

# Alignment for Learning

## REORGANIZING CLASSROOMS AND CAMPUSES

*In the previous issue, John Tagg explored the real possibility that our policies and processes may be encouraging grade-grubbing careerism among students.*

*Here he offers a powerful approach to real structural change.*

BY JOHN TAGG

**Y**OU WERE SEATED AROUND A TABLE in the cafeteria, seven of you—yourself and two other classroom teachers, a counselor, a librarian, a researcher, and an academic technologist. Two of your colleagues, the counselor and the librarian, were hotly asserting contrasting versions of educational practice.

“You learn by study, by developing the discipline to pursue a problem on your own,” said the librarian. “I didn’t learn to do that until graduate school; as an undergraduate I didn’t have to. I could pass the tests with the help of my study groups, but I never learned a discipline

from the inside, never learned what scholarship really meant, until I had to write my thesis, on a subject that I chose and really cared about. Ultimately, students need to find their motivation within themselves, or they aren’t really learning.”

“But most of our students,” the counselor replied, “will never get to the point of serious scholarship without the social support of other students. They need to learn that scholarship and research are collaborative activities. We should be providing not just individual instruction but creating communities.”

This informal group of seven educators came together in response to an unsuccessful proposal you had made at a curriculum committee meeting a few months ago. [Editor's note: See John Tagg's article *Why Learn?* in *About Campus*, vol. 9, no. 1.] Your proposal was to explore whether the actual experience of students in their classes was serving the purposes that the institution said it should. The proposal didn't get very far, but it sparked serious interest in this small group of faculty and staff members.

The group, which found a free hour in common once each week, began by telling one another stories about students they had encountered. This led to some rambling conversations about the "meaning of higher education," but after a couple of weeks you tried to focus your discussions. Some members thought the central question was the curriculum; some said it was assessment, and others pedagogy. Your counselor made a suggestion that helped you put your questions in a rational order: "I think we agree on the ideal: we want students to take a deep approach to learning. We should start with the students and ask what being a student means to them, what the college means to them. Then we can think about how to change the reality to match the ideal." So you pooled your knowledge and told one another some more stories.

Evidence emerged that students were getting mixed messages. Students read in the catalogue about liberal learning and civic responsibility, but they found that their "value" for the purposes of the institution was largely determined by the transcript of grades, a code that no one could interpret consistently for them. They heard from advisors about the importance of planning carefully and setting clear goals—only to be thrown into what seemed a random lottery of classes. Even within a single class, the teacher would lecture to a crowd of students about how they needed to think critically and develop their own ideas—and then would base their grade on bubble-sheet tests where success depended on getting what the teacher had designated as the right answer. The advisors they most admired would often urge them not to become fixated on grades and to develop their own ideas rather than just trying to produce what their teachers wanted, but graduate schools and employers, they heard, were looking mainly at their grades.

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What the college said to students was not aligned with what the college did to students. Students found that the values that seemed to drive policy shifted from department to department, course to course, term to term. So you found many of your students reflexively reverting to the lowest common denominator. They became cynical about "academic values," not because they were born cynics but because they were suffering from whiplash after trying to keep their eyes on the "real meaning" of all this. The only policy that made sense to them was to look past it all to what was on the other side of the mixed messages: a job.

You and your colleagues, of course, might have been seeing the students' experience through dun-colored glasses. So you did some reading. Arthur Levine and Jeanette S. Cureton reported the results of the Carnegie Council on Policy Studies in Higher Education surveys in the 1990s. Those surveys confirmed many of your fears: "Fifty-seven percent of undergraduates believe that the chief benefit of a college education is increasing one's earning power, an 11-percentage-point increase since 1976" (p. 115). Perhaps even more arresting, "More than one-third (37 percent) admit that, if they thought attending college wasn't helping their job chances, they would drop out" (p. 116). The report quoted an undergraduate from Georgia Tech: "Academics are a means to an end. There is no emphasis on learning for its own sake" (p. 115). It reminded you of a characterization you encountered in another critique of higher education by William Willimon and Thomas Naylor, from a University of Michigan graduate: "So you get here and they start asking you, 'What do you think you want to major in?' 'Have you thought about what courses you want to take?' And you get the impression that's what it's all about—courses, majors. So you take the courses. You get your card punched. You try a little this and a little that. Then comes GRADUATION. And you wake up and you look at this bunch of courses and then it hits you: They don't add up to anything. It's just a bunch of courses. It doesn't mean a thing" (pp. 57–58).

You hoped that most of your students wouldn't go that far. But you found that you were a little nervous about putting the question directly to your students. You weren't sure you wanted to hear the answers. So you put it to your colleagues instead: What exactly does a college education mean here? How do we expect students to know it? Some responded with arguments, some with despairing complaints. You sat down together and looked at your distributional general education requirements and came to the conclusion that it was, indeed, just a bunch of courses. If it meant anything, it would require skills beyond yours, much less the average entering student's, to tell what.

# What if, instead of viewing institutional structures as fixed and inviolable, you started with educational goals and aligned the policies and practices to them?

As you raised these issues with colleagues outside your group and compared notes on these conversations, something interesting emerged. You found that when it came to practical questions of policy, people rarely based their judgment on what they said they really believed was important. You found that most of your colleagues in the institution seemed to have broad areas of agreement on some fundamental academic values. They could also see how institutional policies worked against those values in many cases. But when push came to shove, they seemed to assume that existing policies were unchangeable and even the most fundamental values would need to be compromised.

What if, you asked, you took the opposite approach? What if, instead of viewing institutional structures as fixed and inviolable, you started with educational goals and aligned the policies and practices to them? You could agree that the muddled messages students were getting from the institution discouraged them from taking a deep approach to learning. It encouraged them to think in terms of external demands rather than their inner motivation, to think in terms of short-term reward instead of long-term growth, and often to be skeptical of institutional claims even when those claims were true. So what could you do about that? How could you get leverage with students to motivate them to take a deep approach to learning? The obvious answer, of course, as your biology professor pointed out, was "Do what we say we want to do: align our practices with our values." OK. But where would that begin? What basic idea would you use as a template to align everything else with? At that stage, you were looking for one idea or concept, one educational practice that could serve as a touchstone for the realignment.

This was how the controversy arose over the competing values of independent study and collaborative work. As a classroom teacher, you were torn between two views: on the one hand, that students needed to find their intrinsic motivation, to pursue goals they personally valued; and on the other, that students needed to work collaboratively with one another. Each of these

views was presented by its advocates in the group as the cornerstone for realignment of the whole educational program. You could see both points, but neither seemed complete.

## MAKING MEANING

**Y**OUR PHILOSOPHER suggested taking a step back, and asking more basically what you wanted students to do, and then exploring how they might do it. "The main task," she said, "that students must perform in order to succeed as students by any rational educational standard is to *make meaning*. That's not to say that they must be shockingly original or avant-garde. It is simply to say that students must constitute in their own minds the meaning of what they learn."

Indeed, a deep approach to learning is, by definition, an approach that seeks to assign meaning to the object of learning. A surface approach, by contrast, is one that attends to the signs rather than to what they signify. To remember a set of terms for a test and then forget them is not a valuable experience in the long run. But the student who makes meaning around a new term or concept, who therefore understands it, comes away different; the value of the learning survives beyond the immediate assessment.

As John Biggs puts it in *Teaching for Quality Learning at University*: "Learning is . . . a way of interacting with the world. As we learn, our conceptions of phenomena change, and we see the world differently. The acquisition of information in itself does not bring about such a change, but the way we structure that information and think with it does. Thus, education is about *conceptual change*, not just the acquisition of information" (p. 13).

Meaning emerges when students can connect—we might say *align*—the new information they are encountering with what already makes sense to them. Paul Ramsden reports that in surveys of student approaches to learning, students who take a deep approach to learning affirm such statements as "In reading new material

I often find that I'm continually reminded of material I already know and see the latter in a new light" (p. 52). Students who take a surface approach, by contrast, are more likely to say "Although I generally remember facts and details, I find it difficult to fit them together into an overall picture" (p. 52).

## PERSONAL AND SOCIAL MEANING

**Y**OU COULD EASILY agree on a few things. If students are to integrate new information into their own way of thinking, they must see its personal significance to them as individuals. They must be using that information to reach their personal and individual goals, not merely those of someone else. Indeed, there is an intimate relationship between motivation and meaning. The goals that we seek to achieve, if they are truly to inspire and guide action, are always formulated in terms of our personal vocabulary of the meaningful and significant. So the meaning students make must be personal meaning, or it is not meaning at all. At the same time, students, like the rest of us, seem to be thoroughly social creatures. Students require connection and support from a strong community in order to succeed in college. This seems a bit paradoxical. Meaning, and hence meaningful goals, largely depend on the individual; two students may have very different goals. Community support, however, depends on other people.

Unless students are pursuing goals they consider important and valuable for their own sake, they don't work very hard, don't accomplish very much, and are unlikely to retain what they learn. Albert Bandura, professor of psychology at Stanford University, points out in *Self Efficacy: The Exercise of Control* that "goals are unlikely to have much effect if there is little personal commitment to them. Goal commitment can be affected by the degree to which they are personally determined. When people select their own goals, they are likely to have greater self-involvement in achieving them. If goals are prescribed by others, however, indi-

viduals do not necessarily accept them or feel obligated to meet them" (p. 218).

Schooling, not just in higher education but K-12 as well, tends to teach students that goals prescribed by others not only take priority but also define their roles as students. The external reward mechanism of grading and certification instills in students early on a belief that their own purposes are secondary to those of "the system." Laurence Steinberg of Temple University conducted an extensive study of high school students, reported in his 1996 book *Beyond the Classroom*. He found that "intrinsic motivation plays a relatively small role in motivating student performance in adolescence and beyond. . . . The most common reason students gave for trying hard in school was not genuine interest in the material, but getting good grades in order to get into college" (p. 74). This is consistent with what the Carnegie Council and others found in college students. Another way of putting it is to say that schools and colleges tend to encourage students to see extrinsically defined *performance goals* instead of personally determined *learning goals*. Because learning goals are goals for personal change, they must emerge from the student's personal ideas and aspirations.

What then, you asked, should colleges do? Rapidly expand offerings in hip-hop music and the literature of comic books in order to tap into students' "intrinsic" motivations? That, you decided, would be a dismal prescription, a cure as debilitating as the disease. But before giving way to despair you considered how people form goals. Bandura points out: "Most of the things people enjoy doing for their own sake originally held little or no interest for them. Children are not born innately interested in singing operatic arias, playing contrabassoons, solving mathematical equations, writing sonnets, or propelling shot-put balls through the air. But with appropriate learning experiences, almost any activity, however trifling it may appear to others, can become imbued with consuming personal significance" (pp. 218-219).

After trading confirming and questioning examples of your students and of your own children, you agreed

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You ended up framing the issue this way:  
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that personal goals and meanings were subject to so many factors and influences that there was no way to simply manipulate them, and that if there were you wouldn't want to. The students who came to your institution, you all recognized, were not clay to mold but people with a right to choose their own way. Your goal was not to shape them in a predetermined mold, but to open up to them the possibilities of growth.

So, what does inspire intrinsic interest? You encountered a powerful clue in the work of Etienne Wenger, senior research scientist at the Institute for Research on Learning. We learn and achieve intrinsic involvement through *practice*. "The concept of practice," he says in *Communities of Practice: Learning, Meaning, and Identity*, "connotes doing, but not just doing in and of itself. It is doing in a historical and social context that gives structure and meaning to what we do. In this sense, practice is always social practice" (p. 47).

Indeed, Wenger identifies these enabling contexts as *communities of practice*. The reason practice in a community of peers is an excellent context for learning and motivation is that it is preeminently through such contexts that we construct and revise meaning. "Practice is," says Wenger, "first and foremost, a process by which we can experience the world and our engagement with it as meaningful" (p. 51). But we do not come to those meanings by sheer willpower or through simply adopting them whole from others: "All that we do and say may refer to what has been done and said in the past, and yet we produce again a new situation, an impression, an experience: we produce meanings that extend, redirect, dismiss, reinterpret, modify or conform—in a word, negotiate anew—the histories of meanings of which they are a part. In this sense, living is a constant process of *negotiation of meaning*" (pp. 52–53).

We make meaning, then, not out of whole cloth or as an act of unbridled invention. Rather, we engage in a process of give-and-take with others, a conversation in which we stretch the bounds of settled meanings, reach for more, and modify our own understandings in

light of meanings that others bring. Conversation linked to practice produces ill-structured problems of the sort that require reflection and adjustment. We cannot memorize the right answers that lead to a mutually meaningful engagement with other minds. We must assert, assess, and adjust meanings in light of personal and shared purposes. It is through practice that meanings grow into goals, that we shape our purposes in the matrix of contested possibilities that a community creates.

Deny us a community of practice and you deny us the tools we must use to refine our understanding so as to effectively set our own goals. A rich learning environment would require that students continuously negotiate meanings with one another in order to develop those goals to which they can make a personal commitment.

*Learning communities* are an example of such an environment, a curricular design that brings students together from two or more classes in a team-taught, interdisciplinary program that emphasizes reflection, discussion, and collaboration. It is a designed community of practice in an academic setting.

In your group's research, you came across a study of learning communities that Vincent Tinto, Anne Goodsell-Love, and Pat Russo conducted at three institutions for the National Center on Postsecondary Teaching, Learning, and Assessment at Pennsylvania State University. They found that these courses "provided a space for the emergence of a supportive community of peers that continued outside the program" (p. 6). One student they interviewed at LaGuardia Community College in New York described the impact of the close collaboration with other students: "In the cluster we knew each other, we were friends, we discussed everything from all the classes. We knew things very, very well because we discussed it all so much. We had a discussion about everything" (p. 8).

On a recent trip to a college with an extensive learning community program, I had the opportunity to

visit several classes and ask students about their experiences. Many of them, in words of their own, reported the views expressed by the La Guardia student. In a developmental learning community that combined English study skills and mathematics, a young woman—I'll call her Jane—explained that she and her sister were both taking the same math course; she was taking it as part of the learning community and her sister was taking it as a stand-alone course. In the learning community, students worked through problems in small study groups and wrote about mathematical concepts to clarify them to one another. Jane said that when she sat down to talk with her sister about their very similar homework, her sister repeatedly stopped her for explanations: "What does that mean?" "How did you do that?" Her sister had memorized the algorithms and could get many of the right answers on tests, but she didn't understand the concepts. Jane and several other students said math had always been difficult for them, but they had actually begun to enjoy it in this class. In other words, their self-theories in the domain of mathematics were changing; they were beginning to experience the intrinsic rewards of understanding as they negotiated the meanings of mathematical concepts in a community of practice. Jane's sister was learning algorithms because she wanted to pass a test; Jane was learning concepts because she enjoyed the shared understanding she was beginning to achieve with her peers.

### A DESIGN FOR LEARNING

**Y**OUR INFORMAL GROUP of seven made considerable progress. You did some common reading, continued to meet together, and resolved the dilemma of choosing between the one over the many. But what you found was that there was not a single touchstone practice that could serve as the anchor for the aligned institution; there were apparently several interconnected principles. Your informal task grew beyond the bounds of your weekly conversations. You

didn't want to just quit, but you all had full-time jobs. It turned out that one of your members, the chemist, had a slight acquaintance with your new provost, saying she was "the real thing" and would not laugh you out of the room if you took your problem to her. So, having no other options you could think of, you did.

Before talking with the provost, you debriefed on your own understanding of what it was that you were doing and what you wanted. You ended up framing the issue this way: you had discovered that many institutional structures and processes were misaligned with the goal of promoting deep learning for your students. You thought you were on the verge of being able to describe what some of the characteristics of an institution aligned around learning might be—of outlining how faculty members, departments, programs, and the institution itself could promote a deep approach to learning in your students.

She didn't laugh. In fact, she said that the separation of theory and practice had been bothering her, with increasing persistence, for twenty years. She made you a working group of the new task force on general education, negotiated a modicum of released time from your regular assignments, and gave you a deadline. After a summer of reading and another semester of work (this time, of systematic joint inquiry), you thought you had something.

You saw that the relationship between intrinsic goals and collaborative thinking turns out not to be a conflict at all, but two complementary aspects of the same process. A healthy learning environment is one that supports both. Promoting intrinsic goals and creating communities of practice for students are aligned processes that jointly reinforce a deep approach to learning. Furthermore, they imply other characteristics of a healthy learning environment. The hardest part was holding it all together. But your counselor came up with a useful metaphor that you thought would help you to explain how it worked.

He came across it in a book on K-12 reform, *Smart Schools*, by David Perkins of the Harvard Graduate

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School of Education. Perkins criticizes the conventional model of "motivation" for viewing students as inert objects "responding blindly to the pushes and pulls in the school setting" (p. 158). Rather, he suggests, we should think of students as rational beings, choosing a course of action within "the metaphorical economy of costs and gains that students encounter"—"the cognitive economy" (p. 156). Students feel constrained; they think that there are a specified set of benefits that they have access to in college, and they try to get the greatest benefit for the lowest cost. They are rational, but they believe—not unreasonably—that the environment shapes their options. All of the classroom teachers in your group could provide examples of how students look to the teacher, who controls the rewards, as defining the possibilities for learning. The goal of liberal education, you all agreed, should be to create a cognitive economy that would produce cognitive entrepreneurs, independent and reflective thinkers.

That goal would be achieved by what Perkins calls a "hot cognitive economy": "One might call the cognitive economy of the typical classroom a 'cool' rather than a 'hot' cognitive economy—one that does not motivate the energy needed for complex cognition of students but runs at an altogether lower level of cognitive demand" (p. 159).

What would make up a hot cognitive economy, not just for a classroom but for the college? You were now in a position to describe such a learning environment. You came up with six headings.

**Goals.** A cool cognitive economy, you concluded, would emphasize extrinsic goals. A hot one would *promote intrinsic goals*. Not in the sense of seeking out the trivial or easy, but by supporting students in discovering the value and power of learning, in making meaning for themselves. You were forced to agree that your institution, by making the grade on the transcript the only form of institutionally recognized evaluation, tended to create a cool cognitive economy.

**Activities.** A hot cognitive economy would require *frequent, connected, and authentic student performances*. You settled on the term *performance* because it implies a kind of practice, a kind of work that stands on its own, that can claim independent value. To study for a test or even write an essay reporting your knowledge is an activity. To write an essay with the hope of changing your readers' minds, or to solve a real problem that affects real people, or to entertain or enlighten others is a performance. Performance, we might say, is *authentic activity*, in the sense that it is directed, at some level, to a larger community. So a hot cognitive economy is one that requires student learning—and assesses it on the basis of performance. A cool cognitive economy would

settle for disconnected activities, many of them simply drills or tests and not significant performances at all. Alverno College, which has long shaped its curriculum around the goal of authentic assessment of significant learning, has made the principle explicit. In *Student Assessment-as-Learning at Alverno College*, you read: "The principle of *performance* requires that we assess abilities in action, in the kind of integrated situation in which students will use them in their life beyond campus. This principle insists that if we are to assess our students' thinking, we must find ways to make their thinking observable. If we are to assess their problem solving ability, we must observe them solving problems. If we are to assess their interactive ability, we must provide a situation and watch them interact" (p. 19).

You found from what limited evidence you had that most assessment that really counted in your institution consisted of tests, and the bulk of the tests were unrelated to real-world practice. You took an informal survey in your group, asking when was the last time any of you took a multiple-choice test. Your philosopher had taken one in a graduate-level education class during her last sabbatical, but the only nonacademic example you could produce was from your librarian, who recently had her driver's license renewed. The cognitive economy of your institution, you had to confess, did not emphasize student performances.

**Information.** You realized that if students were to pursue intrinsic goals they needed to find out whether they were achieving them. So a fundamental prerequisite of meaningful student performances in a real community of practice, you decided, is feedback. You settled on the term *feedback*, as Grant Wiggins defined it in his book *Assessing Student Performance*: "feedback is information that provides the performer with direct, usable insights into current performance, based on tangible differences between current performance and hoped-for performance" (p. 182). You contrasted feedback, in this sense, with *evaluation*, information that states or confirms a judgment on a performance or a person. A score on a test or a grade in a class is evaluation. Coaching on how to write a better essay or solve a problem more efficiently is feedback. A cool cognitive economy, you decided, would emphasize evaluation of student work and deemphasize feedback. A hot cognitive economy would provide *consistent, continuous, interactive feedback* to students about their performance. The central role of a teacher is, or should be, to ensure an ongoing flow of feedback to students about their performances. The National Research Council, in its 2001 report *Knowing What Students Know: The Science and Design of Educational Assessment*, puts it this way:

# The goal of liberal education, you all agreed, should be to create a cognitive economy that would produce cognitive entrepreneurs, independent and reflective thinkers.

Individuals acquire a skill much more rapidly if they receive feedback about the correctness of what they have done. If incorrect, they need to know the nature of their mistake. It was demonstrated long ago that practice without feedback produces little learning. One of the persistent dilemmas in education is that students often spend time practicing incorrect skills with little or no feedback. Furthermore, the feedback they ultimately receive is often neither timely nor informative. For the less capable student, unguided practice (e.g., homework in mathematics) can be practice in doing tasks incorrectly. . . . One of the most important roles for assessment is the provision of timely and informative feedback to students during instruction and learning so that their practice of a skill and its subsequent acquisition will be effective and efficient. [pp. 85–87]

Here you saw some bright spots at your institution. Disappointingly, most of them were outside the curriculum. Athletes and musicians, journalists on the student newspaper, and actors in the drama program all got rich feedback on their performances. But from your informal surveys and the evidence of a survey on assessment practices done a few years ago, you suspected that evaluation was much more prevalent than feedback in the cognitive economy.

**Time.** The time horizon of an activity or decision is determined by how long we expect to have to live with the consequences. Extrinsic goals, you found, invariably come with an expiration date. Performance goals defined by external rewards are accompanied, like the tapes on the TV series “Mission Impossible,” with the message “This goal will self-destruct in seventeen weeks.” Once the final exam is finished and the grades are in, the goal dies as a motivator for ongoing action. So a learning environment that is defined by extrinsic rewards imposes a fairly short time horizon on goal

achievement. Because our intrinsic goals emerge from what we fundamentally value, they carry a long time horizon. If I want to become a better singer or a better writer or a better father, I may take a class in voice or composition or parenting, but the end of the class is merely a stage, not a termination, of my learning process. A hot cognitive economy would *create a long time horizon for learning*.

Here again, you could find a few bright spots. Students who came to your institution to major in the performing arts and participated in extracurricular music or drama often took a very long view. But the curriculum was locked in the box of the semester. Furthermore, even where classes were closely connected in terms of subject matter and skill repertoire, students often seemed unaware of the connections. English and mathematics instructors and others who taught in tightly linked sequences of courses complained that a grade in the prerequisite course seemed not to ensure competence in the prerequisite skills. Many students seemed to think that the final exam was the endpoint of learning. As far as the academic curriculum was concerned, your students seemed to adopt a short time horizon.

**Community.** In a hot cognitive economy, you had seen, students would be *engaged in communities of practice* in which they would negotiate the ongoing meaning of their learning and their lives. Such communities of practice, you realized, were not simply nice but were necessary if students were to develop and embrace meaningful personal goals for academic work and invest themselves in serious and authentic performances to achieve those goals. The feedback that students require in order to more closely approach their goals must be mediated through a peer community pursuing common practice. In the absence of such communities of practice, the cognitive economy positively discourages the negotiation of meaning that can give life to academic work.

Again, you found some excellent examples of communities of practice in advanced majors and extracur-

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ricular activities. But the vast majority of students who had not begun work on the major (and many who had) were thrown in with a new group of strangers for each class, a group that was disbanded in favor of new cohorts of strangers at each transition to a new semester.

**Alignment.** Finally, you came full circle, back to the issue that had sparked your early discussions: mixed messages. You could see now that the five categories you had used to describe the cognitive economy of the college were so closely related that they could not be easily separated. Student performances without meaningful feedback would degenerate into meaningless display. Letting students pursue intrinsic goals without providing them with a community of practice to support them in developing and pursuing those goals would be futile. Feedback on student performances that was merely short-term and not connected with ongoing goals would probably be ignored. To what extent, you asked again, is the students' experience coherent, hence meaningful?

This, you realized, was the value of seeing the choice you faced in terms of the cognitive economy you were creating for students. An economy is a complex system, with different people pursuing competing interests and contrasting goals, and with varying degrees of dedication, ability, and resources. But out of the complexity and confusion emerge a system of incentives and rewards, rules and options, that condition to a great degree how individuals choose to behave. Likewise in the cognitive economy of the college. Students act reasonably given the rules and options we have created for them. They learn to interpret our avowals in light of our actions. They protect their interests as they respond to the incentives that the system allows them. A system that is poorly aligned, that sends students mixed messages, that tells them to do certain things and then undermines their ability to do those very things chills the cognitive economy dramatically.

Having produced this framework for analyzing the cognitive economy of your college, many questions remained. If you agreed on the outline of a hot cognitive economy, how would you achieve it? You brainstormed on ideas you had gleaned from your reading

and came up with enough to keep you busy for another year: learning communities, learning outcomes assessment, performance-based learning, portfolios, ability transcripts, capstone projects, self-assessment, first-year programs, service learning, undergraduate research, collaborative learning, and abundant combinations of and variations on them all. Creating a hot cognitive economy for your students, your group agreed, would require significant changes in assessment, course and curricular design, and pedagogy.

As you discussed how far to go in your first report, whether to make suggestions for new programs or simply frame the issues, the philosopher was looking over her outline of the characteristics of a hot cognitive economy. "You know," she said, "what we're talking about here is a very different way of looking at what we do than most of us are used to. We're asking people to start from the outcomes we want to achieve and reason back to the structures that can produce them. It's a completely different way of thinking, a paradigm shift. Whatever you call it, it's a big step. A big step in our thinking, that would lead to big changes in the way we do things."

"I think you've suggested a key challenge," said the academic technologist. "What happens so often around here—I've seen it over and over as we've adopted new technology—is that the parts of the institution, the departments and offices and institutes, run the whole. So we start all kinds of projects with the best of intentions, but too often we retreat from the big picture; we're pushed back behind those barriers we've talked about. Everything that has a budget line is in competition for turf with the rest of the institution. That's what drives us out of alignment, what creates the mixed messages. We have some good ideas here, but the key to it all is alignment. If we do this in separate boxes, so the right hand doesn't know what the left hand is doing, we'll end up traveling a long way to get to the same place. The parts will be different, but the whole will still be a mish-mash. The test will be whether we can keep our eye on the big picture, whether we can sustain a consistent commitment to supporting deep learning. Somehow, we have to get that across."

You saw his point. You saw, as well, that although you had accomplished much, you still had your work cut out for you.

### THE MEANINGS YOU MAKE

**T**AKE A MOMENT in closing to reflect on what you are doing right now. I mean not the hypothetical "you" whose bravery and persistence may (or may not) have set an institution on a new course. Set aside the hypotheticals and the role playing. I am speaking to you, whose hand holds the paper on which you are reading these words or whose finger stands poised above the Page Down key as you read them on the monitor. If you have made it this far, you are not doing so to prepare for a test. If you are still reading, you are exploring, conducting your own tests of the ideas proposed, shaping meanings. You are making, certainly not for the first time, the meaning of your work and the values that you bring to it. Even if you disagree with much of what I have had to say here, you are nonetheless negotiating the meanings of learning, of students, of college. You have, to some extent, embraced a learning goal yourself—perhaps in a casual and off-hand way, perhaps as a fundamental affirmation of what you are or hope to become. Perhaps this discussion has suggested new possibilities; perhaps it has summarized what you already knew. Whatever the case, you have been stimulated to some reflection. Will that reflection lead to resolution? Will thought lead to action? If so, then what you are doing now is the kind of meaning making that we want our students to do: negotiating meaning to shape goals for practice. You are producing now a model of the kind of engagement that your institution exists to generate in its learners. That would be good, because if we want to make learners we must be learners.

As part of your reflection, ask yourself this: How well aligned are your values and your work? How well does your institution support alignment for learning? Are you moving closer to the realization of your own goals as an educator, or further away? Can you even tell?

If you find that you and your institution are not clearly aligned, you have three choices. You can alter or suppress your values. You can despise much about your institution. Or you can change your institution.

In our hypothetical university, many educators were not being true to their own values but had come to habitually suppress those values, to set them aside as being impossible, unrealistic, incompatible with the system. So the misalignment of the institution mirrored the misalignment of those who did the work of the institution. I am afraid that this division of belief and practice is not so hypothetical in higher education today, and I wonder if you experience it yourself. If we hope to apprentice those who come to us in the ways and means of making meaning and achieving meaningful goals, then the last thing we must do is to stop negotiating the meaning of our own work and take our present practices as permanently settled. To do so would be fatal to the project we claim to embrace.

I am not suggesting here a new, rigid orthodoxy to replace the old one. I am suggesting that we do what we say our students should do: use the tools of scholarship and reflection to discover the meaning and revise the practice of our work. If we can't do it, we can't teach it.

We featherless bipeds, naked and frail amid the hearty progeny of the natural world, have become the sovereign governors of all creation because of a single quality that we supremely possess and that makes us distinct: we learn. All animals learn, of course, but we alone produce and preserve ideas, and make, negotiate, and remake meaning. We learn deeply and retentively; we change as we learn, and we become more than we were, individually and as a species. Generation after generation, haltingly, intermittently, we do not merely evolve; we progress. Learning is not incidental to the human condition; learning is what makes our condition human.

So we who are custodians of the citadels of learning must learn. Our charge and calling as educators is to show our apprentice learners how to live the life and do the work of making meaning. What you are doing now—sorting through your confusion, testing from your own experience the ideas you have encountered,

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forming hypotheses about how these ideas might be reshaped for the context in which you work—is part of the process of making meanings that you can then test in concert with the communities of practice that make up your institution. You are making the meaning of your own work, and the meanings you make and that shape the practices of your institution are the conduits to the future, for better or worse, for the students whose lives you touch. College can be a bunch of classes that don't mean a thing, or an enabling apprenticeship into life-long learning. What will you make it?

**NOTES**

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