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ABSTRACT

The role of theory in the restructuring of schools and curriculum is discussed. Theory is defined as a set of assumptions from which laws or principles may be derived. The descriptive, analytical, and predictive characteristics of theory are described. The examination of the relationship of theory to practice leads to the conclusion that they are inextricably linked. Theory is limited in that it is a construct created by human beings. It is necessary that theory be as valid and reliable as possible, but the claim of objectivity is not supportable. The idea of paradigm shift is explored, and it is contended that a paradigm shift is in the making in the field of curriculum, where theory has not always guided practice. A process theory is proposed that consists of the following parameters: (1) sensing a problem and developing a plan; (2) generating interactions; (3) negotiating by the various players; and (4) creating outcomes. The proposed theory transcends the field of curriculum, and is, in fact, a theory of organizational decision-making. Two examples of process theory use in curriculum design and in industry are described. (SLD)

RESTRUCTURING CURRICULUM AND SCHOOLING FOR THE 21ST CENTURY

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CHAPTER I

A THEORY AND PRACTICE OF CURRICULUM

> In general, it was found that educational initiatives have not yet stimulated the restructuring of these [urban] schools. For the most part, interventions were supplemental and left the basic activities and practices of schools unaltered. Little change could be found in the social relationships between educators and students; curriculum and instruction left students unengaged in serious academic work; new roles for teachers and administrators largely failed to materialize; and schools were unable to find ways of collaborating with other institutions, both public and private, to strengthen their educational resources.
>
> Gary Wehlage, Gregory Smith, and Pauline Lipman, Restructuring Urban Schools: The New Futures Experience, 1992.

INTRODUCTION AND CRITERIA

With the movement of restructuring, such as building-based or site-based decision-making, to the forefront of the American educational reform agenda, the academician and the practitioner suddenly are discovering some considerable gaps in their knowledge and skills. Obviously, this inhibits their ability to make meaningful and effective changes in the schools. First, most people in education have difficulty developing quality curriculum since they lack knowledge of the basics of curriculum and the process of developing it. The result has been massive avoidance of curriculum development, so that many schools spend years utilizing the same curriculum, merely changing texts as their updating strategy.

Second, most people have lost their objectivity about schools and schooling. Locked "inside the oil cans of their experience" (our thanks to John Dewey), they experience considerable difficulty viewing schools and schooling from more objective viewpoints, such as those of the anthropologist or sociologist.

Last, since most educators have had little experience with individual school or total school district organizational change structures and strategies, they are handicapped in making effective changes that last.

This book addresses those needs and gaps.

Unfortunately, as the above opening quote pointedly notes, few reform efforts have impacted the essential learning relationships between students and teachers. Indeed, most reform initiatives often are imposed from central authorities (such as the state or the district) and fail to change fundamental institutional building blocks in education. The authors view the development of a theory and practice of curriculum and schooling as providing an opportunity to impact positively these fundamental underpinnings of education.

Concepts and theories provide powerful tools to guide both academics and practitioners. With the germ theory of disease guiding her the M.D. can diagnose and prescribe with greater accuracy and effectiveness than if she operated by trial and error. With a working theory of curriculum in mind, practitioners can move more expeditiously, both effectively and efficiently, to revise amd to re-design curriculum to meet developing goals.

Most practitioners view developing curriculum as an onerous burdon with little value, flinching from engaging in the arduous process. This book presents the notion that four phases emerge in the process of developing and restructuring curriculum. This can provide both practitioner and academic with concepts and tools to guide them in generating quality curriculum with considerably greater ease and power.

Similarly, educators interested in reforming education now have a construct and a technique in the area of schooling that can be utilized to achieve their goals more readily, more effectively and efficiently, than in the immediate past.

A DEFINITION

Generating any theory is an enterprising task. Claiming to have developed the first published theory of curriculum is an imposing statement, since any assertion about designing any theory has to meet a number of rigorous tests, the first of which is to define theory clearly.

Daniel Griffiths (1959) derives his definition of theory from the work of Herbert Feigl (1951), asserting, "A theory is essentially a set of assumptions from which a set of empirical laws (or principles) may be derived. A theory cannot be proved by direct experiment. Two illustrations of this from the history of science demonstrate this point. The Copernical Theory of the Solar System was accepted some 150 years before there was direct evidence of its truth. Likewise, Boyle's Law and Guy-Lussac's Law, both experimentally derived, were known long before the dynamical theory of gasses was formulated". Griffiths notes by his definition that a theory can only be substantiated, not proved.

THREE CHARACTERISTICS OF A THEORY: OR, WHAT MAKES A THEORY A THEORY

For a proposal to be a theory, it must be:

1. Descriptive
2. Analytical
3. Predictive

Descriptive

For a theory to be descriptive, it must point to phenomena that clearly are being described. As an example, the germ theory of disease describes a multitude of illnesses which are caused by germs, such as measles, chicken pox, tuberculosis and the like. Consequently, a theory of curriculum must describe

some aspect(s) of curriculum such as its structure, or the process by which it is developed, or a large number of existent curricula, or other major aspects. Note that we are pointing also to the comprehensiveness of theory, that it covers a multitude of facts, or phenomena. A section on comprehensiveness addresses this.

Analytic

The next test a theory must be prepared to pass is the analytic requirement. Any theory must be able to analyze the phenomena toward which it is pointing. The germ theory analyzes a host of diseases and also explains their onset and existence as being caused by germs. Causation is an analytic statement. A theory of curriculum must enable its users to analyze some aspects of curriculum, whether it be the structure of curriculum, or the process of developing curriculum, or the implementation of curriculum.

Predictive

Another major requirement for a theory to have any validity is that it must be predictive. The germ theory of disease predicts that if germs are destroyed, the disease will also terminate (hopefully, before its host). A host of medications from sulfa drugs to antibiotics are designed with this outcome in mind, destroying harmful germs and regaining a more healthy body. Therefore, for a theory of curriculum to be a theory, it must in some way be predictive. Thus, it should have the capacity to predict structural aspects of curriculum if the focus is on structure. Similarly, if its focus is on the process of development and/or of implementation, predictions of that process or processes must be possible.

The Model and the Taxonomy - Theories?

With this definition of theory we are able further to distinguish among such devices as the model, which is more descriptive in nature, the taxonomy, which is both descriptive and analytic in nature in that it organizes phenomena, and theory. Zais (1976, pp. 91-93) defines models as "miniature representations that summarize data and/or phenomena and thus act as an aid to comprehension. In other words, 'models in science act like metaphors in language; they enlighten us by suggesting arguments by analogy from known resemblances to resemblances so far unnoticed.'" (O'Connor, 1957, p. 90). To clarify further, we note that Zais points to four kinds of models:

1. A physical or working model, often three-dimensional, to show how something works.

2. A conceptual or verbal model such as the industrial model of schooling.

3. A mathematical model, such as in chemistry and physics [Ohm's Law (amperes = volts/ohms)] which describes the relationships of three constructs in electricity.

4. A graphic representation, such as maps, grammatical diagrams of sentences, and other graphs which describe the components of the object, and which explain the relationships among its parts.

Next, the taxonomy is a classification device. As such it points out relationships, such as those in the Periodic Table of Elements. Each element can be analyzed in terms of its atomic weights, its electrons, protons, and other particles, and their relationships to each other.

However, while we can see elements described and can analyze their relationships, neither the model nor the taxonomy is predictive, nor can they produce principles.

IS THEORY PRACTICAL: A CONTRADICTION?

Illustrations of theory appear to be useful at this point. The germ theory of disease states that certain germs will cause specific diseases. A derivation of combined gas laws (including Boyle's Law) predicts that when gasses expand, they will cool. In educational administration, Guba and Getzels (1957) proposed that administration is a social process in which behavior is conceived as both a function of the nomothetic and the idiographic functions of the social system. Griffiths (1959) sets forth a theory of administration stating that it is decision-making.

Interestingly, these theories can do provide practical guidance to the preactitioner. Much of medicine is based on countering harmful germs with antibiotics and other "germ-killers" to bring us back to health. Sadly, virally-induced colds are not yet "curable" by this means. Cryotherapy treatment (by intense cold materials) is heavily dependent upon compressing certain gasses, and then releasing them, which causes them to expand rapidly and to become solid and very cold, which then can be utilized in treating various skin diseases. Application of the gas laws turns out to be quite useful in a physician's armamentarium of treatment options.

Guba and Getzels' (1957) theory fathered many studies in administration and supervision looking at role functions, expectations and the like. Griffiths' formulation of administration as decision-making has had impact on the practice of administration. At the very least, it points to the administrator's need to

focus on decision-making in the process of administration. (And note that the word, process, picks up Guba and Getzels' theory that administration is a social process).

If we develop Griffiths' notion that decision-making is crucial to running a school, i.e., administration, we begin to ask a host of questions about that process. Who should be involved? When? For what purposes? Are there various types or levels of decision-making? We begin to become acutely aware of the process and focus considerable attention upon it. The theory, then, can provide guidance to our professional practice.

However, Americans are wont to poke fun at theory and joke about absent-minded professors. We tend to separate and disparage theory and practice and claim wide gulfs exist between the two. In actuality, the two are intertwined, inescapably interrelated, as is noted above.

Additionally, John Dewey (1938) formulated an interesting view of the relationship between theory and practice. In Experience and Education he talks about "a theory and practice of education which proceeds." Further down the page he notes, "...any theory and set of practices is dogmatic which is not based upon critical examination of its own underlying principles." Dewey's deliberate use of the singular informs us that he obviously perceives theory and practice as one and the same.

Colardarci's and Getzels' (1955) paper on the relationship between theory and practice further investigates the connection between the two. "Intelligent action, in any sense of that adjective, cannot be maximized without some guiding principles tentatively held." Then, they note, "the foregoing is by way of saying that theory is not merely an objective; it is a tool as well; it is a guide to practice." Additionally, they cite Dewey (1929), "Facts which are ...

interrelated form a system, a science. The practitioner who knows the system... is evidently in possession of a powerful instrument for observing and interpreting what goes on before him. This intellectual tool affects his attitudes and modes of response in what he does. Because the range of understanding is deepened and widened, he can take into account remote consequences which were originally hidden from view and hence were ignored by his actions. Greater continuity is introduced; he does not isolate situations and deal with them in separation as he was compelled to do when ignorant of connecting principles. At the same time, his practical dealings become more flexible. Seeing more relations he sees more possibilities, more opportunities. He is emancipated from the need of following traditions and special precedents. His ability to judge being enriched, he has a wider range of alternative to select from in dealing with individual situations."

By now, it is apparent that the authors of this work perceive a close if not unitary connection between theory and practice. In the next section, Further Uses/Functions of Theory, this relationship will be explored more intensely.

FURTHER USES/FUNCTIONS OF THEORY

Objectivity

Before Thomas Kuhn (1962, 1970) dissected the nature of scientific thinking, scientists considered science as objective, as certain, transcending personal or cultural (or scientific) bias. Formerly, scientists thought that because they utilized similar methods, research results would be objective, the same for everyone in the field.

Kuhn pointed out forcefully that scientists tended to march along the same conceptual track, filling in spaces, dotting t's and crossing i's, not looking

outside "accepted" parameters, general ways of thinking, and approaches to their fields. So, scientists, like all of us, tend generally to follow the widely accepted beliefs, assumptions, concepts, constructs, and paradigms of "accepted" thinking, often rejecting radically new theories, new ways of thinking, and those mavericks who deviate from the mainstream. That is, states Casti (1989), "...what is taken to be true at any moment is more a matter of social convention in the scientific community than it is a product of logical methods and procedures." Thus, while they point to objectivity, in the long run it is somewhat illusory, since the field will change radically over the long haul. (The section on Theory as a Guide to Collecting Facts further spells this out more fully). Thus, all science is colored by the perspectives, assumptions, values, culture, paradigms (their prevailing world view, their gestalt) of researchers.

It is worthwhile to remember that the essence of scientific enterprise is to inquire into the nature of a field. Therefore, the scientific process is virtually equated with change, although resistance to change is a well-known phenomenon. Science has meant enormous change in all societies touched by the process and results of scientific method, of inquiry.

Comprehensiveness

Another value of theory is that it provides us with comprehensiveness. That is, a great range of events, or facts, or details can be covered through using one or a few abstract ideas or concepts. For example, a considerable range of diseases are covered by the germ theory of disease. Similarly, we do not have different laws for different falling objects as common sense implies. We do not have a law of falling feathers, or a law of falling two-by-fours. They all tend to fall at the same speed (although some need a vacuum to reduce air resistance).

Thus, any theory of curriculum (or for any other area or subject) should have a degree of comprehensiveness and cover a wide variety of phenomena in the field. A process theory of curriculum, therefore, should deal with a wide range of curricular processes and not be so specific that it omits much of the field.

A Guide to New Knowledge

A major value of science is its function as a guide to new knowledge. The discovery of the planet Neptune is one striking illustration of this function. Beyond the scope of the naked eye, Neptune was discovered because of irregularities in Uranus' elliptical motion. Since Newton's Laws of Motion had been developed and validated, any irregularity of Uranus (or any planet) was deduced to be caused by the presence of an object of considerable size in our Solar System. Through this theoretical deduction, astronomers discovered Neptune. A similar series of events and education led to the discovery of Pluto. And just recently, some scientists, making similar deductions, believe a tenth planet may exist, and are investigating this possibility.

If a theory of curriculum decision-making is formulated focusing on structure, then it should lead us to look for new structures in designing curriculum, or it should lead us to discover structures where we had not seen them before.

A Guide to Action

It is obvious from the preceding that theory has considerable use as a guide to action. If a mother sees her small child looking feverish, developing a running nose, looking red-eyed, she is likely to hunch that her child is sick. Quickly plopping a thermometer into the child's mouth is standard operating procedure since she undoubtedly is theorizing that her child is having problems with some disease caused by bacteria, hopefully, not a virus. For the

astronomer, it focuses where s/he actually looks in investigating new celestial phenomena.

For the curriculum investigator, or developer, theory can focus attention on structure, process, or any number of factors encompassed by the theory. If it is a theory stressing process, it can help us look at the decision-making processes that may have been active in impacting the development, not only of one curriculum, but, perhaps, of a great many. From such a formulation we may be able to generalize and learn more about the processes of producing curriculum more effectively and efficiently. To be able to perceive the process more completely and objectively might enable us to predict the next phases or steps and thus act more expeditiously -- and with greater precision. Such an outcome might enable us to utilize our limited resources to better advantage since we would not be involved in persistently re-inventing the spoke of the wheel (since presently we do not have a picture of curriculum we do not have a picture of the wheel).

Theory as a Guide to Collecting Facts

As Dewey noted (1931), "No amount of mere fact finding develops science nor the scientific attitude in either physics or social affairs. Facts merely amassed and piled up are dead; a burden which only adds to confusion. When ideas, hypotheses, begin to play upon facts, when they are methods for experimental use in action, then light dawns; then, it becomes possible to discriminate significant from trivial facts, and relations take the place of isolated scraps."

The American focus on facts leads some to collect data and then to look for meaning (in theory). In reality this places the cart considerably in front of the horse. Certainly, facts are basic to building a theory. But when we start

to collect facts we have to remind ourselves of Cohen's (1931) admonition, "Aye, but what facts?" Without a theory, facts could be gathered in copious quantities and we would not know which to select. Theory gives meaning to facts -- it helps select facts to examine.

Defining a Fact

A definition of fact appears appropriate at this point. Johnson's (1958) formulation appears useful. If you wish to recognize a fact, when you stumble across one, Johnson notes four properties pertaining to any fact:

1. it is necessarily incomplete
2. it changes
3. it is a personal affair - that is, it depends upon one's perception
4. its usefulness depends upon the degree to which others agree with you concerning it

Thus, a fact can be defined as an event or happening that two or more competent observers can agree upon. This definition points up the tentative and subjective nature of human observation upon which we build our theories.

Can A Theory Map "Reality"?

Some literature points to the nature of theory "mapping" reality (Zais, 1976). The above analysis points to the subjective nature of this mapping. When one adds the subjectivity of cultural factors influencing one's "maps," it becomes clear that our maps are personally and culturally distorted and we can never "really" know as a certainty that what we believe is not biased from either perspective.

Zais quotes Conant (1952) for this viewpoint,

> "Scientific theory should not be regarded as an objective map that describes and explains reality, but rather, as 'a policy--an economical and fruitful guide to action by scientific investigators.'" Zais proceeds, "Scientific, empirical-rational methods had shown that

scientific theory was not, as had been thought, a value-free, objective description of reality, but a construct invented to advance human endeavors.

...Theory regarded as a map, as mentioned earlier, purports to tell us what the world is really like. It implies discovered knowledge, which literally represents an uncovering of the nature of reality. By contrast, modern scientific theory--that is, theory regarded as a policy for action--claims only to tell us what are the best representations of the world in terms of present experience. Knowledge from this point of view is regarded as constructed, that is, fabricated on the basis of human experience for particular ends-in-view. ...theory may vary accordingly as purposes for which it is constructed may vary.

...As we noted in a previous paragraph, all of the evidence available seems to indicate that the revolution in modern physics has rendered the "map" concept of scientific theory both an illusion and a presumption. Scientific theory not only does not describe the nature of reality, but it cannot. The reason, some physicists contend, is that theory is a product of human thought processes, and modern physics suggests that human thought processes may not correspond sufficiently to the structure of nature to permit us to think about it at all (Bridgeman, 1952, pp. 86,87). Put another way, the nature of reality and the concept of existence are meaningless, not because of the nature of the world, but because of the construction of the human organism. It is simply impossible for man (Sic) to transcend the human reference point. 'We cannot even express this in the way we would like.... It is literally true that the only way of reacting to this is to shut up'." Bridgeman (1952).

As Bogan (1992) notes, "all science is colored by the perspectives (and assumptions, values and culture) and understandings of the researchers... No human enterprise is an objective experience, and science is a human enterprise."

Validity and Reliability

The preceding discussion should provide evidence of the difficulty of obtaining validity. Working within the confines of our cultural perceptions and language we can shoot for this result, but validity has obvious culturally-based limitations. Notwithstanding, scientists seek validity, that is, evidence that we are measuring or viewing what we say we are measuring. Validity helps us develop some degree of confidence that what we say we are investigating is, indeed, what we are investigating.

Reliability is the term given to our probable certainty that the results obtained will be derived again using the same procedures or measures. For example, if we measure something with a rubber band and have to stretch the rubber band which, in turn, does not snap back to its original size, and we measure again with the stretched rubber band, the results will not be too reliable. The same object measured again will not have the same measurements because the instrument is changed. Reliability is compromised and one really has no idea of the measurements. Reliability has to exist to have meaning.

Without reliability and objectivity we have literature, not science. Without both we cannot with any certainty point to the value, the certainty of the knowledge. To be sure, the novelist and poet provide us with vital insights, but they do not produce scientific material.

A SUMMARY OF THEORY - TO THIS POINT

To this point, the nature of theory has been the focus of the discussion. Theory was defined and its three major properties delineated, including its ability to describe a wide range of phenomena, to analyze, and to predict using the theory as the basis for such prediction. We then examined the relationship of theory to practice, and, contrary to the prevalent American prejudice that sees theory and practice as totally separate, we found them to be inextricably united, both indispensable to the other. Also examined was theory's objectivity, its being comprehensive covering a great range of facts, and the necessity of using theory to collect facts, instead of the other way around.

We note the limits of theory, that it is a construct created by human beings based on their experience and influenced by their paradigms, their beliefs, their world view, their culture, their sub-cultures, and their

personalities, among other factors. Two basic requirements for useful theory, validity and reliability, were then discussed.

Clearly, then, scientific theories cannot claim objectivity, nor that they "map reality," (Zais, 1976), but, rather, that they provide a "guide to action" (Conant, 1952). They do not constitute a direct one-to-one relationship to practice.

A PARADIGM SHIFT IN THINKING ABOUT CURRICULUM AND SCHOOLING

Thomas Kuhn (1962, 1970) revolutionized thinking in science in his work, analyzing great changes of thought in the history of scientific thinking. Kuhn focused on paradigms (that is, prevailing world views, models of thinking, ways of representing or explaining phenomena). Kuhn pointed to the shift in physics from no theory to Aristotelian Physics as a major shift in thinking. Similarly, the change from Aristotelian Physics to Newtonian Physics was a major paradigm shift in that the prevailing world view established by the old Aristotelian notions of matter were totally changed. Thus, he was proposing that "...every scientist works within a distinctive paradigm, a kind of intellectual gestalt that colors the way Nature is perceived." (Casti, 1989).

Other paradigm shifts in Western Civilization include the change from measuring time by the sun (inexact, to be sure) to a much more accurate mechanically measured, clock time. Another such massive change in thinking can be seen in the move from the conventional view of the earth as flat in the Middle Ages to considering it a sphere. Such a change, of course, erased the commonly held view that if one sailed far enough, he would fall off the edge. The change led people to believe that they could explore the planet. Another major change greatly facilitating exploration lay in the development of the constructs of

latitude and longitude. Prior to their development, it was impossible to locate with accuracy any point on the surface of the earth, and communicate it to others.

Another major shift in man's thinking includes changing our belief that the earth was the center of the universe (geocentrism); we now perceive the sun as the center of the solar system [heliocentrism, (and not even the center of the Milky Way galaxy)]. Aristotle's world view considered the elements of the universe as earth, air, fire, and water. We moderns view atoms as the basic units/building blocks of the universe. From Aristotle's day through the Middle Ages and into the early modern era, humors and temperaments were perceived (and believed) to cause disease. The germ theory of disease has replaced that paradigm. Presently, Eastern medical paradigms are being explored in Western medicine.

Many other major changes in contemporary thinking from the past can be generated. Time, for example, in rural cultures generally is viewed as cyclical in nature, corresponding to the seasons. With such a world view, deadlines do not make much sense. On the other hand, many contemporary cultures presently tend to view time as linear in nature. Thus, deadlines can become a way of life. Once missed, we cannot recapture them, and plans go awry. The paradigm a culture holds of time tells us a great deal of the way people function.

In the last century those who were in jail were believed to have been born bad. We have dropped that paradigm.

For the present work, perhaps a paradigm shift or a new construct may be in the making, since in the field of curriculum, we now move from no theory to the first theory of curriculum, hopefully creating a considerable shift in the profession's thinking. With the development of this theory, the practitioner can

now attempt to describe, analyze, and predict behavior and thinking in the area of curriculum (and, perhaps, in organizational decision-making). Obviously, and, happily, more theories will be proposed and different paradigms will emerge to compete with, and, perhaps, replace that proposed here.

THE THEORY

Consequences of Lack of Theory in Any Field

To this point we have focused on the nature of theory and its functions. The lack of theory to this point in the field of curriculum has led us to the normal consequences of a field without such guidance. Even a cursory purview of the literature in curriculum reveals lack of common terminology and commonly agreed-upon definitions. This leads to a good deal of confusion. If a field cannot establish and stabilize its terminology and definitions how can its practitioners and passers-by communicate. Even with standard terminology and meaning, communication, as Benjamin Lee Whorf (1947, 1956) points out, is problematic and difficult. In point of fact, Whorf notes that in a majority of cases communication is problematic even with people from the same socio-economic class and profession.

Similarly, since we have no theory to guide our practice, we wander all over the universe in our undirected and non-focused professional practice. Fortunately, we do have several interesting taxonomies, among which is Tyler's (1950) rationale for constructing curriculum and Bloom's (1956) taxonomy of cognitive, affective and psychomotor functions.

THE THEORY: A PROCESS THEORY

Step #1: Sensing an Issue, Concern, Problem, Need, or Situation - and Developing a Plan

The theory being proposed is a process theory. The process of decision-making in organizations starts when one or more people perceive or sense a discontinuity, or a need, or a concern, or an issue, or a problem. The process may begin as an attempt to recognize the situation. This generally leads to an idea of some sort which can develop into a plan, however loosely perceived or vaguely defined at first. The plan could be an intention to do something, or intended activities, or intended outcomes to deal with the situation, issue, or concern, or problem. Recognizing the existence of an issue, situation, concern, or problem implies an intention to do something about it, a plan, however vague.

Step 2: Generating Interactions Among People Involved

Generally, curriculum to be changed, needs to be considered by people within the organization or system. thus, we are proposing a social theory of curriculum. Obviously, the next process in developing the curriculum consists in getting teachers, supervisors, administrators and (sometimes, even) clients together to work on these intentions, and intended outcomes. Thus, we generate a series of interactions among individual reference groups and those people involved in developing curriculum. It is also noteworthy that the interactions commence as people begin communicating about their purposes and goals to produce a course of study, or an entire program, or merely a unit. Thus, while this theory points to a series of processes, it is clear that those processes can and do become mixed, and are not in clear, sequential order.

Step 3: The Process Of Negotiating

In the preceding second process, people are interacting to define their intentions, their purposes, their viewpoints, their interests, their hidden agendas (hopefully), their institutional situations and limitations, and much more. As the interactions continue and ideas emerge, or start to come together, a series of negotiations begin to emerge and develop. Indeed, if the implementors are involved this early in the process (the teachers, of course), the negotiations take place with a vengeance. Ultimately, the curriculum, in whatever form it emerges, is developed.

Step 4: Outcomes, Consequences

The last process consists of the outcomes which may, but which usually may not, be what was originally intended. Thus, the last process occurs (not ends) as a consequence of the negotiations.

Summary

To summarize, four processes are proposed:

1. Sensing a problem, issue, concern, need, or situation and developing a plan
2. Generating interactions
3. Negotiating by the various players
4. Outcomes, Consequences

THE PROCESS OF DECISION-MAKING IN CURRICULUM -- AN ON-GOING CYCLE

Even then, this process of organizational decision-making is not concluded. As the individual teachers who teach the curriculum work with the negotiated outcomes, these teachers and their social systems change various aspects. For

example, selected readings are changed, emphases are altered, new points are brought up, additional viewpoints are appended, while old ones are eliminated or altered or subordinated. If it is a government agency, additions to regulations are developed, others are reinterpreted, others may be ignored. Thus, the process of change and alteration continues, and continues, and continues.

The thrust to develop "teacher-proof" curriculum, in which the teacher delivers a set and carefully prescribed and limited curriculum, is doomed to fail. Teachers, as they work with the curriculum, change it, shape it to the special circumstances of their classes, their beliefs, the influence of their organizational culture, their personalities, their classroom culture, their available materials, and their and their students' circumstances.

Restructuring, according to this viewpoint, places the classroom teacher, or teaching team, at the focal center of the curriculum delivery system process.

Obviously, then, this theory is not a stage theory with clear, crisp, separate, stages. Rather, it is a social process theory which focuses in the patterns of interactions involved in the complex process of producing and developing curriculum.

In many respects, it is similar to Whitehead's (1946) analysis of the phases of teaching a unit or a lesson plan:

Romance

Precision

Generalization

At any one time, both for Whitehead and this theory/practice, one phase may dominate, but more than one may be present at any one time.

As a matter of fact, to label it a theory and practice of curriculum is to downplay its extensiveness. As noted, transactions among people within and

external to the organization result in changes in the curriculum. These changes never stabilize into absolutely and eternally set curricula, but change continually, usually on the classroom level. Curriculum may be perceived as the process of negotiating agreements that people make in organizations as they interact, as they transact and come to agreements about what is to be learned.

An example of curriculum development occurs when dissatisfaction of individual teachers or administrators or supervisors becomes shared by others inside and outside of the organization (Blumer, 1946). Alternatively, an administrator with a degree of authority may conclude that it is time to change a curriculum, such as social studies. This individual, or the people who begin to share some dissatisfaction with an area of curriculum, and develop a plan to do something about changing it. Many districts operate on a 5 year plan, revising any curriculum on a 5 year basis. Proposals are made to take a look at the area of curriculum usually with a committee appointed for the purpose who interact. Different interests involved negotiate their viewpoints, interests, and points of view in this process. For example, some may want to include Latin America in a course on World History, since most approaches tend to ignore this portion of world as minor. This is discussed in various interactions, and negotiations take place within the committee and its sub social systems within, and sometimes, outside the school itself.

In the end some outcomes have to be reported to the administrators who, in turn, may report to the Board of Education on the outcomes of the process. Perhaps Latin America is included - and perhaps it is not. The point is the focus on the process.

As noted, transactions among people within and external to the organization result in changes in the curriculum. These changes never stabilize into

absolutely and eternally set curricula but changes continue to occur usually on the classroom level. From the standpoint of this Theory and Practice of Decision-Making in Curriculum, curriculum may be perceived as the process of negotiating agreements that people make in organizations as they interact, as they transact, and come to agreements about what is to be learned.

Curriculum, the script for learning, is, indeed, a dynamic and changing script.

A THEORY OF ORGANIZATIONAL DECISION-MAKING

Obviously, a process theory of practice of curriculum and schooling is in a larger aspect a theory of organizational behavior, of organizational decision-making, in this case with a focus on curriculum and schools. Thus, the theory has a considerably wider implication than merely the issue of curriculum. It may be able to be used in examining any process that occurs in organizations as the people inside and outside of it sense problems and issues and then interact and negotiate to produce agreements.

As an example of the wider implications of this theory as a theory of organizational decision-making, the following is examined. For a variety of reasons some Japanese automobile manufacturers decided to assemble some units in the United States. This major decision had to involve a large number of people in interactions to develop a full sense of the extent of this move and its widespread implications. The ensuing negotiations must have included considerable discussion on just who would go, what per cent of employees would be Americans, what percentage of administrators would be Japanese and what authority could be delegated to American administrators. At the end, the outcomes comprised the preceding decisions and a multitude of others needing

addressing before action could be taken on the plan and its widespread tentacled implications.

SUMMARY

In this chapter we note the prominence of the restructuring movement presently sweeping across American education - and the demands it is forcing on local school-based (as well as district-based) teachers and administrators. With restructuring focusing on each individual school emerges a nation-wide imperative for each school to re-design curriculum, and to contemplate their utilization of basic schooling organizational factors - and to alter them constructively if they so decide.

Unfortunately, many school-based and district educators lack experience, knowledge, and skills to re-design curriculum. Similarly, large numbers of local and district teachers and administrators have not developed somewhat more objective viewpoints outside the "box" of their experience regarding the basic components of schooling. Additionally, many educators have had little experience utilizing effective change strategies to alter these basic building blocks of schooling. We have pointed to the ideas and processes in this book as potentially helpful as a guide to those struggling with these issues, concerns, interests, situations, and problems.

The above demands seem to point to significant gaps in both knowledge and skills of many in education.

This chapter has focused in part on the social process of designing and developing curriuculum. Other sections of the book deal with schooling.

We have defined theory and noted the three major properties differentiating theory from models and taxonomies as its capacity to describe, analyze and

predict. We then look at the major functions of theory including its close relationship to practice, its necessity of being objective (within limits), and its capacity to be comprehensive describing a great range of phenomena. Collecting facts bears has a close relationship to the theories one holds inasmuch as one has to select from the myriad of facts available; one's beliefs and theories guide in this effort. Two more indispensable aspects of theory were then discussed, its necessity to be as valid as possible and to have reliability.

Paradigm shifts in our prevailing world views were briefly discussed. Hopefully, this first theory in the field of curriculum represents a paradigm shift, a change in the prevailing world view of curriculum. The Theory and Practice of Curriculum and Schooling was then presented as a process theory with its four phases delineated and its fluidity noted. The four phases or processes consist of:

1. Sensing a problem, issue, concern, need, or situation, and developing a plan
2. Generating interactions among the players
3. Negotiating by the various players
4. Outcomes, Consequences

Last, we pointed to the nature of this theory and practice as transcending the field of curriculum, that, indeed, it is a theory of organizational decision-making. Two examples or case studies of its use were projected, one in changing a curriculum design, and the other in organizational decision-making by Japanese auto-makers.

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