

# Curriculum Research

Column Editor: Alexander Frazier  
Contributor: Ruth M. Larson<sup>1</sup>

## Can We Build Better Curriculum Theory?

THE possibilities of building better curriculum theory will be more accessible when we learn more about theory-building. We need to become more astute about our own modes of thinking. This will involve (a) asking fundamental questions that can free us from unnecessary bondage to certain assumptions; (b) setting up criteria and procedures for theory-building in our field; and (c) preparing specialists for such work and providing them with the means to do it.

Fortunately, this is not an utterly new undertaking. We have much to learn from other fields, especially from the physical sciences where theory has been developed successfully and from the philosophy of science where theory-building has received considerable attention in recent years. But our success lies not in thoughtlessly imitating the more successful. We have our own questions and necessities which provide us with special vantage points for theory-building. It is important to look for stimuli for fresh thinking about curriculum problems, rather than patterns to follow. The purpose of this article is to suggest some stimuli and to illustrate their usefulness.

One of the most remarkable feats in the history of the physical sciences was Copernicus' claim that the earth moved around the sun. This was contrary to the daily seeing of all humanity! Yet,

the man could depart from traditional ways of thinking about geocentrism. Burt comments about this as follows:

... to Copernicus' mind the question was not one of truth or falsity, not, does the earth move? He simply included the earth in the question which Ptolemy had asked with reference to the celestial bodies alone . . .<sup>2</sup> You see what happened? Copernicus departed from some basic assumptions and, thus, reinterpreted the data of his experience in order to deal with a hard question.

This point of view and way of thinking can help in dealing with hard questions in the curriculum field. Consider, for example, the why's and wherefore's concerning the gap between theory and practice. It is commonly assumed that theory is ahead and practice somewhere behind. There is something wrong with this assumption. First, it emphasizes the improvement of practice and leaves out theory *per se* as a factor that could be improved, too. Second, assuming that there are common elements in the teaching-learning process at all levels, it presents an embarrassing paradox. On the one hand, it is claimed that if teachers follow the recommended theory; then their teaching will be significantly more effective. On the other hand, the assumption admits that we do not know how to teach teachers to teach more effectively. Even with the rejection of this paradox,

<sup>1</sup> Acknowledgment is made to Clifford Bebell whose encouragement and suggestions helped in the development of this article.

<sup>2</sup> E. A. Burt, *The Metaphysical Foundations of Modern Science*. Garden City, N.Y.: Doubleday and Co., 1954. p. 50-51.

one must still deal with the questions that it suggests; for example, is theory ahead of practice at all levels and in all areas of curriculum work? Does the individual who assumes that theory is ahead of practice grasp its implications for his own ways of thinking and working? These questions suggest a third weakness in the assumption. It obscures ambiguities in the words, "theory" and "practice," and, also, obscures questions about their relations. Is theory merely speculation or a set of directives derived from a particular ideology or a system of definitions and operating principles developed according to the rules of science and logic? Does practice include the performance of any tasks having to do with curriculum problems at any level and in any area? Are there significant differences in the functions of each kind of theory in the performance of various tasks? These questions suggest fresh ways of looking at old problems. As did Copernicus, let us dismiss unnecessary assumptions and look for ways of reinterpreting the gap between theory and practice.

Karl Mannheim, writing about problems in developing scientific politics, made the following assertion:

If we seek a science of that which is in process of becoming, of practice and for practice, we can realize it only by discovering a new framework in which this kind of knowledge can find adequate expression.<sup>3</sup> This makes sense in the curriculum field where the units of analysis from the so-called basic disciplines just do not fit together to provide a workable system of theory for interpreting our data. The socio-cultural milieu plus human relations plus growth and development plus personality factors plus a theory of learn-

ing plus curriculum objectives plus subject matter plus a few other things add up to indigestible hash, theoretically speaking. Theory-builders need to start with curriculum problems, both operational and theoretical, and develop a rationale appropriate to them. One of the inadequacies of action research lies in this lack of rationale, and practitioners have neither the know-how nor the time to build theory along with everything else. We may discover that it would be quite practical to consign theory-builders to ivory towers. Becoming more astute about theoretical problems in our field could produce a dialectic between action and theory from which would emerge new structures of knowledge about curriculum work. And curriculum research would be instrumental to such transformation.

Now let us look at some other ideas which may help in understanding what theory-building entails. In "Foundations of Physics" Frank writes:

Speaking exactly, we have to remember that experiments confirm a system which consists not only of two but of three kinds of statements: equations, plus operational definitions, plus logical and mathematical rules.<sup>4</sup>

Notice the difference in what is being added here and the list of terms with plus signs in between them in the previous paragraph. Does this suggest some keys to better curriculum theory? One is that the development of theory depends upon its structure as well as its content. Structure includes such things as principles for verifying hypotheses, rules involved in the formulation of definitions and hypotheses, criteria for ascertaining the validity and reliability of one's procedures, and mathematical models that

<sup>3</sup> Philipp Frank, "Foundations of Physics." *International Encyclopedia of Unified Sciences*, Vol. I, No. 7. Chicago: University of Chicago Press, 1952. p. 4.

<sup>3</sup> Karl Mannheim, *Ideology and Utopia*. (A Harvest Book) New York: Harcourt, Brace and Co., n.d. p. 171.

# COMING THIS SPRING

six new books for the **Reader's Digest Reading Skill Builders**—grades 2, 7 and 8 reading levels!

now a *complete Reading Skill Builder Series* for grades 2 through 8 reading levels! (Two books for each grade)

a wonderful opportunity for the elementary and junior high-school pupil to develop basic reading skills while enjoying articles of high interest and challenging content in the **Reader's Digest Reading Skill Builders!**

*To discover what exciting new opportunities await your pupils in this unique series, send for Brochure EL/3.*

READER'S DIGEST EDUCATIONAL DEPARTMENT

Pleasantville, N. Y.

can provide "deductoscopes" for seeing further into curriculum problems. The most serious barriers to the development of such useful structures lie in our meager knowledge of science, mathematics and logic and, also, in accompanying negative attitudes toward them. They are not "givens" to which to acquiesce. They are not necessarily inadequate for providing structures for thinking about curriculum problems. We need specialists who are equipped to be inventive—who can look for relevancies that already exist and explore the possibilities of new developments, especially in mathematics and logic, that will contribute to the structure of better curriculum theory.

Another key to better theory in the preceding quote lies in the centrality of operational definitions and principles. Operational concepts are not new in the curriculum field. But there is a long

distance to go before they are filled with meanings that contribute to better theory. There is too much space between our "what's" and our "how's." Teachers are saying this when they state that theory is irrelevant to their work. For example, curriculum objectives are defined in terms of student behaviors, but how can teachers operate in order to achieve such? Is it not important to define objectives in terms of student-teacher behaviors? Or, to consider another aspect of the matter, it is important for teachers to understand children, but even more important for them to understand themselves in relation to their pupils. The old slogan, "Helping teachers understand children," should be replaced with "Helping teachers understand teaching." Here, you see, we are back to the matter of what units of analysis to use and, also, to the paradox previously mentioned. One thing is cer-

tain. The operations of the teacher (or other practitioner) must be central in our theory. Action research has strength because its method provides means for putting the "what's" and "how's" into functional relations. But to leave the development of curriculum theory on the doorstep of any and every practitioner assumes unnecessarily piecemeal products. We must be reminded again and again that operational definitions and principles are not enough.

To summarize this point, here is a statement of it by Hempel:

In the contemporary methodological literature of psychology and the social sciences, the need for "operational definitions" is often emphasized to the neglect of the requirement of systematic import, and occasionally the impression is given that the most promising way of furthering the growth of sociology as a scientific discipline is to create a large supply of "operationally defined" terms of high determinacy and uniformity of usage, leaving it to subsequent

research to discover whether these terms lend themselves to the formulation of fruitful theoretical principles. But concept formation in science cannot be separated from theoretical considerations; indeed, it is precisely the discovery of concept systems with theoretical import which advances scientific understanding; and such discovery requires scientific inventiveness and cannot be replaced by the—certainly indispensable but also definitely insufficient—operationist or empiricist requirement of empirical import alone.<sup>5</sup>

In conclusion, the following major points have been made:

(a) In the curriculum field we need to become more astute about our own modes of thinking;

(b) Theoretical developments in the physical sciences and in the philosophy

<sup>5</sup> Carl G. Hempel, "Fundamentals of Concept Formation in Empirical Science," *International Encyclopedia of Unified Sciences*, Vol. II, No. 7. Chicago: University of Chicago Press, 1952. p. 47.

(Continued on page 396)

**TO HELP YOU DO THE JOB YOU WANT TO DO . . .**

*The Rand M<sup>c</sup>Nally*

**Blended Social Studies PROGRAM**

*was created.*



**TEXTBOOKS:** The content of the books has been organized to fit the child's maturation level. Motivation and built-in aids, workshops that are *fun*, a multitude of maps and striking pictures in both black-and-white and in color, pleasant and interesting style for easy reading—these are only a few of the features designed so that you can teach the basic learnings of the social studies.

**ALL AROUND AMERICA** (United States readiness)

**AROUND THE HOME** (local community studies)

**MANY LANDS** (world and United States communities)

**WITHIN OUR BORDERS** (United States)

**BEYOND THE AMERICAS** (North and South America)

**BEYOND OUR BORDERS** (Canada and Latin America)

**BEYOND THE OCEANS** (Europe, Asia, Africa, and Australasia)

**TEACHER'S MANUAL • WORKSHOP • TEACHER'S BOOK JACKET  
WALL MAPS AND GLOBES • FILMSTRIPS • ATLAS** are all part of the Program.

*Would you like to see copies of the textbooks for evaluation? If so, please write*

**RAND M<sup>c</sup>NALLY & COMPANY • Box 7600 • Chicago 80, Illinois**

*Remember . . . YOUR Rand M<sup>c</sup>Nally Field Representative  
is a trained professional educational consultant.*

---

## Announcing—

**ASCD Research Institute, May 3-8,  
Chicago, Illinois.**

Will focus on learning. Open to individuals and to groups from school systems. Registration fee, \$40.00 per person. Chairman: Alexander Frazier. For information and application forms write to the ASCD Headquarters office in Washington, D. C.

---

(Continued from page 362)

on the science table, all these seem nearly impossible when you cannot work in your own room because it is always occupied. And for children, it is hard to share when you have never had anything that is your own!

So, although we work together to solve what we can, quite clearly, intelligent, dedicated, professionally minded teachers can only accomplish so much, no matter how much participation occurs in the solving of double session problems. Such teacher participation has many values whether schools work on single, double or triple shifts. Perhaps its greatest value can be that the continuing crises of zooming school population may force a degree of democratization upon schools which might not otherwise occur. But lasting solution to such problems is beyond the confines of the school building and of the professional realm in which teachers must actively participate. Only through action by the wider community, by all of the people, can adequate means be provided to achieve and maintain the kind of schools we need for the children we teach.

(Continued from page 389)

of science contain valuable stimuli for fresh thinking about curriculum problems; and

(c) Specialists in curriculum theory could help by developing a rationale for both theoretical and operational problems in the field.

Underlying these major points is the idea that scientific concepts and methods can provide the bases for thinking about curriculum problems. This is an hypothesis rather than an assumption. As an hypothesis, the idea can lead to significant questions. As an assumption it will lead only to trite and insignificant controversies. There is too much at stake for us to be content with the latter.

—RUTH M. LARSON, *research assistant and instructor, Ohio Wesleyan University, Delaware, Ohio.*

## References

BURTT, E. A. *The Metaphysical Foundations of Modern Science.* (Revised Edition) Garden City, N.Y.: Doubleday and Co., 1954.

CASSIRER, ERNST. *Substance and Function and Einstein's Theory of Relativity.* (Translated by William and Marie Swabey) New York: Dover Publications, Inc., 1953.

FEIGL, HERBERT, and MICHAEL SCRIVEN, editors. "The Foundations of Science and Concepts of Psychology and Psychoanalysis." *Minnesota Studies in the Philosophy of Science, Vol. I.* Minneapolis: University of Minnesota Press, 1956.

FRANK, PHILIPP, editor. *The Validation of Scientific Theories.* Boston: Beacon Press, 1956.

KAUFMANN, FELIX. *Methodology of the Social Sciences.* New York: Oxford University Press, 1944.

MANNHEIM, KARL. *Ideology and Utopia.* (A Harvest Book) New York: Harcourt, Brace and Co., n.d.

NEURATH, OTTO, editor. *International Encyclopedia of Unified Science, Volumes I and II.* Chicago: University of Chicago Press, 1946.

Copyright © 1958 by the Association for Supervision and Curriculum Development. All rights reserved.