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An Interview with

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An **INTERVIEW** with . . .

Edward Fry

Edward Fry is Director of the Reading Center, Rutgers—The State University, New Brunswick, New Jersey. Dr. Fry is interviewed regarding his activities in the field of reading research and teaching by Frank P. Greene of the Reading Clinic, Syracuse University.

With respect to training people to work in reading, I understand that teaching opportunities in junior colleges are rapidly expanding in New Jersey. What kind of activities are going on here?

- ▶ We have about seven junior colleges now and we're adding them at about the rate of two a year. How much longer this can go on I do not know, but there eventually will be at least one in each of our nineteen counties.

Do you have a special training program for people who are going into junior colleges as opposed to some other type of work?

- ▶ We have placed some of our students in junior colleges with our regular master's degree, which follows the IRA recommendations for reading specialists, and some of our doctoral students are working in junior colleges. We are

considering a special master's degree for junior college instructors, which would be a slight modification—a little less emphasis on the remedial and early childhood development and a little more emphasis on teaching reading for secondary and adult.

At the National Reading Conference, both last year and this year, there have been strong comments from both delegates and the steering committee of the need for programs to train people specifically to teach reading at the college level. Apparently many who are doing this now are doing it as a part of their jobs as graduate assistants but there are no specific training programs.

- ▶ That's possible. We have one course at the doctoral level which is for teaching reading at the secondary level and adult. We also require all of our doctoral

students to teach at least one course of reading improvement for college students or adults. This semester we opened a separate study skills course for undergraduate students which is taught by a teaching assistant in reading.

With this expansion in your graduate program, you and your students undoubtedly are engaged in some ongoing research. What areas of interest have you been looking into recently?

- ▶ One of our doctoral students, Sister Mary Luke, has a rather large listening training project using compressed speech. Compressed speech is a mechanical means by which a recorded voice can be speeded up. For example, a tape of someone speaking at 150 words a minute can be run through the machine so it comes out at 250 words per minute or any other desired speed.

But not sounding like Donald Duck?

- ▶ That's right. The benefit of the machine is that you don't get the distortion that you would get by simply putting a 33 1/3 record on at 45 rpm or 78.

Is this an electrical or mechanical discard of portions of the speech?

- ▶ Yes. It's a kind of clipping process. Little tiny slivers, not physically, but electronically, are clipped out of the tape and it is put back together again.

Is this study looking at whether or not people can understand or use this speeded speech or is it for the training of listening skills?

- ▶ Part of the inspiration stems from some work by David Orr. He found a gain in reading speed as sort of an artifact of one of his listening training studies. We have three groups with seven classrooms in each group. One of the groups is simply listening to gradually graded compressed speech, so that they listen faster and faster. Another group is simply reading the material under timed conditions. And a third group is listening and reading so that they are following along and the listening is kind of pacing them through. We are then going to measure them and see what happens to their listening comprehension, their reading comprehension, and their reading speed.

This seems to be a public school application of the work which Travers and Jester have done at the college level for their study skills activities.

- ▶ Quite honestly, I don't know their work, was it compressed?

Yes. They found, for example, that at anything above minimal speeds, listening and looking led to better comprehension. Now they were not measuring the transfer, as you are. They were measuring the comprehension during training—rapid viewing, rapid listening, and rapid viewing and listening. At the North Central Reading Meetings which were held last November, one of the sections was talking about listening training and compressed speech. One of the speakers, Eric Brown, mentioned that there should be a study done on the effects of listening training on rate of reading since as far as he knew none had ever been conducted.

- ▶ So here we have it; without having heard it.

In addition to compressed speech, are you concerned about types or levels of listening comprehension?

- ▶ No, but Joe Zelnick is investigating another facet of speeded speech. He is using expanded speech in listening training for remedial reading. This same machine that can compress speech can also expand it. Instead of having someone speak at 150 words a minute he can speak at 75.

And will he be looking for gains in reading among retarded readers?

- ▶ Yes. This would be a developmental type of reading. He will work with a disadvantaged population that's reading on second or third grade level, trying to get them to read on fifth or sixth grade level.

I understand that you are doing some work in the area of computer assisted instruction.

- ▶ Yes. Last summer I worked at the Harvard University CAI Laboratory with Lawrence Stolurow. We had a Title III grant with the Boston schools as well as some research money from the Job Corps, specifically, the Women's Job Corps of Clinton, Iowa. Both the Boston schools and the Women's Job Corps were interested in having terminals in their schools to teach reading via computer. This was both an interesting and confusing situation. Computers offer great promise. They can give immediate correction. They have a kind

of life-like quality of interaction with the student that really grabs him. I've seen students swearing at the machine and getting a real emotional interaction. The other side of CAI is that right now it's probably the world's most expensive method of teaching reading. At Harvard we estimated that it cost around \$40 an hour. Many of the materials that we were putting on could be handled just as well by a simple booklet. For example, one of the things we put on were programmed instruction materials put out by the California Test Bureau—the Lessons for Self-Instruction—which were a sort of simple branching technique. Now you can buy one of these books for a dollar and the answer sheet for five cents. But if you put it on the computer, it costs around \$40 an hour to have it operate. Not only that but you can't leave the average disadvantaged child alone in the computer room; so even then you have to have some kind of supervision besides this big powerful automated tool. And that's the kind of negative aspect to CAI.

The most positive aspect is that in a very few years it will be possible to have something like a teletypewriter terminal in a library or in a corner of a classroom with a minimum of supervision. This terminal will teach reading comprehension skills. There is little doubt in my mind but what you can teach with a computer. Whether it will teach any better than a book or any better than a teacher is highly doubtful at this point. However, it is possible that it will become economical in time. For example,

if we got a terminal for \$100 a month, which is not too unbelievable at this time, we could rent a teletypewriter for \$85 and get computer time at \$10 an hour. In a few years from now this cost could come way down. If a typewriter could take care of five or six students, you could have individualized instruction in your school for \$100 or \$200 a month for five students a day. That would approach some kind of economic feasibility.

Right now, it's very impractical. But the cost curve on computers has been steadily coming down and if it continues in the same direction, I think we are going to see a lot of computers in our schools.

You indicated that you think computers could teach comprehension. Many people—I don't know if it is the state of the art right now or just their personal views—have made statements

very similar to those that have been made about programing or programed instruction in a more general sense, that it could teach rote learning but somehow will never teach involvement or abstraction or even comprehension. Specifically, you mentioned comprehension, presumably not simple rote recall but evaluative or interpretive types of activities. Is this something that you feel that this sort of procedure can handle?

► I'm sure of it. For example, many of the skills in the Lessons for Self-Instruction which we used at Harvard this last summer were taken from Bloom's Taxonomy. These comprehension skills are not just from the 1.0, the factual, category; they are from the whole range of the Bloom's Taxonomy. So if reading people can specify what they mean by reading comprehension, the computer can teach it. If you can't specify it, the computer isn't going to teach it. It's a very demanding teacher.



IRA ANNOUNCES

Reading and the Elementary School Curriculum, edited by David L. Shepherd, includes a collection of papers on reading and the organization of a total school curriculum with major emphasis on the elementary level. The volume is valuable for all interested in reading and the organization of an elementary school curriculum. It is available from International Reading Association, Six Tyre Avenue, Newark, Delaware 19711. The cost is \$3.00 for members and \$3.50 for nonmembers.