We need not accept any metaphor about instruction uncritically, and we may feel free to create other possible metaphors.

Myths About Instruction

James B. Macdonald

R. G. H. SIU says: "The American way of life is a doing way. . . . The guiding axiom is seldom: 'If you don't know what to do, do nothing.' It is instead: 'If you don't know what to do, do something.'" [1]

It is the "doingness" of us all that is essentially the root of instructional mythology. We are impatient, pressured, anxious; and we have lost our sense of humor and therefore our perspective. We are pushed, driven and compelled beyond the usual "doing" to a sort of frenetic activity. We are, in short, a group in search of prescriptions for symptoms of problems we perceive and symptoms we are told we possess.

Our symptoms are practically endless and are called a variety of names. For example: mediocrity in the schools; sentimental and soft headed philosophies of education; technological foot dragging; bureaucratic short circuitry of innovation by the "establishment"; intellectual myopia; and so on. . . .

In fact, as I witness the onslaught of social forces upon professional educators I have been reminded of a wonderful motion picture I once saw called "The Trouble with Harry." I have forgotten much of the specific plot but what remains in mind is a delightful sequence of scenes involving New England citizens spending a period of time digging up and burying "Harry" in order that his demise not be discovered. The motive for this behavior which I no longer remember was a perfectly understandable and acceptable (from their point of view) one.

The "Trouble with Education," by analogy, may be that it is already dead as a meaningful enterprise, and the efforts of the "establishment" are not attempts to cure symptoms at all, but really a series of episodes of digging up and reburying the corpse so that society won't find out.

If this is in fact true most of us are not willing to admit it. We have accepted the social diagnosis of illness rather than demise, and we are busy listing our symptoms and prescribing for them. The area of instruction reflects this attitude and activity as do most other areas of concern in education.

[1] R.G.H. Siu. "The TAO of Science." Cambridge, Massachusetts: Massachusetts Institute of Technology Press, 1957.

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We have in effect accepted automatically the view that we are sick and need new prescriptions to make us well rather than either acknowledging our own demise, on one hand, or suggesting that the social perspective that defines our symptoms may be what is indeed "sick," rather than the enterprise of education itself.

It is the *prescriptions* we desire that generate our need for myths, and, for purposes here, specifically our myths about instruction. Whether or not these prescriptions are really a process of digging up and reburying, or a social game imposed on us from the outside, or an actual attempt to right real ills will be left up to the reader to decide.

We live in a world of metaphors. Our word and other symbolic pictures help us make sense out of potential chaos. The simplest semantics primer tells us however that the *word* is not the thing. Yet man must be constantly reminded that his symbols are not in one-to-one correspondence with reality. He must be continually halted from prescribing action on the basis of his metaphors as if they were reality.

Our metaphors become our myths in the sense used here when they are accepted uncritically—that is, when metaphors are accepted without subjecting them to some reasoned, or phenomenological, or empirical process of validation.

All metaphors are possibly valid. But as Eric Fromm [2] has remarked, the difference between pathological thinking and sane thinking rests on the difference between what is possible and what is probable. Our instructional metaphors are possible, but are they probable?

When metaphors are possible explanations but are accepted uncritically as prescriptions for action, they are myths. They are in reality rationalizations which, because of their possibility for explaining something, can be attached to instruction for reasons which may have little to do with the actual nature of the situation. Our myths about instruction are more or less of this nature. We, in effect, prescribe instructional practices on the basis of possibility but unknown probability of validity, and the motives or moving forces for prescription are probably not central to the nature of instruction itself.

Common Myths

I should like to discuss six prevalent myths of instruction to illustrate my points. When I speak of instruction I mean the actual classroom interaction of pupils, teachers and materials. The myths are more or less probable in their truth value yet all are still more clearly in the realm of possibility only. All these myths also have other "non-instructional" motivating forces of considerable import, and all are being offered as a prescription for instruction. These myths are: The myth of learning theory, the myth of human development, the myth of the structure of the disciplines, the myth of modes of inquiry, the interaction analysis myth, and the myth of rational decision making or technical efficiency.

All of these myths share a common place in our prescriptions for instruction. Each has been used as a basis for prescribing instructional practices; each is a possible way of looking at instruction;

[2] Eric Fromm. *May Man Prevail.* New York: Anchor Books, Doubleday and Co., Inc., 1961.

each has an unknown probability of being a valid view of instruction; and each possesses powerful motivating forces for acceptance as a basis for prescriptions which emanate from sources outside the context of the instructional setting.

The Myth of Learning Theory

Professor Bruner [3] has already exposed the myth of learning theory to a wide audience. In St. Louis two years ago, he commented at length about the meaning of learning theory for instruction. His basic point, as interpreted by me for my purpose here, was that learning theory is descriptive. It is after the fact. It tells what happened. As such it is not necessarily a basis for prescribing what to do —for in Bruner's terms an instructional theory must be a prescriptive theory.

His example will bear repeating here. Simply because learning can be described as, or be said to take place in small increments which are built up by processes of reinforcement, it does not necessarily follow that this is the best manner in which learning tasks should be presented. It certainly points out the *possibility* that this is so, but it says little about the validated probability of this being true.

The appearance of a profusion of programed materials in the past two years is witness to the use of reinforcement theory as a basis for prescription in instruction. The reasonable success of these materials is then said to validate the theory behind them as a basis for prescription. There are many problems in accepting this position. If reinforcement theory is a valid description of learning; and if programed materials are a valid operational instructional form or embodiment of reinforcement theory; then results should demonstrate the technique to be far superior to the usual approach.

Consider, for example, the usual schedule of reinforcement given by teachers. As Skinner [4] has remarked, in the usual operation reinforcement is not systematic; it is often absent or delayed to the point where the relation between stimulus-response and reinforcement is impossibly polluted by intervening experiences. This being acknowledged here, the results of programed materials, if this approach is really modeled after the nature of learning, should surpass those of the usual approaches by extremely large actual as well as statistically significant differences. To date there is no evidence to indicate this overwhelming superiority, or even a consistent statistical superiority.

May I remind the reader that programed instruction is not the issue here. What is at issue is the claim that reinforcement theory is a valid basis for prescription of instructional practices. So far, the instructional form, programed instruction, does little to validate this claim.

The leap from description to prescription is a leap of faith based upon factors not necessarily relevant to instruction. There is no good purpose to be served, here, by quarreling with the good intentions of the prescribers or their prescriptions. Nevertheless, the wholesale adoption and instructional prescription in education on the basis of psychological metaphors, such as learning theory, is primarily an act of faith. It can be as readily explained by the climate of acceptance of psychology in our culture,

[3] Jerome Bruner. "A Theory of Instruction." *Educational Leadership* 20: 523-32: May 1963.

[4] B. F. Skinner. "The Science of Learning and the Art of Teaching." *Harvard Educational Review*, Vol. 24, No. 2, 1954.

or the need for educators to present "respectable" rationales, or perhaps the more recent effrontery of psychologists, as it can by the empirical validity of its use in instruction.

The Myth of Human Development

The myth of human development refers to the promise of sound prescriptions for instructional practice which grow out of our understanding of the development of the human. We are all quite willing to admit the possibility that developmental knowledge has relevance for instructional practice, but a problem arises when the probability of its relevance is considered. It should be clear by now that a prescription for practice that is acceptable to all should have a reasonably high probability of being valid. Most developmentally based instructional prescriptions do not achieve this state of grace.

Ausubel has remarked, with reference to the relevance of human growth and development knowledge for instruction, that, "unfortunately," it must be admitted that at present our discipline can offer only a limited number of very crude generalizations and highly tentative suggestions bearing on the issue."[5] He suggests the need for much engineering level research before we embark upon any wholesale prescriptions or application to practice.

According to Ausubel, the concept of readiness is one such generalization that suffers from lack of particularizing its meaning in curriculum contexts. He points out the confusion between the concepts of readiness and maturation and remarks that the unfolding or "internal ripening" concept fits well with sensorimotor and neuromuscular sequences during the prenatal and early infancy periods. However, he believes that there is an unwarranted extrapolation of the knowledge to more complex and variable components of later cognitive and behavioral development.

The instructional process of self-selection is another unwarranted extrapolation, according to Ausubel. Logical deduction from nutritional studies in early infancy are not sound reasoning ventures. Thus, it is interesting that infants will select a balanced diet if given the opportunity. Yet this fact is not generalizable to the provision of self-selection activities in the instructional process.

As a matter of fact, it seems highly unlikely that any developmental knowledge, for example Gesell's ages and stages, has direct use for instruction. Even the fact of individual differences is only descriptive of what we may expect to find—it does not offer a specific basis for prescribing instructional procedures. On the contrary, our knowledge of human development has most probably had its greatest effect upon our attitudes toward children. And it might well be argued that our concern for the individual was projected into human development studies out of the value matrix of western culture.

The point made here is that our developmental metaphors are interesting and reasonably valid within the contexts in which they were developed. When these metaphors are extrapolated and projected onto instructional settings they lose a considerable portion of their validity and become much less probable as valid bases for prescribing instructional practices.

[5] David Ausubel. "Viewpoints from Related Disciplines: Human Growth and Development." *Teachers College Record* 60:245-54; February 1959.

The Myth of the Structure of the Disciplines

As if it were not enough to contend with behavioral science prescriptions, we are at present busily prescribing for instruction in terms of the pressures and recommendations of academic scholars. In this case the scholars are said to be those persons primarily involved in the business of creating and transmitting the knowledge of a given discipline.

This concept was clearly hinted at in Bruner's *The Process of Education* and has been developed in some detail by Schwab[6] and others. Essentially it is proposed that each discipline has a set of fundamental ideas or principles about which the fabric of knowledge in each discipline is woven. This being so, the logic goes, what is needed is a well planned development of a program to communicate this structure to the student. Bruner's stated assumption, "that anything worth teaching can be taught in some form at all levels," catches the spirit of this conceptualization well. It is suggested from this that we identify the structure, form it in meaningful terms at all levels and proceed to prescribe instructional content.

The basic fallacy of this conclusion is similar to the previous criticism of learning theory. Structure is an after the fact description of the way knowledge can be organized by mature scholars. It is not the basis from which the knowledge itself was developed. Further, as a coherent way of organizing a field of knowledge, it does not necessarily follow that this is the way to organize knowledge in the instructional setting.

[6] Joseph L. Schwab. "Structures of the Disciplines: Meanings and Significances." *The Structure of Knowledge and the Structure of Curriculum*. Ford and Pugno. New York: Rand McNally, Paperback Series in Curriculum, 1964.

Ortega y Gasset,[7] in another context, talks in a similar vein. In an essay "On Studying and the Student," he says (I paraphrase):

A truth does not exist in and of itself but rather it exists for those who have need of it, a science is not a science except for those who eagerly search for it. . . .

. . . For those who do not need it, science (or truth) is a series of words or if you wish, ideas, which although they are not understood one by one they need, in short, a meaning. To truly understand something one does not need talent or previous knowledge. What *is* needed is an elemental but fundamental condition, that which one needs is to *need* it.

. . . What is a student? The student is a human being, male or female, upon whom life has imposed the necessity of studying ideas which the student himself has not included among his true necessities. With rare exceptions a student merely feels a sincere but vague necessity to study "something," to "know something." It is evident that such a spiritual state as this has not created knowledge, because knowledge is always concrete, it is knowing precisely this or precisely that; and according to what I have previously said—Those who created knowledge, created it because they felt, not a vague desire, but the concreteness of taking advantage of some determined thing. . . . The creator did not encounter the science first and *then* feel the necessity of possessing it, but rather he first felt the vital and not scientific necessity to search for his satisfaction.

. . . On the other hand, the student encounters the science already made. As a ridge of mountains rising up before him, it closes that *vital* road. . . . Thus, it deals with an external necessity which is imposed upon him. By putting a man in the position of being a student one is obliged to do something false, to pretend that the student feels a necessity which he does not feel.

[7] Ortega y Gasset. "Sobre el Estudiar y el Estudiante." *La Nacion* de Buenos Aires, 23 de april de 1933.

There are further puzzling questions that arise when the structure notion is examined in detail. For example, Robert Karplus[8] had described the basic structure of the physical world in terms of the concepts of *objects, systems*, and *interaction*. Thus, all physical phenomena can be conceptualized in terms of systems composed of objects in interactions. As a framework this can be elaborated in specified terms when we are dealing with electricity, levers, or any other of the usual physics units. Karplus prescribes that we teach these basic concepts in the primary school as a basis for making the physical world more meaningful or perhaps as advance organizers for the physical science program.

It could be argued however that these concepts are more in the order of a structure of knowledge than a structure of one discipline. As such, it is as useful to organize knowledge about language, or social phenomena in these terms as it is the physical world. For example, words could be seen as objects, sentences described as systems, and varieties of grammatical construction proposed as the interactions of objects in systems.

If this is the case, then the structure of a discipline is really a generalized structure of knowledge. And if this follows, then the disciplines are not truly separate, or have no distinctive structure. In either case the concept of structure becomes less tenable.

Ortega y Gasset might well argue that the structure of knowledge is created by man, not discovered. Thus the structures we are busily finding today are akin to Jung's collective myths. They are basic substance of human potential for thought that are available to all disciplines under the proper circumstances.

The concept of the structure of the disciplines in no way avoids the criticisms that have been leveled at subject matter curricula for the past fifty years, although it is perhaps a more efficient and useful way of thinking about knowledge. As a metaphor it suggests interesting possibilities for instruction. As a prescription it has much less probability of validity for instruction than it has in the realm of philosophical discourse about the nature of knowledge.

We should also be alerted to the fact that there is some concern among academic scholars about the concept of structure in the disciplines. We would probably be well advised to let the scholars decide the issue but it behooves us to follow their inner squabbles carefully. It would not do to be caught prescribing practice wholesale from the concept of structure about the time scholars finally decided that there was no productive use for the concept of structure in at least some of the disciplines.

We should also be cautioned by the fact that we are quite willing to adopt this concept because it has academic respectability. No matter what validity there is to the concept we must realize that prescriptions growing from the structure idea are approved generally by critics of education and when we, as educators, accept this language we reduce the chances of criticism and become more respectable. Further, the critics and "outside" newcomers to educational prescription are vocal and powerful. It is important to reaffirm that under these circumstances the concept of structure is a metaphor of unknown

(Continued on page 609)

[8] Robert Karplus. "One Physicist Looks at Science Education." In: A. Harry Passow and Robert R. Leeper, editors. *Intellectual Development: Another Look*. Washington, D. C.: The Association for Supervision and Curriculum Development, 1964. p. 78-98.

(Continued from page 576)

validity as a prescriptive base for instruction.

The Myth of Modes of Inquiry

The modes of inquiry fall into the same general category of criticism as structure. Modes of inquiry are, I suppose, what mature scholars say they do, after they have done it and reflected upon what they did. They are abstractions from behavior. Would they have done the same things, discovered the same things, if their own instruction had been ordered specifically by the use of the concept of the modes of inquiry? There is, in other words, no necessary logic that says because man can be said to discover knowledge in a given way that ipso facto his instruction should be organized and presented for learning purposes in the same fashion.

There is considerable difficulty with this concept. How many modes of inquiry are there? Does each discipline have its own unique mode of inquiry? When scientists are asked what the scientific method is, they are prone to respond with—*which one*? Does a biologist never use an experimental procedure? What modes of inquiry are appropriate only to political scientists? The attempt to associate one unique mode with each accepted discipline is fraught with difficulty. However, if we admit that modes of inquiry are not inherent in any given discipline, the case for distinct modes of inquiry at all becomes less tenable. It is, in fact, difficult to get agreement and specificity beyond a *reflective thinking generalization*, if we once allow for the necessity of what one could call adjunct technical skills which vary among the disciplines.

There is much talk about the modes of inquiry, but little specification in concrete terms of what these inquiry modes look like in practice. Richard Suchman[9] has perhaps presented us with the most concrete model in his Inquiry Training procedure. I personally find this procedure intriguing and usable. Yet what discipline is this specifically a model for? Are we to believe that a perceptual or ideational discrepancy followed by a simulated "Twenty Questions" procedure is unique to physics? Chemistry? Economics? History? Or what?

The point here is not a criticism of this procedure, but to illustrate that the most prominent and widely known specification of an inquiry practice—courageously espoused by Suchman—does not fit any given discipline.

Indeed, we are most likely witnessing an example of a concrete format to allow for the appearance of what Dewey called reflective thinking. A reflective thinking metaphor returns us to a previously espoused position and therefore adds nothing startling or revolutionary ideationally for serving as a basis for prescriptive practices.

This very observation might serve to enlighten us about the possible motivations for the rather positive acceptance of the idea of modes of inquiry among educators. Modes of inquiry are processes of discovering or creating knowledge. They are dynamic concepts—action concepts. There is an easy possibility of correlating modes of inquiry and activity curriculums. The concept of modes of inquiry may have gained in acceptability simply because the "estab-

[9] Richard J. Suchman. "The Child and the Inquiry Process." In: A. Harry Passow and Robert R. Leeper, editors. *Intellectual Development: Another Look*. Washington, D. C.: The Association for Supervision and Curriculum Development, 1964.

lishment" is comfortable with this terminology and finds it to be more easily incorporated into preexistent metaphors.

In any case the probability of providing reasonably valid instructional prescriptions from the concept of modes of inquiry is not necessarily high, even if the possibility is an intriguing one.

The Myth of Interaction Analysis

Having revealed my thoughts about the imposed myths from behavioral scientists and other academicians, I would like to turn my attention to our own scholarly mythology. I refer to the myth of interaction analysis; and, later on, the myth of rational decision making.

Interaction analysis has an interesting and vital history of scholarly activity centered rather directly in the field of education, with concomitant activity in the area of the group dynamics of small groups. A number of interaction frameworks have been developed. Some familiar educational examples are found in the work of Flanders,[10] Mitzell and Medley,[11] Withall,[12] Perkins,[13] and others.

A confusion has arisen however in the meaning of interaction analysis. The distinction between the description of what *is* going on in the classroom has become fused with the prescription of what *ought* to be going on in classrooms. Thus, if we select Flanders' direct and indirect teacher behavior categories as an example, we see a schema for looking at teacher behavior which is being misused by many people as a rationale for prescribing indirect teacher behavior. In this particular case, the Flanders' categories, the misuse is partially due to the way in which the framework has been presented by the developers. Nevertheless, a careful reading of the authors' statements underscores the concept of the analysis as being *one* source of feedback, with the judgment of performance, or "oughtness," being left up to the teacher.

The framework of categories itself is admittedly intimidating. This is primarily true because it grew out of the older authoritarian versus democratic value matrix and we still suffer from collective guilt about being authoritarian.

However this is not the intention of the originators of these analyses, nor is it necessarily embodied in the assumptions of the methodology. Rather, these categories, which are essentially descriptive, are having, and have had, values attached to them historically and in the present by users who are prescribing instructional practices.

As long as we appreciate the fact that any system of interaction analysis is a metaphor—that it is a created reality—that the categories we use were put there and labeled by us, and not necessarily "natural" phenomena, then there is no problem. Obviously, then, there are as many possible systems of interaction analysis as we can reasonably create, and we are not in danger of prescribing from a metaphor of a low order probability that has some possibilities for explaining the instructional process.

We are motivated to accept the inter-

[10] Ned Flanders. "Intent, Action, Feedback: A Preparation for Teaching." *Journal of Teacher Education*. Vol. 14, No. 3; Sept. 1963.

[11] Donald M. Medley. "Experience with the OSCAR Technique." *Journal of Teacher Education*. Vol. 14, No. 3; Sept. 1963.

[12] John Withall. "Mental Health: Teacher Education Research Project." *Journal of Teacher Education*. Vol. 14, No. 3; Sept. 1963.

[13] Hugh Perkins. "A Procedure for Assessing the Classroom Behavior of Students and Teachers." *American Educational Research Journal*, Nov. 1964.

action analysis for many reasons, of which their valid portrayal of instruction is only one possible base. Interaction analysis provides conceptual tools for research and research is the basis upon which our profession has recently chosen to play the game of progress. Thus, the aura of science and the pride of origination cling tenaciously to these systems.

Any given interaction system is a myth, however, if used to prescribe practice, at least in the sense that myth is being used here.

The Myth of Rational Decision Making

The interaction analysts might be called instructional empiricists. There is another school of what could be called instructional rationalists. Let us turn to this latter group for an examination of the myth of rational decision making.

One variant of this approach has been associated with persons such as Ralph Tyler [14] and Virgil Herrick. [15]

Their writings are clear and consistent in the embodiment of a rational decision making approach to instructional problems. Faith in the rational man, the liberal man, is the cornerstone of this set of assumptions.

This rationale is an impressive one. From an aesthetic viewpoint it could be called beautiful. Further, the use of this rationale is an inherently efficient operation, providing one accepts the necessary premises. First select our objectives; then select an activity from among a number of alternatives; next fit this activity (called learning experience) into a scope and sequence pattern, then evaluate the outcome.

Although the presentation of decisions to make has been unnecessarily sequential here, the proposal that the teachers make a series of rational decisions about objectives, learning experiences, organization, and evaluation is the core of this myth.

The basis for considering this approach for an appropriate niche in the land of mythology is as follows: It is possible that teaching can be viewed as a rational decision making process, but the action probability of validity is rather slim. The central premise of rationality cannot withstand careful scrutiny. We have learned too much about human nature in the past 100 years to reject offhand the irrational and/or unconscious aspects of human behavior.

On a practical basis alone, however, it is difficult to see how meaningful, integrated behavior could result from a formal series of sequential rational decisions. The forces of society, both within and without the person, embodied in personality and social roles, are not accounted for in any appreciable manner.

Let us look, for example, at the problem of objectives. Objectives are viewed as directives in the rational approach. They are identified prior to the instruction or action and used to provide a basis for or a screen for appropriate activities.

There is another view, however, which has both scholarly[16] and experiential referents. This view would state that our objectives are only known to us in any complete sense after the completion of our act of instruction. No matter what we thought we were attempting to do,

[14] Ralph Tyler. *Syllabus of Education* 364, *Basic Principles of Curriculum and Instruction*. Chicago: University of Chicago Press, 1950.

[15] Virgil E. Herrick. *Toward Improved Curriculum Theory*. Chapter III. Chicago: University of Chicago Press, 1950.

[16] See, for example: Florian Znaniecki. *The Cultural Sciences: Their Origin and Development*. Urbana: The University of Illinois Press, 1952.

we can only know what we wanted to accomplish after the fact. Objectives by this rationale are heuristic devices which provide initiating sequences which become altered in the flow of instruction.

In the final analysis, it could be argued, the teacher in actuality asks a fundamentally different question from "What am I trying to accomplish?" The teacher asks, "What am I going to do?" and out of the doing comes accomplishment.

The use of this rationale is technical in nature. It is a mechanical concept of human action. It assumes a means-ends relationship for behavior which points toward the most efficient way to achieve our goals. It is, of course, this mechanistic rational position which is the underlying premise of any national curriculum or national testing program. As a myth for guiding planning activities, it has power and clarity; but as a prescription for action it leaves much to be desired.

Alternatives

In summary, then, I would like to reiterate my position that the six myths I have mentioned (learning theory, developmental theory, structure, modes of inquiry, interaction analysis, and rational decision making) are metaphors created to describe the instructional process. As such they are possible ways of talking about instruction. As a basis for prescribing instructional practices they have unknown probabilities of being valid.

The identification of the mythological character of these prominent working conceptualizations in instruction has value if it simply reminds us that we are dealing with things and ideas that are not sacred. We need not accept any metaphor about instruction uncritically, and we may feel free to create other possible metaphors which may prove to have even better probabilities of being valid.

Dwayne Huebner [17] has suggested two other possibilities which he describes as the *aesthetic* and the *moral*. It appears to me that each of these metaphors has as much reasonable possibility of providing prescriptions for instruction as any of the previous ones mentioned, and their probability of being valid might even be greater. I should like to reflect briefly upon each of these metaphors and to suggest why each is not presently elevated to the level of instructional mythology.

Aesthetic Metaphors

Huebner points out that it is possible to talk about instruction in aesthetic terms. To do this it is necessary to remove instruction, however, from the world of use. Instruction is thus not seen in terms of its usefulness, but rather is seen in terms of its wholeness, its design, its symbolic meanings. Instruction is, in other words, talked about as we might talk about a work of art.

The aesthetic activity of instruction stands apart from the world of technical means-ends relationships. Educational activities become objects in their own right—objects which may have beauty. Further, aesthetically appraised activity has a totality and unity of its own which can be talked about in terms of wholeness and design. The balance, flow, rhythm, composition, themes, major and minor keys, and other aesthetic concepts become the ways of appraising the qualities of the activity.

Suppose we talk for a moment about instruction in terms of movement. When

[17] Dwayne Huebner. "Curriculum Language and Classroom Meanings." Speech given at ASCD Curriculum Research Institute, Miami Beach, Nov. 1964.

the dancer moves we may perceive and appreciate among other things the rhythmic patterns, the beat or emphasis of the movement, the use of horizontal space and vertical levels, and tempo. The dance has a patterned wholeness. It is experience of some deeper meaning, it is symbolic of human reality.

Does it seem so unreal to think of instruction as having patterns or forms? Cannot instruction have differing tempos, differing beat or emphasis? Would it be possible to describe the use of horizontal or physical space and vertical levels—perhaps psychological space? And what of the rhythm of activity? As expressive activity, could instruction be seen as symbolic of the meanness or meaningfulness of much human activity? Or, perhaps, symbolic of the beauty and glory of highest human aspirations? I think it could—if we wished to describe it this way.

It is a fact that aesthetically oriented metaphors are not prevalent in our instructional talk. If we grant the possibility of using such metaphors, the question of why we have not raised them to the category of prescriptive myths becomes an interesting puzzle. One answer surely rests in the examination of their usefulness as rationalizations. I would suggest that they are not useful or at least *as* useful as ones we presently cling to.

Consider the climate of our times. Science is dominant and mathematics is its tool, with technology the logical outcome. The humanities are considered court jesters without serious purpose. They entertain and help us over the dull moments between the serious business of life. The "Two Cultures"[18] are not equal partners.

[18] C. P. Snow. *Two Cultures: A Second Look.* New York: Mentor Books, 1959.

In this climate aesthetic metaphors are not respectable. They are not useful to educators simply because they are not acceptable in the broader community. Further, the artist is humble; at least in his striving for individual expression and his emphasis upon the unique in existence. He is humble because he does not propose the general or universal. The community of scholars immersed in the realm of aesthetics appears to lack the need, the desire, or the motivation to project their metaphors on the instructional setting in the same manner that the psychologists have. Thus, aesthetic metaphors about instruction have not reached the status of myths.

When I speak of aesthetic metaphors I mean the use of aesthetic metaphors to describe the actual instructional situation. This is not the same thing as talking about the "art of teaching." To say teaching is an art is (or can be) a way

of removing teaching from the realm of reasoned analysis. This would be contrary to what is being proposed here.

Moral Metaphors

What of the moral realm? Are moral values relevant sources of instructional metaphors? Is it not possible to conceptualize instruction in moral terms?

When we speak of morality we are immediately confronted with a possibility of misunderstanding. Just as the word culture may mean the mores and customs of a people, or the preferred sophisticated aspect of a culture; morality may refer to a pervading condition of human relationships, or a special section of prescribed behavior, such as sexual relationships. It is, of course, the former with which we are concerned here—the basic quality of interpersonal confrontation pervading all human relations. Thus each encounter between man and man has a moral quality and potentiality.

As with aesthetic activity, a morally perceived activity is an end, not a means to an end. But unlike the aesthetic it does not symbolize or express deeper meanings, *it is*. The encounter is the morality. Nor is it used to produce change, develop skills or knowledge. It is complete in its being.

In moral encounters the person is not seen as an object, but as another person. No status or role, no purpose or category intrudes between the person to person contact. Relationships are said to be more or less authentic.

In moral discourse we are concerned about the responsibility of the student—his ability to confront himself, others and the world and to be a fully functioning person. Morally, it is recognized that instruction is a condition in which persons are influenced. The teacher accepts the responsibility of this influence and the collateral willingness to be influenced by other persons. The contrast, an attempt to change pupils' behavior, can be justified outside the limits of the act itself, but to influence others means we are fully responsible in the present for our relationships.

Huebner suggests that the terms promise and forgiveness are crucial and that it is through true conversation that men confront each other. A conversation means, of course, an exchange of words on a basis of mutual respect and mutual informativeness. Perhaps this is what we mean when we plead for the teacher to listen to the student.

Further, in the use of influence lies a moral promise. It is a promise of worth in the doing, of personal reward or intrinsic meaning in the contact with knowledge, materials and other people. But with influence also comes the possibility of error and it is this possibility from which only forgiveness can free one. To forgive and be forgiven are necessary in the moral realm.

Paul Goodman[19] has said that the school is a place where students waste time usefully, and perhaps this summarizes in capsule form the moral dilemma of schooling. It is wasting that is immoral—immoral because it is a refusal to face the responsibility of conversation, confrontation and influence.

Moral metaphors also lack acceptability in our society. We have encapsulated man and surrounded him with behavioral terminology which will not allow us to speak in acceptable ways of human conditions of existence which are not caught in our behavioral nets, thus limiting our kind of discourse. We ignore what Millard Clements[20] calls the un-

[19] Paul Goodman. *Compulsory Miseducation*. New York: Horizon Press, Inc., 1964.

[20] In conversation.

intended consequences of the educational enterprise—the moral dilemmas.

In conclusion, in this article I have attempted to say that we may utilize many metaphors in our talk about instruction. Some of these metaphors have been raised to the level of myths. They are myths by definition *here* because they are used to prescribe patterns for instruction—when in reality they are only possible ways of viewing, with uncertain probabilities of validity.

I mentioned the myths of learning theory, developmental theory, the structure of the disciplines and modes of inquiry, interaction analysis and rational decision making; and I suggested possible reasons for their acceptability in today's educational world of instructional mythology. In contrast, I further suggested the potential use of both aesthetic and moral discourse for instruction and also indicated why I feel they are not utilized as contemporary myths.

The myths I have talked about are in a sense descriptive theories that have been used to prescribe practice. It is not that the theory is necessarily wrong but that the use of these theories is sometimes unintelligent. What we need are more and better theories, not less theorizing. The field of medicine, for example, would still be in the stage of nostrums and incantations (would we then call it the art of doctoring?) without the theory and research which have resulted in the major steps forward. Germ theory was just that, *a theory*. It was fought vigorously by the practical man. *Immunization by vaccine* began as a theory—it was also fought vigorously by the practitioner. It would be a tragic mistake to sever the head of the educational establishment from the body under the mistaken notion that the hands and feet would be freer, or the heart would become more functional in the process.

I suppose, in the end, the message that is intended here is quite simple. It is a reminder of the tentativeness of our instructional language and the suggestion that we enrich our present conceptualizations with varieties of discourse. For example, Thomas Szasz,[21] a psychiatrist, criticizes the use of mental health metaphors in instruction. He attacks what would be called here a mental health myth of instruction. His point is an illustrative one. His concern is with the separation of psychology and state. Just as we separate one brand of religion from the public school, Szasz believes there is great danger in the establishment of one brand of psychology in education. In a broader sense this is my plea—a plea for the separation of a limited brand of thinking about instruction from the schools. It is perhaps best interpreted as a plea for conceptual pluralism and prescriptive variety in instructional programs, lest we are aroused rather startlingly in the not too distant future, tightly enmeshed in the grip of some pathological possibility which will effectively slam the door on future progress.

For as Whitehead has remarked: "I emphasize the point that our only exact data as to the physical world are our sensible perceptions. We must not slip into the fallacy of assuming that we are comparing a given world with given perceptions of it. The physical world is, in some general sense of the term, a deduced concept.

"Our problem is, in fact, to fit the world to our perceptions, and not our preceptions to the world." [22]

[21] Thomas Szasz. "Psychiatry in Public Schools." *Teachers College Record*. Vol. 66, No. 1; Oct. 1964.

[22] Alfred North Whitehead. *The Aims of Education*. New York: Mentor Books, New American Library, p. 156-57.