and unhindered development. This approach has yielded disappointingly few demonstrable gains. Readiness measurements do not even correlate significantly with reading achievement. On the other hand, recent advances in the teaching of mathematics have been impressive, largely because the mathematicians and educators concerned have looked not only at the child but at the discipline to be learned, sought new ways of structuring it, and revised the methods and materials. For good instruction, instead of simply waiting for "new processes" to be "acquired with maturation," one must indeed program the teacher. That the program must be geared to the child's potentialities goes without saying. Piaget's work has played a significant role in the "new math," but so has rational analysis of a problem with resulting programs of experiment and instruction (*1*).

Elkind's letter implies that I think of the child as a miniature adult and am unconcerned with developmental psychology. This is not the case, for my own current research is concerned with perceptual development—in fact, with development of strategies in perceptual processing. But in studying development of a particular skill, I think it is essential to analyze that skill so as to discover the optimum strategy at its final attainment—in this case, what kind of perceptual processing characterizes the skilled reader. The sequencing of training procedures, I believe, must lead to this strategy as a final goal. That some components of the skill must precede others, both developmentally and in training, was the major point of my article. For example, Elkind points out that tactile discrimination of letters is positively correlated with reading skill among young children but negatively related to reading skill later. This makes good sense in terms of my analysis, for letter discrimination is a prerequisite to decoding, and tactile and visual discrimination of letters shows cross-modal transfer (*2*). But later, the child should have proceeded to the processing of larger units, and perceptual skills different from single-letter discrimination would correlate with success. Factor analysis of the learning of the Morse code at different stages of mastery shows a factor shift of exactly this sort (*3*). There is no evidence that this shift is due to development of new learning processes. It seems rather that acquisition of superior performance of the task demands it.

I do not believe, as it is now fashionable to profess in some circles, that anyone can learn anything at any time if the program is right. But if we are going to *teach*, we had better be concerned not only with maturation, but also with the structure of the subject we are teaching, the units that have utility for it, and the optimum strategies for it.

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References

1. R. M. Gagné, in "Mathematical learning," *Monograph Soc. Res. Child Develop. No. 99*, L. N. Morrisett and J. Vinsonhaler, Eds. (1965), pp. 42–49.
2. A. D. Pick, H. L. Pick, Jr., M. L. Thomas, *J. Exp. Child Psychol.*, in press.
3. E. A. Fleishman, B. Fruchter, *J. Appl. Psychol.* **44**, 97 (1960).

Half-Life of Radiocarbon

An international conference on carbon-14 and tritium dating was held at Washington State University, 7–11 June 1965. This was in effect the sixth international conference on radiocarbon dating and the first one in which discussions of tritium were included. As in the past, the question of which value for the half-life of radiocarbon should be used in reporting radiocarbon dates was debated at some length. Upon conclusion of the discussion, an *ad hoc* committee drew up the following statement, which was unanimously approved by vote of the conference:

The sixth radiocarbon conference meeting at Pullman, Washington, on June 11, 1965, under the general title "International Carbon-14 and Tritium Conference" reconsidered in some detail the question concerning the half-life that would be most useful in expressing radiocarbon dates. The consensus of opinion favored the retention of the previously used half-life of 5568 years [*Nature* **195**, 984 (1962)]. The reasons for this decision were based in the main on the desire to avoid the confusion which would arise should the many thousands of published dates require revision. It was also recognized that there are discrepancies between the radiocarbon chronology and other chronologies which would not be corrected by a change in the half-life.

It was recognized that the value 5730 remains the best available half-life for the decay of radiocarbon. Those who wish to do so may continue to convert the published dates by multiplying by the factor 1.03.

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