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Professional Concerns: Reading Instruction and Brain Research

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PROFESSIONAL CONCERNS
READING INSTRUCTION AND
BRAIN RESEARCH

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Professional Concerns is a regular column devoted to the interchange of ideas among those interested in reading instruction. Send your comments and contributions to the editor. If you have questions about reading that you wish to have answered, the editor will find respondents to answer them. Address correspondence to R. Baird Shuman, Department of English, University of Illinois at Urbana-Champaign, Urbana, Illinois, 61801.

Jeanne Chall is perhaps best known for her searching and controversial book, *Learning to Read: The Great Debate* (New York: McGraw-Hill, Inc., 1967), which caused many teachers of reading and educators in general to rethink a great many of their long held views about the teaching of reading. Most recently, Professor Chall has collaborated in the production of another highly influential volume, *Education and the Brain*.

In her contribution to this column, Professor Chall gives an overview of her recent book, and she makes some interesting observations about the question of hemisphericity. While she does not deny the possibility that research focusing on the functions of the right hemisphere of the brain may have long term significance for reading instruction, she does indicate that at the present time "it would seem that no simple inferences for what and how schools should teach the various curricular areas can be drawn" from such research. Professor Chall stresses the importance of "environmental stimulation and experience" as fundamental determiners of the brain's development.

Professor Chall is Professor of Education and Director of the Reading Laboratory in the Graduate School of Education of Harvard University.

JEANNE CHALL, HARVARD UNIVERSITY

I am pleased to have this opportunity to share with *Reading Horizons* some of the implications of the recently published volume, *Education and the Brain*, 77th Yearbook, Part II, of the National Society for the Study of Education (University of Chicago Press, 1978).

The book brings together the most recent theories and research from the

neurosciences for the benefit of educators. Most of the chapters are written by noted neuroscientists on basic as well as on current topics. The volume includes chapters on education and cognitive processes of the brain by M. C. Wittrock, language and the brain by Kenneth M. Heilman MD, cerebral lateralization by Marcel Kinsbourne MD and Merrill Hiscock MD, and minimal brain dysfunction by Martha Denckla MD, and others on brain evolution, motivation, brain growth and plasticity. The final chapter by the editors, Jeanne S. Chall and Allan F. Mirsky, presents educational implications.

The strongest theme of the volume relates to the central role of environmental stimulation and experience in the growth and development of the brain, and in overcoming the effects of inherited deficiencies or acquired injuries. In essence, the neuroscientists writing in the volume are saying to educators that education is central for optimal brain development. Although some progress has been made with medications for effecting behavioral and cognitive changes, the authors in the volume put greater stock in education.

Hope, not fatalism is appropriate for children with learning disabilities stemming from neurological defects. Innumerable examples are given of the potentially constructive influence of home and school for the education and development of children diagnosed as having learning disabilities, hyperactivity, or behavior disorders.

For almost every brain difficulty reported in the volume, the solution proposed is training or retraining—under the supervision of a knowledgeable and sensitive teacher who gears instruction to the child's strengths and weaknesses.

Another theme is the importance of cerebral lateralization for the development of human cognition and for understanding differences in learning style. This theme is very popular in the media and is discussed in several of the chapters. Yet the implications of cerebral lateralization for education are far from clear. It would seem that no simple inferences for what and how schools should teach the various curricular areas can be drawn from the knowledge that the left hemisphere specializes more in analytic and/or sequential processing, such as language, while the right tends to specialize in parallel processing, more characteristic of spatial learning. We cannot tell at this time what it means for how and when to teach reading and writing, for diagnosing or treating students who have difficulty in these areas, and for the kind of curriculum best suitable for those with strengths in the right hemisphere rather than in the left.

Yet enough is presented in the volume so that we may begin to formulate workable hypotheses, test them out, and avoid over facile solutions. The volume is a feast for educators and particularly for reading educators—rich with knowledge of the brain and constructive in its suggestions for educational research and application.