DOCUMENT RESUME

ED 071 193 EA 004 793

AUTHOR	Frymier, Jack R.
TITLE	A Curriculum Manifesto. Curriculum Bulletin. Volume 26, Number 314.
INSTITUTION	Oregon Association for Supervision and Curriculum Development, Salem.
PUB DATE	Dec 72
NOTE	47p.; Paper presented at Association for Supervision and Curriculum Development Annual Conference (27th, Philadelphia, Pennsylvania, March 5-8, 1972)
AVAILABLE FROM	Oregon Association for Supervision and Curriculum Development, P. O. Box 421, Salem, Oregon 97308 ($1.50)
EDRS PRICE	MF-$0.65 HC-$3.29
DESCRIPTORS	*Curriculum Development; Educational Accountability; *Educational Change; *Educational Philosophy; Futures; *Humanization; Open Education; Self Concept; Sequential Approach; *Student Centered Curriculum; Student Participation; Student Teacher Relationship; Teacher Administrator Relationship
IDENTIFIERS	*Experiential Learning

ABSTRACT

Education should help people learn to use past experiences as a basis for acquiring new meanings, which frees individuals from what restricts and what enslaves. However, the curriculum has become a program for social purposes and the school an instrument of social control when, in reality, what is needed is persuasion (not coercion) and discussion (not demands.) Curriculum should be regarded as spatial realities in process over time -- actors, artifacts, and operations in terms of that which is planned, which occurs, and is evaluated. Curricular conceptualizations should be rooted in primary attention to the learner as the major source of information in curriculum development. Because schools of the future will have curriculum artifacts more limited in size than the traditional textbook, sequencing will be variable rather than predetermined; teachers and students will have infinite ways of bringing artifacts together spatially and temporally; and greater possibilities will exist for generating new and unique arrangements of artifacts to facilitate each youngster's unique learning needs. Systematic study developmental projects, outside the area of education, should be studied by curriculum developers to learn from others who spend their lives in developmental roles how to generalize what development means in educational terms. (Author/EA)

OREGON ASCD

Curriculum Bulletin

A CURRICULUM MANIFESTO

No. 314
XXVI
December 1972
Price $1.50

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Published by:

Oregon Association for Supervision and
Curriculum Development
P. O. Box 421
Salem, Oregon 97308

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Introduction

The Association for Supervision and Curriculum Development has spent its energies in recent years pressing for changes in schools which would further and foster the evolutionary and revolutionary developments within the American social scene. Those thrusts have been very important. We debated the issues which divide us, and we have poured our talents and our dollars into programs, policies, and publications which gave both visibility and credibility to ideas and ideals as American as apple pie.

Some persons will protest that we have done too little. Others will complain that we have gone too far. Both may be right. Both may be wrong. But we have tried. We have "put our money where our mouth is," as the saying goes, and we have laid our professional reputations on the line.

Some persons have been upset that we have not taken an outright stand against teacher groups who advocate closing a school system down if their demands are not met. Others have been disturbed that we did not acknowledge the fact that we are a racist group and an oppressive organization, since they know in their own existential way that that is true. Still other persons have been concerned that we have talked more than we have acted, published more than we have effected change, been hesitant when we should have been bold, or acted frivolously when we should have been serious and sensible and calm.

Paper presented at the Fourth General Session of the Association for Supervision and Curriculum Development annual conference in Philadelphia, March 8, 1972.

We Americans insist on employing a standard of absolute "good" as a criterion to judge ourselves by. Doing "better" than we used to do or "better" than any other people is not enough. We must be perfect. We know that we cannot be, of course, but we always try. Such idealism makes for problems and potentialities. The problems arise because we are never satisfied, and falling short of our goal we strive and strive again. Even though we may be moving in a positive direction consistently, we criticize both our leaders and ourselves for not moving far enough, fast enough, or often enough. Idealism is an absolutely marvelous disease.

But there are reality factors with which we have to deal, too. Gravity cannot be ignored if one wants to fly a plane, for instance. Ingenuity, hard work, understanding, and careful planning make it possible to overcome the force of gravity and in fact to fly, but the reality factor cannot be ignored or pushed aside.

The trick to making a difference and being effective, if there is a trick, is to laminate the reality factors to the idealistic conceptions in such a way that ideals are reality based and reality is rooted directly in the core of idealism somehow. Such propositions are simple to state though terribly difficult to achieve, but that can be done. For example, the Golden Gate Bridge is an architectural wonder and breath-taking to look at, but it is rooted in engineering principles and mathematical formulae which are consistent with reality factors as well as aesthetic considerations. And it was simply an ideal place for the bri ge to be built, from a functional point of view. Semmelweis' search for the cause of death from childbirth fever or the safe return of the Apollo 13 crew from their ill-fated voyage are other instances of idealism and reality being integrated and fused.

Our history, as a people and as a profession, has been to search

continuously and relentlessly for goals and means which embody the essence of idealism in realistic and practical forms.

During recent years all of our social institutions have come under vigorous attack. Schools are not alone in bearing the brunt of fault-finding today. Churches, government, industry, the professions, even philanthropies have been severely criticized. Lantos[1] has made an important observation about these criticisms, however, and those of us in education should try to understand his point. Public institutions have been criticized primarily for the means they have employed, while private institutions have come under attack for the goals they have pursued. Schools, courts, legislatures, hospitals, and prisons, for example, have been roundly condemned because their techniques, their procedures, their methods have been inadequate or ineffective or worse. Private institutions, on the other hand, such as corporations, churches, even law firms, have been viciously criticized for the objectives and goals involved.

For example, not many people doubt the fact that we need some kind of military force in America, given the state of affairs in the world today. There are some persons, of course, who question the wisdom of any Army or Navy or Air Force at all, but by and large most Americans accept the general goals which the military seek to achieve. It is the means the armed forces employ which arouses public indignation. Is the bombing really necessary? Is defoilation imperative? Is continued underground testing of nuclear weapons really essential? Do we really need a large standing army in Western Europe today?

The same kinds of questions have been raised about education and schools. Few people doubt the fact that education is important and that

[1]Thomas Lantos. Paper presented at the Washington State ASCD meeting in Spokane, February 4, 1972.

we need schools. Few people question the purpose of doing whatever we can to help children learn. What people are concerned about, however, is how we are going about the job. Many people are upset because of the methods and the curriculum--the means--that we have chosen to utilize.

It is within this framework and from this perspective that I think we must try to respond. Furthermore, we need to frame our efforts and conceptualize our undertakings in such a way that we are deliberate and farsighted and active rather than irrational and myopic and reactive in anything we choose to do.

In that kind of spirit I come to you today. Our fiber and our mettle is being tested. I think the time has come for us to pour everything we know and everything we can do into a new and creative effort to transform completely the curriculum in our schools.

My purpose here is to issue a call for curriculum development and curriculum change. And the developments and changes which I will try to sketch in outline form are basically different in conception and implementation than those we have experienced in recent years. What I am arguing for--"pleading for" might be a better term--is a shifting of our sights from social considerations to curriculum concerns. If we can find new and more powerful ways to do better that which everybody agrees we ought to do--help children learn--then we can make our greatest contribution to our students, to our profession, and to ourselves.

To do that, we need all of the intelligence and conviction, creativity and motivation that we can muster. The task is difficult beyond belief, and no mere tinkering with curriculum will suffice any more. We have piddled around with curriculum development for far too long. We have spent millions and millions of dollars on curriculum efforts which are going straight down the drain. Some residue will typically remain, of course,

and we can always hope that what has been created and pressed on schools is not worse than what was there before. We are a rich nation. We can afford the cost. And as Edison said, "there are a lot of things we know now that will not work."

Our problem, our task, our challenge must be to learn whatever can be learned from the curriculum ventures of recent years, but to go beyond there, far beyond, to a new and different conceptualization of what curriculum might become.

To say it another way--our activities and our goals were far too modest in the years gone by. We need to find different conceptual handles with which to generate curriculum today. We need new assumptions, new language, new metaphors to think about the curriculum realities and the curriculum ideals which are involved. We need new propositions, new analyses, and new insight into whatever it is that we refer to when we use the word "curriculum."

I will not be able to provide many of those new things that I think we so sorely need. I intend to do the very best I can, but what I really hope is that as an association, as an intelligent, hard working group, we can find a way to work together to break out of our old patterns of thought and out of our old ways of thinking and feeling and acting about curriculum, and generate some completely new theoretical possibilities and practical realities.

This paper outlines three things: where we are now; where I think we ought to go; and how I think we ought to try to get there. What I am going to try to share with you are some of my assessments about curriculum as I think it exists today, and something about my hopes of what it might become. In this sense, the paper outlines my perceptions and my dreams. It is not complete. There are a thousand other topics that might have

been included, and at least a hundred other possible paths that we might pursue. Even so, the paper represents a plea to focus hard on curriculum development and supervision in the days and months ahead.

In terms of time, we stand exactly half way from the end of World War II to the year 2000. Will we be able, in the years that remain in this millennium, to make curriculum the powerful means to the human ends that we hope to achieve? The answer to that question can be "Yes," if we start right now. As a place to begin, let me outline a concept of environment which I think has relevance for curriculum workers today.

Man Shapes and is Shaped by His Environment

Human behavior is a function of the interaction of the individual with his environment. The individual has both a time span and a life space, and he lives and functions in an environmental setting.

Man is a part of the universe, yet apart from the universe, too. As part of the natural phenomena of the universe, man interacts with his environment and is profoundly affected by both the nature and the quality of those interactive efforts. He looks at the stars and writes sonnets and songs. He pollutes rivers and air and gets ill and complains. By deliberate and unconscious endeavor, he creates and recreates environmental artifacts which, in turn, affect the way he thinks and acts and feels. Probably no other organism has evolved to the point of exercising such extensive control of those aspects of the universe with which he interacts as man. The result is that man shapes and is shaped by his environment day after day.

The story of Winston Churchill's ideas about reconstructing the House of Commons during the height of the Second World War has been

described by Ways as follows:[2]

> The old house had been blasted by a German bomb, and the question was how it should be reconstructed. A more spacious chamber, perhaps? One with a semi-circular arrangement of comfortable chairs and useful desks, such as many of the world's parliaments enjoyed? Churchill thought not. What he wanted, essentially, was a replica of the old House with its rows of facing benches that symbolically expressed the party structure, emphasizing the contrasting roles of the Government and the Opposition. The new House, like the old, should have far fewer seats than there were members, so that in an ordinary ill-attended session speakers would not be discouraged by addressing empty benches. On great occasions, members flocking in would be crowded standing in the aisles, thus encasing debate and decision with visible signs of gravity and urgency.

Churchill's summary argument was: "We shape our buildings, and afterwards our buildings shape us." Man shapes his own environment, then is shaped by it in turn.

Man affects what is around him, then is affected in return. That point is simple and yet profound. It is so obvious that it hardly seems worth mentioning, but it is so important that those of us who are environmental builders--curriculum construction is the term we usually employ--must grasp its significance or we lose our own sense of perspective and our own sense of influence and control.

Beliefs and assumptions, which are made by men and held by men, are a part of our environment, too. We are imprisoned by the assumptions which we hold. Harman[3] argues that within the framework of prevailing

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[2]Max Ways. "How To Think About The Environment," Fortune (February, 1970), pp. 99-100.

[3]Willis W. Harman. "Context for Education in the Seventies." Paper prepared for the U. S. House of Representatives General Subcommittee on Education. (Palo Alto: Stanford Research Institute). December, 1969. Mimeographed. 14 pp.

values and basic cultural assumptions, the major problems of the world are essentially unsolvable, in fact. As long as people hold to what he calls "pathogenic premises"--the reductionist view of man, the separateness of men, the separateness of man from nature, the economic image of man, the belief that the future of the planet ought to be left to autonomous nation-states--we immobilize ourselves. Everything can be explained away as a function of the fact that everything lies outside of our own sphere of control. It is a fatalistic, pessimistic set of notions, hardly worthy of creatures who claim, at least, to have been created in God's image.

It shows up in many ways. In the area of curriculum innovation for years we have said: "If you will give us more money, we will innovate." Implicit in that proposition is the notion that "if you do not give us extra funds, we will stay the same." That argument is both irrational and irresponsible. It absolves us of the responsibility for improving what we are doing, and simultaneously places us squarely in a dependent rather than an independent role. All over America there are school people who say, in effect: "Tell me what the guidelines are and I will throw together a proposal on any topic right away." Such a willingness to do almost anything for extra money has allowed us, over the years, to slip to the point that we are following other people's leads rather than setting our own course of action regarding what ought to be done.

For example, how many times have you heard somebody say:

> "We would offer more vocational programs (or special classes for retarded children) if the state would give us extra units under the foundations program. We would really like to do it, but the state won't give us the extra funds."

Or:

> "We would like to buy those special curriculum materials for use with youngsters who come from

economically disadvantaged backgrounds, but our special project was not approved."

Those are examples from within our own experience of pathogenic premises at work. What people believe and what they assume about people and institutions and things shape and frame their lives in inexorable ways. If we believe that we can act, if we assume that we have latitude and flexibility, if we are convinced that we have considerable control over who we are and what we do, then we can shape our environment in such a way that it shapes us the way we want to be. We can build into our environment those ideas and those people who will enable us to become what we hope to become. But only if we believe that this is possible can it become so.

We are prisoners of our beliefs. But beliefs are learned--at home, at work, at play. Experience resides within us as achievement; a residue that we call memory or "What we have learned." Because of what we know about the process of perception, it is very obvious that past experience exerts a pervasive effect on present experiencing. As Earl Kelly taught us so dramatically,[4] our previous experiences with rectangles and right angles "will not go away" when we look at the rotating trapezoidal window, so we see it go back and forth instead of going all the way around. We are prisoners, so to speak, of what we have done and where we have been and what we have seen and heard. The basic purpose of education, of course, is to help us learn to use this past experience as a basis for acquiring new meanings, thus freeing us from what restricts and what enslaves. In this sense, we are like those prisoners who use their imprisoning experience as a basis for developing new understandings (conceptual tools) and skills (physical tools). As we add meaning to incoming stimuli, we

[4]Earl Kelly. Education For What Is Real. (New York: Harper and Bros., 1947).

broaden our experiential base. As we reinterpret and relate and create new meanings and new significances, we grow. And growth is the driving force which will free us from our limited past.

Where Are We Now?

Some persons maintain that curriculum has been a changing field in recent years. That is probably correct. In a "back and forth" sense, anyway, curriculum has seemed to be different at various points in time. It is very difficult, however, to escape the sensation that we are "in a rut." We shift back and forth from what I have referred to in another place[5] as Assumption Number One and Assumption Number Two--subject matter-oriented or society-oriented programs, both of which are essentially curricula for the purpose of vocational or social control.

Herrick talks about these two approaches this way:[6]

> A preoccupation with subject fields leads directly to the problems of generalizing, the cognitive processes, the logical structures of subject matter, transfer of training, mental discipline, readiness, repetition, reinforcement, retention, and the ability of this individual to learn. A preoccupation with a socially centered curriculum leads to an examination of the nature of persistent and recurring social and democratic processes, group dynamics, valuing and normative behavior, organismic and topological concepts of learning and status- and role-determining processes.

As I understand these two assumptions in action, both reflect a pervasive and persistent concern for control.

In the case of Assumption Number One, the disciplines are used to

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[5]Jack R. Frymier and H. C. Hawn. Curriculum Improvement For Better Schools (Worthington, Ohio: Charles A. Jones Publishing Co., 1971), Chapter 10.

[6]Virgil Herrick. Strategies of Curriculum Development (Columbus: Charles E. Merrill Publishing Co., 1965), p. 6.

discipline the learner, to channel and focus his behavior in what I have come to think of as essentially vocational ways. That is, if a person wants to be a mathematician then he has to study mathematics. If he wants to be a farmer then he needs to study farming. If he wants to be a poet or a plumber or a pilot or a physicist, then obviously it is both appropriate and necessary to study those particular areas of academic inquiry. Once a student has made a vocational choice, once a student is clear that he intends to be a pharmacist or an engineer, a short order cook or a newspaper writer or a styler of hair, then those who have responsibility for helping that student learn can mold and shape and direct his behavior in precisely predetermined ways. Complete control of what the learner does is the instructor's goal.

In the case of Assumption Number Two, social considerations and social needs give form and substance to programs in such a way that social purposes are achieved. The prevalent language is learned. The customs, traditions, sentiments and norms of the immediate group are instilled in the learner in such a way that people become as "alike as peas in a pod" in the anthropological sense of that term.[7] The basic tendency of every society is to induce conformity among its members. When the school functions on the basis of Assumption Number Two, then the curriculum becomes a program for social purposes and the school becomes an instrument of social control.

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[7] For example, in Patterns of Culture (New York: Mentor Books, 1934). Ruth Benedict makes the point this way: "The life history of the individual is first and foremost an accommodation to the patterns and standards traditionally handed down in his community...By the time he can talk, he is the little creature of his culture, and by the time he is grown and able to take part in its activities, its habits are his habits, its beliefs his beliefs, and its impossibilities his impossibilities." p. 2.

For centuries, schools have served these two primary purposes--vocational training and socialization of the child--with first one purpose and then the other being emphasized at different points in time. Any careful study of educational practice will reflect that point. What is not so obvious but equally important is that both approaches are essentially programs for restricting and controlling what the learners do. The control is always "for the students' welfare," of course, but even so, it is control.

Sometimes those who advocate inquiry training or learning by discovery imply that such techniques are less concerned with control than other approaches might be. Not so. One of the observers at a national conference on "learning by discovery" makes the point this way:[8]

> Students can be encouraged, prodded, and shaped to discover. In short, learning by discovery implies controlling the behavior just as does the old-fashioned drill method. The only difference is the pattern of control.

In practice the emphasis upon behavioral objectives, career education, vocational training, learning mathematics as a mathematician learns it, or exploring economics the way an economist would are all illustrations of the control-oriented aspects of curriculum today. I do not make that point to suggest that control is wrong. Sometimes teaching which is designed to control the behavior of the learner is most appropriate, and, in fact, exactly what the learner himself most earnestly desires. Sometimes it is necessary. The question is: are control assumptions the ones that ought to characterize most of the curriculum considerations in grades K-12? I do not think so.

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[8]Howard H. Kendler in Lee S. Shulman and Evan R. Kelslar (Eds.) Learning By Discovery (Chicago: Rand McNally Co., 1966), p. 172.

Look at other so-called "innovations" that exist in curriculum now. Though they are not particularly widespread, consider the assumptions and operations in evidence behind the "performance contracting" efforts and the "accountability" talk today. And the talk that men employ affects their conduct.

Whorf argues, in linguistic theory,[9] that language shapes behavior. The words men use to describe reality to themselves dictates what they do or do not do. Men will smoke around gasoline drums marked "empty," for example, more readily than around drums labeled "full," even though the gasoline vapors in and near the "empty" tank make that vicinity more dangerous. And it is the word not the reality of the situation that prompts the response.

The language of relationships in our society and in our schools might be dichotomized this way: the language of conditional relationships, and the language of relationships without conditions. The first is a language of control. The second is a language of love and growth.

The language of conditional relationships sounds something like this:

> I will love you if you will do what I say.
>
> I will give you a dollar if you get an "A" in school.
>
> If you will read this book, then I will let you play.
>
> If you keep your room neat and tidy and don't tell any lies, then Santa Claus will bring you a present on Christmas day.

The language of conditional relationships is an "if-then" language; "if you do this, then I will do that." It assumes the logic of cause and effect. In actual practice it fosters dependent-prone behavior because it

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[9]Benjamin L. Whorf. Language, Thought, and Reality (Boston: The Technology Press and New York: John Wiley and Sons, 1956). pp. 278.

invites manipulation of other persons, deception, and control. Such relationships are basically utilitarian--each person attempts to use the other to achieve his own purposes or goals--and ethical values are reduced to practical considerations.

Will it work?

Does it get results?

How much does it cost?

Will it take too much time?

Consider, if you will, the language of the Texarkana performance contract:[10]

> The stimulus for the refinement of contingency management was, quite basically, the difficulty of motivating students to complete PI (programmed instruction) sequences...To considerably over-simplify, it was found that a great many activites could be identified which the student would prefer to engage in (rather) than going through a PI sequence. These activites, called high-probability behaviors, can be specified by observing students, asking them, or sometimes prompting them through the use of a "reinforcement memo." Once an appropriate high-probability behavior is identified, it can be used to reinforce the lower probability behavior of attending to an instructional unit.
>
> This system sounds deceptively simple. Many will say that this is how they've always managed behavior. But the key is to let the student himself identify the desired high-probability behavior, and then to make a "performance contract," either written or verbalized, in which the student agrees to perform a certain amount of low-probability behavior in return for the consideration of being permitted to engage in a higher-probability behavior for a specified period of time.

What does that language say to you? It says to me that those who work to help young people learn under those relationships are treating people like things--objects to be used.

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[10] Leon M. Lessinger. Every Kid a Winner: Accountability in Education (Palo Alto: Science Research Associates, 1970). p. 203.

I know that such concepts will work to help a six-year old who cannot control his bowel movements learn not to soil his pants, but is that any reason to urge that they be adopted in more normal circumstances? I think not.

One of the members on our staff told the following story about conditional relationships and learning which makes the point quite well.

The staff member had been interested for years in language and vocabulary development among the young. One day he was visiting his daughter, who is married and has children of her own. As he talked with his daughter's child--his granddaughter--the little girl told him about a game her parents played to help her learn new words. For every new word for which the child would learn the spelling and the meaning, her parents would give her a quarter. The staff member wanted to go along with things, so he spelled out a great big word for the youngsters and said: "If you will learn that word, I'll give you a quarter." The little girl thought about things for a moment, and then replied: "I think that word is worth fifty cents."

That is what happens when we use conditional relationships with anyone as we work to help learn. They sense that they are objects rather than beings. What they do becomes more important than what they are. The logic encourages them to respond in kind.

The logic of unconditional relationships, on the other hand, is the logic of growth rather than the logic of control or denial. Jesus said: "Love thy neighbor." He did not say, "If your neighbor loves you, love him in return." He did not say, "Do good unto others if they do good to you." Jesus urged men to "do unto others as you would have them do unto you."

The language of relationships without conditions might look something like this:

I will love you whether you do what I say or not.

I will honor and value you as a person of dignity and worth, whatever you do.

If you kill other people, I will attempt to restrain you, but I will not take your life.

You are important because you are you.

The relationship without conditions is inevitably a very voluntary relationship. Only when people are free to separate is there meaning in coming and being together. Compulsory relationships rob both parties of their integrity. Both the captor and the slave are prisoners of the compulsory system. The power of a voluntary relationship without conditions, on the other hand, is absolutely fantastic. Physician and patient, man and wife, friend and friend. The freedom to go apart--to separate and leave--gives significance and strength to the relationships which generate and are maintained. People who come together and stay together, without conditions and without bonds, are able to help one another develop and grow as no conditional relationship can ever assure.

There are many occasions, of course in which people place themselves in a learning situation where they are extremely dependent upon the teacher. This sense of dependence may be a function of the fact that decisions and actions of great impact are involved. It may arise because of complete novelty or lack of experience in the situation, or it may emerge because of the almost infinite detail and complexity of information which are apparent. Any combination of these factors simply heightens the sense of dependence of student upon teacher in the teaching-learning situation.

If a person is a medical student, for example, or a student pilot, almost any learning situation in which he may find himself is potent with possibilities which could affect or curtail human life, sometimes his own. The student pilot, for example, is dependent upon his instructor for in-

formation and assistance, since anything that he does affects life and limb. The same would be true if a person was learning to fire a 4.2 inch mortar, take LSD, drive an automobile, SCUBA dive, or jump from an airplane with a parachute for the very first time. The sense of danger makes a learner feel dependent upon the teacher.

Likewise, if a person wants to learn to play the trumpet, build an electronic organ, write a novel, or program a computer the lack of experience in any of these endeavors may make him feel completely dependent upon his teacher. Even if he has had some experience in an area and even if there was no actual danger to persons involved, if the goal to be achieved required intricate patterns of information, awareness of nuances and subtleties which are not easily observable or vast sums of factual knowledge which he simply did not possess, there again he would be forced by circumstances to be dependent upon his teacher. For instance, if a student wants to test a biological theory, analyze the content of a chemical solution, read a foreign newspaper, repair an airplane engine, or navigate the open ocean in a sailboat, he needs precise technical data and particular problem solving skills. Lacking these, he has a sense of inadequacy; he is dependent upon those who are intent upon helping him learn to do those kinds of things.

If a learner feels dependent in a teaching-learning situation, and if he hopes to master whatever factual knowledge or concept or skill is involved, then over a period of time (the learning period), he must move from a state of dependence to a state of independence, or his teacher will have failed.

In other words, mastering the intricacies of flying an airplane, for example, are not enough. Upon the completion of that learning, if the student pilot is still afraid to do any of those things on his own except when his teacher is there to "bail him out" if he does wrong,

then he still must be classed as "incompetent" or "a failure." And those labels are appropriate despite the fact that "he knows" most if not all that he is "supposed to know" in whatever learning area is involved.

What I am arguing for, of course, is a direction, an inclination, a tendency, if you please. It is extremely difficult in our condition-ladden culture to place oneself and function in a completely non-conditional role. Even so, that is what I am urging; a deliberate shift from conditional relationships between teacher and child and between supervisor and teacher in the direction of relationships without conditions, where honest interaction and non-coercive efforts would always prevail.

To make that shift, the only thing we have to change is our minds. We do not need any special understandings or particular facts or unusual skills. All we need is a set of assumptions which characterize those with whom we work as persons of integrity and worth. If we <u>believe</u> that they want to learn, they will. If we believe that they want to work, they will. A child on drugs or a youngster conditioned for years to being dealt with evasiveness or deception will have his own "resistance" to change which must be overcome, but that can be done. Most persons are not in one of those extreme categories at all. Most people are honest, open, looking forward to new experiences and novelty and they want a chance to learn. Most people are absolutely intrigued if another person relates to them in a non-conditional way.

Now consider, if you will, these ideas in relation to some of the propositions which are inherent in the concepts of accountability, as those are being propounded today. Accountability is a terribly important idea. It must be explored and debated in every way.

We learned from the Nuremburg war trials that men must be held ac-

countable for what they do. The Mai Lai incident carved that concept deeply in our conscience again. As a people, our history is an oft told story of responsibility and freedom. Holding people responsible for what they do is a notion almost as old as time.

But holding one man responsible for what he does is not the same as holding one man responsible for the deeds of another. No man, in fact, should be held responsible for what another person does or does not do, in my opinion. Even parents cannot be held responsible for the deeds or misdeeds of their own children, although some would like to arrange it so that might be true. The story in Life magazine[11] about the recently passed ordinances in Michigan holding parents responsible for what their children do attests to the fact that the concept of assigned responsibility is not a part of our heritage. One of the commissioners who passed the ordinance even feels that it is unconstitutional; but he wonders aloud: "If parents aren't responsible for their children, who the hell is?" The answer, at least in some people's minds, is the school.

The school and school people are thought by many to be responsible for what children do. Learning has always been defined in terms of behavioral change. The father who complains to the teacher--"our boy is in the third grade now, and he still sasses his mother" is suggesting that the school is to blame. How arrogant and impudent can people be?

Obviously school people are responsible for what they do, for how they teach and administer and supervise in schools. Obviously school people must give an accounting for their own behaviors, for their own personal and professional conduct, for what they do or do not do. But

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[11] "A Father is Tried For What His Son Did," Life. Vol. 72, No. 6. (February 18, 1972). pp. 61-64.

it is completely inappropriate, from my point of view, to argue that one man can be held accountable for the thoughts and deeds of another person. That is guilt by association under a new and fancy name.

For example, hold my feet to the fire for what I do here today. Insist that my statements and my logic be soundly reasoned and validly based. Be adamant if I do not present my propositions with strength of conviction and clarity of prose. But do not hold me responsible for what you do when you leave this hall. Do not insist that it is my fault if you do not do my bidding. Do not argue that I am responsible if you fail to heed my call.

This is a curriculum manifesto--a call to action, and I sincerely hope when you leave that you will carry some bit of what I say back home with you. But if someone tries to hold me responsible for what you do, then I may be forced to go beyond the reasonable limits of persuasion and teaching. I may have to manipulate not only the environment, but also you. If I would have to be responsible for what you do, then I would work in every way that I know to control your behavior; to limit your choice; to channel your thoughts and feelings and actions along lines that I approve. Without those limitations, you might do what you want to do. And if I have to be responsible for your behavior and being, that cannot be condoned; not even allowed.

Perhaps my point is made. Physicians cannot be held accountable that patients stay alive and well, only that they conscientiously try to keep them that way. Attorneys cannot be held accountable to win each case--half lose every time.

Owners can be held responsible for what their dogs or cows or horses do, but people are different. Our laws and our customs, our beliefs and our heritage all argue convincingly that each man can be held accountable for his own behavior, but not for another's. Each man is responsible for

what he himself does, but not for the actions or inactions of others.

We have worked for too many centuries to assign responsibility to the individual to allow it to slip away to either vague or precise definitions of state or school.

In Lincoln's famous Cooper Institute address he dealt with the concept of individual responsibility. His arguments were aimed at the Southerners of that time, but his logic holds for all Americans today. He said:[12]

> You charge that we stir up insurrections among your slaves. We deny it; and what is your proof? Harper's Ferry! John Brown! John Brown was no Republican; and you have failed to implicate a single Republican in his Harper's Ferry enterprise. If any member of our party is guilty in that matter, you know it or you do not know it. If you do know it you are inexcusable for not designating the man and proving the fact. If you do not know it, you are inexcusable for asserting it, and especially for persisting in the assertion after you have tried and failed to make the proof. You do not have to be told that persisting in a charge which one does not know to be true, is simply malicious slander.

The most violent rending in our nation's history was a wild and mauling war fought to grant personal freedom to hundreds of thousands of men. We can be neither proud nor blamed for what other men have done. It is not to our credit today that Lincoln preserved the union and freed the slaves. It is not to our credit that Nixon bridged the gap in time and space between America and China. Nixon took that step, not us. He led the way. Whatever credit or blame is involved, is on his shoulders today.

And that is precisely how it ought to be. Nixon is accountable to us for what he has done. If we approve of his efforts and think well of his actions, we will vote him into office again this fall. If we disapprove of his efforts and disagree with his actions, we will not vote him into

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[12] Roy P. Basler. Abraham Lincoln: His Speeches and Writing (Cleveland: World Pub. Co., 1946). p. 529.

office again. He is responsible to us for what he does. He is accountable in the best sense of that term. But most of us would be terribly uncomfortable if we felt that he was accountable for what we do or that we were accountable for what he does.

I am not responsible for what my forefathers did to blacks or women or Jews. I am directly responsible for what I do. I am not accountable for what my grandfather or my wife or my administrative superiors or my colleagues do. I am responsible for my teaching, my arguments, my interpretations, my learning, if you please, but not for yours.

Nor do I want to be. You have your life to live, your commitments to cherish, your proposals to make, your own ways to behave. We need persuasion, not coercion; discussion, not demands. Accountability is an important and powerful concept, but it dare not be misused.

Let us turn our discussion now to the directions that we should be going, as I see those directions, anyway.

Where Should We Be Going?

Kliebard[13] maintains that the new epoch of curriculum inquiry is long overdue. I whole heartedly agree. But finding fault with the old rationale is not enough. Kleibard's dissection of the conventional theory is so precise and so effective, no further attention will be devoted to kicking that horse, though it is not dead and in fact not down.

Let me shift, instead, to a series of propositions that have been developing in my mind over the past several years. As I have had an opportunity to interact with my colleagues and students at Ohio State,[14] and as

[13]Herbert M. Kliebard. "Reappraisal: The Tyler Rationale." School Review LXXVIII (February, 1970). pp. 259-272.

[14]Donald Anderson, Kelly Duncan, Jack Hough, Gerald Reagan, and Charles Galloway have been particularly inspirational and helpful in recent months.

I have had a chance to meet with many state and local ASCD groups around the country, my own understanding of curriculum has broadened tremendously. What follows is a broad-brush portrayal of some of the central concepts and some of the considerations which may be important to pay attention to as we go about the business of struggling to reconceive that with which we work each day.

Curriculum is like a soap bubble.[15] It is a bounded entity--it includes some things and excludes others--and it has properties, forces, and ingredients which we can attempt to identify. When we try to study a soap bubble, however, it invariably bursts and slips away.

Something similar occurs when we try to study curriculum. With analysis, some of the essence of the reality slips away. Just as a description of a soap bubble in mathematical or physical terms may miss the point, our observations of curriculum miss the point sometimes too. But we still need to know what curriculum is.

Aside from the Tyler rationale,[16] the two most frequently employed definitions of curriculum are probably "the courses taught" and "everything which happens to the child under the aegis of the school." The first is obviously too narrow, and the second is obviously too broad.

No one really doubts the fact that the experiences a youngster has on the playground during recess, for example, or in the lunchroom or while working on a school dramatic production are terribly important and need to be brought under the rubric of "curriculum" somehow. Likewise, no one

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[15]Much of this section is drawn directly from James K. Duncan and Jack R. Frymier, "Explorations in the Systematic Study of Curriculum." Theory Into Practice VI (October, 1967). pp. 180-199.

[16]Ralph W. Tyler, Basic Principles of Curriculum and Instruction (Chicago: University of Chicago Press, 1950).

really believes that curriculum is involved if a child rides home on a school bus, gets off, walks in front of the bus and drops his books, stoops down and is run over by the bus and killed. Even though being killed is, without question, the most significant experience that child ever had, and even though the experience took place under the aegis of the school, it is stretching the point to describe that tragic event as "curriculum." Such a definition simply will not do.

The Tyler rationale,[17] of course, posits the ideas of purposes, content, experiences, organization, methods, and evaluation as the fundamental components of curriculum, and those ideas are familiar to us all.

I would like to suggest that the fundamental elements in curriculum are actors, artifacts, and operations. The choice of terms here is intentional. Actors are people, but more is implied by "actors" than by "people." Artifacts are things, but more is implied by "artifacts" than by "things." Similarly, "operations" implies more than "processes," though processes are obviously involved. These implications can be summed up under the ideas of intent, purpose, and ends--qualities assumed to be inherent in the elements of curriculum.

What is being proposed here is that actors, artifacts, and operations be considered as the basic ingredients of curriculum. Examination of these concepts may help clarify their nature and justify this position.

"Actors" refers to those people directly involved in curriculum--students, teachers, materials producers, supervisors, and administrators. (Many others are not directly involved but affect curriculum indirectly, and often profoundly, e.g., school board members, publishers, parents, or legislators.) One purpose of the term "actors" is to define some

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[17] Ibid.

people inside curriculum and others outside, thus, helping to establish a bounded concept.

"Actors," then, denotes an element of curriculum. As such, it implies intent or purpose and direct involvement.

"Artifacts" refers to a "product of human workmanship." In our use of this term, it applies to what we normally think of as "subject matter" or "content." Implicit is the notion that ideas are products of human workmanship. These ideas, however, are also typically represented by a thing, such as a textbook or film. This assumes that any kind of symbolic representations of ideational phenomena can be considered as an artifact. "Artifact," like "actors," implies purpose or intent--made for a reason.

Artifacts are bounded with respect to curriculum by the relationship they have to actors. In other words, an artifact becomes a curriculum artifact because of its relationship to a person directly involved in curriculum.

An "operation" is a process involving modifications over time in the relationships between elements, actors, and artifacts, or some modification of an element itself. That Johnny knows "7 x 6 = 42," when at some prior time he did not, is after-the-fact evidence of the existence of an operation. The teacher teaching Johnny "7 x 6 = 42" is also evidence of an "operation." An infinite variety of groupings of actors and artifacts may be involved.

If it is assumed that a curriculum event includes actors, artifacts, and operations, then it is important to conceptualize a way of observing curriculum which will illustrate the reality in action. Perhaps it would be useful to think of curriculum in terms of systems theory.

Systems theory suggests that something is planned, something occurs, -

and something is evaluated.[18] In terms of curriculum, this means that curriculum is planned, curriculum occurs, and curriculum is evaluated. That which is planned is deliberate, rational, and premeditated. That which occurs may be planned or accidental, relevant or irrelevant, deliberate or incidental. That which is evaluated must include both what is planned and what actually occurs. Assessing curriculum in terms of intentions alone is naive and futile. What is intended and what takes place must be comprehended and thoughtfully judged.

These propositions have been developed more elaborately in other places,[19] and I will not review them here. For the purposes of this paper curriculum shall mean spatial realities in process over time: actors, artifacts, and operations in terms of that which is planned, that which occurs, and that which is evaluated.

Given such a definition of curriculum, what should the process of curriculum development be like? Analogies are dangerous, but they are useful, too. Suppose we think about curriculum development as a construction problem; "curriculum construction" is a term that we often employ.

Construction involves building. If we think about curriculum development as analagous to what is involved in constructing a temple, there seem to be at least four fundamental functions or processes involved.

(a)	Envisioning the temple	(architect's job)
(b)	Constructing the temple	(contractor's job)
(c)	Producing materials	(manufacturer's job)
(d)	Extracting materials	(miners' and other jobs)

[18] Jack R. Frymier. Fostering Educational Change (Columbus: Charles E. Merrill Publishing Co., 1969).

[19] Duncan and Frymier. loc. cit.

The architect has a dream. He has to envision a totality, but he must articulate that totality into particulars (blueprints, specifications, etc.). The contractor and his workers create the totality. They take the bricks and mortar, the glass and wire, and put it all together in precisely related ways. The manufacturers make the materials which are employed in the construction. They produce the bricks: they make the glass and fixtures and pipe. The extractors collect the raw materials from the earth itself. They mine the copper, scoop up the silicone, cut down the trees, and the like.

The model holds if we look at other construction fields. Consider automobile development or airplane development. In those endeavors somebody has to be the master dreamer, the big honcho, the coordinator of conceptualizing efforts. Many persons participate in the dreaming stage, many in the construction stage, many in the materials production stage, and many in the extraction stage. If the communication patterns within and between the stages is effective, one would guess that the ultimate result would be a more effective or a higher quality product, but better communication is not a sufficient condition. There must also be evaluation and modification of plans of construction and the like for the resultant product to be consistently improved. And if we can understand the motivation dynamics inherent in "good" systems as opposed to "poor" ones,[20] we may be in a still better position to know how to build curriculum more effectively, too.

The aircraft designer (architect), for example, is supported by a very large staff of highly competent engineers, many of whom function in extremely differentiated ways from one another. Some engineers have to determine information about landing gear only. What will normal stress

[20]Douglas McGregor. The Human Side of Enterprise. (New York: McGraw Hill, 1960).

be on the landing gear when 50,000 pounds hit the runway at an angle of 19 degrees and at a speed of 136 miles per hour? What if the speed is 175 miles per hour and the angle of touchdown 30 degrees? How much safety factor must be built-in to make the plane reasonably safe, and what is "reasonable?" Others engineer the communication systems for the plane. How many radios, what kinds of transmitters and receivers, how many back up systems, should be placed in what kinds of locations, etc.?

Many different kinds of people with different kinds of talents and skills help conceptualize and design the plane. They are architects, if you please. They work very closely with construction personnel and the manufacturers regarding material strength, durability, effects of corrosion or fatigue or wear, of course, but their basic responsibility is conceptualization and design. Such an operation requires superb lateral and vertical communication, good feelings and relationships among the participants involved, quality data and timely decisions so that the right decision will occur, and "right" means both safety and economy, as well as long life and effective functioning.

When we "build program" (i.e., construct curriculum) sometimes we think that we have to engage in all of these functions. We try to envision the temple and specify the particulars, select the materials and relate them in a particular way, and sometimes even "create the knowledge" that we intend to use. Is it reasonable to suppose that each curriculum worker can do all things equally well? Can we borrow from other construction fields and recognize the power in developing specialities according to function rather than specialities according to subject matter or grade level? Can we capitalize upon the advantages of specialization without submitting to the obvious difficulties that are involved? The generalist's role in curriculum development is a terribly important role, comparable to the

architect in the analogy described here. But competence as a generalist requires many specialized abilities in many roles and fields. Superficial "awareness of" or "knowledge about" the various areas is not enough.

What is being suggested, of course, is that I think we can learn from these kinds of fields. Some people will argue that we ought not to try to learn from fields that are concerned with things rather than people. I disagree. People who build automobiles and airplanes, for example, are building machines which will help people, and they themselves are people, too. Further, a textbook or film is not a person, it is a thing. School people deal with things, too. We can learn from many different situations, and I feel we must.

What has been talked about here in terms of "curriculum development" and what was examined at some length earlier as "relationships without conditions" fit under the concept of "operations" as it has been defined in this paper. A major component of curriculum, however, includes the artifacts which are involved.

As schools exist today, the most common artifacts would be such things as textbooks, workbooks, films, recordings, diagrams on the blackboard, and the like. In my judgment the curriculum of the schools of the future ought to be characterized quite differently than the curriculum of the schools today.

Rather than focusing on curriculum for control, curriculum in the years ahead should be growth-oriented. Curricular conceptualizations ought to be rooted in primary attention to the learner as the major source of information in curriculum development. Herrick states it this way:[21]

> A preoccupation with the learner as the initial consideration in curriculum building leads to examination

[21] Herrick. loc. cit.

of the self-perceptive process, the mechanisms for the identification of persistent and recurring concerns of the individual, questions of creativity, phenomenological fields, biological growth processes, and what constitutes maturity and development in the human organism.

Artifacts imply intentions, as was said before. In curriculum in the years ahead, will be growth-oriented rather than control-oriented; rooted in the nature of human tissue and human need rather than subject matter concerns or social concerns. Because of that, curriculum artifacts should differ considerably in future years from those artifacts which are present in schools today. Figure 1 outlines some of the crucial differentiating characteristics which ought to be apparent, as well as some of the theoretical dimensions which are involved.

Curriculum Artifacts in School Today	Theoretical Dimension	Curriculum Artifacts in School Tomorrow
large, few	size of artifact	small, many
fixed	value of sequence	variable
few	combinations possible	many
boring	consequence for teacher	exciting
for scholar	purpose of organization	for teacher
storage	nature of organization	for retrieval
reliable, acceptable	quality of artifact	valid
irrelevant, delayed	significance of artifact	relevant
few	number of options possible	many
recognition, recall	purpose of artifact	understanding
teacher controlled	pacing of use	student controlled
certain	predictability	uncertain
tidy	physical appearance	messy
changing	focus	continuing
abstract	concreteness	concrete
disparate	relatedness	integrated
limited	availability	readily
most or all	extent to which used	some
maximal	degree of requirement	minimal
uniform	form of artifacts	varied

Figure 1. Characteristics of Curriculum Artifacts in Schools of Today and How They Might Be in Schools in the Future*

NOTE: The concepts outlined in Figure 1 must be seen as a beginning effort to characterize curriculum artifacts in ways that are different

from the conceptualizations which are traditionally employed. For example, concerns for "scope and sequence" are concerns of the school as it generally exists today. Breadth of topic and nature of sequencing will be so different in a school for tomorrow that such conventional terminology is not even appropriate. What is intended in this listing is simply a way of thinking. Further thought along this line would undoubtedly result in additional illustrations. Or, these ideas might cluster themselves into factors or more general categories. The point is, there are different ways of thinking about curriculum than those that we have used before. We need to keep generating new possibilities to help us learn to see curriculum in different and perhaps better ways.

Before proceeding further to illustrate some of the above listed theoretical dimensions more precisely, it should be pointed out that certain curriculum development efforts in recent years reflect some of these characteristics in programs and materials now. By studiously examining new and existing materials, it should be possible to infer other useful dimensions, in other words, and it may be possible over time to invent a wholly new way of thinking about and looking at curriculum artifacts. The dimensions listed above, therefore, are suggestive and not definitive; illustrations but not finalities.

Curriculum artifacts today come in large "pieces," whereas artifacts in a school for tomorrow will be characterized as being much smaller in size. The most obvious illustration of a large "chunk" of curriculum today is the textbook, or even larger, a series of textbooks for several grade levels. Schools in the future will have curriculum artifacts which will be much more limited in size: one page, a single picture, a three-page graph, a single concept film loop, 15-minute cassette recordings, and the like.

Artifacts in today's schools are generally sequenced in fairly precise, pre-determined, even rigid ways. Sequencing of curriculum artifacts in schools of the future will be variable and not pre-determined. Again, the textbook illustrates the fixed nature of sequence of artifacts in the schools of today. Because the edges are glued and sewed, the

sequence is fairly firmly fixed. Theoretically, of course, a teacher is free to start on page 243, then move to page 76, and after that to proceed to pages 118 and 4 and 195 in that order. Actually, however, that seldom occurs. There are many reasons, of course, but sequencing of artifacts in the schools of the future will be quite different indeed. Because the "pieces" will be small, they can be combined in many different patterns and unique sequences, to match the logic of a growing youngster's mind. Variability of sequence will be the rule rather than the exception, in other words.

Flowing directly from these two theoretical considerations, a third theoretical dimension which will characterize the curriculum of a school for tomorrow differently than the curriculum in schools of today relates to the number of combinations of artifacts that will be possible for teacher and student to make. Because curriculum artifacts today tend to come in large pieces and in fixed sequences, the opportunity for teachers and students to arrange these in varying patterns and different forms is generally limited. In the schools of the future, small pieces and variable sequences will mean that teachers and students will have an almost infinite number of ways of bringing the artifacts together temporally and spatially. To say it another way, opportunities for creativity with curriculum artifacts is limited in the conventional school, but in a school for tomorrow the possibilities for generating new and unique arrangements of artifacts to facilitate each youngster's unique learning needs will be very great.

As a direct consequence of these theoretical differences, it seems apparent that teachers in schools of today tend to become bored with curriculum, whereas teachers in a school for tomorrow will be able to maintain a high level of personal and professional interest in the curriculum at hand. That is, given the nature of large "chunks" of materials arranged

in fairly rigid sequential patterns with little flexibility possible, teachers in today's schools tend to experience the same curriculum year after year. Variety may be introduced by "adopting a new textbook" or deliberately deviating from the pre-determined plan, but a very real (even though seldom talked about) problem for teachers in the typical schools of today is that they themselves become uninterested in the ideas with which they are working. Because the opportunity to continuously create new and different arrangements of artifacts for each child will characterize the curriculum of a school for tomorrow, the professional's interest in curriculum materials will stay at a reasonably high level. Even "learning by discovery" gets to be "old hat" for a teacher after four or five times through the precisely arranged sequences, but in school of the future, there will be much more opportunity for ingenuity and creativity on the part of teachers. This will almost assuredly foster and maintain high interest levels on the part of professional staff.

Another aspect of curriculum relates to its storage and retrieval characteristics. In the conventional curriculum today, the emphasis is upon storage. In the schools of the future, the emphasis will be upon retrieval. At the present time, for example, curriculum artifacts reflect an organizing construct generally which suggests that the component parts were "stored" (i.e., put into the curriculum system) according to the author's interests or the curriculum worker's inclination. Sometimes it is argued that the topical approach used, say, or the thematic considerations involved, are really related to children's interests or some such thing. Since children differ so greatly in every conceivable way, it is hard to imagine one way of organizing content which would be most useful for all children. In the schools of the future the emphasis will be upon random storage and random access. Artifacts will be stored in

such a way that they will be convenient for the teacher's use. Availability will be a crucial criterion. With many more artifacts in smaller pieces, and with capability for combining these pieces in many, many, different ways, the important considerations will be for access and retrievability of particular artifacts in very short periods of time.

Perhaps the general nature of this discussion has been sufficient to suggest how these theoretical dimensions might be conceptualized and operationalized in curriculum in the years ahead. Further illustrations might be set forth, but since these ideas are meant to be illustrative rather than definitive, that is probably not necessary.

Let us turn our attention now to what ASCD might do.

What Should ASCD Do?

To this point I have outlined my general concerns, where I think we are now, and the general direction that I think we ought to go. The question now becomes: "What should ASCD do?" Implicit in these pages are many possibilities. What I would like to do here is spell out two ideas that might have merit, then illustrate each of those ideas in one or more ways. The two things I would suggest at this time are: study developmental efforts outside of education, and invest in ourselves for growth. Each of these ideas is explored in brief detail below.

Study Developmental Efforts: The American social, industrial, and governmental scene is characterized by many kinds of major developmental efforts. The Apollo project, for example, has probably been the biggest single developmental effort undertaken by men anywhere or anytime. Furthermore, the project was conceptualized and accomplished within ten percent of the projected budget and in less than the projected time. Considering the fantastic complexities and difficulties involved in a project to do

what had never been done before--put men on the moon and bring them home safely again--and considering the factors of long range projections, monetary inflation, and the need for development of literally hundreds of new concepts and devices (heat shields, lunar lift-off machines, reentry procedures, insertion in orbit, weightlessness, and the like), the accomplishments of the project seem little short of unbelievable. But they did occur. The fact that the Sam Rayburn Memorial Office Building, for example, exceeded projected time limits and projected costs far in excess of those which Project Apollo experienced, dramatizes the Apollo effort still more. We should have known how to build an office building and to do it within our planned budget and schedules of time. But that did not happen in the case of the Rayburn building, anyway. The point is simple: the men who conceived and operationalized Project Apollo must have done something right. If we could study their developmental efforts carefully, perhaps we could learn something which would enable us to make "breakthroughs" in curriculum development somehow.

I stated earlier that I realize that some persons will object to looking carefully at what developers who work in non-people ventures. I think we ought to try to hold those reservations in obeyance, if we can, and learn whatever can be learned wherever possible.

For example, Alexander[22] reports that the real payoffs from Project Apollo may be in the realm of management theory, an area of direct concern to people in supervision today. He describes in detail some of the structural relationships and communication patterns which developed as the project went on over time. Rigid delineations in hierarchical terms at any

[22]Tom Alexander. "The Unexpected Payoff of Project Apollo," Fortune (July, 1969), pp. 114-155.

given point in time, but flexibility which allowed for--even fostered--changes in the hierarchical arrangements very quickly, even several times a day. Elaborate and permanent communication procedures, but almost every decision--thousands every day--talked through informally and personally by the people involved. Superb lateral communication among persons who are hierarchically related, in other words, and detailed recording admidst constant re-ording of people and events and things. Furthermore, the allegiances which thousands of professionals and other workers came to achieve, the motivations they brought to the project each day, helped carry the project forward in a very human, idealistic way. Obviously these persons were "caught up" in an exciting, bold new venture. But there are exciting, bold new ventures in curriculum development, too. Anyone who has worked closely with some of the major curriculum development projects around senses that spirit, but certainly not all curriculum development efforts can be so described.

And the problem is more basic than money. In fact, money is probably not the crucial factor, at all. It seems that the assumptions which the developers hold about the nature of man, their attitudes towards themselves and others, and their beliefs about the power of information and good data are more basic than financial support. The military, for instance, got vast sums of money for special projects, but their developmental efforts were feeble compared to hose which the Apollo team were able to bring to life. The work of Likert,[23] McGregor,[24] and Drucker[25] and even the work

[23]Rensis Lickert. New Patterns of Management. (New York: McGraw Hill, 1961).

[24]McGregor. loc cit.

[25]Peter Drucker. The Age of Discontinuity. (New York: Harper and Row, 1969) and also Managing For Results. (New York: Harper and Row, 1964).

of Ardrey[26] are all pertinent. The new thrusts in management theory are not contingency based, despite what many say. The most effective approaches start from the premise that people are important, they like to work, they can be depended upon, and they are able to develop and learn and grow.

Other developmental efforts should be studied, too. Arthur Hailey's novel Wheels[27] portrays the development of a new automobile project. Case studies like Hailey did might contribute to our understanding of idea generation, planning prototypes, testing, refinements, and all of the other phenomena that are involved. More limited developmental projects might be studied, too. The story about the development of the Link Trainer,[28] for example, tells something of the frustrations and successes of one man as he worked to get a novel idea off the ground and into practical use. And anyone who has had an opportunity to spend time at the factory where simulators and trainers are built for the men who fly the Boeing 747 or the other planes that ply the skyways today, realizes some of the factors with which those developers work. They go from theory to practice and back to theory and back to practice a thousand times each day.

Another kind of developmental project that we could study carefully might be some of the medical breatkthroughs which are being attempted in research and development creaters around the country. The report of a project being conducted by the National Institutes of Health[29] in the

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[26]Robert Ardrey. The Social Contract. (New York: Atheneum, 1970).

[27]Arthur Hailey. Wheels. (New York: Doubleday and Co., 1971).

[28]Lloyd L. Kelly. The Pilot Maker. (New York: Grosset and Dunlap, 1970).

[29]"Five New Diets to Save Your Heart", Look. Vol. 35. (Feb. 9. 1971). pp. 53-54.

area of heart disease, for example, sounds promising as a developmental project in a very different, people-centered field. The researches in the project "know," for instance, with the assurance that every developmental researcher "knows," that their proposed therapies are more likely to save propsective cardiac cases lives than the conventional therapies, even preventive ones, in use today. Even so, they are committed to submitting their knowledge to empirical test. They know full well that in doing so they are probably creating situations in which people randomly assigned to the control groups are more likely to die. Only if more members of the control group die, in fact, will the experimental hypothesis be verified. But medical practioneers will not "buy a pig in a poke;" they will not adopt any proposed new therapeutic procedure unless it has been experimentally confirmed. Such commitment to scientific inquiry, such developmental schemes, might very well be pregnant with hypotheses about how we might step outside of our own field and learn from others as they engage in their developmental chores. Studying the developmental process in developing countries would be another promising approach.

What I am urging, in fact, is nothing more than that we should try to learn from others who spend their lives in developmental roles. We are imprisoned by our own experiences; we have to struggle against the narrow confines of the lives we've led and the places we've been and the people we've known. Most of the important developmental projects which have taken place since the beginning of time have taken place outside of the confines of the school. All I am arguing for is systematic study of some of those projects with a view toward generalizing what development means in educational terms.

Investing in Ourselves For Growth: The greatest resource we have in ASCD is ourselves. The greatest resource any professional group has is the talents and creative energies and motivations of the people who comprise the group. We tend too often to think of resources in terms of time and money, and those are important, it's true. But it is also true that what counts in any operation are the people who are involved. Our problems and our possibilities inhere in our efforts to find ways to tap those talents and unleash those motivations which lie bridled or are only partially functioning now. Fred Wilhelms[30] has reminded us again and again of the enormous potential which resides within us all begging for further development and almost unlimited growth. Can we find a way to cultivate our own capacities? I think we can.

Let me suggest two propositions which are along the directions I have been outlining here. Both are too simplistic, involving organizational schemes. I do not personally have much confidence in organizational arrangements as effective ways to make a difference in things. But sometimes restructuring the temporal and spatial components on any enterprise makes it possible to bring both focus and power to what men do. Accommodation in the lens of the eye means that, regardless of the distance of the object from the retina, a clear, sharp image can be perceived. The eye reorganizes itself to be more effective, in other words. In a somewhat different vein, "regular savings" add up, as anyone who has thought about teacher retirement programs knows, and insurance, as an idea, is nothing more than the principle of "sharing the risk." Those

[30]Fred T. Wilhelms. "The Influence of Environment and Education," The Bulletin of the National Association of Secondary School Principals Liii. (April, 1969), pp. 1-37.

are all organizational propositions, in the main. I am not enthused about organizational changes, but if they can help us do better what we are trying to do, then we ought to consider the possibilities, anyway.

Let us begin with a notion about inservice education. The problem, as I see it, is to find a way to guarantee that people have the opportunity for self renewal and continuous growth. In most school situations today, every teacher is expected to work with children almost every hour of every working day. Teaching is a relentless activity as it typically occurs, with little let-up and only snatches of time here and there to "get on top of things." There is seldom opportunity to keep confronting oneself with the current literature and new development in one's own field. Perhaps we could think about building our own professional reserve.

What is needed is a concept of staff development in which a portion of the professional staff (say, 10 percent) are purposely scheduled for a specified period of time (say, 10 percent) for professional growth and development. We are not going to get extra funds for such a purpose, so we will need to do it with the resources we presently have. A policy to schedule professionals' time to learn would mean, therefore, a slight increase in class size. However, 10 teachers in a 100 teacher school had 18 full days of inservice time to work together and plan and grow, who knows what powerful personalities and excited teachers might be interacting with youngsters day by day. The sabbatical idea is sound, but one cannot wait for seven years to roll around to renew his understandings. We have to schedule time and stimulation and support for professional growth on a regular basis.

The logistics of such an arrangement might vary greatly (e.g., five teachers might work together nine times during the year for two days at a time, or any other combination that seemed to make sense), but the

basic principle of scheduling opportunities for staff development is imperative. Further, rather than schedule the entire school district or one building faculty for one day before school in the fall and another at mid-year, by using the concept of "professionals in reserve" it should be possible to arrange schedules so that hard-working teachers could escape from the fantastic demands of six-hours of contact with classroom groups, five days a week. Small groups of staff, working together as a team and over extended periods of time as part of a staff development plan could undoubtedly cope with some of the very difficult problems of personal growth, materials collection and development, and meaningful visits to other institutions or experts for consultation and advice.

Such a procedure would not cost any district any more money that it presently spends, but it would presume a deliberate scheduling of time for small groups of staff to learn and grow in their own varied professional ways.

One more possibility and then I will close. As an organization we have many things that we would like to get done. A little money, here and there, could trigger a whole torrent of creative productivity, conceivably. Phi Delta Kappa now has its foundation, thanks to the ingenuity and dedication of one resourceful and beneficient man. We have never had such a benefactor to help ASCD. Maybe someday we will!. Without waiting for such a gift, which may never occur, could we consider this possibility of creating our own Curriculum Foundation through contributions on our own?

Millions of dollars are generally hard to come by these days, but if every member of ASCD contributed three cents a day, a dollar a month, twelve dollars a year, as an organization we could create our own foundation for research and development in the curriculum field and generate

more than a million dollars of capital in less than ten years. By the year 2000 we could have available more than four million dollars in capital alone, assuming that we have no more members than we presently have. Individually we could never create that kind of resource pool from which researchers and developers in our field might draw. Collectively, the task is so simple it is almost profound. Each of us has wasted more than twelve dollars here, in Philadelphia on needless cab fares or drinks at the bar, in all probability. Think of the kind of growing, working, financial monument that we might build over time. Building our own resource base by investing in our own professional future and our own field would allow us to assert ourselves as independent rather than dependent human beings. We can lay the bricks, a brick at a time, but build a temple to match our dreams. The Curriculum Foundation, like any foundation, would need a proper legal base and an overseeing board, but it might be the wedge that would help us split the curriculum tree. It might be the anchor in a crucial storm. It could be a beacon to light the way.

Foundations do not come into being full-blown and ready made from people like you and me. We would have to build ours, from the ground up, over a long period of time.

In future years such a foundation might support an academy for the study of curriculum development or supervision. It might support small scale but long-term research efforts in the field. It might support action projects that we have always believed in but have never been able to finance.

For twenty-five cents a week, twelve dollars a year, we might go a long way toward making the curriculum world our own oyster. But only if we have vision and work together can it come to be. Only if we all pull together can we guarantee that such a foundation might become a

reality. I urge you to consider the possibility, anyhow.

This has been a magnificent conference. It has been a powerful meeting. The time has come now for all of us to go back to our homes, back to our families, back to our professional roles. Will we be different when we get back home because we were here?

We have to be! We absolutely have to invent the ways and map the routes which will lead us where we need to go. I have tried to outline a concept of curriculum for the years ahead. We are moving toward the year 2000 and then beyond. The children that we teach today will be living then. The teachers with whom we work will be teaching then. The schools that we are building now will be occupied then. The curriculum that we are conceptualizing now must come alive by then. The time to start is now. The place to start is here. The ones to make it go are you and me. We count. We can do it. In fact, if we don't do it, it won't get done.

The challenge is real. Be an architect and have a dream. Invent ways to invest yourself and your energies in projects that will make a difference. I think the future of ASCD lies in the kinds of decisions and the kinds of directions we set today. Let us turn our attention squarely to curricular concerns. Let us use ourselves powerfully and creatively, to shape our environment in such a way that we can become what we hope to be.

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