Madeline, you have probably had more influence on U.S. teachers in the last ten years than any other person. What accounts for that?

Well, teachers have had a lot of intuitive knowledge, but it's never been based on theonr What I have tried to do is take what research tells us about teaching and translate it into something teachers can use tomorrow morning as they make educational decisions.

**Briefly, what do you teach teachers?**

That teaching is a constant stream of decisions and that good decisions increase the probability of learning. We now know cause-effect relationships between teaching and learning. Teachers can't control everything, but they can certainly influence it. It's true that you can lead a horse to water but you can't make him drink. You can, however, salt his oats. You can run him hard. You can keep him away from water. So we're looking at every way a teacher can influence a student's motivation to learn, the rate and degree of that student's learning, the retention of what's been learned, and the appropriate transfer of that learning into new situations.

One would think that most teachers would know these things already. Why don't they?

One reason is that they're taught in a way that doesn't transfer. For example, there isn't a teacher in the world who hasn't studied about Pavlov. And yet when a teacher asked me to work with a child who was always making smart remarks, I found that the minute the kid made a remark, the teacher said, "Now what did you mean by that comment?" When I asked the teacher what the boy wanted with his smart remark, she said, "Attention." I asked, "What did you give him?" When she looked surprised, I said, "Have you ever heard of Pavlov?" She said, "What does a slobbering dog have to do with it?" Well, there was no transfer. In his memory lab, Wundt showed more than 50 years ago that the beginning and end of any sequence are the easiest to learn. And yet teachers use the prime time at the beginning of a class period to take roll, to make assanine announcements, to collect lunch money—because they have to get the job done. We now know how to have them get some learning done along with the job. The knowledge has been around for years, but it was in terms of pigeons and rats, or in terms of the psychological laboratory, so the teacher saw no similarity between it and the classroom.

Well, you've certainly translated it into practice, but why don't others do the same?

I think it's very difficult for researchers in the university to know how their research can be applied in practice. When my husband was trying to produce a plane that would protect the pilot from radiation, he worked with one of the leading radiation theorists at Cal. Tech. My husband would come home pulling his hair out and saying, "That guy is trying to design a Sherman tank for me to put on the nose of an airplane." I said, "Has he ever seen a fighter jet?" My husband said, "I
don't know. Maybe not.” So he took the scientist the next day, put him in a fighter jet, and said, “Now, here's the guy you have to protect—and he has to see where he's going.” "Oh," said the fellow.

You can't expect researchers to translate the knowledge they produce because they don't know what the plane looks like—and most of them aren't really interested in that. I'm very fortunate to have been thoroughly steeped in psychology but also in having spent most of my life in the trenches of public schools. So I'm kind of bilingual in theory and practice.

Isn't the research you draw upon quite behavioral in its orientation?

Anybody who says it's behavioral does not understand our model. It's been called behavioral simply because we include attention to reinforcement. If a student is able to generate an elegant hypothesis, we let him know he's valued and he's competent.

People look at that, and say, "It's all reinforcement." Well, it's not. For example, we do a lot of work on teaching for transfer, which has nothing to do with reinforcement theory. The one idea we push the most is having students attach meaning to what they're learning, which comes from Merle Wittrock's generative theory of cognition.

There's a lot of interest these days in teaching for thinking. How does that fit in your model?

It fits very well because our model maintains that if students can't take the learning they have and translate it to a new situation, it's worthless. If all you're going to teach are names and dates and facts, you're wasting your time and the students' time. Learning is like money in the bank; it's great to have it there but it's only useful when you pull it out and use it.

So it's very important to teach for higher-order thinking, but not without building a foundation. I see teachers asking children to compare the governments of Russia and the U.S. when the students don't know anything about either of them.

How do you feel about the ideas of people like Reuven Feuerstein and Robert Sternberg, who believe that the key is to teach the necessary intellectual skills directly?

I agree with them. We factor-analyze what a student needs to do, just as we would factor-analyze what a painter needs to do to paint a house well. That doesn't mean that thinking isn't a lot more complex than painting, but there are similarities: you have to prepare it, you have to sand it, and so on. I'm worried, though, that we may begin teaching these skills in isolation the way we now teach some other skills.

We will have a period of thinking skills and then have social studies, with no transfer. In a lot of schools, kids spit and sputter their way through phonic skills and then when they come to a reading task, they don't use the skill.

Whenever you isolate a process and teach the process separately, there's a danger that students will not actually use it. We have to help them make the application. For example, if we teach children about decision making, we need to translate it. "How are we going to decide who's going to be captain?" How are we going to decide what kind of cooking to have at the party? How do you decide whether to do your work in your free time or take it home for homework?" Decision making must become a part of the student's real life.

Are there any teaching circumstances for which your model isn't appropriate?

Not at all. I'm always amused when somebody says, "Well, that's fine for drill, but not good for creative learning, or it's all right for large groups, but not for small groups."

I literally teach all over the world. Most recently I was teaching a group of children in China. They happened to speak English; otherwise I couldn't have done it. The Chinese wanted to see me work with a nongraded group, because they couldn't feature children of different ages learning together. I took a group of five-through 14-year-olds who had just visited a commune, and I had them categorize what they had seen.

“This model should provide the launching pad from which creativity can soar.”
One of the five-year-olds—we would label him a hyperkinetic student—responded to exactly the same techniques that work with children here in the U.S. For example, we categorized first by what humans had made—baby buggies and so on—versus what nature had made, like the rice and the rape seeds. Then we categorized by “Which place would you like to work?” That five-year-old could shift categories like crazy, while one of the “brightest” kids in the school, who could memorize and regurgitate perfectly, found it almost impossible to shift categories. But exactly the same techniques worked with Chinese children as had worked about two weeks before with children in Milan, Italy, and had worked about three weeks before with children in Hong Kong.

There really is an invariance to human learning, as there is invariance to human anatomy and physiology. There are differences, but they’re not nearly as great as the similarities.

**From your travels to other nations, what can you say about how U.S. education compares with education in other countries?**

All countries have fabulous schools and poor schools, just as we have. I do not see all the greatness that is reported in Japan and Russia. I’ve been in Japanese schools and I’ve been in Russian schools, and we can learn from them—but if they’re so excellent, why are they sending for me? Right now, if I had to pick a country for my own child’s education, and I couldn’t pick the school, I would choose the U.S.

**You’re aware, I know, of the findings by John Goodlad and his colleagues that most teachers use a very small number of strategies—mostly talking to their classes or having them do worksheets. If more teachers used your model, would that change?**

Very definitely. However, let’s not forget that John Goodlad talks a lot to his classes—but he talks very well, so his students learn a lot.

One of our problems is that teachers have been told to have discussion groups but they don’t know how. They have been told to have more individual projects. But generalizations like that are not enough; teachers have to learn how to do these things. For example, we have task-analyzed independent learning, identifying step-by-step how you move children from being dependent to becoming more independent. Then we made a series of films starting on day one and moving through the stages until by the middle of the year the students were conducting their own reading groups. But that’s a sequence of learning skills, not admonition.

**How do teachers learn to use your model?**

They go through three stages. First they learn the propositions, such as that the beginning and end of any sequence are the most powerful times for learning. Even though they learned that in ed. psych, they don’t understand how it applies to wasting time by taking attendance, collecting lunch money, or cleaning up. Now those things have to be done, but we teach teachers how to use the time productively: “While you’re putting away your equipment, be ready to give me a summary statement of what you’ve learned from this experiment.”

“When you’re putting your books back in your desk, be ready to say what you think is the single most important facet of Columbus’ personality.”

When we have taught a proposition like “The beginning and end of a series is your prime time,” then we translate it into procedures: how do you do it? First I simulate it while I just talk about it, then we role play an actual teaching episode. By the way, it has to be unfamiliar content. You can’t teach people something they already know; that would be violating a basic principle.

Then they have to try it out with students in their own classrooms—with coaching, so somebody helps them see what they’re doing well, and where the booby-traps are and how to get out of them. It’s a three-stage process of knowledge, procedure, and then conditional decision making.

**What do you mean by coaching?**

We teach that when you’re watching a teacher make what is called a “script tape.” It’s really a sort of shorthand log of the teacher-pupil interaction. You

"My purpose is to tell teachers what to consider before deciding what to do and, as a result, to base their decisions on sound theory rather than on folklore and fantasy."
"The model is equally effective in elementary, secondary, and university teaching. In fact, it applies to every human interaction that is conducted for the purpose of learning."

Then, if there were things the teacher did that caused difficulty, we bring them to the teacher's attention: "You know why the student gave you the wrong answer for that? You had just asked a different question and he was thinking about that. Then you changed the question, but he didn't change with you." The teacher will say, "Oh, is that the reason?"

It sounds like what you're calling coaching is not much different from what some people call supervision.

To me, coaching and supervision are the same. To me, a coach is a person who has the skills to enable another person to perform better. That's very different from practice. Often people recommend that teachers watch each other and give feedback. Now, that's fine if every teacher is very knowledgeable, but coaching takes special knowledge. For example, a football coach will show a player how to throw the ball, how to shift his weight. He might say, "You're not getting enough of your shoulder in that throw; there's too much of your arm and not enough of your shoulder." Then he'll say to that player, "You and Bill go out and practice that." A lot of what people are calling coaching is really practicing just working together.

Many principals are afraid to coach teachers because they think that to help a teacher they ought to be able to teach better than the teacher. They really don't have to. In fact, it's possible to coach a person in teaching when you don't even know the content. In China, I helped the teachers improve their teaching of Chinese even though I don't know Chinese. I worked with the teachers of German and with our geophysicists at UCLA, and even though I didn't know the...
content. I could help them teach it better.

Some people contend that a person in a position of authority over a teacher can't really function as a coach. Do you find that true?

No, I think that's a ridiculous notion. I have never found that people resent being evaluated by an authority figure who knows what he or she is doing.

You said earlier that I have influenced teachers. I would like to think I have influenced principals even more, because we know the power of the principal to make a school either more excellent or more mediocre. In fact, I'm encouraging school districts to make principals their first priority.

There seems to be a trend in many school systems to make the principal the primary instructional leader, although in some places there are supervisors outside the school who are considered to have more expertise in instruction than the principal.

Excellence in teaching stands on two feet. One is curriculum, and the other is pedagogy or skills of teaching. You cannot be an expert in every phase of curriculum. We need someone who knows enough about social studies, for instance, to help me know the key concepts that ought to be taught about the Revolutionary War. We need someone who knows what verb form ought to be introduced first, and so on. So we need central office curriculum consultants. But no outside supervisor can be in the school often enough to really help a teacher on a day-to-day coaching basis. The only person who can do that is the principal or the building-level resource teacher. I am all for having resource teachers as an aid to the principal, because the principal does have other responsibilities—but not in place of the principal. The person who does the evaluation ought to have watched the growth pattern of that teacher throughout the year.

Some people say that principals in large schools simply don't have the time to be supervisors.

I disagree with that. I have been a principal most of my life, including assignments in the ghettos and in the richest and most demanding areas of Los Angeles, and I have never ever had a principalship where I didn't have some time to work with teachers on increasing effectiveness. If you do that, all the other problems go down. Your discipline problems go down, your parent problems go down, your lunch room problems go down, your bus problems go down. The only thing you can't reduce with excellent supervision is the amount of paper coming from the central office. That goes on and on.

Of course, no principal has the time to do all the supervision he or she would like. I would be happy to spend 100 percent of my time in classrooms, but you can't do that when you're running a school. It's a question of both quantity and quality. I know many a principal who says, "I make it a point to walk in and out of every classroom every day." And that principal does nothing but walk in and out of every classroom. I know other principals who may take 15 minutes to visit three classrooms and each of those teachers later gets useful feedback.

If it's not being a threat or lack of time that prevents principals from being good supervisors, what is it?

They don't know how. They certainly didn't learn it in graduate school. Our training programs in teaching and administration are way behind what we know. It's only recently at UCLA that we've added instructional analysis to our supervision course even though we've been doing it in our lab school for 20 years.

There are some who feel that we're not going to have superior teaching until we change the circumstances under which teachers work: the number of students they have to work with, the countless responsibilities they have. Do you agree that it's almost impossible for a teacher to do an effective job under the circumstances most teachers face?

No, I don't. I think it's possible to do a very effective job under the circumstances, but I don't think it's fair to ask teachers to do it. I've seen teachers do a fantastic job under horrendous circumstances, but it has taken too much toll on them.

I have two children, one in education and one in the film business. They're both fine people, both excellent in their field, they both work hard, and yet one's income—the one in the entertainment business, of course—is far higher than the other. I think it's critically important that we pay teachers a salary more like those of other professionals.

On the other hand, I don't think that just being a teacher should automatically entitle a person to a good salary, any more than just being a doctor or an attorney does. They have to perform well. I have very strong feelings that merit pay is desirable provided you're paying for skill in doing a more difficult job. If there were two teachers, each with 30 of the same kind of children, I would find it unfair to pay them different salaries simply because one was considered to be doing a better job than the other. Excellent surgeons or excellent attorneys make
a lot more money, but they work on more difficult cases.

Many educators say that any form of merit pay is impractical because it is so difficult to determine which teachers are best.

But it’s very easy to know which students are more difficult to teach. We pay extra for teachers with special credentials to teach the blind—and we don’t give them nearly as many students. We’re saying the job is more difficult. Surgeons who do heart transplants don’t do surgery as often as surgeons who remove appendixes—and they earn more money.

Of course, all parents want a superior teacher for their children whether their child has a special problem or not.

Every child should have a well-qualified teacher. I think we have the knowledge to say, “This teacher is a fine teacher; this one leaves something to be desired; this teacher is outstanding.” Now it would be nice if all teachers were outstanding, just as it would be nice if all surgeons were outstanding, but if you’re to have a sliver taken out of your finger, you won’t be nearly as concerned as if you’re going to have a cancer removed—because it doesn’t take the same kind of skill.

I’m for merit pay. I know we’re going to have some terrible errors committed in deciding which teachers should be paid more. On the other hand, I can’t think of a more terrible error than to pay a teacher who is doing nothing exactly the same amount of money as a teacher who is teaching his or her heart out.

So much of this is dependent on school principals, as we said. Can you envision a system that would assure standards of professional excellence?

Very much so. For example, in California now, we have Senate Law 813, which mandates that every principal must be certified in clinical supervision by 1985. Now, one of the many problems with that law is that it doesn’t state what certification means. A group of us have recommended that to be certified a supervisor would view a videotape of a teacher teaching. After a half hour spent reviewing the script tape he or she had made, the supervisor would confer with the teacher on the lesson. That kind of test would clearly show whether the supervisor was competent to analyze instruction and to confer with the teacher in an enabling rather than in a threatening or disabling way.

Do you think that procedure actually will be used?

We’re hoping for it. It’s already being used in several school districts.

How do you feel about the idea of a career ladder for teachers, with various levels such as master teacher?

I strongly endorse it. For example, I think a brand new teacher coming into the profession ought to have the guidance and guidance of a master teacher. At UCLA we have seen the difference between putting our student teachers with a master teacher—such as one of our laboratory school teachers—versus putting them with John Doe, who may or may not be expert. In fact we spent a lot of time training our supervising teachers and then turned out student teachers second to none in the world. Now, you can’t make a fine teacher in one year, so I strongly urge that beginning teachers have a period of internship—and you don’t drop them after that. Even the very finest teachers can still learn. The greatest reinforcement in the world for me is when a teacher comes up and says, “You know, since I’ve learned this, I’m as excited about teaching as I was at the beginning.”

Speaking of growing, you made a career change of your own recently. I had been trying for ten years to talk myself into leaving the UCLA Lab School, but it is such a fantastic place, it was hard to leave. Before being at the Lab School, the longest I was ever in one assignment was three years, and that only happened once—when I built a training and demonstration school in the inner city of Los Angeles, and I asked to stay a year and just enjoy it. I had always been a “hopper around.” So after 20 years at the Lab School I thought, “you know, Madeline, you can run this school with one hand tied behind you. Practice what you preach.” I had a lot of ideas I wanted to try out, I had some writing I wanted to do, and I had been traveling more and more. So I decided that I wouldn’t just be a professor at UCLA. As a result of that we’re making some changes. We’re developing a new doctoral program focusing on the analysis of instruction, staff development, and so on.

At this stage in a highly successful and influential career, what about your work is most satisfying to you?

The ability to see that you can make a difference in a student’s learning. Just as a doctor has the ability to eliminate a lot of suffering and despair, a teacher can feel fulfilled by seeing students learn and by convincing them that they can learn. And I help teachers learn to do that, which is very satisfying to me.

What is most distressing?

The fact that there are only 24 hours in a day. I happen to need a lot of sleep. In my next incarnation I’m going to need only three hours of sleep a night. I just cannot find time for all the things I enjoy doing.

You seem very excited about the future for education.

I think we’re in a renaissance. We have the same opportunity we had 25 years ago when Sputnik went up. The only difference is that then we didn’t know what we were doing. Now we do—not everything, but a powerful lot.

