

Precision Teaching in Perspective:

An Interview with Ogden R. Lindsley

Dr. Lindsley, we've heard a great deal about precision teaching, but we would like some answers to some questions, like where did precision teaching come from?

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Is precision teaching different from or the same as behavior modification?

■ Precision teaching is a new technique in special education. Ogden R. Lindsley shaped and developed the idea in response to the needs of exceptional children as reported to him by the teachers of these special children. In this interview, conducted by Dr. Duncan, Dr. Lindsley described the origins of precision teaching, the difference between behavior modification and precision teaching, and the present and future implications of precision teaching for special and regular education. Ogden R. Lindsley is Professor of Education at the University of Kansas. He was associated with the Kansas Center for Mental Retardation and Human Development and is now at the School of Education, Lawrence, Kansas.

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In 1965, here at the University of Kansas, we decided to see if collecting daily frequency records of students' performance would be useful to classroom teachers. This idea of recording frequency of performance came from learning research. Dr. B. F. Skinner was the person who developed frequency to measure behavior. But Skinner's work was based on laboratory research, and we wanted to see if recording daily frequency would be of any help in monitoring instruction and evaluating curriculum and teaching in special and regular classes.

So in 1965 we started having teachers record students' performances. Our first problem was that it was too much work for most teachers to record 2, 3, or 4 different daily frequencies on each child, especially if they had 12 to 30 students.

Then about 1968 many of our creative teachers began to involve the students in recording. We found that this was the answer to our economic and time problems—having the students record their own behavior. Now our kindergarten and first grade children are recording and charting their daily classroom performances on Standard Behavior Charts. These records of performance are turning out to be very useful in curriculum design, behavior change, and handling discipline problems.

The thing they have in common is that the first people to use both originally were trained in the same academic discipline—operant conditioning. This was developed by Fred Skinner at Harvard and Fred Keller at Columbia and some of their associates and students.

The thing that makes them different is that behavior modification stresses the change procedures that were originally used in laboratory operant conditioning.

It focuses on the use of extrinsic rewards or reinforcement with tokens or candy to bring about change.

Precision teaching on the other hand uses the measurement procedures that operant conditioning originally used but relies more on traditional change procedures that teachers and students invent and select. We're finding in precision teaching that the most effective ways of improving behavior, when we measure behavior frequency, tend to be curricular. They consume less classroom time and don't rely on synthetic rewards or some form of punishment to change behavior. In other words, in precision teaching we try to get the child doing more successful classroom work by making curricular changes which involve him in the learning process, rather than trying to jack up a dull curriculum with rewards for doing boring tasks.

Precision teaching involves daily recording of the frequencies of different classroom performances on a standard chart. This permits teachers and students to project the outcome of the procedures they are using. Standard charts facilitate sharing data.

Behavior modification tends to use procedures like reward and punishment in new and more controlled ways to affect instruction. The child's performance is usually measured by the teacher and does not necessarily include frequencies or the use of a standard chart. In behavior modification, measurement tends to be used to determine whether the reward system was effective or should be altered.

What implications do you think precision techniques have for exceptional children?

If we accept the fact, which most teachers do, that every child is different, then *every* child is exceptional. In the past we've labeled children as exceptional, or we've used specific labels like retarded or learning disabled. These children have dropped out of the bottom of a normal class. The gifted child has popped out of the top of a normal class. Gifted and learning disabled students are retarded by the curriculum assigned them in the average classroom. The gifted child is not stimulated to perform to his ultimate; the retarded child can't perform to the average.

Through individualized planning, we can give every child his own curriculum. In special education this is practically a necessity if we are to help students reach their educational goals and become functioning citizens.

Precision teaching gives the child, the parent, and the teacher a recording technique, a tool to select curriculum materials and involve the child in this selection. This makes it highly probable that you will find a curriculum that will be best for Tommy for October and one for February. If you tried two or three different curricular materials at the same time and made them as different as

Why is it important to chart daily frequencies of classroom behaviors? Don't children improve anyway?

possible and involved the child in selecting his materials, you would probably soon find the best curriculum for him. If you try three each day and separately record his improvement on each, within 2 to 3 weeks (or in an extreme case, 4 weeks), both the child and teacher can see which of the curricula he shows the most improvement on and which one he should stay with to gain most educationally. Once you pick the best one, then choose a new curriculum as "insurance." You may find that it is even better. In this way every child can be working on different curriculum materials at a different acceleration, and we can have a constant record for the child and teacher that shows with which set of materials the student improved the most for that month.

Another built-in advantage is that precision teaching gives an ever ready, on-going report system to the parents. In addition, if teachers share with parents the techniques which succeed in the classroom, parents may be more willing to share home techniques with teachers.

There are hundreds of ways of improving a child's behavior; every child is unique and different. The problem is not to discover a new universal teaching method. I don't think one will ever be discovered. The problem is to use the excellent teaching methods we already have with the children that they will work best with.

We discovered in our original work that to benefit from Skinner's greatest discovery (the use of frequency as a measure of behavior), frequencies had to be recorded in the classroom. Then we found that we had to make a standard chart, because without guidance and structure daily charting was just too complicated and consumed too much time for most teachers. Most teachers and students made charts as unique as their personalities. When we tried to share those charts in inservice training meetings, we spent all of our time trying to figure out each others' charts.

When teachers made their own charts it took as long as 28 or 30 minutes for a teacher to make her chart clear to the other 20 or 30 teachers. The Standard Behavior Chart increases communication at least 10 times, since it only takes 2 to 3 minutes to share a project.

Also since equal percent gains get equal distance on the standard chart, you can project the future course of behavior by drawing a straight line through the middle of the daily frequencies you've charted. The direction of this line shows whether the frequency of performance is increasing, decreasing, or remaining the same.

The six cycle design of the chart provides an adequate range of behavior. Be-

Where do you think precision teaching goes from here?

haviors which occur once a day as well as those which occur as frequently as 1,000 times per minute can be charted. This feature of the standard chart insures that the types of behaviors teachers would tend to measure are not biased by the nature of the chart.

Once teachers learned how to chart, it was clear that teacher- and child-invented change procedures were more fun, more effective, and less expensive than many reinforcement, reward, or punishment procedures that we might advise from a theoretical or academic point of view. It's very clear that what teachers need most is a way of comparing and evaluating the daily effects of the teaching procedures they already know, rather than advice on new ways of changing the behavior of students.

This is probably the most important question you have asked me. Around 1962 we recognized that future education desperately needed some way to handle unique differences among students. We needed some way to determine which curriculum format fitted which child best. So we set a strategy for the future. Probably one of the biggest advantages in the development of precision teaching is its future orientation.

The funny anachronism that faced us in the 1950's in human learning research was that the method which Skinner had developed to assess general laws of behavior was also the most appropriate one to study individual differences. And those studying individuals were using methods only appropriate for groups. Right now we have a similar problem where the most dynamic, and I think, the most efficient and exciting learning trends and ideas are those coming out of Piaget, Neil Summerhill, and the British Open School. However, the evaluation methods used for these new classroom ideas and theories are ones which *by design* can pick up only similarities and general trends among people. So a pay-off area would be to take these highly unique and different types of open classrooms and use precision teaching techniques to monitor the improvement and growth of each child, working on his own custom tailored curriculum program. A beautiful wedding would be that of the best techniques for monitoring the performance of students with the best programs for maximizing dynamic curriculum and individual learning.

Measuring the frequency of behavior was developed to record the *outer* behavior of people. Recently we have been charting *inner* behaviors like success thoughts, anxiety feelings, joy, love, and compassion. How many times a day do you feel compassionate? How many ecology thoughts did you have today? Charting may be one of the few sensitive techniques that we have to keep track of these inner thoughts, feelings, and urges. It could be that precision teaching



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will ultimately provide man with the most good and the most help by being applied to his inner behaviors. It is one of the few ways to chart and change inner behaviors.

Thus, some future strategies include using precision teaching to monitor students in open dynamic classrooms and letting them chart their own social interaction and self-concepts.

Another use would be to accelerate the ability of students in our regular classrooms who are getting 90 to 100 percent correct every day and are nowhere close to their educational potential. With precision teaching charts we can show that some students have been in school 4 years, received straight A's, and are bored to tears. They have never shown any acceleration or improvement on their charts, which means the school has taught them nothing. They have simply performed at the top of their class. Those students should be put on a curriculum which could allow them to make a high frequency of errors. This may sound strange because we as teachers are generally pleased when our students make few errors. The errors, however, would show that a student is challenged and working towards improvement. In addition, a special curriculum could be selected for a child gifted in math but in nothing else. Then he could stay in his regular school activities, but he could be working on college math because his charts showed that was the only math that was challenging to him.

We can use these charts on daily classroom performance and improvement to design curriculum packages. Each child could possibly have 10 curricular choices. They all could be recorded on the standard charts. No students would ever be reading the same material each week; they would change to the curriculum alternative that they showed the most improvement on.

One problem will have to be solved to make this process work. We will have to learn to treat errors as learning opportunities, as a beautiful man named Caleb Gattegno does. We want to constantly increase the difficulty of the material so that errors are present and can be used not as social stigmata but as *opportunities to learn*. The whole idea is to challenge the myth that children have to be right most of the time, since this idea slows down the learning process terribly. By taking the onus from errors we may find that children dare more and try more.

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Is there anything else you would like to add?

Yes. There's a lot of confusion about precision teaching. People think it's a

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new teaching approach, a new type of learning or reinforcement theory. In the past most new ideas about classroom instruction have literally been "approaches" or theories involving goals. *Precision teaching is not an approach*; it is an easy, inexpensive system of monitoring daily improvement—not performance, but improvement. Improvement is acceleration; performance is frequency of occurrence.

The difference is an important one, especially in view of all the talk we're hearing about raising teachers' salaries on the basis of how well the children in their classes perform. For example, if a teacher uses standard achievement tests with a group of children who are good achievers, it's not too difficult to get their performance up to criterion. The teacher can then qualify for a raise based on teaching output, measured by children's achievement test scores. The problem, however, is that if a teacher is assigned children who have great difficulty learning, the teacher would have an awful time getting the children up to criterion before the end of the semester.

You would have a very different situation if the teacher were being evaluated on the children's improvement or acceleration, that is the *change* or improvement in the frequency with which a particular behavior is performed. Then the teacher who had the most underachieving children would have the greatest opportunity to show pupil improvement. This kind of evaluation would directly reward a teacher for improving the behavior of children, not for trying to get them to reach some standard level of performance. In short then, precision teaching entails recording the acceleration or change in frequency of wanted behaviors or the deceleration of unwanted behaviors, as opposed to simply recording level of performance.

I'd like to again underscore that precision teaching is *not* an approach to classroom instruction. Any teacher who is now comfortable with her style of teaching, her hard learned way of communicating with her students, and the unique way she expresses her love for her students would not substitute precision teaching for what she is doing. She simply *adds* precision teaching techniques to her current style in order to become even more efficient. Precision teaching tools are designed to improve and refine current teaching methods and materials. That's a confusion I find in a lot of teachers. They fear that if they try this new thing they will have to temporarily put aside or abandon their trusted teaching skills. Precision teaching simply adds a more precise measurement instrument to present teaching, making teaching more economical, more effective, more enjoyable, and more loving.