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Educational Considerations, vol. 10(3) Full Issue

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Educational Considerations, vol. 10(3) Full Issue

Authors

Charles E. Litz, Gerald D. Bailey, Eddy J. Van Meter, and Susan J. Scollay

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We hope that you enjoy this issue of *Educational Considerations*. Our next issue is scheduled for the Winter of 1984. The theme is "Current Issues in School Finance and School Law." The following articles are scheduled to appear:

Viewpoint—"The Changing Environment of School Finance and School Law"

Dr. S. Kern Alexander
Education Budget Coordinator
Office of the Governor, The State of Florida

"The Use of HEGIS Data by Institutions of Higher Education"

Dr. Mary P. McKeown, Finance Analyst
State Board of Higher Education, Annapolis, Maryland

"School Business Officials and Effective Schools"

Dr. John Champlin
Associate Professor, Texas Tech University

"Teachers' Salaries and Cost Differentials"

Dr. Ken Matthews
Associate Professor, University of Georgia

"State School Finance Issues for the 1980's"

Dr. John Augenblick, Director
Education Finance Center, Education Commission of the States

"Comparison of the Education Reform Reports"

Dr. K. Forbis Jordan
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"Merit Pay for Teachers—A Financial Analysis"

Dr. Deborah Inman
Assistant Professor, Oklahoma State University

"The Leadership Role of the American Education Finance Association"

Dr. Nelda Cambron-McCabe, President
American Education Finance Association and Professor, Miami University

"Sexual Harassment and the Law—Implications for Public Education"

Dr. L. Dean Webb, Professor
Arizona State University

"Current Trends in School Law"

Ms. Julie Underwood O'Hara, J.D.
Assistant Professor, University of North Dakota

"Creationism and Evolution—The Legal Questions"

Dr. Stephen Thomas, Professor
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"The Changing Contours of the Law of Higher Education"

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"The National Organization on Legal Problems of Education—Serving the Profession"

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PUBLICATION INFORMATION

Educational Considerations is published at the College of Education, Kansas State University. *Educational Considerations* and Kansas State University do not accept responsibility for the views expressed in articles, reviews, and other contributions appearing in this publication. In keeping with the professional educational concept that responsible free expression can promote learning and encourage awareness of truth, contributors are invited to submit conclusions and opinions concerned with varying points of view in and about education.

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There is a current need to identify dimensions other than those associated with federal financial support and traditional institutional contours.

The ten most critical dimensions of cross-racial, cross-ethnic teaching and learning

by James Boyer

Analysis of school challenges in this decade demands a more careful and precise identification of cultural dimensions associated with formal schooling. Curriculum researchers and social scientists have attempted to describe some of the complexities of public schooling in America but there is currently a need to further review the "parts" which make up the "whole" of pluralistic educational effort. In view of some research effort which attempted to deny the impact of the American school (Steinberg, 1981 and Paddock's Review, 1981), there is urgent need to identify dimensions other than those associated with federal financial support and traditional institutional contours.

Cross-racial, cross-ethnic teaching and learning occur when the teacher and student are of different racial or ethnic identities. While many social scientists still deny the ecological impact of such differences, curriculum specialists recognize the additional element which accompanies culturally pluralistic school programs. Following are the ten most critical dimensions of cross-racial, cross-ethnic teaching and learning which must be analyzed by school personnel during this decade:

Dimension Number 1: Human Service Provision

The **human service delivery role of teaching** involves the teacher's adoption and interpretation of the **public hu-**

man service role at large. The concept involves membership on a team of related professionals like social workers, physicians, ministers, nurses, mental health facilitators and family service workers who are expected to be committed to serving all human beings of all races, colors, creeds and ethnic identities. This dimension necessitates a new examination by human service deliverers of their career motives to determine if their professional service capacity is adequate for cross-racial, cross-ethnic instruction. Such assessment involves review of one's personal-life experiences with racially and ethnically different individuals—plus an increased knowledge of research on cross-racial interactions and on several aspects of racism.

Dimension Number 2:

Multicultural Competence of Instructional Staffs

This dimension (encompassing multilingualism and ethnic intelligence) involves the **knowledge base**—held by teachers, administrators, secretaries and other staff—of people, agencies, programs and services which relate to racial/ethnic concerns different from one's self. It is concerned with the broad effort at diminishing the monocultural impact of curriculum and it includes the sociological implications of the coping skills developed by people unlike one's self. It further includes the functioning patterns which grow out of one's self. It further includes the functioning patterns which grow out of one's ethnicity and the content employed in teaching across racial/ethnic lines.

For teacher educators, the major implication involves the nature of clinical preparation as well as inservice assistance being provided which may need to increase the multicultural/multilingual competencies of teachers. The dimension implies that preparation should include instruction in the associative skills of relating new and different information to traditional disciplines—and a new pattern of **research consumption** of authentic language and linguistic data involving ethnically diverse subjects and settings. **How much do we know about people different from ourselves?**

Dimension Number 3:

Economic Implications of Formal Schooling (Addressing the Element of Poverty)

Institutional response to poverty involves the teacher's prevailing concepts of economics on the learner's potential in academic pursuits. What is the relationship of academic progress and success to employment, housing and social mobility? The extent to which instructional behavior **responds to alternative learning styles** will dictate progress or success for learners who are economically poor in almost all instances—but particularly when there is cross-racial, cross-ethnic interaction in the schooling process. The impact of the school's response to poverty in the classroom is enormous.

Poverty is rarely treated in curriculum substance with guidelines for instructional performance. Clinical practice, however, may need to be especially designed so that guided-supervised experience may be acquired with student populations from families of extremely limited income. In rural areas of America, such experience is even more critically needed than in some urban areas. While clinical practice is emphasized, it is suggested that inservice efforts also be similarly designed (Morris, 1978; Boyer, 1979).

James B. Boyer is a professor and multicultural curriculum specialist at Kansas State University, Manhattan, Kansas.

Dimension Number 4:**Cross-Racial, Cross-Ethnic Management of Learning**

The **mentality** held of **race and ethnic relations** (by school people) will dictate the quality of professional/client relationships in teaching-learning settings. This dimension is often more difficult to categorize because it involves **belief systems** of educators which manifest themselves in racially mixed and ethnically mixed settings. Belief systems which mythicize that racial and ethnic minorities are intellectually less capable than others only serve to support prevailing **academic racism**. (Sedlacek & Brooks, 1976). This also involves understanding the notions of **cultural assets** and **variations** rather than cultural deprivation. This further extends to the quality of **parent-conferences, counseling sessions, library interactions and laboratory practices** carried on in cross-racial, cross-ethnic schooling.

The management of learning experiences tends to be so critical that the broad range of race relations needs to be incorporated into inservice and professional preparation of educators. This need may involve the establishment of a minimum quantity (clock hours) of time in training involvement for improved cross-racial mentality regarding academic service delivery. Levels of cross-racial interaction between teachers and non-teaching adults—as well as between teachers and learners—may need to be the locus of additional communications training. Belief systems which place extensive limitations on students because of their human profiles can be modified through keener understanding of race and ethnic relations (Kitano, 1974 and Katz, 1978).

Dimension Number 5:**Curriculum Bias and Instructional Discrimination**
(Associative Academic Compatibility)

This dimension relates specifically to the selection, purchase, and utilization of **curriculum materials for ethnic diversity**—designed toward reducing curriculum bias (over-emphasis on monocultural thrust) and toward reducing instructional discrimination which is incompatibility of learning style with teaching style. Analysis of library collections, textbooks, mascots, and other curriculum artifacts all suggest **program content is unbalanced**. New attention may need to be given to cross-ethnic, cross-economic and cross-racial instructional behavior associated with curriculum materials chosen by educators for implementing learning programs. The goal is to employ curriculum materials which lead us closer to **educational equity** and this will include (1) identification of unbiased materials, (2) selection and utilization of more equitable print and non-print materials as well as (3) curriculum assessment for multi-ethnic, non-racist curricular substance.

The other part of this dimension involves greater need for proficiency in identifying one's own instructional style and the professional modification thereof when instruction must be delivered in cross-racial, cross-ethnic settings (Deyoe & Solis, 1978).

Dimension Number 6: Experiential Base of Educators
(General Affected Response)

This dimension is primarily the educator's personal reaction to certain "code words" in America which create explosive emotional impact (welfare, busing for racial balance, etc.). Included in this dimension also is the edu-

cator's perception of learners, particularly the strong reality of **egalitarian values** held by many minority students. Such values are often reflected in behavior and are perceived as being in conflict with the teacher's self-perception of the instructional role. This is perhaps the least-designable dimension of them all because of the complexity of the concept of "discipline." The most productive avenue for offsetting the impact of negative affective response to student behavior is the clear analysis of one's instructional behavior as impacted by the cross-racial, cross-ethnic element. Resource persons in this area should be highly skilled in cross-racial communication and in facilitative techniques. An understanding of value constructs which influence our responses to personal experience would help to build a better foundation for educators (Sedlacek, 1976).

Dimension Number 7:**Diminishing Psychological Victimization in Schooling**
(Legal mandates, student freedoms, and social distance)

This involves the legal ramifications of legislation which makes it illegal to avoid cross-racial, cross-ethnic teaching and learning—coupled with the need for exercising student freedoms and building meaningful cross-racial, cross-ethnic client/professional relationships. A primary thrust of this dimension is the reduction of human-social distance between racially different people in the academic marketplace (the school). Psychological victimization occurs when affective growth fails to keep pace with cognitive growth, and when the learning and instructional experience **lacks mutual respect between participants**. Recognition of the student's perception of academic services being provided has now become essential. Assessment by students of social distance reflected in human interaction might be a beginning point. Psychological victimization is keenly felt when school policies and procedures fail to provide an ecological setting in which academic nurturance flourishes (Baptiste & Baptiste, 1979).

Dimension Number 8: The Dilemma of Scientific Racism
(Competency in multi-ethnic, multiracial instructional assessment)

This dimension relates to the execution of traditional behaviors in academia which relegate persons/students to lower positions in the schooling experience based on seemingly objective assessment practices and other procedures. **Scientific racism** is any act, behavior, or practice which employs traditional research and/or evaluation techniques which consistently result in a lower academic concept of minority student performance and student populations. Any necessary labeling of students should carry **positive connotations** rather than the traditional negative ones. All scientific behavior (including testing) should be initiated and/or re-examined for scientific legitimacy—as well as for the quality of life for economically poor learners and ethnic and racial minorities. Who's qualified for school activities? Who is rewarded for school effort in which categories? (Boyer & Boyer, 1975).

Dimension Number 9: Positive Student Visibility
(Toward Educational Equity)

This dimension encompasses the academic and psychological uses of bilingualism, biculturalism, ethnic identity and expanded diversity. The adequate "positive

visibility" of racial/ethnic minorities in school-related matters is urgent. The minority learner in traditional and non-traditional roles becomes a **silent indication of stereotype reduction** and a strengthened self-concept. (Is the Honors Program reflective of the racial/ethnic diversity in America? What is emphasized in the student newspaper? Which activities appear to bring credit to the school—and are they racially/ethnically comprised? Is the gifted program racially/ethnically diverse?) The total student activity image of any school should re-examine itself to determine its degree of equity for all learners (Gay, 1981 and Boyer, 1978).

Dimension Number 10:

Conflict Resolution and Institutional Racism (Policy Implementation and Program Quality)

This dimension involves the full pattern of decision-making in resolving conflict between members of the school-community (student-to-student, student-to-teacher, teacher-to-parent, paraprofessional, teacher-to-teacher, etc.). The programmatic execution of policies and decisions which communicate a "superior/inferior model" of human worth tends to be reflective of institutional philosophy embracing racist mentality. What is the pattern of cross-racial conflict resolution? What is the nature of curriculum prerequisites? What is the pattern of student suspensions from school? **What are the chances for conflict resolution between teacher and learner in cross-racial settings which appear equitable to the student?** What guidelines govern the grouping and tracking patterns in secondary schools? (Boyer, 1978).

Basic Assumptions

The foregoing critical dimensions are offered on the assumption that certain administrative and personnel conditions are being met: (1) Interracial, interethnic faculty and staff are employed; (2) there is continuous professional development with the professional and non-professional staffs; and (3) budgetary priorities and curriculum resource balancing are equitably executed on a continuous basis. How is the school viewed by **ethnic minorities**? How is it viewed by **ethnic majorities**?

By design, these dimensions did not treat the problems of sexism, of handicapism, or of ageism—considered social ills equally as detrimental as racism and elitism.

The degree of concern registered is drawn from the state of curriculum implementation in America as synthesized through the eyes of those responsible for academic implementation and social policy. **Dimensions are critical in that they could become sources of major disruption in the academic programming of America during this decade.**

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Educational leaders must begin to look ahead, not just to next year, but into the future, and they must begin to plan accordingly.

Predicted national, state, and educational issues derived from a modified Delphi study for the formulation of long-range educational policies

by Robert R. Simmons and Nancy E. Kaldor

Over the past two decades, leaders of the educational community in most states, and Kansas is no exception, have had the opportunity to be involved with what has come to be called the administration of growth. In the next two decades this will change. Leaders trained to deal with issues relating to the administration of growth will now be confronted with a new set of problems unique to the administration of decline. Educational leaders must begin to look ahead, not just to next year, but into the future, and they must begin to plan accordingly. "Looking ahead is not just a matter of curiosity. It is also a matter of effective adaptation—Hegel once wrote that 'Hell is truth seen too late.' Looking ahead is also a matter of leadership, of trying to seize hold of the future and to guide it, and not just to react to what otherwise will happen" (Carnegie Council, 1980).

Robert R. Simmons is a graduate of Kansas State University, and is retired from the U.S. Navy and Nancy Kaldor is a principal at White City, Kansas, and is also a recent graduate of Kansas State University.

Two of the greatest periods of programmatic advancement in education have also been periods of growth, 1870 to 1890 and 1960 to 1980. The period 1982 to 2001 may well be another turning point in education, programmatic advancement in a declining environment. The world of the year 2000 seems likely to be far more different from the world of 1980 than the world of 1930 was from that of 1910.

Never in the history of education have administrators had to deal with the multitude of problems which are now arising. Enrollment decline, inflation, soaring energy costs, aging facilities, and shifting financial support are just a few of the many problems which are facing the educational community. All of the above problems are affecting or will affect education not only in Kansas but throughout the country.

Kansas is at a major crossroads in education. Population changes, decline in birth rates, depletion of natural resources, and the changing economy are challenging the very basis of state educational offerings and their funding. Traditional concepts of institutional autonomy, enrollment-based funding, and competition among institutions can no longer adequately cope with the educational circumstances being faced. Competition and demand work well when there is affluence to support multiple approaches. With inflation, a changing economy, technological modifications and different social values, a more programmatic approach appears essential which stresses instructional performance and an integrated set of institutional roles (Lujan, 1976).

Every state must realize the necessity for immediate action, for short-range options and long-range planning concerning education. States are emphasized because more and more of the total responsibility for education will fall under the auspices of the state as we approach the twenty-first century. It is one of the purposes of this article to act as an 'early warning' system to the Kansas educational community.

In the past, educational institutions needed only to predict how to grow and what to do with their rapidly expanding facilities and increasing enrollments. Now many factors are impacting on our educational process which could have a detrimental effect.

Since the USSR launched its SPUTNIK in 1958, the federal government has been a prime mover in education. The National Defense Education Act (1958), John Kennedy's "New Frontier," the Cooperative Research Program through the Office of Education (1960), the Elementary and Secondary Education Act (1965), the Higher Education Act (1965), and a continuous chain of other federally related activities have all aided the unparalleled expansion of the educational system.

Now as the federal government withdraws financial support, as the economy fluctuates, as interest rates remain unstable, as enrollments decline, and as unemployment rises, state educators and policy makers need up-to-date, predictive information. This predictive information need not be a scenario of things to come but rather an informative assessment of trends that may continue as well as arise in the foreseeable future.

The need exists for continuous exploration into the probable economic and social climates of the state of Kansas and, with these predictions in mind, forecast what the educational environment might be on an ongoing basis. To this end, this article plus additional continuing studies can give educators, legislators, and the general interested populace of Kansas some of that information.

Continuing research into the educational climate of Kansas for the year 2001 and beyond will not only be beneficial to all levels of the educational community, but will also be of paramount importance. Maintaining and improving the Kansas educational system over the next twenty years will require a multitude of related decisions involving a broad base of participation both within and without the system. Given the task of maintaining and improving the system, predictive information on what the educational climate will be in the future is needed. With this information the decision processes can be improved.

Traditionally education follows the 'crises' pattern, needing impending disaster before action is taken. In the past these 'crises' situations often meant a temporary setback and the system could recover on its own. If we are to plan more intelligently for the future and assume the leadership role that seems appropriate, it is imperative that we begin thinking about the changes that are to come and not rely on 'crisis' decision making (Spitzer, 1971).

In Shane's new book, *Educating for the New Millennium*, the point is made that "the knowledge generated in the 20th century exceeds that accumulated from all previous centuries" (1981). Since the establishment of the Kansas educational system, traditionalists have considered the future of education as a continuation of the past and have therefore concerned themselves with a study of past procedures and proven policies. Slowly, the academic world is beginning to understand the importance of what lies ahead. The future is seen not simply as a continuation of the past, but as an "effect" of past and present "causes" (Owings, 1978). Bell asserts that the world is coming to realize that "the world of the year 2000 has already arrived, for the decisions we make now . . . the future is committed . . . the future . . . begins in the present" (Bell, 1974). If our 'present perceptions' are to be valid and accurate as well as useful, we need to glimpse the possibilities of the future.

The Study

The instrument utilized in this study was a three-round Modified Delphi. As a result of this Delphi survey, a set of empirically derived national, state, and education-related issues were identified as pertinent in the formulation of long-range policies for education, primarily in the state of Kansas.

Random samples were drawn from four major populations: the Kansas Banking Association, the Kansas Higher Education Community, the Kansas Chamber of Commerce, and School Principals from the State of Kansas.

In the initial round of the Modified Delphi, participants were asked to rate 150 prepared statements of trends or events which might affect Kansas or Kansans by the year 2001 as to the appropriateness for further study. In addition, each respondent was requested to generate any other concise statements of events which he or she believed might occur. The statements were divided into three major areas: national, state, and educational concerns, with 50 events in each area.

Upon return of the first round, the twenty-five items in each major area receiving the highest "Most Appropriate" classification were assembled. Due to the lack of interest in respondent-generated statements, this section was eliminated from the study.

The second round consisted of the seventy-five statements chosen in Round I. Each respondent was asked to rate each statement on a five-point, Likert-type scale, indicating (1) the impact the statement might have on the fu-

ture of Kansas, and (2) the impact the statement might have on education. Upon the return of the second round, the ten items in each major category receiving the highest combined total were selected for the final third round.

In Round III, participants were asked to assign a time frame of occurrence for each of the items, utilizing a five-year graduated scale, from 1982 through 2001, plus Never.

The following items were selected as predictions of future events by at least three of the four groups represented as being of paramount importance to education in the next twenty years.

1. The national debt of the U.S. will be, proportionate to the Gross National Product, larger than it is now.
2. Interest rates will be stable at less than a double-digit amount.
3. The U.S. dollar will no longer be the standard of the world economic market.
4. New fields of endeavor and discoveries will result from the use of manned satellites and space shuttle aircraft.
5. The federal government will be operating on a balanced budget.
6. An economic crash similar to 1929 will have occurred during the period between 1983 and 2001.
7. A higher percentage of women will be in the work force.
8. The major source of public school finance support will switch from local property taxes to a state base of support.
9. A large number of new industries will locate in the state.
10. The water table in Kansas will be depleted.
11. Natural gas resources within the state will have been exhausted.
12. Social Security will go bankrupt placing many Kansas residents in need of state aid.
13. An exodus of young people from the state will continue at about current rates.
14. Oil reserves within the state will have been exhausted.
15. Rural population of Kansas will have declined.
16. Education at all levels will find it increasingly difficult to compete with industry in retaining talented personnel.
17. There will be a shift of orientation in secondary school toward more vocational and other job-related courses and classroom experiences.
18. A greater percentage of college age youths will decide not to attend college.
19. Education at all levels will become more accountable for ensuring student achievement and performance.
20. More community technical/vocational colleges will exist.

It should be evident that all of these items will, if they come to pass, have a decided effect upon Kansas education. As John Galsworthy once said, "If you do not think about the future, you cannot have one."

Since the end of the last century, the basic organization of higher educational institutions has not changed appreciably.

"Education in this highly complex, rapidly changing world must also change. Learning, regardless how it is acquired, can no longer be conceived as a mechanical process. It is not something that can be put together as plumbers, carpenters and masons put a house together. Social change and the prospect of a society characterized by dynamic contraction in the use of resources and by developments in microelectronics and robotics simply do not lend themselves to the rigidity of traditional approaches to the curriculum" (Shane, 1981).

Educators, administrators, legislators, parents and students must be aware of the need for lifelong education, both formal and informal, extending and available from the earliest years of childhood to advanced maturity. They must also be aware of the forthcoming problems which higher education must face in the near future, not the least of which will be enrollment. Higher education operates in an enrollment-driven system which works far better in a period of expansion than in a period of contraction. In expanding periods, excellence was the theme—with contraction it is survival. Thinking in the higher educational community must shift from quantitative growth to qualitative growth.

Several areas of concern unique to Kansas are emerging. In the area of natural resources, it is possible that, even though tax incentives will be instituted for the exploration of gas and oil, the natural reserves of gas and oil may be exhausted or severely depleted by the year 2001. In terms of the educational community, this means a possible redistribution or loss of population in broad areas of the state. Some institutions will not have enough students to maintain existence; others may well be overcrowded. This will also mean a decided loss of income in the state in revenues from the sale of the products, from wages to employees, and from decreasing property values in the affected areas. Inasmuch as the finance of public education is based in part upon a property tax, and the finance of higher education institutions is based in part on enrollment, this redistribution or loss of population will seriously affect the educational institutions in selected areas of the state. Conversely, the migration of this population to areas, probably in the eastern part of the state, will crowd the existing educational facilities.

It is possible that, at the present rate of consumption, the water table in Kansas will be depleted or seriously lowered before 2001. The probability exists that the western half of the state would or could be devastated. At a replenishment rate of an estimated one-fourth inch per year in the water table compared with a predicted usage rate of about two and one-half inches per year, the result is a continued deficit of approximately two inches annually. With the lowering water table and with 95 percent of the land in Kansas in agricultural use, our major resource, grain, would be severely affected. Again, an exodus of population either from the state or from the west to the east would seriously affect the educational community. Even with the water table relatively intact, there continues to be an exodus of families from rural to urban areas, as the

number of family farms decrease and the population in rural areas decreases accordingly.

Kansas educational problems do not just lie within the boundaries of the state. More and more national trends and decisions affect our educational system. It may be worthy to note that in this study, 47% of the bank presidents and 46% of the Chamber of Commerce predict an economic crash similar to 1929 to occur before 2001; 65% of the bank presidents, 59% of the professors and 59% of the Chamber of Commerce predict that by 2001 the U.S. dollar will no longer be the standard for the world economic market. The majority of all four groups predicts that interest rates will stabilize at less than a double-digit amount.

Not selected in this survey but considered to be of major importance is the upcoming older, tenured faculty. "The percentage of older faculty members with tenure keeps rising as the rate of new hirings goes down. The last heavy period of faculty hiring was from 1960 to 1970; the next will be from 2000 to 2010. The modal age of tenured faculty members in four-year institutions in 1980 was 36 to 45; in 2000 it will be 56 to 65. In the year 2000 there will be far more faculty members 65 and over than there are faculty members 35 and under. An older faculty is a higher paid faculty—adding costs; less resilient in adjusting to new fields and farther removed from the age of the students" (Carnegie Council, 1980).

With the myriad number of problems now facing the educational community and with the prediction of even more to come, vast amounts of information of this type will be required to make valid decisions pertinent to the future of education.

To glean this required information for the educational community, specialized studies such as a Directed Delphi should be conducted on many of those specific events.

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District-based, criterion-referenced tests possess the potential to allow school districts to control and guide their own destiny.

District-based, criterion-referenced tests: a major tool for curriculum evaluation

by Gerald D. Bailey

The 1980s have witnessed a resurgence of curriculum development as a high priority for school districts throughout the nation. With this renewed interest in curriculum has come greater emphasis on material development which possesses a high degree of specificity. School districts have placed much energy and money into the creation of these materials. Never before have curriculum documents reflected such a high degree of clarity in terms of student outcomes. With the creation of quality curriculum materials, the potential for objective, systematic evaluation has reached an all-time high. Traditionally, schools have depended on standardized tests, student followup, accreditation studies, consultant evaluation and self-directed evaluation measures. However, the new emphasis on specificity in curriculum documents makes district-based, criterion-referenced tests a major curriculum evaluation tool which is not only feasible but highly desirable.

District-based, criterion-referenced tests are those examinations created by the school district which have specific reference to goals, competencies and objectives exclusively established for that school district. For those school districts who are seriously considering the creation and use of district-based, criterion-referenced tests, the following steps should be considered:

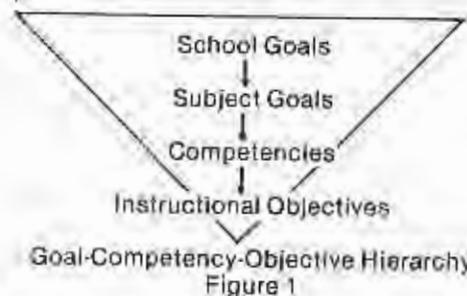
1. Creating highly detailed and specific curriculum documents. At the minimum, they should contain school district goals, subject matter goals, competencies and instructional objectives.
2. Identifying subjects and grade levels to be evaluated by the criterion-referenced tests.

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3. Creating criterion-referenced tests and matching competencies-instructional objectives with criterion-referenced items.
4. Administering and analyzing criterion-referenced tests.
5. Dissemination of test results.
6. Engaging in curriculum revision to improve school district curriculum.

Step One: Creating Highly Detailed and Specific Curriculum Documents

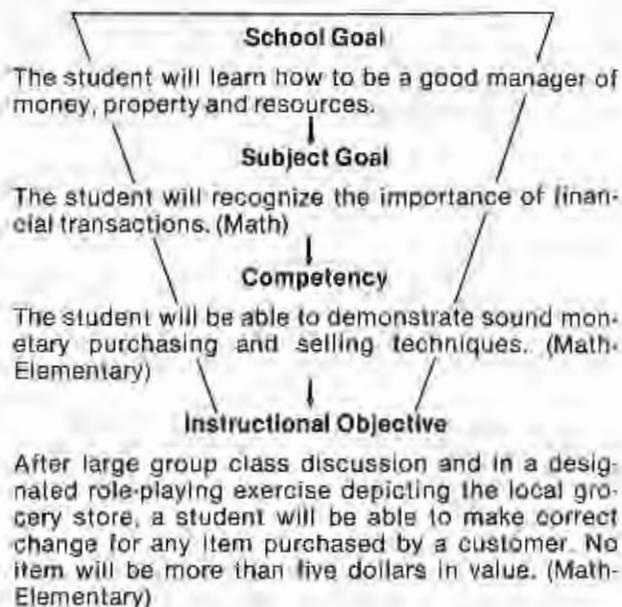
As was stated previously, any serious attempt at district-based, criterion-referenced tests must be tied to curriculum documents which illustrate specific student outcomes. Bailey and Littrell identified these kinds of materials as the Goal-Competency-Objective Hierarchy' (See Figure 1).



The hierarchy is emblematic of an inverted pyramid which illustrates that each curriculum component is derived from the preceding component. School goals represent the content and experience outcomes which students will attain in their K-12 experience. The purpose of these statements is to depict what the school district expects of all students.

The second curriculum component is labeled subject goals. Subject goals are derived from the school goals. The purpose of these statements is to show with somewhat more specificity how the respective subject areas are reaching the individual school goals. Subject goals are broad statements of student behavior related to each of the subject areas found in the curriculum. The third curriculum component contained in the hierarchy is called competencies. A competency is a specific statement concerning student outcome found in each subject area. Competencies identify skills, behaviors and attitudes which the student is expected to demonstrate. Instructional objectives is the last concept found in the inverted pyramid. Instructional objectives represent highly specific statements of student skills, behaviors and attitudes. They are statements which have elements illustrating the student type of activity, conditions and criterion or criteria which makes the student act measureable. Ultimately, instructional objectives show where and how the school goals, subject goals and competencies are being achieved. The purpose for engaging in this type of curriculum material creation is to show the what and where of student achievement in the school district's curriculum. Illustrations of a goal-competency-objective hierarchy are found in Figure 2.

*Gerald D. Bailey and J. Harvey Littrell, "A Blueprint for Curriculum Development; Establishing a Systematic Design," *NASSP Bulletin*, 65, No. 443, March 1981, 22-28.



Goal-Competency-Objective Hierarchy
Figure 2

Curriculum materials must reflect these kinds of student outcomes if criterion-referenced tests are to be used as a major curriculum evaluation tool.

Subject Area: Language Arts

Competency	Instructional Objectives	Criterion-Referenced Test Items
i. The student will be able to write complete sentences.	Grade 4 1. After workbook activities and board demonstrations, the student will be able to identify two simple sentences. Each sentence will contain a complete thought.	Grade 4 1. Identify the two simple sentences which contain a complete thought. a. The dog and cat. b. The both of them. c. Good friends enjoy. d. The dog and cat are good friends.
	Grade 5 1. After a lecture and board work, the student will be able to select two compound sentences. Each select sentence will contain a complete thought.	Grade 5 1. Select the two compound sentences which contain a complete thought a. At exactly 4:00 p.m. the ill-dressed gentleman arrived home and the policeman was there to greet him. b. Hundreds of birds and animals can be found on the beach. c. In a few years, he was an outstanding speaker. d. Pig iron is defined as melted iron which hardens into a bar and the word pilgrim is defined as a person who travels to holy places to worship.
	Grade 12 1. After filmstrip and seatwork exercises, the student will be able to write a 200-word short story using simple and compound sentences. Each sentence will contain a complete thought.	Grade 12 1. Write a 200-word short story about your field trip to the state capitol. Use several simple and compound sentences in your essay. Each simple and compound sentence should contain a complete thought.

MATCHING COMPETENCIES-OBJECTIVES WITH CRITERION-REFERENCED TEST ITEMS

Figure 3

Step Two: Identifying Subject Areas and Grade Levels to Be Evaluated.

Once the school district has established a comprehensive set of goals-competencies-objectives for each subject matter in the K-12 curriculum, the task of selecting the subjects and grade levels to be evaluated by criterion-referenced tests is a relatively simple task. The curriculum director must decide which subjects should be included and the order of their evaluation. Subject areas which may be evaluated include: art, mathematics, physical education, science, language arts, fine arts, foreign language, health, vocational agriculture, industrial arts, social studies, business, special education and guidance. Obviously, districts may have additional areas which they wish to evaluate using criterion-referenced tests.

Step Three: Creating District-Based, Criterion-Referenced Tests and Matching Competencies-Instructional Objectives with Criterion-Referenced Items.

The creation of district-based, criterion-referenced tests requires a number of major decisions. First, a decision must be made concerning whose responsibility it is to create the test. The curriculum director and/or superintendent can create the tests or teachers can be requested to submit respective items for each competency-instructional objective. Logically, the central curriculum official should compile the test, but it is very important that the creator recognize that each test item must relate to the competency-instructional objective under consideration.

Subject Area: Science

Competency	Instructional Objectives	Criterion-Referenced Test Items
K-12	Grade 4	Grade 4
1. The student will be able to use the scientific method.	1. After being introduced to the six steps of the scientific method (text and seat work exercises), the student will be able to define the terms hypothesis and conclusion.	<p>— 1. Select the correct definition of the term hypothesis found in the six steps of the scientific method:</p> <p>a. a guess b. a decision c. a fact d. a process of gathering information</p> <p>— 2. Select the correct word that illustrates the meaning of the term conclusion used in the scientific method:</p> <p>a. a guess b. a decision c. a fact d. a process of gathering information</p>
	Grade 8	Grade 8
	1. After reviewing the steps in the scientific method, (workbook, filmstrip, board work), the student will be able to list and define the six steps found in the scientific method.	<p>1. List the six steps found in the scientific method. List them in the order of their most common use.</p> <p>2. Define each of the six steps found in the scientific method.</p>
	Grade 12	Grade 12
	1. Using a scientist's approach known as the scientific method and given the condition of jack rabbit overpopulation, the student will propose a solution for balancing the food chain. The solution will contain the labeled scientific steps used in solving the problem.	1. Overpopulation of jack rabbits pose a serious crop threat to farmers in western Kansas. Using the scientific method as a way of solving this problem found in a food-chain, identify how you might solve this problem. Present viewpoints of conservationists, farmers and environmentalists. Label each of the scientific method steps that you use in solving the problem.

MATCHING COMPETENCIES-OBJECTIVES WITH CRITERION-REFERENCED TEST ITEMS

Figure 4

Those individuals creating the test must possess technical knowledge of test construction principles. Knowledge of rules governing the correct item construction are paramount. For this reason, the curriculum director and/or superintendent must carefully monitor this process. Several test items are possible in criterion-referenced tests: essay, multiple-choice, matching, true/false, completion and short answer. Traditional standardized tests use multiple-choice items because of their ease of construction and ease of scoring. However, the school district need not restrict itself to this single-item format. Detailed instructions on item creation, reliability measures and validity measures should be considered. Texts such as Norman E. Gronlund's **Constructing Achievement Tests**, provide an excellent overview of these tasks.²

A good deal of preplanning should go into the construction of the district-based, criterion-referenced test. Ample time for construction is an important consideration. Depending on the number of subject areas and grade levels involved, several months may be required to com-

pile the test items. A good rule of thumb is to prepare many more test items than will likely be used in the test. Second, it is important to plan sufficient time so that reliability and validity tests may be undertaken for the tests.

Test construction should involve careful planning of how the test is arranged. Test arrangement includes grouping test items around each competency-instructional objective which is to be evaluated. Test items should be arranged so that all items are in order of increasing difficulty. Tests should be structured in a manner which allows careful scoring. Usually blanks to the left of each stem facilitate this task.

Each criterion-referenced test item measures a major competency. Criterion-referenced test items should be derived from the list of instructional objectives formulated. However, it is important to recognize that the criterion-referenced test item is created from a larger body

²Norman E. Gronlund, **Constructing Achievement Tests**, Third Edition, Prentice-Hall Inc., Englewood Cliffs, N.J., 1982.

of instructional objectives. Not every instructional objective used by the teacher will be found in the district-based, criterion-referenced test. A graphic illustration of the relationship from competency to instructional objective to criterion-referenced test item is found in Figure 3 and Figure 4.

Step Four: Administering and Analyzing Criterion-Referenced Tests.

Administering the criterion-referenced tests involves careful consideration of the proper environment which allows students to maximize their academic potential. Proper testing conditions include: (1) decorum that permits few, if any, disruptions or interruptions, (2) adequate directions that allow students to proceed through the test with minimum confusion and (3) seating arrangements which minimize the potential for student interaction and/or cheating.

Since district-based, criterion-referenced tests involve many subjects and grade levels, some form of systematic scheduling will need to take place. As a result, considerations such as time of the year and previously scheduled curricular activities are very important.

The central issue of criterion-referenced tests is whether or not the student achieves the proficiency level found in the instructional objective. The instructional objective should specify the minimum performance level designated by the school district. As a consequence, the vast majority of students should achieve the stated objectives. If the test results show that a significant number of students have failed to achieve the competencies objectives, the curriculum leader may want to pursue the following questions in analyzing the test results:

- How much time was allocated to the competency objective in the classroom?
- What kind of materials were used to teach the competency objective?
- What kind of methods were used to teach the competency objective?
- Were there mitigating circumstances involved when the competency objective was taught?

Based on the answers to the preceding questions, the school district will need to determine how they can assist students achieve a higher level of proficiency on the established competencies objectives.

Step Five: Dissemination of Test Results

If the district-based criterion-referenced test results are to be useful to the school district, some form of dissemination should be considered. Dissemination is largely a matter of individual school district preference. However, the following ideas should be considered:

- A report card should be issued which illustrates student achievement with reference to the competencies objectives. No letter grades or comparisons with other students are found in the criterion-referenced reporting system.
- A written report should be submitted to the school board which allows the group to determine what aspects of the curriculum are being achieved.

The critical reason for gathering criterion-referenced test data is to provide information about the total curriculum. Optimum use of criterion-referenced test data can only be made by comparing the results to other sources of information such as standardized tests, student followup,

accreditation, expert or consultant evaluation and self-evaluation results. Therefore, these additional sources of information should be included in any publication of curriculum evaluation results.

Step Six: Curriculum Revision

After the criterion-referenced results are compiled and adequate analysis of the results is compared to other sources of information concerning the curriculum, the school district is in a position to engage in curriculum revision. Several activities can be undertaken:

- The curriculum leadership of the school can reaffirm the elements found in the goal-competency-objective hierarchy.
- The curriculum leadership of the school can modify the statements found in the goal-competency-objective hierarchy. If the curriculum materials are modified, the teachers who are responsible for teaching them must be heavily involved. All changes must be reflected in the written curriculum documents.
- The curriculum leadership can schedule the next criterion-referenced tests for the subject area which need to be evaluated.

Conclusion

District-based, criterion-referenced tests as a major curriculum evaluation tool have come of age. They possess the potential to allow school districts to control and guide their own destiny. District-based, criterion-referenced tests provide a mechanism which sustains curriculum development as a process which is continuous and systematic. Those curriculum leaders who recognize the full potential of district-based, criterion-referenced tests have reaffirmed them as a powerful tool of curriculum evaluation. More important, they recognize that district-based, criterion-referenced tests have allowed their school district to achieve a higher level of curriculum excellence.

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Exploration is one of the most common forms of both communication and instruction and yet it is seldom planned or analyzed.

Explanation in instructional communication

by Sandra E. Moriarty

John Holt tells a little story (1967) about a fifth grade art class. The teacher held up a paper fan and asked how many students knew how to make one. Every child quickly made a little fan. Then she read from a set of instructions designed for fifth graders on how to make paper fans. She read slowly with proper emphasis. After hearing the instructions not one child could make a fan. Every parent who has tried to assemble a little red wagon on Christmas morning knows the debilitating effect of instructions like these.

Explanation is one of the most common forms of both communication and instruction and yet it is seldom planned or analyzed. Nettler (1970) has observed that "whatever we take for granted, we are least likely to explain." Chomsky (1970) also cites this familiarity problem: "We lose sight of the need for explanation when phenomena are too familiar or too obvious."

For more people working in their own areas of expertise, there are few unknowns and therefore little conscious recognition of a need for explanation. Knowing what needs to be explained is the hardest part of explaining. The problem is not just limited to areas of technical knowledge. Because of the ambiguity and multiple meanings built into our language, even common words, if they are central to message interpretation, may need explanation. Chomsky (1970) notes that "even the most familiar of phenomena require explanation."

One of the reasons explanation is given so little thought is because there is virtually no instruction in the art of explaining. There's very little information available in the literature of instruction or communication, two primary areas of practical explanation.

There is a tremendous body of literature, however, in the areas of history and philosophy of science, analytical philosophy, and cognitive psychology. Explanation, in those areas is a philosophical term describing the search for meaning using the scientific method. Nagel, a leading philosopher of science, describes (1961) scientific explanation as "formulating the conditions under which events occur, the statements of such determining conditions being the explanation of such happenings." To the

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scientific mind like Nagel's, an explanation is a statement of "repeatable patterns of dependence."

Explanation also is critical in teaching and communicating and this more practical dimension of explanation is the concern here. This paper will develop a model of the role of explanation in instructional communication. The underlying premise is that the level of explanation is a function of the complexity of knowledge being communicated.

Parameters of Explanation

The word "explanation" is used in a variety of ways. Jane Martin has developed an elaborate schema for describing the meaning of all possible variants of the word (1970). A simpler version of that type of analysis is used here beginning with the phrase "an explanation," which is used to mean **the response** to a question. (A more formal definition of explanation will be developed later.) An explanation is **the product** or result of an explanatory effort. "An explanation" is distinct from "explaining" as in "explaining something," which is **the act** of inquiry or the search for an explanation. "Explaining" is used in another sense to mean "explaining something to someone." This type of explaining involves a dialectic situation where the act of inquiry (explaining) is used to produce a response (an explanation) for some person.

Context. The explanatory situation is a form of instrumental communication where a particular type of a message, an explanation, is given **by** someone to someone. The explanation is the instrument, the tool, by which the desired effect (understanding) will be accomplished.

Instrumental does not necessarily mean that explanation is bound by an interpersonal communication situation. One can explain something to oneself just as one can search for an answer to one's own questions (Rescher 1970; Nettler, 1970). The lonely scientist working late at the lab is searching for an explanation just as is the kindergartener who is asking why the caterpillar developed wings and flew away.

Roles. There are two roles in explanation. The "explainer" is active and may either be packaging the explanation for dissemination to someone or may be searching for the answer to a private question. The "explainee" is passive and perceives and processes the information as would any receiver in a communication situation.

An individual searching for a private explanation shifts back and forth from search to reflection and alternates both roles. In interpersonal situations, the roles may also shift. One person, let's say a teacher, may provide a packaged explanation to a learner who is essentially passive in the situation. At the other extreme a teacher may encourage learners to assume the explainer role and search for their own answers. These self-discovered explanations are then reported back to the teacher who becomes the explainee.

The Objective. Explanation is a matter of heuristics or, as Rescher describes it, "rendering something clear to someone by putting it into a graspable setting" (1970). Explanation moves beyond learning and into knowing and particularly understanding. Most definitions of explanation, scientific as well as practical, are based on the process, act, or instrument involved in making something intelligible or understandable. The objective is always understanding (Eysenck, 1970; Meehan, 1968; Rescher, 1970; Taylor, 1970; Thyne, 1966; Von Wright, 1971; Williams, 1970).

Understanding is defined in most dictionaries as "to know" or "to comprehend" but there's another aspect of understanding that is found in definitions using the word **accept** as in "to accept a fact." Eysenck (1970) defines understanding as a cognitive state of acquiescence. The reason this condition is important is that it leads to another aspect of explanation and that is complicity. It's already been noted that explanation is instrumental in the sense that you often want to explain something to someone but the other someone can't be an intellectually passive onlooker. There must be a spirit of participation or involvement otherwise explanation becomes, like the Zen analogy, just one hand clapping. The one seeking to understand must truly seek. Flesch (1972) described this essential condition in one of his books on clear writing: "Nothing explains itself, there has to be a will and an eagerness to learn."

Definition of Explanation

Explanation can be defined as form of instrumental communication using dialogue and dialectics to generate inquiry and understanding. It is instrumental in the sense that the explainer wants to make something understandable to someone and the explainee must share a spirit of complicity, a willingness to share in the development of the explanation. Explanation seeks understanding by moving someone from the unknown to the known through the process of inquiry.

The Critical Questions

Any question can lead to an explanation but there are certain key questions that cue different types of responses representing different levels of complexity of knowledge. The basic explanatory cue seems to be the **why** question and many of the theorists define explanation as an answer to the question **why** (Nagle, 1961; Hempel, 1965; Eysenck, 1970).

Another critical question is **what**, although it is often seen as a cue for descriptive and definitional information on a lower level of knowledge than explanation. Von Wright distinguishes between **what** and **why** when he says that the results of interpretation are answers to the question "what is this?" Only when we ask "why is this" he says, "are we in a narrower and stricter sense trying to explain" (1971). **What** questions are often seen as preliminary to **why** questions. Inman suggests that writers explain **what** the subject is before attempting to explain **why** it is (1967).

Another type of question is **how** and this elicits process information. Rescher (1970) identifies the **how** question as the essence of practical explanation, particularly as it is used in "how to" explanations which give procedures for performance. Eysenck (1970) disagrees with the limitation on the **how** question as a form of practical explanation. He sees it as basic to scientific explanation: "Natural science describes, so far as it can, **how**, or in accordance with what rules phenomena happen, but it is wholly incompetent to answer the question **why** they happen."

The final type of question, which appears rarely in scientific literature but more often in practical areas, is the **so what** question. This cues a higher order explanation calling for synthesis, interpretation and statements of significance. Inman (1967) summarizes the basic questions, as well as their internal relationships in the comment that "sooner or later the subject shifts from **what** to **why** to **so what**."

Levels

Inman's quote also introduces the concept of hierarchy. Throughout the writings of the scientific philosophers there are references to such relationships as "more basic than," "higher order" or "lower level" (Eysenck, 1970; Peters, 1970; Taylor, 1970; Von Wright, 1971). By analyzing these relationships a hierarchy of explanation emerges based on levels of knowledge complexity. Tourim (1970) calls this "mapping the areas of higher mental functions." For example, Von Wright (1971) observes that one can "ascend in the hierarchy or order of interpretive acts." Eysenck (1970) elaborates on the **what/why** relationship by saying "descriptive phases must precede causal analysis. We cannot seek higher order explanation while we are still unsure about lower order uses."

Level 1: What. The hierarchy that emerges from this analysis identifies the **what** question as a preliminary effort. It serves a basic information acquisition function: "what is this like?" It clarifies terms and details. The type of information given in response includes definitions, descriptions and examples. Definitions classify and categorize and permit comparison and contrast; descriptions develop a mental image, and examples clarify details and extend the description to familiar situations. Metaphors and analogies also are useful for exemplifying and describing.

Ineffective **what** explanations suffer from problems of completeness. The definition is buried or only half developed. The details may not be sufficient or they may be irrelevant. Because the source, who is familiar with the topic, fails to predict the unfamiliar, the right terms aren't defined and the situation is not described in terms of its critical features to the learner. It is the inability to spot the unknown that complicates the **what** explanation.

Level 2: How. The inquiry behind the **how** question, "how does this work," cues an analysis of process. A **how** response is a process description and can be seen as an elaborate form of a **what** explanation. Narrative techniques may be used with **how** questions because telling a story is a natural way to describe some processes. **How** explanations are cued by such phrases as "how to do," "here's how it works," and "a way to . . ." Demonstrations, step-by-step directions, recipes, hints and tips, all use **how** explanations.

To be effective, **how** explanations must consider the departure point, that is the audience's present state of knowledge and the route taken to arrive at understanding. Communicators need to relive the process they went through initially in learning how to do something or how something works and plot a path of critical questions: "What did I think at the beginning?" "What did and didn't I notice?" "How did I get around that point?" A process explanation must anticipate the step-by-step questions in the audience's mind and tell them at those critical points what to do next and which way to turn. An ineffective **how** explanation follows an unnatural route through the process, ignores the decision points, takes divergent paths or skips critical steps. A well-crafted **how** explanation will also give perspective information at critical points, so there's some sense of "where we're heading."

Level 3: Why. The **why** question, the heart of explanation, elicits logical mental functioning and the responses typically focus on reasons and causes. Sample phrases that cue the **why** explanation are: "because," "in order that," "the answer is," "the causes are," "that's why,"

"the advantages are," and "here's proof." The structure behind a **why** explanation is a syllogism. A formal **why** explanation will state major and minor premises and the conclusion derived from them using either inductive or deductive reasoning.

There are two basic types of **why** questions and the distinctions between them preoccupy the writings of the scientific philosophers. "Causal" explanations explain why something has happened and "teleological" explanations predict why something will happen. Von Wright explains the difference: "Causal explanation points to the past; this happened because that had happened. Teleological explanations point to the future; this happens in order that that should occur" (1971). He further characterizes causal as explanation that is Galilean because of the focus on "interesting causes." Teleological explanations are Aristotelian because they focus on "interesting effects."

Ineffective **why** explanations usually fail for logical reasons—the syllogism is unclear so the audience can't "follow the gist" of the argument. In some cases the conclusion may not follow logically from the premise. **Why** explanations also may fail because the claim is too exaggerated and the proof given doesn't prove the point stated causing a believability problem.

Level 4: So What. The **so what** question calls for the highest complexity of knowledge. It analyzes significance, it interprets, it synthesizes. The underlying inquiry is: "What does this mean?" **So What** explanations use phrases like: "this means that," "the importance of," and "the significance of." Effective **so what** explanations may call for the "the big picture," in the sense that they amplify the meaning. This is the function of generalization. They also call for the "little picture" in the sense of simplifying so the bare bones of the patterns become apparent.

So what explanations may be ineffective because they get mired in small details. Another problem is built into the name of the category: "so what." If the analysis, the synthesis, is too abstract it may become inconsequential to the audience and this elicits a "so what" response indicating indifference. The danger with "the big picture" is that it may become intergalactic.

Hierarchy of Explanation

The chart below summarizes the levels of explanation. It also identifies the key strategies used for each type of explanation.

HIERARCHY OF EXPLANATION	
LEVEL IV: "SO WHAT"	
a. Identify Significance	
b. Synthesize: Amplify, Generalize and Simplify	
LEVEL III: "WHY"	
a. Identify Causes	
b. Predict	
LEVEL II: "HOW"	
a. Describe Procedure	
b. Demonstrate	
LEVEL I: "WHAT"	
a. Define: Classify and Provide Synonyms	
b. Discriminate: Compare and Contrast	
c. Describe: Details and Imagery	
d. Exemplify: Metaphors and Analogies	

An explanation can operate on any one level such as a "how to" explanation that is primarily a demonstration. Explanations can also jump around from level to level. An usual sequence for a well-crafted explanation would be to start with **what** by describing and defining, then move to either **how** or **why** where a process is described or reasons are given, and end with **so what** which interprets the significance. As new concepts and terms are introduced a set of embedded explanations is produced. A map of a complex explanation may resemble a series of small embedded loops within a primary series of loops.

In a book on composition, Snortum (1967) describes an explanatory attempt that illustrates the use of multiple strategies. His example, however, lacks the structure derived from the concept of a hierarchy based on knowledge complexity. He says:

An explanation shows what lies behind concrete impressions by taking them apart and giving you reasons for them, in a word explaining them. You might define the subject, distinguish it from other similar subjects, contrast it with a familiar counterpart, divide it into its components, and use an illustration to keep the explanation from getting too abstract. You might show a typical example and you may even use the techniques of narration and description. All techniques then are resources for explanation.

Message Analysis. To illustrate how explanation works, two short passages from composition textbooks are analyzed below. The first one is a Level I: **What** explanation. The phrases illustrating explanatory attempts are in bold face type.

(situation setting)	When you have to use a phrase or technical term that may be unfamiliar to your readers , it's your business to explain it. Do it simply, briefly, and effectively . Use words and ideas your readers are familiar with, but don't talk down to them . Here are two fine examples of how it's done:
(I: definition of technical)	
(I: description)	
(I: compare and contrast)	
(I: examples)	

A second passage uses multiple types of explanation and attempts to move beyond the **what** level and develop **why** and **so what** explanations. The word cues are marked on the passage in parentheses.

(situation setting)	Selecting a part to illustrate the whole,
(I: def. of "Selecting")	then, involves the writer making a deliberate choice (in order to make) his central point clear to the reader . He chooses a representative example (because it will) clarify the point, (because it is) a valid sample and (because it is) concrete and colorful. Thereby a good example will have a sense of immediacy in its appeal to and in its effect upon a reader.
(III: teleological)	
(III: teleological)	
(II: causal)	
(II: causal)	
(IV: synthesize)	

Instructional Communication

Explaining is very basic to teaching but it isn't synonymous. Thyne (1966) makes the point that "to teach is to promote learning; to explain is to promote understanding." He also points out that understanding does not equal learning and learning does not necessarily mean understanding. On one hand explanation is a tool of teaching; on the other hand it cues higher order mental activities than those required for many of the dimensions of learning.

The common ground, however, lies with analysis of the learner. The characteristics of explanation (instrumental situation, dialogue, dialectics, heuristics, and complicity) all demand skill in audience analysis—and so does teaching. The decisions that make an explanation effective are all audience based. Harwell (1960) describes the decisions to be made in developing an effective explanation: determine what they need to know, decide how elementary or how detailed, arrange the information in a logical order for them, and choose appropriate language. This analysis of the audience/learner's needs is where instruction and communication intersect in explanation.

As in other areas of education the process of finding an explanation is more instructive than receiving one already packaged by the explainer. The challenge, then, in instructional communication is to first sort out the known and recognize the unknown and establish the type and level of understanding desired. Then the explainer must encourage curiosity, elicit the questions, establish the dialogue and incite complicity. Rarely are our explanations that well planned; rarely are our explanations as well executed as they might be.

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Whether mastery learning can continue as a viable approach despite a hostile surrounding remains to be determined.

Taking the mystery out of mastery

by John R. Champlin

Educators often persist in their tendency to seek quick and simple answers to problems which are complicated and complex. Emerging programs offer special attraction. They are often quickly embraced as the long-sought-after mythical panacea. The results have always been both predictable and quite consistent. The innovation is discredited. It is clearly unfair and improper to expect that any program, particularly any innovative effort requiring appreciable attitudinal and behavioral change, to survive under those conditions. Unfortunately, there is little in our record of innovative efforts to lead one to believe that the next time will be different from the last time. This is the environment in which mastery learning seeks to survive today. Whether mastery learning can continue as a viable approach despite these hostile surroundings remains to be determined.

More and more educators are being attracted to the mystique of mastery. They are lured by the compelling learning statistics emerging nationwide as more districts successfully implement mastery learning. The combination of newness and the promise of better achievement scores offer an intoxicating combination. Such quick adoptions create a scenario which is quite predictable. The cast is the same and the script never changing. Is there some hope for intervention or must mastery learning go the route of its promising predecessors?

It is good news that mastery learning is gaining solid recognition and credibility as the core around which comprehensive instructional improvements can be effected. There are important success stories, one of which is the Johnson City (N.Y.) experience where mastery was the basis for total K-12 instructional redesign. The achievement results in that district are remarkable evidence of mastery learning's potency given careful management and nurture. Other districts report similar types of supportive evidence. While this is good news, it is at the same time bad news, for there are the ever-present quick fixers who leap to mastery with little concern for district readiness, the presence of an effective management system and, even more

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critical, a clearcut vision of what mastery learning is, what it is not, and what makes it go.

It seems logical that as a first step in mastery's defense that we remove the mystique. We need to urge a potential adapter to pause to acquire a much broader understanding of what mastery learning entails and what types of conditions and levels of support are required. It would prevent a multitude of misunderstanding and misrepresentations if we could legislate a halt to the use of the term "mastery" as an attractive catch word. Name dropping and random association serve the mastery learning cause no useful purpose. Mastery learning has similarly become the magic sales term in the textbook publishing world. Buy a series which promises mastery learning and your problems are well on their way to solution.

Demystifying Mastery

The process of demystifying can best begin by giving clear definition and substance to the term mastery learning. The most widely accepted view of mastery learning represents it as a theory of instruction which contends that most pupils (90-95 percent) can learn what schools offer given sufficient time and the presence of an instructional process which recognizes and manages the alterable variables associated with individual learning. The definition can be restated in a somewhat different form. As a theory of instruction, mastery learning is dependent upon being implemented thoughtfully, with skill and with integrity. Under these conditions the greater percentage of our students can learn. Mastery is clearly dependent upon what the user does or does not do. The only mystery lies with the users and their behaviors.

Mastery provides clear direction in identifying three critical variables which must be altered and managed: (1) time, (2) the creation of a responsive and alterable instructional delivery system and (3) an overall examination of the current belief system which encases school practices so firmly. Those who accept the challenge to critically address the belief system soon discover that much of current school practice is outmoded, particularly when compared with emerging research on more effective schools. It is impossible to avoid the realization that we are governed by outmoded, unproductive generalizations about such things as what pupils are likely to learn and what pupils will probably not learn; the sanctity of the traditional teacher role and lastly insistence on using time as a constraining and limiting condition. It is critical to embrace time as a variable to be managed and altered and not something to be regulated unnecessarily by. Mastery learning creates the necessity to address and resolve the prohibition of an outmoded belief system.

I submit that it is critical to emphasize repeatedly that mastery learning's chance of success is totally dependent upon the prospective users' motivations, openness and professional integrity in confronting critical issues. Changes made under the mastery learning banner which are half-hearted and without critical professional integrity will eventually fail and in doing so bring disrepute to mastery. Few observers take the time to thoughtfully assess why a program didn't work. If postmortems were possible on the myriad of innovations in the 1960s and 1970s, the author contends that it was rarely the program that failed. Rather, I maintain that critical assessment would support the contention that it was "user failure." The profession must be prepared to consider mastery learning from a similar perspective if it is to survive what can be predicted

as poorly managed, abortive implementation efforts of the hurry-up/quick fix group.

Some interpret mastery as a rigid process through which the learner keeps "doing it until the task is finally achieved." Viewed from this erroneous perspective, mastery becomes mechanistic and repressive. Benjamin Bloom's view of what he terms the quality of instruction gives clear form and substance to an instructional model, one which dictates a constant alteration of strategies and process to appropriately satisfy the students' learning needs at the time. One of the stimulating qualities of mastery learning is its challenge to teachers to continuously alter and adapt. Such is the essence of the professional behaviors we lay claim to under the label of diagnosis and prescription. Mastery learning can only be viewed as prohibiting and mechanistic when those who would employ it take comfort and find security in total structure and complete rigidity.

Mastery learning requires that its user go considerably beyond the instructional process. Inherent in mastery learning is its total commitment to learner success. Success becomes more probable when teachers accept the challenge to first identify and then eliminate practices and relationships which are bound to reduce failure for a considerable number of pupils. Mastery learning further mandates careful attention to curriculum—what is it that is to be learned? It is not possible to teach precisely if there is not clarity about what is to be learned.

Mastery Is Not Mysterious

Mastery learning is clear and precise as to what must be managed if one is to achieve the results desired. The dependence on the user is both a delight and a plague, the latter when one fails to reflect the required understanding, integrity and patience.

Mastery learning holds great promise for all educators and pupils. The profession cannot afford to blunt mastery learning's power because of the absence of understanding and the reluctance to change behaviors to make it work. An observer of the emerging literature on more effective schools cannot help but conclude that mastery learning offers an attractive implementation vehicle to incorporate those critical understandings in a workable program. It is almost too simple to state that we could be on the edge of a major breakthrough in school programming. If we take the mystery out of mastery learning and then use it with integrity and dedication, the opportunities for successes beyond anything we have been able to do previously are unlimited.

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Good writing is more than merely a means of clearly stating concepts in a written form.

Give Johnny some practice

by Robert Gassen

During my teaching career, I have been frustrated and puzzled by the amount of research done to pinpoint problems in learning and the subsequent lack of actual changes the research produces in terms of improving classroom performance. Somehow, the problem-to-solution technique often gets off the ground but then crashes into a heap of footnotes and gets hauled off into the jargon scrapyard. Parents' groups demand action, tests are given, heads shake in bewilderment and despair and, finally, we decide to do more research.

Several months ago, I read the results of a National Council of Teachers of English research study that pinpointed some of the most important problems in secondary education. According to Arthur Applebee of Stanford University, only three percent of writing assignments in secondary schools are more than one paragraph in length.¹ Moreover, Applebee reports that most teachers use writing assignments "that require students to parrot back facts to a teacher in the role of examiner."²

Nothing in Applebee's study surprised me. In fact, I have been aware of the problems that students do not write often and that writing assignments often require little sustained thought, personal response, or development. I have encountered the problem as a student and teacher, and I have read eloquent articles dealing with these issues in many English education journals. However, as Applebee's research concludes, nothing has changed.

As most teachers of writing and scholars in other disciplines would agree, good writing is more than merely a means of clearly stating concepts in written form. It is, above all, a means by which one orders his experiences. One does not often fully understand what he really has to say until he has written it, examined it, and rewritten it. In its highest sense, writing is a means of sharpening the thinking process. The teacher's role in writing, from the upper elementary grades through graduate school, is to examine the student's writing and to suggest ways for him to sharpen his thinking process. For example, a response to an essay question may be illogical and lack adequate supporting details. A psychology teacher, for instance, should be very capable of suggesting improvements in the quality of essay answers pertaining to his discipline.

To some teachers, writing should take place only in English classes. Such teachers often rely on objective

tests and projects of various types, including reports that are little more than poorly paraphrased articles or chapters from texts. In many cases, students become mere storehouses of information. In one college history course, I recall underlining important bits of textbook information and taking copious notes. At certain times, I would demonstrate my mastery of the text and the notes by taking multiple-choice exams. Each test contained one essay question such as "State three major causes of the Bolshevik Revolution." The causes, of course, were contained in my notes. My task was merely to recall them. At no point in the course was I required to make inferences, draw conclusions, or do any type of critical thinking. This course was not an exception to the rule. I had many teachers, especially on the secondary level, who used such methods and, according to Applebee, such teachers are in the majority.

I was surprised to discover what graduate-level professors consider essay exams. One graduate-level speech pathology exam that I read contained a section entitled "short answer essays." These so-called essay questions merely asked the student to list information. Further, the answers did not require paragraph form or complete sentences. Another part of this exam entitled "long essay" asked the student to reproduce from memory an idea or process such as "Explain in detail the communication process as stated in our text." Again, this section required no demonstration of composition skills or critical thinking.

I am not against some memorization and essay questions that do not require creative thinking. What disturbs me is that many students receive very little or no instruction and practice in writing essays that call for such skills as refutation, drawing conclusions, and so forth.

Stating the problem is easy. The solutions, however, are neither easy nor quick. They require overall changes in the attitude of many teachers and a greater emphasis on essay writing in certain curriculum and methods courses. Teachers of any content subject must understand that instruction in writing is not the exclusive province of the English teacher. Any skill requires frequent practice and training. Writing is no exception. If educators are truly concerned about improving the quality of student writing, they need to accept the notion that students must be expected to write essays of varying lengths on a regular basis in many of their content area courses. Students must view writing as a total school experience, not as an English course activity only.

I am not suggesting that sociology teachers become English teachers. However, teachers should spend some time instructing students on the best ways to answer essay questions, provide students with the opportunities to use writing skills, and offer students constructive criticism of their writing. A social science teacher, for example, could provide a list of problems and ask students to respond to one of these problems in an essay. In reading these essays, the teacher could point out weaknesses to be avoided in future essays. Through this strategy, the students would gain practice in writing, sharpen their thinking skills, and learn ways to improve future essays.

The goal of a greater emphasis on writing in content area courses is difficult to achieve for two reasons.

First, teachers are often no different from other professionals. They learn from example. If students do very little writing and are taught through their writing activities that an essay means only a listing of concepts or steps in a process, then as teachers, they will often continue this

trend. We learn by doing, and what we are doing in schools is perpetuating the problems that Applebee describes.

Finally, writing assignments requiring sustained thought on a subject demand more time to carefully evaluate than other types of assignments. A teacher cannot use a grading key on a long essay that requires a student to propose a solution to a problem. In secondary schools, many teachers, already burdened by large classes, are reluctant to increase their burdens.

What is needed is a change in teachers' attitudes and habits, and the place to start the change is in the colleges of education Methods courses, especially those concerned with special methods, need to put more emphasis on writing essays. The prospective teachers of content area courses need instruction on teaching students to write challenging essays. Instead of merely learning that writing assignments and essay questions are necessary,

the prospective teacher must also learn how to teach students the techniques of good essay writing and how to evaluate student essays. These skills should then be utilized in student teaching. Those in charge of teacher training must initiate changes in attitudes toward writing.

Since writing is a tool of critical and creative thinking, teachers should encourage writing. Although many teachers are overburdened with large classes and extra duties, they should use writing whenever possible and strive to improve the quality of writing assignments. In some cases, it may be a matter of rearranging priorities.

Endnotes

¹National Council of Teachers of English, "Best Techniques For Teaching Writing Neglected in High School Classrooms," *News*, November 12, 1981, p. 1.

²National Council of Teachers of English.

Internships can stimulate curriculum changes.

TWA internship leads to new curriculum at Cloud County Community College

by Patricia A. Altwegg and Floyd H. Price

The Internship

During the spring semester of 1979 Kansas State University, Manhattan, Kansas, established the first internship program between the College of Education and Trans World Airlines. The first intern was given the responsibility to design and implement a one-day clinic entitled **WOMEN IN THE CORPORATE WORLD** for Trans World Airlines Department of Management Training to be presented June 29, 1979, at Breech Training Academy, Overland Park, Kansas. It was necessary for the intern to spend 22 days at the academy preparing for the clinic. Throughout the time at the academy, the intern had the opportunity to meet many people in different positions at different levels in the organization. The intern was on leave of absence from her position as coordinator of the Supervisory Management Program at Cloud County Community College in Concordia, Kansas, and was interested in the curriculum of Trans World Travel College located at Breech Training Academy.

The Trans World Travel College's major objective is to provide the travel industry with qualified job applicants by developing job skills and providing career counseling for those individuals interested in entry-level positions. The eighteen-lesson course used by the Travel College directed the students through the basics of selling travel.

The intern was assigned the responsibility of interviewing women in different positions throughout TWA including a hydraulic mechanic, secretaries, systems analysts, personnel supervisor, manager of labor relations, and directors of the major divisions. During this process,

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It became evident that to move up in the organization a woman needed formal educational training.

Development of the Curriculum

Based on the intern's past experience as a community college faculty member, she saw the need for a community college program that would provide the training and skills necessary not only to enter the travel industry, but to insure upward mobility. At the conclusion of the internship, the intern returned to her full-time position at Cloud County Community College as the coordinator of the Supervisory Management Program. During the next two semesters, the following procedure was followed to develop a cooperative curriculum with the community college and Trans World Travel College.

The corporate director of management training for Trans World Airlines was on the Cloud County Community College campus as a guest lecturer in the Supervisory Management Class in the fall of 1979. At that time a meeting with the president of the college, the dean of instruction, the business manager, the former intern and the corporate director of management training discussed the possibility of a cooperative program between Cloud County Community College and Trans World Travel College. The objective of the cooperative curriculum would be to train a person for a career in the travel industry using the travel college materials in addition to the management training courses at the community college. The benefits from such a program would be numerous. To the industry—a very well-educated, versatile employee—to the college—an opportunity to expand an existing program to meet the needs of individuals seeking careers in the travel industry—to the student—the best training available from the travel industry and college credit from an accredited educational institution.

After the on-campus visit from the corporate director of management training, the dean of instruction gave the former intern permission to continue discussing the idea of establishing a cooperative program between the community college and the travel college.

During a visit to Kansas City in January of 1980, the former intern had the opportunity to meet with the director of the travel college. After several lengthy planning sessions it was decided by mutual consent that a cooperative program between the two colleges would be the best way to train persons interested in the travel industry. A curriculum was developed between the travel college and Cloud County Community College. The existing supervisory management program was an ideal program for those students enrolled in the travel college. The two-year program emerged as Travel/Tourism and Management. At the end of one year a student enrolled in the program could receive a diploma from the travel college and a certificate from Cloud County Community College. However, those who continue on for one more year could receive an associate of science degree from the Community College.

The next step was to write a proposal for the program and submit it to the dean of instruction of the community college who then submitted it to the president. The president submitted the proposal to the board of trustees at the May 1980 Board meeting. The former intern was present to make the formal presentation of the program to the members of the board. The board approved the addition of the program to the supervisory management curriculum for the fall of 1980.

Piaget and his ideas on cognitive growth have direct relevance to the American educational situation.

Piaget: Experience and Cognitive Development

by Robert P. Craig

Piaget has often insisted that his psychology of cognitive formation did not have specific implications for education. This is interesting in that American educational methodology has been greatly influenced by Piaget's research. Piaget labels himself a "genetic epistemologist," and he even tries to avoid being called a psychologist.¹ Piaget is not unique in suggesting that his epistemological theories do not necessarily have practical implications. Many so-called "grand theories," to borrow Talcott Parson's term, are thought to be ends in themselves. Thus, we see the distinction between such areas as theoretical physics and applied physics, between theology and ministry, and between psychology and clinical practice. Yet, if a theory is to be valid, it is bound to have some potential for application.² It is this potential we seek in Piaget's theory of cognitive development.

First, though, how can one describe a theory of cognitive development? Such a theory implies that individuals proceed through a process leading to more sophisticated cognitive growth. Exactly what it is one proceeds through is a matter of dispute. Some thinkers discuss periods of intellectual growth; others, such as Piaget himself, refer to the concept of stages of development; and still others talk about phases of growth. This issue has been discussed elsewhere, so I will not belabor the point.³ The main factor found consistently in all three expressions of epistemic development is that there occurs a movement from "lower" to "higher" cognitive stages as one proceeds to full intellectual maturity. And who would argue that the development of one's intellectual potential is not a positive goal? Perhaps only those who make a strict separation between cognition and effect, and find a cognitive-developmental position denying the importance of emotion in one's intellectual growth. This is certainly not Piaget's contention.

How, according to Piaget, can full intellectual maturity be accomplished? How can the educator aid in such fa-

ilitation? Piaget has suggested that there are three elements involved in the development of cognitive growth.⁴ The first element is proper organic growth and maturation. With mere organic growth and maturation new vistas are opened for the student. With this development the body increases in size, sensory organs become more acute and there is more integration achieved by the central nervous system. But the fulfillment of the maturational process depends on more than physical growth; it is only through systematic experience that the individual progresses to maximum cognitive ability.

Let us examine how experience aids in the development of cognitive acuity. Piaget suggests that the child needs two kinds of experiences.⁵ The first type is referred to as "physical experience." This means that as the elementary school student begins to manipulate and to examine objects, he/she also is actively involved in the process of cognitive development. When the student plays with pebbles of different sizes, for instance, the student learns something about smoothness, roundness and hardness. The student also begins to perceive the relationship between weight and volume, for the child begins to realize that the larger the pebbles are, the heavier they are. Thus, physical experience necessitates the exploration and manipulation of one's physical world. Much of this exploration is achieved in play, although the teacher can obviously construct activities which will help facilitate this growth in cognitive development.

The second type of experience Piaget considers is "logico-mathematical experience." Let us mention the pebble exercise again. The child can discover, for example, that if he/she forms a circle out of the pebbles, they can be counted from either direction within the circle (clockwise or counterclockwise) with the same results. Physical experience depends on a particular "object-manipulation." The roundness of the pebble differs from the roundness of a basketball, for example; while logico-mathematical experience can be derived from any set of objects. The student does not need pebbles to learn the process of counting.

The third element in the process leading to cognitive growth is the individual's involvement in social interaction. Anthropologists, such as Margaret Mead, have demonstrated that people who hold primitive beliefs do not necessarily engage in primitive thinking. By primitive we mean a lower phase of thought, such as that which is clouded by animism. Mead found that the beliefs of primitive peoples could not predict the level of cognitive development of which they were capable. Thus, for Mead, as for Piaget, there is no such thing as a "primitive mentality."⁶

How, then, do individuals' cultural experiences relate to levels of cognitive growth? Piaget has stated that any difference in cognitive ability between cultural groups is due to the types of situations to which cognitive processes are applied rather than to the absence of a cognitive process in one culture and its presence in another.⁷ Thus, for Piaget, any student who is not up to his/her cognitive stage, which is roughly approximate to a chronological age-range, may still possess the structures necessary for cognitive development even though these may not be readily apparent from the results of psychological tests or achievement measures. Children with different racial, ethnic, or social class backgrounds do not necessarily suffer from a psychological or cognitive deficit just because they do not perform well on standardized tests, such as achievement tests in school. The teacher needs to find

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proper conditions in which cognitive processes are manifested. Some of these specific conditions will be elaborated on later. The point here is that children's substandard performance on standardized tests does not imply substandard thinking on their part.

The process in Piaget's theory which leads to successful cognitive growth is equilibration—and by this term Piaget means "a process leading to self-regulation."⁴ Self-regulation refers to the active engagement of the individual in regard to external disturbances which cause disequilibrium. When there is tension caused by environmental stimuli, such as being exposed to several alternatives by which to solve a problem, the individual achieves equilibrium by inventing a way of dealing with, or understanding, the tension. The individual may begin to use an abstract system of classification, such as that found in biology, to better achieve harmony in his/her thinking about the variety of objects within the experience.

David Elkind has an interesting explanation of how equilibration regulates one's interactions with the environment. It is due to equilibration that one is not enslaved by the environment nor by one's egocentrism.⁸ The child assimilates, or "takes in," experience and, through his/her developing mental structures, also begins to accommodate that experience. The process of accommodation makes the experience intelligible to the student, for the student begins to view reality from another's perspective. Wadsworth makes an interesting distinction when he refers to assimilation as a quantitative change in one's thinking and accommodation as a qualitative change.¹⁰

If the process of assimilation doesn't lead to equilibration, the subsequent disequilibrium will cause discomfort and drive the individual toward making an attempt to recognize the point of view of others. For instance, when a youngster is just beginning to learn to add numbers, he/she experiences discomfort, which will lead to disequilibrium until the process of addition is mastered; that is, until the student is able to accommodate the concept of addition with a new cognitive structure.

However, in order for disequilibrium to be a factor in the developmental process, the student must be interested in the outcome. Without interest, in other words, there is no disequilibrium. In order to attain advanced cognitive structures, the individual must reorganize existing structures. And in order for this reorganization to occur, the student must perceive whatever conflicts are negating the reorganization. For example, conservation of number is developed as the result of disequilibrium the child experiences by observing inconsistencies between repeated observations of numerical quality. Yet, often such conflicts may not lead to even discomfort, for the student may not have the slightest interest in the entire project.

But there may be a slight awareness of the conflict on the student's part, and this can lead to a recognition of some concept of "sameness" regarding numbers, that they can be added in a number of ways, such as backwards and forwards, for instance. Finally, the process of conservation can be initiated when the student perceives that there is a coordination between number and length. Thus, experience is needed if changes in the qualitative order of things is to be recognized by the student. It is through interest and interaction that the student can dissipate disequilibrium.

Some Practical Applications of Piaget's Views

1) Piaget has never tired of insisting that learning occurs

only through active participation on the student's part. Knowledge is not "out there," as some educational thinkers have suggested; knowledge is not static in this sense. As teachers create the proper conditions for students to experiment, to try and personally "figure things out," and to discuss their findings and their feelings about them, students begin the active process whereby "higher" levels of cognitive growth can be realized. This process is a necessary condition for a student to develop to Piaget's stage of formal operations, for example.

2) Learning is not derived simply through verbal instruction on the teacher's part. Weingarten and Postman realized this a number of years ago; and the results of their reflections are found in *Teaching as a Subversive Activity*.¹¹ A teacher who has attempted to verbalize an answer to a particular question before the student has developed the cognitive structures to be able to assimilate it realizes how fruitless verbal instruction is at this point in the student's cognitive growth.

3) As was suggested before, social interaction is a necessary ingredient which can lead to the process of acquiring fundamental knowledge. Piaget insists that when students are free to interact with other students without restrictive rules imposed by the teacher, these children manage to accomplish a valuable degree of interaction—it is not merely a process of joking and "fooling around."¹² And it is from this interaction that the student can become aware of different points of view and of different approaches to whatever issue is being investigated. It is through such interaction that students begin to lose their exclusive egocentric approach to knowledge acquisition. At this point, teachers can raise questions about the student's experiences within the individual's world. This can lead the students to reflect on their experiences, and to "sort out" observations and thoughts.

4) The types of learning experiences that help develop fundamental knowledge, such as relating a historical period to subsequent social/political changes, cannot be considered an ad hoc or a "one shot" activity. This degree of learning experience must be part of one's complete schooling.

For example, mental manipulations by adolescents, such as their attempts to understand the basic concepts of biology, largely consist of the manipulation of symbols and abstract concepts, not merely the grasping of specific objects within experience; this type of manipulation of objects is necessary in elementary school. At any rate, far too often students are "told" or lectured about the meaning of such concepts as freedom and morality, as if there is a meaning to such important human concerns. They are not given the opportunity to explore, question or discuss such concepts. According to Piaget, without such exploration, cognitive development can be retarded.

5) If the student is at some transitional stage of cognitive growth, then teacher intervention is more likely to produce positive results in aiding the student toward "higher" levels of intellectual/affective ability. If the child is approaching the concrete operational level, but not quite there and not simply at the pre-operational stage of cognitive growth, then it is highly likely that, through teacher intervention, the student can make the transition to the next intellectual phase of learning—such as understanding the relationship between conservation and weight, for example.¹³ This is an essential point, because it means that cognitive growth is not merely an ad hoc process; but

teachers can actually construct systematic exercises to facilitate movement from a transitional stage of cognitive development to a more complete one.

6) The degree to which a student's thinking is subject to adult influence is still problematic. We haven't settled the issue by the above remarks. Some psychologists, Holowinski, for example, have met with great success using strictly instructional models and methods to induce supposed cognitive growth in students.¹⁴ Holowinski has insisted that after age four he has succeeded in facilitating the child's knowledge of processes as seriation. This is, perhaps, not a contradiction of Piaget's findings; rather, it may be an extension of Piagetian thought.

7) Finally, let us discuss one specific current educational movement, mastery learning, within a Piagetian framework.¹⁵ The work of Bloom has supplied much evidence that most students can master the learning necessary for academic success and subsequent successful adult involvements, such as in the world of work. Proponents of the traditional concept of education, with whom Bloom disagrees, support the idea that one learns any given subject in a clearly defined instructional sequence. In mathematics education, for example, it was thought that students should learn such mathematical procedures as long division in a specified amount of time. Some mathematics educators insist that "a week spent studying long division is enough time for students to master the process."¹⁶

The exponents of mastery learning couldn't disagree more. They insist that mastery is not a time-specific concept. In fact, the reverse is true. Different students need more or less time to begin to master a specific process, or to systematically reflect on a particular idea, such as one introduced in a philosophy or an art class. It is contended by the exponents of mastery learning, then, that time spent on a particular academic-vocational activity does not predict success at that activity.

Piaget would quite agree with Bloom's assessment. For Piaget, it is precisely the rate through which students acquire knowledge and problem-solving ability that must be considered in any educational program. Most students can master almost any academic skill (other conditions being equal, such as genetic potential); but the rate of such progress cannot be directly specified.

The implications of Piaget's theory and mastery learning theory are promising. Through the concept of mastery learning, students can progress to their full potential, and thus meet with academic success. Time is an important element in any educational endeavor, and the Piagetian/mastery learning concepts of schooling demonstrate that the time it takes a student to proceed through an educational program should be determined by the student's progress—there should be no absolute sense regarding a time reference for all students to develop to a specific cognitive level.

Finally, a Piagetian program which we have outlined supports Piaget's basic contention that only if students are allowed to act on new materials and are permitted to develop new symbols to understand the consequences of such object-manipulations will students be able to acquire various facets of fundamental knowledge.¹⁷

As much as Piaget contended that his genetic epistemology has little, if any, specific application for the educational process, it is obvious, and fortunate for us as well, that he was mistaken. Piaget's views can be so helpful in finding a middle ground to criticize many current educational fads, such as behavioral modification and strict competency-based educational programs. It is my belief that Piaget has much thought which will continue to illuminate the educational process. Piaget and his ideas on cognitive growth have direct relevance to the American educational situation.

Notes

1. Piaget suggests this in a number of places; refer to Jean Piaget, *Six Psychological Studies*, (New York: Random House, 1967), Preface.
2. Dewey ties theory and practice together in such works as *Experience and Education*, (New York: Macmillan Publishers, 1979), Chapter Two.
3. I discuss this issue in Robert P. Craig, "On Jean Piaget," *Educational Studies*, Vol. 8, No. 3 (Fall 1977), p. 46.
4. An analysis of these three elements is in Jean Piaget, *Science of Education and the Psychology of the Child*, (New York: Viking Press, 1969), Chapter One.
5. These two kinds of experience are examined in Jean Piaget, *Genetic Epistemology*, (New York: Columbia University Press, 1970).
6. Margaret Mead's discussion of "primitive mentality" is found in a number of her works, such as, *Coming of Age in Samoa*, (New York: Macmillan Publishers, 1965), Chapter One.
7. Piaget brings this out in *The Language and Thought of the Child*, (London: Routledge and Kegan Paul, 1952), Chapter Two.
8. "Self-regulation" is discussed in Jean Piaget, *Science of Education and the Psychology of the Child*, Chapter Two.
9. David Elkind makes this point in *Children and Adolescents*, (New York: Oxford University Press, 1974).
10. Barry Wadsworth, *Piaget's Theory of Cognitive Development*, (New York: David McKay Company, Inc., 1971), p. 16.
11. Postman and Weingarten's thoughts are found in *Teaching as a Subversive Activity*, (New York: Viking Press, 1972), Chapter One.
12. Jean Piaget, *The Moral Judgment of the Child*, (Glencoe, Illinois: The Free Press, 1965), pp. 52-89.
13. Quoted from Milton Schwebel, "The Role of Experience in Cognitive Development," *Piagetian Theory and the Helping Professions*, edited by Marie K. Poulsen, et. al., (Los Angeles: University of Southern California Press, 1976), p. 15. I am much in debt to his thought.
14. *Ibid.*, p. 14. Holowinski's research is reported here.
15. There are many exponents of mastery learning. Perhaps one of the most articulate is Ben Bloom, *Stability and Change in Human Characteristics*, (New York: John Wiley & Sons, 1964).
16. For a consideration of various issues in mathematics education, refer to Paul A. Wagner, "A Philosophical Approach to Mathematical Education," *Proceedings of the Philosophy of Education Society*, edited by C. B. J. Macmillan, (Normal, Illinois: Illinois State University, 1981), pp. 376-383.
17. Jean Piaget, *The Language and Thought of the Child*, Chapter Two.

Educators must gain a knowledge of the affects of policy making on education.

Legislated Learning: The Bureaucratization of the American Classroom

by Arthur D. Wise. University of California Press (Berkeley, California), 1979. 219 pages. \$10.95.

Review by Linda L. Davenport

During the 1960s and 1970s the establishment of education policy moved increasingly away from the realm of local school districts to state legislatures, the federal government and the judicial system. Wise asserts that the bureaucratization of the education system can be attributed to the proliferation of policies made at a distance from local school boards.

The book provides an analysis of education policies and their effect on education. It explores past policy trends in education, policies existing at the time of the book's publication, and future implications for policy decisions. It shows conflicts that have surfaced because of education policy decisions. Wise contends that the direction of public school policy has been changed through legislation and litigation and the change has not been healthy.

Wise argues that one of the problems in education today is the conflict over who controls. Even though the Tenth Amendment reserves education for the states, a new hierarchy has emerged in the governance of education with the federal government at the top, then the state government, and finally, the local school board. The state and federal government have gained control of the education process through laws and policies requiring compliance with a multiplicity of rules and regulations. These regulations are imposed with a naive belief that education will be made more efficient and equitable. Instead, these policies tend to standardize the schools and have made them more bureaucratic. Wise believes that this has resulted in a national system of education or fifty state systems which are indistinguishable. Local school boards

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have lost the opportunity to develop their own policies to meet local educational needs.

Another problem Wise foresees is the effect of decisions made by legal professionals instead of educators. Judicial decrees are being used as a method of correcting education problems. Such decrees often transfer the locus of control from local school boards to the state and federal government adding to the excessive bureaucratization. He contends that the disputes are decided by legally trained professionals who are interested only in the formal legal points of law and not in the effect of their decisions on the entire educational process. Wise seems to believe that the rule of precedent (*stare decisis*), a fundamental cornerstone of the American legal system, actually interferes with education. He asserts that the rule of precedent forestalls a court's ability to look at alternative solutions to fit the unique circumstances of each local school district.

The conflict between strong educational leadership and managerial leadership is viewed as another major issue. As schools become more bureaucratic, concepts of educational leadership will by necessity change. Managers who can handle rules and procedures may be preferred over strong educational leaders. The difficulty arises because these managers may be interested in the efficiency of the systems and not in the role of education in society or in the direction education is taking.

States' rights versus individual rights is another problem confronting education. Wise believes that states' rights have become paramount to individual rights. Several traditional concepts of education have been threatened such as local control, teacher autonomy, academic freedom and educational governance. Legislated and judicially mandated education are taking their place. These all raise the question of the proper relationship among individuals, the state and society. Wise believes traditions that have worked should not be abandoned.

Wise believes if hyperrationalization, a term he used to describe excessive bureaucratization, is not diminished there will be winners and losers in the educational process. The winners will be elected and appointed officials and the staff of state departments of education who make the rules and regulations. The losers will be members of state and local school boards because their policy-making functions have been assumed by the central government. Administrators of private institutions will lose because their discretion will be diminished. Teachers will be the major losers because they will lose their autonomy. Students will lose because education policy tends to place the welfare of the state above the individual. Wise believes that "nothing less is at stake in this struggle for power than individual freedom in a democratic society."

The strength of the book is Wise's ability to present a wide range of information about educational policy making in a succinct manner. He discusses policies, which have helped create the bureaucratization of the educational system, that were developed by the federal government, state government, and the judicial system and the effect of these policies on elementary, secondary, and higher education. He presents an in-depth study of *Robinson v. Cahill*, the New Jersey school finance case, as a classic study of this bureaucratization.

The weakest section of the book is Chapter 6 concerning higher education. Wise presents information about the effects of educational policy making on higher education by presenting quotes from persons involved in higher

education. The content of the book would have been reinforced if he had elaborated more fully on higher education policy making. A balanced treatment between elementary, secondary and higher education policy making would have enhanced the overall focus of the book.

The book contains information that will help anyone,

legislators, judges, administrators and teachers involved in the educational process understand the affects of education policy making on the educational system. It is imperative that educators gain a knowledge of the affects of policy making on education and this book presents a comprehensive overview of the topic.

BOOK REVIEWS

Educational Organization and Administration

Educational Administration: Theory, Research, and Practice

Contemporary Educational Administration

by William E. Sparkman

Book Review Editor and Associate Professor
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The interest in these new books should not be limited to professors but should reach beyond to practitioners, policymakers and laypersons alike.

The following reviews are not intended to be a critical analysis of the three books but rather a brief summary as a means of informing the field of new arrivals.

Morphet, Johns and Reller are now into the fourth edition of their very successful school administration text. Many of us cut our professional teeth on earlier editions of this book in our introductory general school administration classes. The authors for years have been productive scholars and practitioners of educational administration and, particularly, school finance. They have had a major impact on a generation of school leaders. *Educational Organizations and Administration* provides a comprehensive overview of the field. The book is structured in three parts, providing a good framework for the substance of the text. Part 1 sets forth basic principles, concepts, and issues of educational administration. This part contains new chapters on decision making, communication and the politics of education. The organization for education is the basis of Part 2. The authors employ

Edgar L. Morphet, Roe L. Johns and Theodore L. Reller, *Educational Organization and Administration, Fourth Edition* (Englewood Cliffs, NJ: Prentice-Hall, Inc., 1982). vii, pp. 422, hardback (no price listed).

Wayne K. Hoy and Cecil G. Miskel, *Educational Administration: Theory, Research, and Practice, Second Edition* (New York: Random House, 1982), xii, pp. 401, hardback, \$19.

William G. Monahan and Herbert R. Hengst, *Contemporary Educational Administration* (New York: MacMillan Publishing Co., Inc., 1982). xi, pp. 334, hardback (no price listed).

a traditional approach to educational governance by focusing on the three levels of government involved in education. However, they do consider area service agencies and community education centers. The final section, Part 3, focuses on the development and administration of programs and services. A new chapter on collective bargaining and administration has been added. Each chapter is concluded with several rhetorical questions in a section called some important problems and issues. As a basic, introductory text, this new edition appears to be on target.

Hoy and Miskel's second edition continues their fresh approach to the study of educational administration. They view educational administration from the perspective of theory and research in an attempt to foster a scientific approach to its study. They employ "a social systems perspective to synthesize the structure and recurring processes of educational organizations." The authors have added new materials on organizational behaviors and motivation. In addition, they have added a new chapter on organization effectiveness which should be of immense assistance to educators in an era of accountability. The title of each of the 13 chapters reflect the theoretical building blocks of educational administration. The first chapter contains the conceptual perspectives for the study of educational administration. Chapter two provides an important synthesis of the relation of theory, research and practice. This chapter should be of value as a linkage between professors and practitioners of educational administration. Other topics include the school as a social system, bureaucracy, motivation, organizational climate, leadership, decision making, communication and organization effectiveness. This book helps explain the "why" of what we do as educational administrators as well as the theoretical bases for the "how." I predict this book will become an important addition to the synthesis literature on educational administration.

Monahan and Hengst have adopted a contextual approach to educational administration. They have attempted to identify the total context (environment) of the public schools and describe educational administration in the totality of that overall context. Thus in Part I, they describe the educational administration milieu including the contemporary environment, critical dimensions of educational management, the structure and functions of school administration, the courts and the state education agency. The focus of Part II is the management context. These chapters include general management concerns and issues, including personnel administration, collective bargaining and affirmative action (why affirmative action was included here instead of under personnel administration is beyond me), and fiscal aspects of educational management. The final section, Part III, focuses on the leadership context. Here the authors finally discuss the concept of contextualism. They describe context as "the interrelated conditions in which events occur and thus a useful term for attempting to characterize the connections and coherences that define the ethics, esthetics, and epistemology of administration as a special kind of human activity." Therefore, contextualism would have us view educational administration in terms of its context in the total human and natural environment. Unfortunately, this chapter would have made much more sense early on in the book instead of at Chapter 10. The remainder of the chapters in the final section focuses primarily on administrative leadership in terms of interpersonal behavior, administrator-

board relations and the principalship. The authors conclude with a brief discussion of administration as a continuous beginning with some behavioral requisites necessary for survival: action orientation, decision making, objectivity, authenticity, (in an existentialist sense) and tolerance. Unfortunately, the contemporary context the au-

thors write in seems to be the 1970's with little reference to the future of public education.

All three books provide a diverse approach to the study of educational administration. A much closer reading will be necessary to make an informed judgment about the impact on the field of educational administration.