They read the text because if they don't, they'll be quizzed. They participate in class because it's worth points.

But any effort to learn runs so much faster and smoother when the energy comes from inside, when the student learns because they want to. The learning still takes effort, but it is expended without noticing or caring that hard work is involved. But how do we decrease students' and our dependence on that other energy source for motivation?

Obviously there is no easy answer, but perhaps the place to begin is with a clear-

er understanding of what intrinsic motivation is, and one sure way to make something that abstract concrete is by trying to measure it. Brian French and William Oakes have developed an instrument that aims to measure the intrinsic motivation of first-year college students. It contains four subscales that might be considered the four dimensions of intrinsic motivation. The choice of these scales comes from previous theory and research that has tried to identify the ingredients or components of intrinsic motivation.

- **Challenge** — Students are intrinsically motivated if they believe that academic experiences challenge their skills. Nobody finds much interest in learning what they already know. Now the level of the challenge students perceive is

definitely relevant. If, for example, they don't have very good self-esteem, any sort of challenge that looks difficult may not motivate them because they don't believe they have what it takes to successfully accomplish the task.

- **Control** — Intrinsic motivation is related to control. For example, students are more motivated if they believe their efforts will pay off. Choice and power are also strongly associated with intrinsic motivation. This helps to explain why motivation is so often missing when students enroll in "required" courses.
- **Curiosity** — Any learner must want to acquire new knowledge. It also helps to

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Evidence of Student Consumerism

Of all the issues discussed in this newsletter over the years, none engenders as much response as the idea of education as a product and students as consumers. Every time we do an article on this issue, you respond. Although there are aspects of the comparison that are meaningful, like the way it reminds of us of how central students are in all our education efforts, most faculty find the metaphor very troubling. Educational “customers” are not always right, and if our ultimate objective is to please them, we end up seriously compromising the “product” we have to offer.

But many (most notably outside constituencies) still tout the metaphor, probably because it fits so comfortably with what motivates students to acquire a college education today. Now, a whopping 75 percent report that they want to go to college so that they can make more money. That percentage has increased by 21 percent in less than 25 years, according to one national survey. It makes college more about getting a credential and less about obtaining an education.

Although we frequently bemoan the metaphor and exchange stories illustrating its negative effects, not much data has been collected to document the extent and impact when students orient to college courses as customers. To add some empirical evidence to the debate, Michael Delucchi and Kathleen Korgen administered a 41-item questionnaire to 195 sociology majors enrolled in nine different courses taught by eight different instructors. Their goal was “to assess the extent to which students approach college with a customer service orientation.” (p. 101)

Their results confirm that this way of thinking about education is widespread, at least it was among this cohort. Nearly 43 percent of them agreed with this statement: “If I’m paying for my college education, I’m entitled to a degree.” (p. 103) Even more astounding, more than 73 percent of them agreed that they “would take a course in which [they] would learn little

or nothing but would receive an A.” (p. 103) Finally, almost 53 percent agreed that it was the instructor’s responsibility to keep their attention in class.

Some of the other results provide related corroboration. Almost 24 percent agreed that an instructor should take into account what grade is needed in a particular course to get into graduate school or to keep financial aid. Another 28 percent were unsure if they agreed or disagreed with this statement. The survey also listed 12 “kinds” of people (partiers, athletes, religious, political) generally a part of most campus communities. Respondents were asked to select the kind of person on the list they most identified with. More than 34 percent selected “casual students; the ordinary, average students.” (p. 103) Twenty-six percent most identified with a category identified as “students who are most concerned about studying and keeping up with course work.” (p. 103) The small percentage that selected this serious student category is confirmed by the almost 38 percent of this cohort who reported that they studied less than five hours a week and the nearly 70 percent who reported that they studied less than 10 hours a week.

Taken together what emerges is the profile of a student who expects to be served in an environment that requires him or her to expend little effort. In the words of the researchers, “Our findings ... buttress arguments concerning student consumerism in higher education. The results support the characterization of a student culture subscribing to the idea that higher education operates as a consumer-driven marketplace... .” (p. 104)

These findings are cause for concern. But there was one bright spot. Researchers also asked students to identify which of the 12 “kinds” of people they wished that they were more like. More than 26 percent of the sample wished they were more like the students who were concerned about studying and keeping up with their course work. “This result is an indication that

some of our students may respond favorably to administrative and pedagogical practices designed to help them take their studies more seriously.” See the article on “Student Consumer to Independent Learner” for an example of a set of pedagogical practices that worked.

Reference: Delucchi, M., and Korgen, K. (January 2002). “We’re the customer—we pay the tuition”: Student consumerism among undergraduate sociology majors. *Teaching Sociology*, 30, 100-107. ♥

RESEARCH

FROM PAGE 3

in educational and other teaching and learning settings.” [bold added] (p. 669)

Those are encouraging words indeed, especially when they come from such a prominent researcher. Equally relevant however are the responsibilities spelled out for those of us who apply these findings. We may work more in the Edison quadrant, ever after those techniques and strategies to use in our classrooms, in our programs, and at our colleges that effectively motivate our students, for example. But if our work stays in this quadrant, if it is not accompanied by efforts that explore scientifically why and how these strategies work, our work may usefully advance what we do in the narrow frame of personal experience or institutional context, but it will not add to the scientific knowledge of motivation or whatever else it is we seek to improve. It is when those who apply and those who research begin to work in the same quadrant that potentially exciting outcomes are possible, ones with the power to finally bridge the great divide between research and practice.

Reference: Pintrich, P. R. (2003). A motivational science perspective on the role of student motivation in learning and teaching contexts. *Journal of Educational Psychology*, 95 (4), 667-686. ♥

From Student Consumer to Independent Learner

Borrowing the title from the article referenced below, what follows highlights experiences in a course designed to address the student consumer issues identified in the “Evidence of Student Consumerism” piece, also appearing in this issue.

Authors reporting on this experience start where the research data ends: “How do you move students from thinking of themselves as student consumers to thinking about themselves as life-long learners? What kind of curriculum, what kind of instruction can facilitate this change in academic self-identify?” (p. 11)

In this example, the program happens to be a two-year, associate’s degree in Electronics and Computer Technology (ECT), the only associate’s degree program offered at this basically baccalaureate institution. According to the authors, “the stereotype is that ECT students tend not to be very academic, and tend not to be readers and writers but to be kinesthetic or hands-on learners.” (p. 14-15)

A cohort of six within the class were surveyed extensively initially about their views of learning on their own. The article includes many quotes from the students which the authors then sum up this way: “They talked quite literally in consumer terms about getting their money’s worth as students, which to them meant being taught under the traditional transmission model of instruction. Their responses implied that they understood independent learning to mean they’d be left completely alone with no access to resources, including the instructor.” (p. 16)

This cohort then may have been more resistant to change than other student groups. But there was a strong mandate for change — one that shows how orienting to education as a consumer diminishes the value of what is learned in college courses. In this case, again the authors are honest in a most helpful way: “Companies that hire students from our institution note that students seem to possess sufficient technical skills, but they can’t demonstrate very

well what they’ve learned, either verbally — they can’t talk about what they know — or in problem-solving — they can’t apply their knowledge to a new situation.” (p. 12)

Couple that concern with the nature of knowledge in this rapidly changing field where what students learn is often obsolete by the time they graduate. In this case it is very important that student “understand the distinction between short-term training and life-long learning.” (p. 12)

A number of curricular changes were instituted, but the one highlighted in the article involved a capstone course taken during students’ fifth term in the program. In the newly designed version of the course, students were given a programmable integrated circuit (PIC) and a program code unfamiliar to them.

The assignment was to work in groups and learn enough about the PIC that they could program it to execute the code.

For example, in one class students were given a railroad circuit that could sense where two model trains were on a given track. Depending on the location of the trains, the circuit could direct the trains to change speed or switch to another track. Students had to demonstrate their knowledge by showing the instructor their circuit in operation. They also had to write a troubleshooting guide and make a PowerPoint presentation about the project to technical and non-technical guests.

In the new course the instructor facilitated the process and acted as a resource for students.

Interestingly, professionals from the learning center also participated in the course. Their task was to help students “understand the new learning dynamics of the course and to develop essential learning-to-learn skills.” (p. 14) This involved making presentations at the beginning of the course that helped students understand why the course was being taught in this way.

Students were encouraged to express their concerns about independent learning

so that they could be addressed and diffused. Learning center staff also were available during labs hours. During those times they helped students with problem-solving strategies, small group dynamics and communication issues.

As these authors correctly observe, it takes more than a 15-week semester to change student identities. These students “struggled to make the transition from novice to expert,” but by the end of the semester even the most resistant was making statements that indicated a change in identity and most could see the purpose and value behind the objectives of this course. They had started the move from student consumerism toward more independent learning.

Reference: Lewinski, C., and Hagemann, J. A. (2003). From student consumer to independent learner: Changing self-identities in an electronics class. *The Journal of Teaching Academic Survival Skills*, 5 (Summer), 11-22. ♥

CLASSROOM CULTURE

FROM PAGE 1

Despite our many concerns about students, as educators we spend little time considering the conditions that actually inspire student learning. The eight conditions just outlined remind us that as professors we have the power to improve the teaching and learning environment in each and every one of our classes. ♥

Graduating Senior Seminar Benefits Students, Program

Seniors in an agricultural business program at Iowa State University are required to take a course that aims to accomplish four important goals: 1) to help prepare students for graduation and job placement; 2) to collect information from students about their experiences in the program; 3) to introduce students to their role as alumni; and 4) to enhance relations with students.

The course is required but because it does not disseminate subject-matter content, it does not carry credit. Students meet for hour-long sessions five times during the semester; once during the first week and once a week during the last four weeks. During the first session, graduation requirements are reviewed with students for one last time and upcoming deadlines discussed. Students also provide the department with information on the status of their job search, identifying particular career interests. A representative from the career services office also participates in the session, providing background information on the job market as well as making students aware of how that office can support their job search activities.

Sessions two and three are devoted to accomplishing the second goal, which was the reason the course was created in the first place. During that class session stu-

dents complete seven different surveys that solicit assessment data: 1) they evaluate the program, offering suggestions for changes and identifying the best courses they took by responding to a series of open-ended questions; 2) they evaluate the program by completing a 30-statement closed-question survey; 3) they evaluate those instructors from whom they have taken at least one course; 4) they offer feedback on the quality of advising they have received in the program; 5) they complete a self-assessment which asks them to rate their own ability to perform certain tasks and skills; 6) they take a short multiple-choice test that covers basic economic principles and concepts; and 7) they complete an employer/employment survey that solicits information on job choice and job-related criteria. Because the class is required, the department obtains this valuable feedback from 100 percent of its graduates.

A variety of advisers, administrators, and faculty participate in session three of this course, which features an oral discussion about the program. "Students are invited to comment on anything they liked or disliked related to their experiences in the program." (p. 16) During this large exit interview, faculty listen, they may take notes, but they are not allowed to dominate the discussion. Interestingly, students

frequently find out that some of their very strong opinions about a particular course or instructor are not shared by all their colleagues. This helps students see how difficult it is for a department to design a program that pleases all students equally.

To address goal three, the fourth session of the class includes a 10-minute presentation by someone from the alumni office. The remainder of the session is spent exploring a variety of issues related to financial planning. A certified financial planner discusses topics like savings and retirement plans, paying off loans, buying houses and cars, and managing credit cards, among other topics.

The final session gets students set with all graduation procedures. Information about plans after graduation is solicited as well as a copy of each student's resume. The session ends with a reception during which each student is recognized individually and presented with a small gift. Students leave this course and program knowing that the department values their opinions, and cares about their experiences, and future successes.

Reference: Deiter, R. (June 2003). A course every department can (should?) teach — Graduating senior survey. *NACTA Journal*, 14-17. 🍀

MOTIVATION

FROM PAGE 3

have had satisfying previous learning experiences — to have mastered something and felt the sense of satisfaction and accomplishment that brings. Curiosity is often what makes faculty such master learners.

- **Career Outlook** — This aspect of intrinsic motivation has to do with how future-oriented the student is. If students see themselves with a college degree, gainfully employed and happy with their chosen work, that future goal can be a source of motivation for the

tasks at hand.

In this article, French and Oakes report on the development and testing of an instrument that incorporates these four subscales. The instrument is included in the article. It is recommended for use in first-year seminars for several reasons. This is the time when motivation plays a key role in those early decisions to stay or leave college. Unlike other measures of motivation that use many items and take considerable to administer and score, this instrument has only 25 items — so it can be easily used in a seminar. Faculty within a college community benefit from knowing something about the intrinsic motiva-

tion of their beginning students, but even more importantly, this is information of great value to students. They may know that they aren't very motivated, but they may not know anything about the details. This is the type of instrument well worth administering and discussing in a first-year seminar or any course that enrolls a lot of beginning students.

Reference: French, B. F. and Oakes, W. (2003). Measuring academic intrinsic motivation in the first year of college: Reliability and validity evidence for a new instrument. *Journal of the First-Year Experience*, 15 (1), 83-102. 🍀