

# Rita Dunn Answers Questions on Learning Styles

How valid is the research on learning styles? Is it really necessary for teachers to diagnose styles and match instruction to individual differences?

*Educational Leadership* asked Rita Dunn, consultant and author on learning styles, for her answers to these and other questions.

**Q: Why are there so many learning styles models?**

A: Different pioneers recognized individual differences based on their particular experiences, named the characteristics they observed, and described them in nomenclature that made sense to them.

**Q: In what ways are the models similar to and/or different from each other?**

A: •Each of the models advocates acknowledging and honoring the diversity among individuals.

•Most models urge that teachers adapt instruction to the ways in which *individuals*, rather than *groups*, learn. Some believe in "matching" to learning style characteristics all the time; others believe in matching some of the time. Still others believe in changing the child's characteristics.

•Most models are designed around one or two characteristics on a bipolar continuum, suggesting that people are either one way or another. Three "comprehensive" models include many characteristics and describe which trait is important to whom and the extent to which individuals can flex.

•One or two models have a great deal of both history and research be-

hind them; most are based on limited research. And the quality of the research concerning each model varies widely.

•Many models are relatively new and cannot be observed in a variety of geographically, socioeconomically, and ethnically different schools or districts; others are well established and can be observed in diverse programs.

**Students are not failing because of the curriculum. Students can learn almost any subject matter when they are taught with methods and approaches responsive to their learning style strengths.**

**Q: Aren't we labeling children when we say they have one style or another?**

A: No more than categorizing them as "students" or as "humans." *Everybody* has a learning style, and everybody has learning style strengths. Different people just have different strengths.

**Q: Why do you call students' preferences their "strengths"?**

A: Because many researchers have repeatedly documented that, when students are taught with approaches that match their preferences as identified by the *Learning Style Inventory* (LSI) (Dunn, Dunn, and Price 1975, 1979, 1981, 1985, 1989), they demonstrate statistically higher achievement and attitude test scores—even on standardized tests—than when they are taught with approaches that mismatch their preferences. If learning through your preference consistently produces significantly better test scores and grades, then your preference *is* your strength.

**Q: Why should students be "matched" with complementary resources? Shouldn't they learn to flex?**

A: It is important to note that three-fifths of learning style is biologically

imposed (Restak 1979, Thies 1979). Thus, those students with strong preferences for specific learning style conditions/environments/approaches cannot flex; if they could, they would not be failing. Only those for whom a specific characteristic is relatively unimportant have the luxury of flexing.

**Q: Why do learning styles have to be identified with an instrument?**

A: Teachers cannot correctly identify all the characteristics of learning style (Dunn et al. 1989). Some aspects of style are not observable, even to an experienced educator. In addition, teachers often misinterpret behaviors or misunderstand symptoms.

**Q: How strong is the instrumentation to identify individual styles?**

A: Two separate reports agree on the reliability and validity of various instruments (Curry 1987, DeBello 1990). These help educators decide which should—and should not—be used with K-12 students. Because it is crucial to use a reliable and valid diagnostic assessment, people should become familiar with those studies.

Another alternative is to request the research manual of any instrument you are considering. Read its reliability and validity data carefully, and be certain that the instrument has been widely used with the age group you are planning to test.

**Q: How good is the Dunn, Dunn, and Price Learning Style Inventory?**

A: It is the most reliable, most valid, and most widely used learning style diagnostic instrument for school-aged children in the United States. It assesses multiple characteristics that have been shown to significantly affect individual students' achievement, has been tested at every grade level (3-14), has been incorporated into research at more than 60 institutions of higher education, is easy to administer and score, and is inexpensive. Further, students *understand* it and rarely feel threatened by its questions. In addition, it has had the advantage of being developed, scrutinized, field-tested, redesigned, and consistently improved by university re-

searchers for more than 22 years. Few instruments have had that kind of research and development.

**Q: Has the research on the LSI been conducted only at St. John's University?**

A: The research on the LSI has been conducted at more than 60 institutions of higher education in the United States and abroad (Annotated Bibliography, 1990).

**Q: But aren't those all doctoral dissertations?**

A: Many are, many are not. But if they were all doctoral dissertations, would that be a negative?

**Q: Are doctoral dissertations considered good research?**

A: St. John's University's doctoral dissertations have received 1 regional, 12 national, and 2 international awards/citations for the quality of their research between 1980 and 1989. In addition, I have read many outstanding and superior dissertations from other universities. In well-designed and conducted doctoral dissertations, a team of people examine each facet of the investigation. Errors are far less likely to occur under those circum-

stances than when individuals or pairs of authors undertake research without thorough understanding of the field or knowledge of multiple research strategies. However, if some universities do occasionally produce poor dissertations, it is the responsibility of the faculty at those institutions.

**Q: Do you use an experimental/control design?**

A: With few exceptions, learning styles research at St. John's University has been experimental research. Some of our experimental studies involved two or more equivalent groups of subjects differentially treated: in others, one group of subjects received multiple treatments. In all of our experimental investigations, however, we strive to control for potentially confounding factors through either random assignment of students to treatments and/or through the use of pretesting and the use of appropriate statistical analyses, including ANCOVA and repeated measures ANOVA.

**Q: How well does learning styles-based instruction really work in the schools?**

A: After having been shown how to study and do homework through their learning style strengths, students at many institutions and at varying academic levels have demonstrated statistically significant increases in academic achievement and improved attitudes toward school, less tension in classes, and significantly increased school retention (Dunn et al. 1990a). And that progress continues over years. Here are a few examples.

• The Center for Educating Students with Handicaps in Regular Education Settings (CESHRES) in North Carolina, established under contract to the U.S. Department of Education, was seeking to identify educational movements in the United States that had seriously affected student achievement. *Our* model of learning style was one of a limited number of movements designated as having positively affected special education students, and that determination was made only after visiting sites, examining test data, and reading a great deal of research.

Photograph courtesy of Rita Dunn



• The mean language arts scores on the *Iowa Test of Educational Achievement* for middle school students at Sacred Heart Seminary in Hempstead, New York, changed from 8.5 in 1985-86 to 10.5 in 1986-87, when Principal Mary Giannitti began testing the students at the times of day that best matched their time-of-day preferences. The youngsters attending this school are bussed in from 34 separate districts; many are the offspring of military personnel and transient professionals. Many students had failed in their former schools, often both of their parents work; and many share a single parent environment barely above the national poverty level. But, if you visited Sacred Heart, you would believe that every student in attendance was an angel—brilliant, charming, beautifully bred, and independent. Results like these happen within three weeks of students' participation in that school's learning style program.

• Carole Marshall of the Center for Slower Learners, Richardson, Texas, reported the most success when using learning styles-based instruction with poor achievers.

• The Frontier and Hamburg School Districts working with the International Learning Styles Center, ERIE Board of Cooperative Educational Services, Depew, New York, reported the best gains they ever had with both special education and underachieving populations when working with a combination of learning styles and Mastery Learning. [See p. 21 for an article about Frontier Central High School's experience with learning styles.]

• The Brightwood Elementary School in Greensboro, North Carolina, had reading and mathematics scores in the 30th percentile in 1986 when its principal, Roland Andrews, came to New York to study with us for one week. Next year (1987), his school's scores on the *California Achievement Test* (CAT) rose to the 40th percentile. So impressed were the parents in that low socioeconomic area with their children's achievement gains that they paid for sending five Brightwood teachers to New York for one week of training during the summer of 1987.

## Students have to be taught in sociological patterns in which they feel comfortable. For example, prescribing cooperative learning for everyone is to fail to consider individuals' distinct differences.

Brightwood's children then scored at about the 75th percentile in reading and math in 1987—and its African-American children achieved 21 percent above the system's and the state's average. They also scored as well as the Caucasian youngsters. By 1989, Brightwood's CAT scores reached the 83rd percentile. During the past three years, those children have consistently shown between 15-21 percent improved achievement above their own previous test scores, and the *only* thing that teachers did differently between 1986 and 1989 was to introduce our model of learning styles.

• After placing its dropout population in a learning styles alternative program, Amityville High School in New York has witnessed dramatic effects on these students' academic achievement, retention, and behavior. And those youngsters are poor and minority, who experience traumatic family upheavals and neighborhoods overrun by drugs and local gangs. [See p. 23 for an article about Amityville High School's experience with learning styles.]

• When (then) Principal Jeff Jacobson initiated a learning styles-based program at his high school in Midwest, Wyoming, the average number of absences per year decreased, and overall

achievement gains reflected that 73 percent of the students moved onto grade level or higher as measured by the Stanford Achievement Test. Later, when he became Superintendent in Douglas, Wyoming, Jacobson was telephoned by the U.S. Department of Agriculture and asked why the district's special education students had achieved so much better than they had previously. When he explained that his teachers were teaching to the students' learning styles, he was flown to Washington, D.C., to describe how to accommodate individual students' styles in the Department's newly conceived "agriculture-in-the-classroom" international curriculum. Subsequently, a prototype elementary curriculum based on learning styles was developed by Jacobson and his colleagues and is being evaluated for production.

• At Corsicana High School, in Texas, former Math Department Chairperson Sherrye Dotson attested to the fact that students who had never or barely passed math in the first three years of high school had, through their learning style strengths, learned all they needed during their senior year to pass the statewide TEAMS tests! [See p. 19 for an article about Corsicana High School's experience with learning styles.]

• Principal Jacqueline Simmons of Robeson High School in South Chicago enthusiastically describes how her seasoned faculty "took to" learning styles-based instruction, taught the students how to use their strengths, and reported better behavior, attitudes, and achievement for each grade.

• Principal Patricia Sue Lemmon of the Hutchinson Elementary School, Hutchinson, Kansas, reported statistically higher reading and math scores on the *Iowa Basic Skills Tests* when she responded to her students' preferences for time-of-day and seating design during test administration. Her school has maintained consistently high scores for the past seven or eight years while it has provided learning styles-based instruction.

• Principal Mary A. Lafey of Oakland Junior High School, Columbia, Missouri, reported that her 8th and 9th grade reading teacher converted her

classroom into a learning style pilot project to see if reading achievement could be increased at a greater rate. Whereas only 12 percent of the students during 1988-89 had reached nine months or more of growth, 64 percent of the students in the learning styles program reached four months or more of growth in only a *four-month* period.

**Q: Wouldn't it be just as effective to change the curriculum?**

A: Students are not failing because of the curriculum. Students can learn almost any subject matter when they are taught with methods and approaches responsive to their learning style strengths; those same students fail when they are taught in an instructional style dissonant with their strengths.

For example, global students achieved statistically higher test scores when the curriculum was translated into a global instructional approach. Those same students achieved statistically less well with analytic materials (Dunn et al. 1990b). That also was true in high school mathematics (Brennan 1984), science (Douglas 1979), social studies (Trautman 1979), and nutrition (Tanenbaum 1981). The curriculum did not have to be changed; it merely had to be taught correctly to those students.

Similarly, students have to be taught in sociological patterns in which they feel comfortable. For example, prescribing cooperative learning for *everyone* is to fail to consider individuals' distinct differences. In every class, a percentage of youngsters can learn more rapidly and effectively by themselves than they can either in whole- or small-group instruction. Many children learn competitively and enjoy it; others prefer competing against their own growth. Some children can learn in a pair—with one classmate—but place them into a group, and they destroy the group. Some need to be in direct contact with the teacher; they need adult closeness and supervision. Children with strong preferences for learning alone, in a pair, in a small group, or with the teacher achieve statistically higher test scores in matched, rather than in mismatched,

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instructional patterns (Dunn et al. 1989).

These statements apply equally to other learning style characteristics. Students learn more effectively and retain what they learn longer when taught through their perceptual strengths and in instructional environments responsive to *how* they learn (Dunn et al. 1989).

**Q: Then why isn't everyone teaching to students' learning styles?**

A: For a number of reasons. First, many educators neither read nor understand research. Second, some teachers do not really care; for them, teaching is just a job. Further, certain people need to be doing what is "in"; they often adopt popular strategies without examining whether they have a strong research base or not.

In addition, because there are many competing learning styles models, people often do not know which is appropriate for their school or grade level. And although many are experimenting with various methods, practitioners rarely publish their results; thus, it takes a long time for the outcomes to reach widespread audiences. For whatever reason, there are still people who don't know about the concept, and they certainly do not know about the impact it has had on children's achievement and attitudes toward school.

Still another explanation is that certain administrators provide a one-day "motivating" introduction to a concept and say that their teachers are "doing it." Because what is being implemented under those circumstances is superficial, they never realize the benefits that might accrue.

**Q: Isn't learning styles instruction a lot of work for teachers?**

A: Perhaps initially, because it is different from what they have been trained to do. But relatively early in our program—after the first few months—teachers begin to teach students how to teach themselves. Once that is undertaken, teaching becomes enjoyable and easy for both students and their teachers. Besides, when students cannot learn the way we teach them, we must teach them the way they learn.

**Q: With 30 students in a class, isn't it impossible for teachers to respond to students' multiple learning styles?**

A: By just redesigning a classroom to respond to individual learning style differences, teachers can immediately address 12 elements—and that takes one hour once a semester for each class. Teaching both globally and analytically—and every class has both types of processors—eradicates another major problem. By learning how to lecture and simultaneously respond to each student's perceptual strengths, teachers eliminate a third problem. By teaching students to study and do their homework at their best times of day and by scheduling students for their most difficult or most important core subject at their best times of day, teachers can manage that component.

A few simple strategies respond to students who are nonconforming and who are not persistent, and structure merely needs to be acknowledged and provided for those who need more or less. No, it is neither "impossible" nor difficult to respond to individuals' strengths; one merely needs to learn how. □

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## Learning Styles Versus the Rip Van Winkle Syndrome

A Texas teacher's attendance at an eight-day seminar on learning styles in New York City has had a positive ripple effect on her entire high school.

This is the true story of a middle-aged language arts teacher who had been working rather contentedly at her chosen profession for over 20 years when something happened that totally changed her life as an educator. This change was unsolicited and unexpected.

### A Personal Vow

The saga began five years ago, when her principal chose her as one of two teachers to attend a learning style seminar in New York presented by Rita and Kenneth Dunn. Going to New York was in itself something to get excited about for this Texan, but going to another educational seminar after years of attending rather mundane workshops was something to be viewed with skepticism.

However, she dutifully packed her bag and headed east.

During those eight days, she spent hours learning about alternatives to lecture and the importance of identifying

**Allowing my students to have choices in how they learned made them more involved in the whole process.**

students' learning strengths and weaknesses. During one of the sessions, the presenter said that if Rip Van Winkle came back today, the one thing he would recognize as being unchanged would be a high school classroom. The ironic truth of that statement overwhelmed this teacher, who knew from years of experience that she and her colleagues had taught their classes essentially in the same manner that she, and probably Rip Van Winkle as well, had been taught. With all the wonderful inventiveness and changes taking place today, why had high school teaching remained so static, uncreative, out of step with the rest of the world? From that day on, the teacher from Texas made a personal vow not only to change the way she taught but to spend

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