



# The New Pathway At Harvard

**W**hen Harvard Medical School began the first semester of its "New Pathway" program last fall, it was greeted with both enthusiasm and skepticism. "We have some faculty members who wished the program would just go away," said Dr. Gordon Moore, New Pathway director. "They feared it could change the way they teach."

Perhaps their fears were justified; New Pathway *wants* to change the way medicine is taught. Traditionally, students spend the first

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two years mastering basic science material that is presented in lectures, textbooks and laboratory exercises. New Pathway's designers believe this method presents material out of context, failing to connect it to the practical role of a physician. "The simple question, 'What's it like to have a bad knee?' is deferred to understanding the anatomy of the joint," observed Moore.

In New Pathway's first year, 24 of the 160 entering students are participating in the alternative program. They take histories, do rudimentary physical exams and meet one af-

ternoon a week with a tutor. As students learn chest anatomy in an anatomy/histology block called "The Body," they also are taught how to examine the chest.

"Problem-based learning" forms the core of this new program. Six to eight students gather in small tutorials and study all aspects of a test case. While a heart attack case usually focuses on valves and ventricles, it also may stimulate discussion of disease prevention, how to talk to patients' relatives, and may even delve into social medicine and public policy about CPR. The student uses the case as a focal point to learn about ethics, humanities in medicine, and patient personality. "There will never be a separate curriculum for ethical or social issues,"

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said Dr. Susan Block. "They'll always be probed in the same cases."

"We're asked what's so new about our approach," said Luann Wilkerson, director of faculty development. "Traditional medical school

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educators maintain they've always taught problems, with clinical cases in the third and fourth years and clinical correlations the first two years. However, we're using the

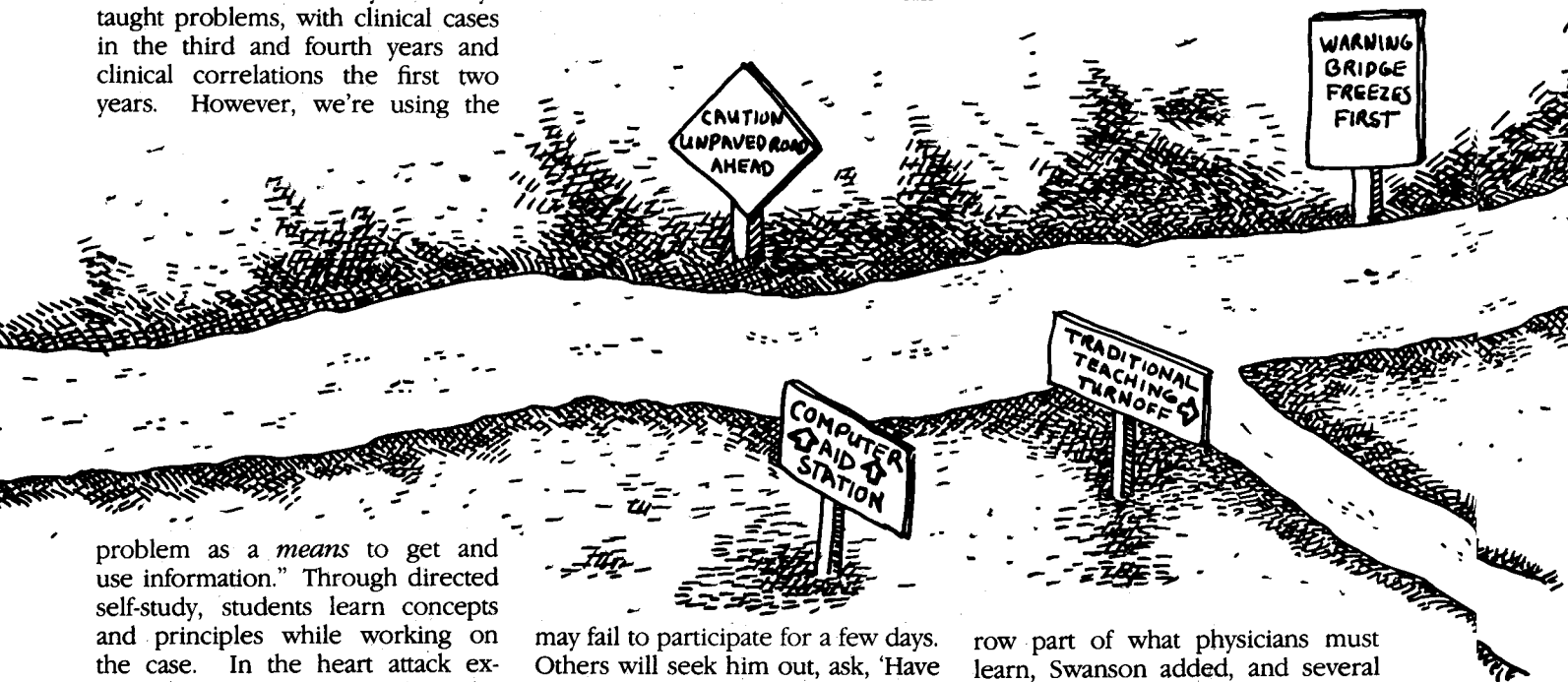
problem as a *means* to get and use information." Through directed self-study, students learn concepts and principles while working on the case. In the heart attack example, a student who mentions the role of diet may be told to research methods by which the patient may have prevented his heart attack. "In the old style," said Wilkerson, "professors give a lecture, then pass out a case to see how well their students learned. In New Pathway, the method's reversed: Students are given a case, they work on it, then attend a lecture to see how well they understand. The problem comprises the center."

According to the tutors, students will "learn to learn" for the rest of their lives. "We no longer predigest the information for them and put it inside a golden frame," said Wilker-

son. She believes lectures should not be the dominant educational method. "Students are more likely to remember and use information if they learn it in context, with real patients. Elaboration is also powerful. If students have a chance to work with information, mold it, manipulate it, talk about it, they encode it." Group participation is key. "In groups of six to eight students, it's hard to be quiet."

How has New Pathway fared thus far? Professor Dan Goodenough reported that his students work cooperatively and avoid the "me first" attitude common to many school students. "Often a student

the clinical clerkship portion—ordinarily in the last two years of medical school—still needs much more organization. He also has heard educators voice concern about how New Pathway students will fare on the first round of National Board exams, given at the end of the second year. "Many feel that problem-based learning won't give the students the raw information they need in biochemistry, physiology, anatomy to pass the exam. They say, 'We can't cut down lectures; we have to get this vast information across.'" The board's standardized multiple choice questions only measure a nar-



may fail to participate for a few days. Others will seek him out, ask, 'Have we been excluding you? Is something confusing you?' Goodenough also has assessed the progress of his class through exams. "They picked up a lot from their test problems," he said. "We had them answer 110 questions from anatomy and histology texts. They did as well, if not better, than those learning through traditional methods."

However, New Pathway also has received some criticism from traditional-style educators. Dr. August G. Swanson, director of the department of academic affairs at the Association of American Medical Colleges (AAMC), is supportive of the new technique but believes

row part of what physicians must learn, Swanson added, and several schools have stopped requiring their students to take them.

Dr. Richard Beran, director of AAMC's division of student programs, said criticism of programs like the New Pathway often comes from faculty at those schools. "The reluctance has less to do with the educational program than the many other things an institution is doing—in short, what the faculty is used to doing," he said. "A major curriculum revision can't help but upset the applecart." Harvard leaders also have attributed some of the initial faculty resistance to the added work involved in changing over. "But," Beran added, "eventually most

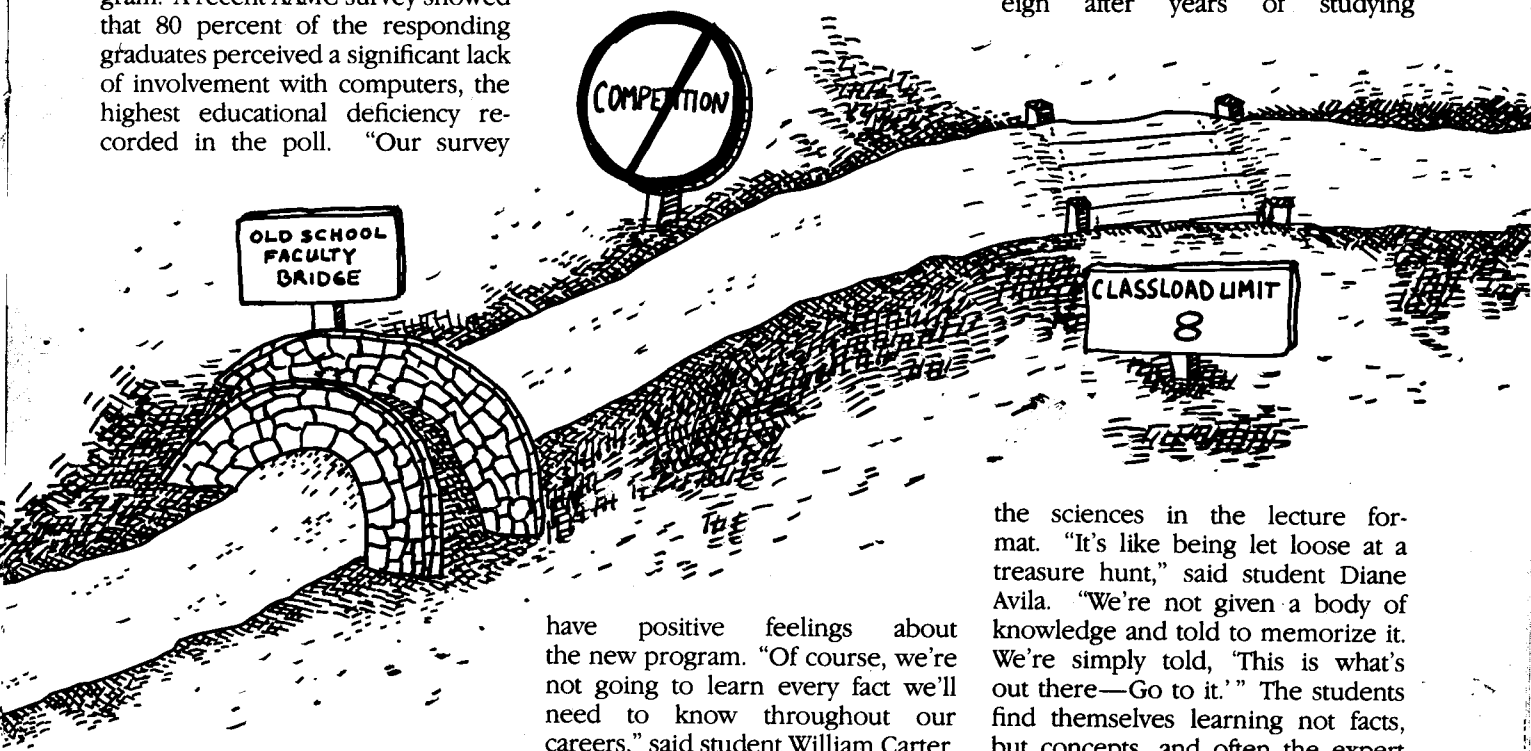
faculty members become interested in changing ways of doing things.”

Computer-aided instruction (CAI) is a hallmark of the Harvard program. A recent AAMC survey showed that 80 percent of the responding graduates perceived a significant lack of involvement with computers, the highest educational deficiency recorded in the poll. “Our survey

of this interaction is that it frees the professor to do other things.

Most of the New Pathway students

Many students also feel that problem-based learning encourages critical thinking, a concept that is somewhat foreign after years of studying



showed us that while several schools are using computers, no place is doing it consistently,” said Swanson.

However, New Pathway’s dynamic, interactive use of computers may expand and promote CAI significantly. For example, one computer program graphically represents what happens during a heart attack, and it also shows students the results of their emergency approaches. By manipulating various “what-if” scenarios, students determine the long-range consequences of their actions. A computer in the library can produce more than 34,000 images of cell structure. Again, the student interacts with the computer, learning pathology from the slides on the video monitor through multiple choice screens. “It’s a great way to learn blood cell histology,” said New Pathway student Dawn Marie Waddle. “I didn’t have to spend time focusing a microscope. Plus, the computer gives me an immediate answer, which is similar to working one-on-one with a professor.” One hidden benefit

have positive feelings about the new program. “Of course, we’re not going to learn every fact we’ll need to know throughout our careers,” said student William Carter. “But problem-based learning gives us a framework to refer back to the cases we’ve used—a way to learn to solve things on our own.” The tutorial and study group method

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downplays competition between students and actually creates a cooperative atmosphere, he said. “You depend on your classmates to cover and communicate a certain amount of material for you. We try to be responsible for each other’s knowledge/skill acquisition. You don’t want to leave anyone behind—he or she could be your doctor someday.”

the sciences in the lecture format. “It’s like being let loose at a treasure hunt,” said student Diane Avila. “We’re not given a body of knowledge and told to memorize it. We’re simply told, ‘This is what’s out there—Go to it.’” The students find themselves learning not facts, but concepts, and often the expert sources they consult differ widely in opinion.

“For me the best part is the clinical exposure,” Avila said. “We learn how by doing, because we pick up variations and see what is normal and what isn’t. Plus, we practice our perceptive skills when we follow patients through and see how they’re improving or worsening—something they don’t teach you in a book or lecture.”

It is still too early to assess how much students learn from New Pathway, but the program already is attracting much attention as a radical departure from the standard curriculum. “New Pathway’s not a revolution,” said Dr. Moore, “but a movement away from a standard way of teaching medicine.” Still, as the first traditional, research-based school to make that move, Harvard deserves close scrutiny over the next few years.