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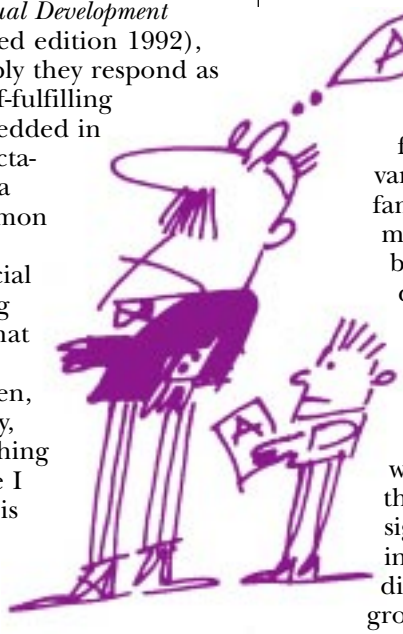
Pygmalion In The Classroom

James Rhem, Executive Editor

When you begin to talk with most university teachers about Harvard professor Robert Rosenthal's research into the "Pygmalion phenomenon," they're interested. When you describe "the Oak School" experiment which figures prominently in *Pygmalion in the Classroom: Teacher Expectation and Pupils' Intellectual Development* (1968; expanded edition 1992), almost invariably they respond as though the self-fulfilling prophecy embedded in teachers' expectations was only a matter of common sense, another example of social science proving obvious facts that everybody knows. And then, almost instantly, they say something like, "but while I can see how this could effect young children, I don't think it applies to college students."



Robert Rosenthal just laughs. "Oh, it applies," he says. "They're wrong. There've been experiments looking at college algebra classes at the Air Force Academy, a study of undergraduates in engineering; there've been lots of studies at the college level since the book came out confirming the findings," he continues. "In fact, the original research conducted when I was at the University of North Dakota was all done with graduate students and undergraduates."

Self-fulfilling Prophecies

Simply put, when teachers expect students to do well and show intellectual growth, they do; when teachers do not have such expectations, performance and growth are not so encouraged and may in fact be discouraged in a variety of ways. In the famous Oak School experiment, teachers were led to believe that certain students selected at random were likely to be showing signs of a spurt in intellectual growth and development. At the end of the year, the students of whom the teachers had these expectations showed significantly greater gains in intellectual growth than did those in the control group. This was especially pronounced in first and second graders and in fifth and sixth graders, though less so in third and fourth grade students. Without becoming inundated by a sea of numbers, we can see from one example the degree of significance found. First graders in the control group showed a gain of twelve IQ points; students in the experimen-

tal group showed a gain of 27.4 IQ points. Overall, taking the students from the first through the sixth grades, the experimental group showed a 12.22 point gain versus an 8.42 gain for the control group. In short, the group of whom more was expected did significantly better.

Studies conducted in higher education settings (see Dov Eden's *Pygmalion in Management*, D.C. Heath: 1990, for citations) show an equally significant "expectancy advantage" for those for whom instructors maintain higher expectations.

Hard Facts, Not Answers

Why did Rosenthal's book cause such an uproar and receive such aggressive criticism from educational psychologists when it first appeared? And why do faculty still want not to believe their latent expectations might in fact be self-fulfilling prophecies? Perhaps both have something to do with confronting upsetting facts that seem to define a problem but offer little help in solving it. Rosenthal frankly admits, "We don't know what we should do with these findings."

Research into self-fulfilling prophecies has a long history both inside and outside the world of education. Rosenthal's first studies date from the late 1950s, but the world of work had already produced dramatic examples. A well-documented study from 1900 tells the story of the Hollerith tabulating machine newly installed at the United States Census Bureau in 1890. The machine worked something like a typewriter and required workers to learn a new skill the inventor regarded as somewhat complicated. He estimated that trained workers would be able to process about 550 cards per day. After initial training and two weeks of experience the workers were producing 550 cards per day, and after a period of time they produced even more, but only at great emotional cost. Soon 200 new workers were added. They knew nothing of the stress and strain and heard nothing about the machine. While the original group of workers were wringing themselves out to produce 700 cards per day, the new group soon began tabulating 2100 per day with no ill effects.

In Higher Ed?

Rosenthal's book (coauthored with Lenore Jacobson) describes dozens of persuasive studies suggesting that our expectations strongly influence the performance of those around us from the members of our bowling team to the students in our classes. How may the Pygmalion phenomenon show up in higher education? "In what you teach," answers Rosenthal. "If you think your students can't achieve very much, are perhaps not too bright, you may be inclined to teach simple stuff, do a lot of drills, read from your lecture notes, give simple assignments calling for simplistic factual answers; that's one important way it can show up."

> "You can tell in about ten seconds of silent video how a teacher will be evaluated at the end of the year,"

And what about the bell curve? How does the nearly universal presumption that classes will show such a distribution affect outcomes? "At Harvard the problem is the reverse," says Rosenthal. "I have colleagues who give all A's. That should not be. I am a bell curve believer. Not everybody is going to be a star, a Ph.D. or what have you, that's reality. But almost everybody can learn more than they are learning."

Rosenthal offers the example of the juniors he teaches: "I ask them

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Editor's Note:

John Keats—in one of those wonderful long letters remembered with almost as much pleasure as his famous odes—wrote this: "I am certain of nothing but the holiness of the heart's affections and the truth of imagination." What we feel, what we conceive of and come to believe, has tremendous power, and like most power, the power of caring and belief can prove constructive or destructive depending on what we carry in our heart's imaginings. Perhaps for some readers talk of Keats and "the heart's imaginings" will seem too much, too removed from logic to be anything but sentimental and thus worthless. But how do we explain the relentless findings of **Robert Rosenthal** and his colleagues about the "Pygmalion phenomenon" except by admitting the power of our beliefs about our students? If teaching largely consists in shoveling facts down the coal chute of time, that's one thing. If it's something more, something perhaps a bit sacred because it attends to human freedom and human betterment, that's something else. Rosenthal remains the scientist, refusing to make inferences about causes his data cannot support, but as a teacher he sees one clear moral implication in his data: If a teacher doesn't believe in a student's capacity to learn, he shouldn't be that student's teacher.

Connecting with students, remembering always how a teacher's obligations go well beyond knowing the facts and being well-organized, forms the theme for many of the offerings in this issue of the *Forum*. What prospective job candidates think about teaching and what students think of their teaching matters a great deal in faculty hiring at Evergreen State College. **Robert Knapp** shares the interview questions from last year's hiring cycle and describes Evergreen's version of the teaching colloquium.

Laura Border's DEVELOPER'S DIARY contrasts a well-read professor deeply involved with his material, with one of the best of today's new teachers, equally well-prepared, but connecting more fully with her students.

Steve Grineski of Moorhead State University records the experiences of five faculty members who visited classes not as faculty, but as students. From the students' point of view (informed by their lives as faculty), they offer observations on what it would take to make teaching more effective.

Richard Ashford of the Bush Faculty Development Program at the University of Minnesota briefly describes how soliciting and studying positive student comments on teaching offers a rich source of data for improving teaching as well as a lot of reinforcement and motivation for good teachers. And following up on Ashford's study, we report on what chemical engineer **Paul Amyotte** is doing at Dalhousie University and what **James Greenberg** is doing at the University of Maryland to capture and learn from "student voices."

Whom should we listen to? Recall that Pygmalion supposedly hated women, even as he sculpted a vision of a perfect one. A god entered and made his dream flesh and his misogyny melted away. Should we wait upon a god to enter and improve our teaching, present us with our conception of perfect students? Daily, we are sculpting what we dream of. Professors profess a faith that can't be hidden; perhaps our doubts can't be hidden either. The call to believe not in our facts, not in our fields or our areas of expertise, but in our students and in their capacities to explore, enjoy and take care of the world as well or better than we have: that's the challenge of teaching. It does not require us to become uncritical smiley-faced optimists, but does demand that we believe in our students and in the extraordinary miracle of ordinary learning. —James Rhem

to define a research problem, search the literature, design an experiment and come in with results all in one semester. Now nobody can do all that in one semester. I can't do that in one semester, but these are juniors: they don't know it can't be done; so they all do it. They do amazing things."

"I don't prejudge the people in the class," he continues, "but I have never met a class that didn't have distribution in it in over forty years of teaching."

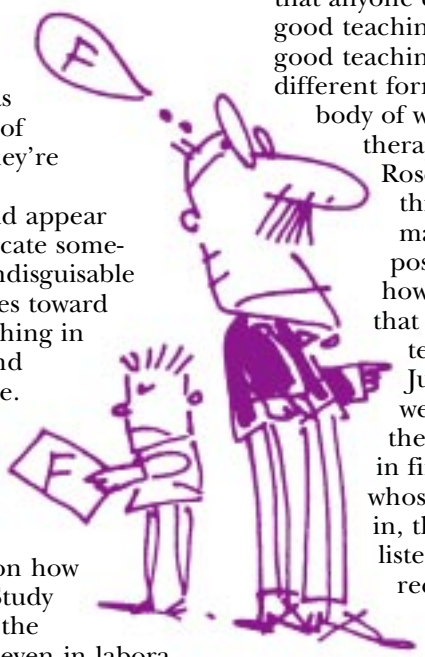
Rosenthal acknowledges how frustrating it is to know how powerfully teacher expectation affects student performance and not to know how to immediately use that information to improve teaching across the board. What about a very clear syllabus that outlines expectations in a very positive way, I ask. "Here again," says Rosenthal, "it's possible that such a syllabus does not cause anything to happen, *but* the kind of person who does this kind of planning is likely to teach well, care about teaching, have high expectations."

Rosenthal has worked closely with the Bok Center for Teaching and Learning in some of his research, using their video tapes of teachers to probe the intangible reality of interpersonal communications between teachers and students. "You can tell in about ten seconds of silent video how a teacher will be evaluated at the end of the semester," he says. Rosenthal and colleagues had undergraduates rate teachers they'd never seen and correlated their scores with the ratings the teachers actually got from their students at the end of the year. "We couldn't believe the results; so we replicated them," Rosenthal reports. In a parallel experiment, he took students and played "content-filtered speech"—recordings of teachers speaking, altered so that only the rhythm and tone of voice come through—for them and got the same high correlations. But what does this mean? "Our research can't speak to causes," says Rosenthal. "Tone

of voice is correlated with high teacher ratings, but there's no evidence that it causes them."

Testimony, Belief, and Prophecy

"Take the Bok Center's success stories, the many teachers they've helped improve their teaching," says Rosenthal. "The message they've gotten across, that teaching matters, may be as important as any of the techniques they're passing on."



Indeed, it would appear that we communicate something vital and undisguisable about our attitudes toward students and teaching in ways that transcend ordinary language. How we believe the world is and what we honestly think it can become have powerful effects on how things turn out. Study after study shows the Pygmalion effect even in laboratory animals. Researchers led to believe that one particular group of white rats is slower and less capable than another group of identical animals end up with results reflecting their beliefs to a degree that defies random chance. Curious, perhaps amusing, as this phenomenon appears when discussing rats, the tenor changes when human students take their place in the example. "The most surprising finding in our research," says Rosenthal, "has to do with what we called the 'psychological hazards' of unexpected intellectual growth." When so-called "lower track" students in the control group at Oak School (students who were not expected to shine) began to show marked improvement and growth, their teacher evaluations on such things as "personal adjustment," "happiness," "affectionate" declined. Says Rosenthal: "If the world thinks little of you, it's going to punish you if you begin to succeed."

Interactional Style

If Rosenthal's clear findings offer no clear answers, they do point toward some hopeful lines of speculation, many of them focusing on "interactional style." Could the most effective interactional style be taught, aped, internalized? It doesn't seem likely that anyone can learn to fake good teaching. And, of course, good teaching takes so many different forms. "There is a whole body of work in the psychotherapy literature," says Rosenthal, "about something called 'patient matching,' and it is possible we might learn how to do something like that with students and teachers." For some, Jungian analysis works well; for others, Freud's the ticket. The trick lies in finding a therapist whose therapy you believe in, that fits your mode of listening, your way of receiving signals. If the interactional styles of a variety of different types of good teachers were matched up with students especially receptive to those interactional styles, more academic success might well be the result. But all that lies down the road of more research.

A Moral Conclusion

For the moment Rosenthal will venture only one conclusion of a prescriptive nature from his decades of research: "Superb teachers can teach the "unteachable"; we know that. So, what I think this research shows is that there's a moral obligation for a teacher: if the teacher *knows* that certain students can't *learn*, that teacher should get out of that classroom."

References:

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