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ABSTRACT

A study of 52 teachers of grades 1 thorugh 4 from 18 schools in an urban setting indicated that teachers functioning at higher conceptual levels did not seek more information and resources than teachers functioning at lower levels, but appeared better able to identify optimal sources of assistance and the most direct routes to resources. The study involved establishing teachers' conceptual levels by having the subjects complete paragraphs on given topics (the Paragraph Completion Method). The paragraphs were analyzed to determine the degree of differentiation the subjects made among the concepts involved and the degee to which those concepts were integrated. The teachers also completed questionnaires and submitted to interviews concerning their use of supervisory services and participation in professional development activities. The study failed to find significant relationships between teachers' conceptual levels and (1) the frequency of their requests for direct assistance services, (2) the variety of direct assistance services sought, (3) the specific services sought, (4) the location of resources sought for instructional improvement, (5) the use of a variety of resources from a variety of locations, and (6) the teachers perceptions of the availability of assistance. Conceptual level was related to the number of informal professional development activities in which teachers engaged. (PGD)

Relationship of Teacher's Conceptual Level to the Utilization of Supervisory Services

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Introduction

The theory which guided this investigation was conceptual systems theory (CST) as expressed by Harvey, Hunt, and Schroder in Conceptual Systems and Personality Organization (1961) and as modified by Hunt (1966, 1970, 1975). CST built on the work of Lewin's (1935) B = f(P,E) paradigm, which expressed human behavior as the interaction between a person's personality characteristics and his environment. Stages of conceptual development were hypothesized along a continuum of concreteness-abstractness, with the major focus on how an individual processes information from his environment, not on the content of the information. A person's concepts serve as "experiential filter(s) through which impinging events are screened, gauged, and evaluated" (Harvey et al., 1961, p. 2). This screening, gauging, and evaluating process basically determines what responses an individual can and will make.

Conceptual complexity is affected by two processes: differentiation, the act of breaking down the situation or the stimuli from the environment into discrete parts; and integration, the process of connecting these disparate parts into one's internalized category system. Level of conceptual development is determined by the number of concepts (the degree of differentiation) an individual has and the interrelationships (degree of integration) one makes among these concepts. In other words, the placement of an indivdiual on the CL continuum (e.g., 1.0, 2.2) is based upon that person s operational level in the differentiation/integration process. An HCL person would be able to make greater differentiations, integrate them, and recognize their interdependentness while an LCL person would be able to make fewer differentiations and fewer connections.

A person may operate at different levels of development in different situations. However, most persons have a predominant mode of functioning, either more concrete or more abstarct, near a particular place on the continuum, and this is their operational level in the differentiation/ integration process. Individuals operating at higher conceptual levels display greater abstractness in their functioning, differentiation of stimuli from the environment, and integration of this stimuli. Individuals functioning at lower conceptual levels operate in a more concrete fashion, identify fewer stimuli in the environment, and use fewer stimuli in forming concepts.

The salient aspects of conceptual systems theory--person environment interaction, level of conceptual functioning, and interpersonal orientation--suggest that it is in an appropriate perspective or guide for supervisors to add to their "lens" or repertoire of andragogical considerations as tney work to provide environments that are productive and conducive to the continuing education and development of the adults with whom they work. Teachers' conceptual level may be relevant to their use of supervisory services and to their development of the classroom instructional environment. If this is true, the developmental aspect of conceptual systems theory should be a consideration of supervisors when they interact with teachers, when they provide supervisory services, or when they attempt to modify instruction.

Several research studies (e.g., Ginkel, 1983; Harvey, Prather, White & Hoffmeister, 1968; Hunt, Joyce, Greenwood, Noy, Reid & Weil, 1974; Murphy & Brown, 1970) have explored the conceptual levels of teachers. Some studies indicate most teachers are stabilized at lower conceptual levels; other studies indicate a much larger proportion of higher conceptual level teachers.

The contradictory findings of these studies proclaim the need for further investigation. The results from the majority of these studies suggest that many teachers view things in terms of absolute or "one right answer" behavior, and demonstrate instability, "lack of consistency in judgments," and avoidance of dependence on anything or anybody. This narrow "world view" and the avoidance behavior evinced by persons at lower conceptual levels may have a significant effect on teacher/supervisor interactions.

Researchers and authors--such as Glassberg, 1979; Harvey, Hunt, anc Schroder, 1961; and Oja, 1981--suggest that some teachers do not naturally progress to the higher stages of development, and without appropriate intervention, stabilize at the lower levels. Teachers who remain at these lower levels may not possess the capability to teach , model, and develop within their students the processes and strategies necessary for optimum participation in today's complex, interdependent world; furthermore, they may not be willing to seek the assistance they need from supervisors, peers, or others to improve the instruction they offer students.

Whatever the reason for the different proportions of teachers in various CL groups, supervisors work with populations of teachers that vary considerably on conceptual thought. It would appear that teachers at a more concrete level do not need the same supervisory assistance that teachers at a more abstract level need (Gordon & Glickman, 1984). Using the same supervisory style or approach or the same staff development approach with all levels could inhibit teacher effectiveness, create needless resentment, and foster intentional isolation.

The Relationship between Teachers' Conceptual Level and Utilization of Supervisory Services

There is a void in research on the relationship between supervision and teachers' conceptual levels; in fact, no published studies were located on the specific relationship between teachers' conceptual level and utilization of supervisory assistance to improve the classroom environment. Related studies that would support the need for such research are reported next.

The most current published reports on the relationship between supervision and teachers' conceptual level are reviewed; these six studies are also the most relevant to this discussion in types of samples (all inservice teachers) and in variables examined. Gilmour (1980), Lakin (1978), Galluzzo (1982), Kisilinsky (1982), Ginkel (1983), and Konke (1984) investigated the relationship or preferences for participation in inservice, staff development, instructional improvement, and/or curriculum development activities with conceptual level.

Gilmour (1980) examined the relationship of selected personal qualities and social perception (locus of control, conceptual level, social context, and demographic characteristics) to voluntary participation in inservice activities. Results of multiple regression analysis indicated that there was not a significant relationship between voluntary inservice participation when the criteria were conceptual level, locus of control, or social context.

Lakin (1978) investigated the influence of teachers' conceptual level on inservice teacher training in the use of classroom observation schedules for self-inquiry. Findings of this study indicate that teacher satisfaction with the course instruction style and the overall outcome of the course was significantly correlated with CL in the predicted direction: HCL teachers

indicated more satisfaction with their role in the course and indicated that they felt they were better teachers after participating in the self-inquiry training. Analysis of the teachers' audiotapes suggested that HCL teachers were more successful in changing their teaching in a positive direction (more indirect, response, and interactive) than were LCL teachers.

Galluzzo (1982) examined the relationship between conceptual level and the effectiveness of an inservice program. The subjects were 15 teachers (K-7) who volunteered to participate in an inservice course titled "Classroom Management and Discipline." The data did not support the hypothesized relationship between CL and transfer of inservice training to the classroom setting: there were no significant differences between LCL subjects and HCL subjects on the frequency at which they demonstrated any of the classroom management behaviors after participation in the inservice course.

The six subjects in Kisilinsky's (1982) study were teacher associates. The problem of the study was the development, implementation, and evaluation of a training program for the teacher center staff. The investigator assumed the role of the informational interdependent trainer, and the content and implementation strategies of the course were designed around conceptual systems theory, psychological type theory (Jung), reality theory (Glaser), and andragogy (Knowles). Results indicated a decline in CL scores but an increase in internal locus of control. In her summation of the investigation, Kisilinsky (1983, p. 2875-A) maintains that she "found psychological type theory to be useful in analyzing the participants' behavior, but found conceptual systems theory to be an inadqeuate organizer for staff development."

Ginkel's (1983) study tentatively supports the findings of Blumberg and Weber (1968) that teachers do not have a positive attitude or response to supervisors who do a great deal of telling or criticizing and that teachers

are differential in their responses to supervisory conferencing approaches. Ginkel administered the PCM and the Supervisory Approach Questionnaire--an instrument developed from Glickman's (1981 "Supervisory Behavior Continuum" to assess teacher preference for the directive, collaborative, or non-directive supervisory conferencing approaches--to a stratified cluster sample of 210 Georgia and Florida elementary school teachers. Statistical analysis indicated no relationship between conceptual level and preferred supervisory conferencing approach.

Konke's (1984) results were similar to Galluzzo's, Kisilirsky's, and Ginkel's in that CL did not appear to be a significant predictor of teacher preferences for supervisory support. This study examined the relationship between CL and teachers' preferences for supervisory support in staff development, instructional improvement, and curriculum development. Using a much broader sample than most recent studies, Konke administered the PCM and the Preference for Supervisory Support Questionnaire (PSSQ) to 249 elementary school teachers in 11 Georgia schools. Results of the study indicated that teachers desired involvement and flexibility in each task area; however, the hpyothesized relationship that teachers functioning at high conceptual levels would prefer more involvement and greater flexibility in these three areas of supervision than teachers functioning at lower conceptual levels was not supported.

Summary of Teachers' Conceptual Level and Supervision

The literature and research studies contained in this section briefly reviewed teachers' perceptions of supervisors or supervision; and the relationship between teachers' conceptual level and supervision. Contradictory findings were reported concerning the relationship between teachers' conceptual level and responses to supervision. Lakin found

support for CL in predicting differences in teacher behavior. The results of Gilmour, Galluzzo, Kisilinsky, Ginkel, and Konke did not support the claim that CL would predict differences in teacher preferences or behaviors.

Teachers' and Adults' Use of or Response to Professional Development Activities

Much information on teaching is available. And teachers who value flexibility and have inquiring minds--whether described as HCL's, as Joyce's "omnivores" who intellectually "eat everything, but discriminately" (Joyce, 1982), or as Glickman's professional "who is committed to continually improving herself, her students, and fellow faculty" (1981, p. 48)--are probably reaching out to this knowledge base as they make instructional decisions.

How does an individual gather information from the environment, and how does this relate specifically to level of conceptual development. Any situation can be "read" and transformed through mediating processes into a behavioral response. One of these mediating processes is information processing, which is measured in terms of its integrative complexity. This information-processing ability varies from person to person, but individuals with higher integrative complexity have a greater number of perceptual categories for receiving information about their environment and more combinatory rules for organizing this stimuli (Karlins & Lamm, 1967). In their investigation into the volume of information search made by individuals varying in their level of integrative complexity Karlins and Lamm used the works of Harvey, Hunt, and Schroder (1961) and of Schroder, Driver, and Streufert (1966) as their theoretical base. These authors contend that their findings support the notion that individuals who vary in integrative complexity approach their environments differently. Individuals who are

more integratively complex are more active in their environment, unless this environment is highly restrictive instead of interdependent, ask more questions, and have more perspectives to assist them in functioning within that environment. Further studies that have shown that HCL individuals were more active in their information search and were more integratively complex (aware of multiple perspectives and alternatives) in their approach to a problem than integratively simple individuals (LCL) were conducted by Karlins, Coffman, Lamm, and Schroder (1967), Harris (1981), and by Claunch (1964). What then, of teachers' attitudes or responses toward another task of supervision: the provision of activities for staff development. These activities may be labeled as staff development, professional development, or inservice education, but they are the official organizationally-designated methods of providing information and training to teachers for the purpose of instructional improvement.

Research on teachers' responses to staff development indicates that teachers respond differentially to the professional development activities provided for them. Glickman (in press) cites the research of Gene Hall and his associates in support of the need for "individual teacher-based in-service" (p. 282). Glickman's position is partially based on the variability of teachers' responses to inservice programs. Variability which he maintains is a result of a teacher population that contains many individuals who differ widely in stages of concern about inservice topics and who differ widely in their abilities to think concretely or abstractly about a particular inservice topic.

In their long-term inquiry into the professional growth of teachers and into the nature of staff development in California, Joyce and McKibbin (1982) interviewed several hundred teachers, held group discussions with several hundred teachers, and administered questionnaires to three thousand

teachers. Their discussion of the highlights of this investigation provides an appropriate summary to this section because it emphasizes teachers' differential responses (a) to the sources who are available to provide assistance, (b) to the information and resources which are available in their environment, and (c) to the professional development activities which are available to them.

> Enormous differences exist in the extent to which teachers pull growth-producing experiences from their environment and exploit personal and professional activities. Some are close to their principals and draw on them for considerable assistance. Some seek out other teachers and belong to tight-knit professional groups. Some make the most of universities, and many are conference-goers and workshop-users. Variety in use of resources is omnipresent. (p. 36)

METHOD

Rationale for the Design of the Study

This research study was based on the assumption that conceptual level affects perception, and perception affects behavior. To test this assumption in the school context, conceptual level was treated as the independent variable mediating the teacher's perception of and response to selected variables in the school setting. The selected dependent variables were teacher response to certain supervisory services.

Instrumentation

Data were obtained from the participants using the following measures: the Paragraph Completion Method (Hunt, Butler, Noy & Rosser, 1978). the Teacher Questionnaire on Utilization of Supervisory Services and Teacher Interview Schedule I. Two of these instruments were designed to elicit data about the supervisory services available.

Paragraph Completion Method (PCM)

The PCM is a semi-projective measure used to assess conceptual level. Respondents are encouraged to write at least three sentences about each topic: (1) "What I think about rules . . ."; (2) "When I am criticized . . ."; (3) "What I think about parents . . .": (4) "When someone does not agree with me . . ."; (5) "When I am not sure . . ."; and (6) "When I am told what to do . . ." Responses to sentence stems are considered to be thought samples which are scored according to how a person thinks rather than the content of the response.

Scoring the PCM. Each stem is scored according to the manual developed by Hunt et al. (1978). The purpose of the scoring is to obtain a score which places the subject on the conceptual level continuum. Each of the protocols is given a score of 0.0 to 3.0. Then an individual's conceptual level is determined by averaging the highest three scores attained across the six protocols.

PCM as it was administered in this study. The measure was originally comprised of six sentence stems. But modifications in the measure have been made in the last several years, and the Parent Stem has been removed (M. Rosser, personal communication, January, 1984). Subjects in this study responded to five sentence stems; they were allowed two minutes per stem.

Teacher Questionnaire on Utilization of Supervisory Services

The first draft of the Teacher Questionnaire on Utilization of Supervsiory Services (QUESS) was developed from the original hypotheses, with specific components of each item derived fro the operational definition of direct supervisory services and of professional development activities.

The focus of the supervisory services variable was on supervision as a function not as a role. Services which someone could provide to individual teachers or groups of teachers were derived from Harris' (1975) tasks of supervision, the Sturges, Krajewski, Lovell, McNeill, and Ness report (1978) on The Roles and Responsibilities of Instructional Supervisors, and from the experiential background of the researcher.

Professional development activities could be provided by a supervisor, by someone else, or by the teacher herself. The focus here was on how many of these activities a teacher engaged in, on how long the engagement lasted, and on what kind of activities the teacher participated in on a required or voluntary basis. Sections of the Teacher Interview Schedule, Part One, and the Teacher Interview Schedule, Part Two, developed by Gall et al. (1982) to obtain information about teacher's inservice activities and informal activities resulting in professional development, were used as models in developing the items on professional development activities.

Teacher Questionnaire on Utilization of Supervisory Services (QUESS)

Eleven variables were used to define utilization of selected supervisory services. The content of the Teacher Questionnaire on Utilization of Supervisory Services was designed to elicit data regarding these variables. QUESS consisted of 18 items, grouped by variables. The number of separate pieces of information derived for each item ranged from 1 to 117. Items of the QUESS and variables measured were as follows:

Variable:	Method of Data Derivation:	Item:
		Part I
Demographic information		1-5
Perceived availability of supervisors and other avenues of assistance for instructional improvement		6 & 8
Requests for direct assistance services	Total of all 117 cells of item 11	11
	Total number calculated values from summing values in all cells	12
Array of direct assistance services sought	Total number of rows, A-M, in which one or more cells were checked	11
Identification of sources sought for direct assistance services	Columns, 1-9, in which one or more cells were checked	11
Location of resources sought for instructional improvement	Rows, A-H, in which one or more cells were checked	13
Use of a variety of resources from a variety of locations	Total of all 56 cells in item 13	13
Value of modes of direct assistance supervisory services	Sum the values of the total number of cells checked; then divide by the number of cells checked	14/15
Quantity of formal professional development activities engaged in by teachers	Total number of formal professional development activities listed	Part II 1
Quantity of informal professional development activities engaged in by teachers	Total number of informal professional development activities listed	3

Test Retest Reliability of QUESS

Pearson product-moment correlation coefficients were computed by means of the Statistical Analysis System (1982) to determine the reliability of items 11, 12, 13, 14, and 15 in QUESS: Part I and of items 1 and 3 in QUESS: Part II. These correlations are presented in the tables below.

TABLE 1

Reliability of Teacher Questionnaire on Utilization of Supervisory Services: Part I

Variable	Item Number	Number of Components of each Item	Correlation Coefficient
Total of direct assistance services	11	117	0.95
Total of visits and conferences	12	9	0.93
Total of resources and locations	13	56	0.80
Total of modes of supervisory service	14	27	0.89
Total of values of modes of service	15	0-27	0.75

TABLE 2

Reliability of Teacher Questionnaire on Utilization of Supervisory Services: Part II

Nariable Name	Item Number	Correlation Coefficient
Total number of formal professional development activities	1	.17
Total number of informal professional development activities	1	.72

Teacher Interview Schedule I

This instrument was developed item by item from the Teacher Questionnaire on Utilization of Supervisory Services. Its basic purposes were to validate responses to the questionnaire and to probe how teachers respond to the supervisory services and professional development activities currently offered. It was pilot-tested in February and March of 1984. The major reasons for pilot-testing the Teacher Interview Schedule I were to check the clarity of each item and to determine whether it elicited the intended type of data. Another purpose was to check the sequencing of items and the amount of time required for conducting the interview. Also, the format of the instrument was checked to determine that there was adequate space to record teacher responses.

Teacher Interview Schedule I. The content of Teacher Interview Schedule I was designed to elicit data relevant to seven of the 11 variables used to define utilization of selected supervisory services. This interview schedule consisted of 28 items with varying number of components. Items, methods of data derivation, and variables measured were as follows:

Variable:	Method of Data Derivation:	Item:
		Part I
Perceived availability of supervisors and other avenues of assistance for instructional improvement	Total number of sources identified by the respondent	1A
Requests for direct assistance services	Total number of services identified by the respondent	1C;
	Total number of different sources used as identified by the respondent	1C1
	Total number of conferences requested by the respondent	8B1)1a

Variable:	Method of Data Derivation:	Item:
Array of direct services sought	Different types of services identified by the respondent	1C1
Identification of sources sought for direct assistance services	Different sources identified by the respondent	1C1
Use a variety of resources from a variety of locations	Sum the number of different resources used from each location	7A2 7B2 7C2 7D2 7H2
Total amount of time engaged in formal professional development activities	Convert hours to minutes, then sum the total number of minutes for all activities listed by the respondent	Part II 3
Total amount of time engaged in informal professional development activities	Convert hours to minutes, then sum the total number of minutes for all activiites listed by the respondent	4

The categories for the types of services identified in item 1C1 and used for the variable "Array of direct assistance services sought" come from the 13 categories of direct assistance services delineated in the Teacher Questionnaire on Utilization of Supervisory Services, plus one category labeled "Other." The categories that comprised the number of different sources identified in item 1C1 and used for the variable "Identification of sources sought for direct assistance services" come from the nine categories of sources identified in QUESS.

Setting of the Study

The selected school system was optimal because of its range of school settings; its socioeconomic distribution; its racial distribution; and its population of available system-designated supervisors. The setting of elementary

schools within the system included inner city schools, community suburban schools, and magnet schools. There were 50 public schools within the system, 35 of which were elementary (K-7) schools. The school system had a K-12 enrollment for 1983-84 of approximately 25,500, with 16,247 elementary (K-7) students. There were 627 elementary teachers in the system . Using the schools in that school system as listed in the 1983 Georgia Public Education directory, the researcher began with elementary school number one and selected every other elementary school.

The socioeconomic distribution of elementary schools within the system ranged from high SES with 94% of the student population paying for their lunches to a low SES with 2% of the student population paying for their lunches.

This school system was recommended to the researcher by persons familiar with the quality and quantity of supervisory support persons and services made available to teachers. Along with the assistant principals and grade level chairmen, 12 central-office-based supervisors were available to provide services to elementary school teachers in a variety of subject areas.

Subjects

All subjects were teachers. The sampling procedure involved randomly selecting three teachers of grades one through four from each of the 18 participating schools. This was done using the individual school rosters from the central office. An alternate was randomly selected from the roster for each initially identified teacher. This yielded a sample of 54 first, second, third, and fourth grade teachers. As shown in Table 3, this sample of teachers is varied in number of years teaching experience, levels of certification, grades taught, and age. This sample of teachers, as expected in these grade levels, is predominantly female.

TABLE 3

Characteristics of the Sample (52 Randomly Selected Teachers of Grades One through Four from 18 Schools)

Demographic Variables	Number of Teachers
Number of Years of Teaching Experience	
0-5	10
6-10	18
11-19	12
20-29	10
30 or more	2
Highest Teaching Certificate Held	
T-4	19
T-5	29
T-6	3
Unknown (no data)	1
Teaching Grade Level	
One	13
Two	14
Three	7
Four	10
More than one grade level	8
Age	
22-26	4
27-31	11
32-36	10
37-41	7
42-46	5
47-51	8
52-56	5
57-61	0
62-66	1
Over 66	0
Unknown (no data)	1
Sex	
Male	1
Female	51

Results--Presentation of Data

The tables in this section provide information necessary to the discussion of the hypotheses. The statistic used and the level of significance selected are indicated in each table. Results are presented first on the relationship between conceptual level and the supervisory services variables included in the Teacher Questionnaire on Utilization of Supervisory Services (QUESS) and second from Teacher Interview Schedule I. The instrument from which the data were derived is identified directly below the title of each table. The findings for hypotheses one through eleven are displayed in Tables 4 through 9.

To measure the independent variable, one instrument (PCM) was used. This instrument provided a conceptual level (CL) score placing each individual at a point on the conceptual level continuum. Raw scores, derived from the 52 PCM's administered, were treated as a continuous variable when correlating CL with the eleven variables on supervisory services as measured by the Teacher Questionnaire on Utilization of Supervisory Services (QUESS) and as measured by certain items in Teacher Interview Schedule I.

In order to decrease the probability of making a Type II error, denying a relationship when an important interaction does exist, this researcher set the level of statistical significance for supporting hypotheses one through eleven at .10. Although this does increase the probability of making a Type I Error, accepting a relationship where none exists, it was considered justifiable in terms of the new instrumentation employed and in terms of the variability in the instruments used to measure the supervisory services variables.

TABLE 4

Correlation Coefficients for Conceptual Level with Requests for Direct Assistance Services, Array of Direct Assistance Services Sought, and Identification of Sources Sought for Direct Assistance Services (QUESS)

(I) DIRECT ASSISTANCE SERVICES	Product-Moment Correlations (II) SOURCES									
	Prin	Asst Prin	Asst Supt of Inst	Elem Curr Dir	Chap I Curr Dir	Grade Level Chmn	Consul-tants (CESA, Univ., etc)	Other Teacher	Other (e g., librarian, guidance counselor, etc)	All sources for this service
A Assistance in planning lessons	-.25*	.14	.12	- 02		.07	.08	.08	.06	.06
B. Assistance in making a change in classroom instruction (e.g., adding learning centers, increasing use of manipulate materials, etc.)	-.00		.12	38***	.06	. 8**	.04	.03	-.02	.04
C. Assistance with lesson delivery	.07	14		.12			05	.06	-.23*	.00
D Assistance in improving communication with students (e.g., providing more feedback, becoming a better listener, etc.)	.02			.12				.24*	.07	.17
E. Information or suggestions about enrichment or remedial activities	.01	.09		.24*	.10	-.01	.08	.24*	.10	.26*
F. Assistance in locating or providing	.13	.14				-.14		.09	.12	.12
G. Assistance in evaluation of student progress	-.15	.07	-.06	.05	.07	.15		.05	.23*	-.02
H. Evaluation of your teaching	-.24*			-.08	.05	.05	.05	.10	.20	-.14
I. Assistance using new materials (e.g., textbooks, kits, tests, etc.)	.04			.13	.15	.06	-.06	.19	- 03	.36***
J. Locating supplemental instructional materials for use with your students	.14	-.03	.12	.36***	.06	.09	.14	.13	.01	.44****
K. Teacher resource books	.20	.14		.20**		-.19	.07	.10	.00	.19
L. General education information (e.g., about teaching methods, current education trends, research, discipline, etc.)	.00	-.01	.12	.13		.05	.08	.11	.14	.25*
M. Assistance in implementing a project adopted by the school system	-.09	.05		.13	.05		05	.06	.03	-.06
All services from this source	-.07	.14	.14	.26*	.11	.07	.08	.19	.10	.19

*p < .10
**p < .05
***p < .01
**** < .001

TABLE 5

Correlation Coefficients for Conceptual Level with Number and Source of In-Class Visits and Conferences Requested (QUESS)

Variable	Product-Moment Correlations r	p
Requests for Direct Assistance Services		
Principal	-.24*	.08
Assistant Principal	.00	.98
Assistant Superintendent of Instruction	.14	.31
Elementary Curriculum Director	.15	.30
Chapter I Curriculum Director	.15	.30
Grade Level Chairmen	.02	.88
Consultants	-.09	.51
Other Teachers	.12	.38
Other (Librarians, Guidance Counselor, etc.)	-.16	.25
Total Visits and Conferences	.02	.89

*p < .10

TABLE 6

Correlation Coefficients for Conceptual Level with Location of Resources Sought and Use of a Variety of Resources from a Variety of Locations (QUESS)

	Product-Moment Correlations							
		(II) RESOURCES						
(I) LOCATION	Activity Books	Audio-tapes	Books	Magazines	Non-Commer Units by Other Tchrs	Video-tapes	Other (e.g., ERIC, EIC, etc.)	All Resources for this Location
A. College or Univ. Libraries	.28**		.21	.05	-.13	-.19	.04	.10
B. C.E.S.A. Resource Center								
C. GLRS Center	.11	-.00	-.19	.05	.05		.04	.02
D. Regional or Public Library	-.18	.23*	.12	-.11			.05	-.01
E. School System Professional Library			.12	.12	.05	.05	.05	.13
F. School Library	-.01	.13	.23*	.16	-.11	-.25*	-.03	.05
G. My Personal Library	.19	.14	.24*	.21	.00		-.41***	.20
H. Other (Please Identify) _____	.09	.07	-.05	-.09	-.05	-.01	-.21	-.07
All Locations for this Resource	.16	.20	.24*	.14	-.09	-.24*	-.17	.11

*p < .10 **p < .05 ***p < .01

TABLE 7

Correlation Coefficients for Conceptual Level with Value of Modes of Direct Assistance Services and Value Assigned to Sources who Provide Direct Assistance Services (QUESS)

	Product-Moment Correlations									
(1) MODES OF SERVICE	Prin	Assi Prin	Asst Supt of Inst	Elem Curr Dir	Chap I Curr Dir	Grade Level Chmn	Consul-tants (CESA, Univ., etc.)	Other teacher	Other (e.g., librarian, guidance counselor, etc.)	Total value of modes of service
A. In-class Assistance (Administrator or supervisor worked with you in the classroom	.20			-.26				.44	-.27	.31
B. Conference (Private meeting with an administrator, supervisor, or other person)	.03	-.50		- 02	.25	.01		-.08	-.19	.09
C. Resource Information or Materials (Materials provided for you as an individual, not for the entire staff)	-.17			-.62*				-.21	.03	-.16

*p < .10

TABLE 8

Correlation Coefficients for Conceptual Level with Perceived Availability, Requests for Assistance, and Use of a Variety of Resources (Teacher Interview Schedule I)

Variables	Product-Moment Correlations	
	r	p
Perceived Availability of Sources	.33**	.02
Requests for Direct Assistance Services	.36***	.008
-Number of Sources Used	.36***	.008
-Number of Conferences Requested	.26*	.07
Use of a Variety of Resources from a Variety of Locations	.24*	.09

*p < .10
**p < .05
***p < .01

TABLE 9

Point-Biserial Correlations for Conceptual Level With Array of Services Sought and Identification of Sources Sought
(Teacher Interview Schedule I)

Services/Sources	Product-Moment Correlations r	p
Identification of Array of Direct Assistance Services Sought		
A. Assistance in planning lessons	.21	.13
B. Assistance in making a change in classroom instruction (e.g., adding learning centers, increasing use of manipulative materials, etc.)	.18	.20
C. Assistance with lesson delivery	.15	.29
D. Assistance in improving communication with students (e.g., providing more feedback, becoming a better listener, etc.)	.12	.41
E. Information or suggestions about enrichment or remedial activities	.30**	.03
F. Assistance in locating or providing resource persons for your classroom	.25*	.07
G. Assistance in evaluation of student progress	.16	.25
H. Evaluation of your teaching	.18	.20
I. Assistance using new materials (e.g., textbooks, kits, tests, etc.)	-.14	.30
J. Locating supplemental instructional materials for use with your students	.22	.11
K. Teacher resource books		
L. General education information (e.g., about teaching methods, current education trends, research, discipline, etc.)	.14	.31
M. Assistance in implementing a project adopted by the school system	.00	.99

TABLE 9 (Continued)

Services/Services	r	p
Identification of Sources Sought for Direct Assistance Services		
Principal	.00	.98
Assistant Principal	.37***	.006
Assistant Superintendent of Instruction		
Elementary Curriculum Director	.05	.70
Chapter I Curriculum Director	.19	.17
Grade Level Chairman	.20	.15
Consultants	.07	.61
Other Teachers	.40***	.003
Other (Librarian, Guidance Counselor, etc.)	.04	.76

*p < .10
**p < .05
***p < .01

Discussion

Preliminary Data--PCM Results

Presentation of conceptual level scores for this sample will provide a useful frame of reference for the report on the results of the study. A conceptual level score was obtained for each teacher based on the average of the top three scores received on the Paragraph Completion Method. The range of conceptual level scores was from 1.0 - 2.7. There were four teachers in the low (0-1.0) range; 36 teachers in the moderate (1.1-2.0) range; and 12 teachers in the high (2.1-3.0) range. For this sample of 52 teachers, this distribution represented 8%, 69%, and 23% respectively.

These findings were in contrast to those of Harvey, Prather, White, and Hoffmeister (1968), of Murphy and Brown (1970), and of Hunt (1972), who found a greater proportion of teachers functioning at lower conceptual levels; but they were in agreement with the findings of Ginkel (1983) and Konke (1984) who found a greater proportion of teachers functioning at higher conceptual levels.

Possible reasons for the improvement of scores in more recent studies range from the fact that many of the earlier studies used "captive groups," such as students taking undergraduate or graduate courses (Hunt, personal communication, May 18, 1984), to the variability in measures of conceptual level, to the suggestion that people in North America are simply functioning at a higher conceptual level now than they were 14 or 15 years ago (Rosser, personal communication, June 6, 1984).

Discussion of Hypotheses--Utilization of Supervisory Services

Hypothesis 1. The frequency of requests for supervisory services will be significantly related to teachers' conceptual level.

This hypothesis was not supported. However, findings from Teacher Interview Schedule I indicated that higher conceptual level teachers reported a greater number of requests for direct assistance services; reported using a greater number of sources (persons) for assistance; and requested a greater number of conferences than LCL teachers. These findings were in the direction predicted by Conceptual Systems Theory.

Hypothesis 2. The number of different types of direct assistance services sought will be significantly related to teachers' conceptual level.

This hypothesis was not supported. However, five of the 13 direct assistance services were sought more frequently by HCL teachers. Based on the results from both QUESS and interview one, HCL teachers requested more information or suggestions about enrichment or remedial activities, more general education information, more assistance using new materials, more assistance locating supplemental instructional materials, and more assistance in locating or providing resource persons for their classrooms than LCL teachers requested.

Hypothesis 3. The sources from whom direct assistance services are sought will be significantly related to teachers' conceptual level.

This hypothesis was not supported. Originally this hypothesized relationship was examined to determine if teachers differing in CL also differed in the sources from whom they sought assistance. For example, because of the degree of potential threat involved in interactions with authority, maybe HCL teachers would be more apt to seek assistance from higher authority figures, such as the principal, than would LCL teachers. Also, HCL teachers, because of the effort required and/or the degree of threat involved, might be more apt to seek assistance from sources who were located outside their school, such as the elementary curriculum director or CESA consultant. Findings, however, were mixed. Across all services, HCL teachers sought more assistance from the elementary curriculum director, the assistant principal, and other teachers than LCL teachers. Looking at specific services, HCL teachers indicated that they did not want assistance from the principal in planning lessons nor in the evaluation of their teaching; that they wanted assistance from the elementary curriculum director when making a change in classroom instruction, locating information about

enrichment or remedial activities, locating supplementary instructional materials, and locating teacher resource books; that they wanted assistance in improving communication with students (e.g., discipline tips) and information or suggestions about enrichment or remedial activities from other teachers; and they did not seek assistance in lesson delivery from sources such as the librarian or guidance counselor.

Of the four sources of assistance located outside the school, only two were used by six or more subjects in the sample: the elementary curriculum director and the Chapter I (formerly Title I) curriculum director. There are various reasons why HCL teachers appeared to seek more assistance from this source than LCL teachers. One could be that HCL teachers simply sought more information and resources and perceived this person as being the gatekeeper for these additional materials. This is supported by the fact that three of the four significant correlations relevant to seeking assistance from the elementary curriculum director related to providing additional information, teacher resources, or supplemental materials. The other service HCL teachers sought most often from the elementary curriculum director was assistance in making a change in classroom instruction, e.g., adding learning centers, increasing student time-on-task. One reason for this finding could be that HCL teachers perceived this source as being the most skilled person available to assist with instructional improvement or instructional modification. Also, HCL teachers might have considered it to be politically expedient to solicit the support of their curriculum director if they were planning to make major changes in their instruction. Or,

maybe HCL teachers simply wanted to discuss possible changes or instructiona problems with someone they perceived as having expertise in instructional problem solving. Viewing this finding from another perspective, LCL teachers may not have sought much assistance from the elementary curriculum director because of the perceived threat of the interaction. For example, an LCL teacher might not want help from an "outsider," might not want an "outsider" in her classroom, might consider seeking help from the elementary curriculum director as being disloyal to her principal or grade level chairman, or might consider seeking help from anyone as a negative reflection on her skill as a teacher.

The finding that HCL teachers sought more assistance from the assistant principal and from other teachers is based on data from interview one. Again, this finding may result from the fact that HCL teachers simply seek more information and materials than LCL teachers. This probability is supported by the fact that from Teacher Interview Schedule I both of the significant correlations of the 13 services sought were relevant to additional materials or resource persons. Based on interview data, two other factors are of import to this suggestion. In some schools, the assistant principal was in charge of supplemental instructional materials. Also, teachers who were constantly seeking information and more materials frequently mentioned borrowing worksheets, workbooks, bulletin board ideas, etc. from their peers. HCL teachers may simply perceive the assistant principal and other teachers as being the most direct route to the information or materials they need.

Looking back at the QUESS data (Table 4), HCL teachers did not want assistance from their principal in planning lessons nor in the evaluation of their teaching. Several possible reasons for this follow. HCL teachers might not want help from anyone in these two areas. This is supported by the correlation coefficient for all sources providing these services: assistance in planning lessons, .06; evaluation of your teaching, -.14. HCL teachers might believe they are already doing an adequate or above average job in these areas. Other possibilities were that HCL teachers did not perceive anyone, even the principal, as being a competent source of assistance in lesson planning or instructional evaluation; that they did not perceive the teacher evaluation procedures used as being beneficial in improving their teaching; that they resented previous experiences with evaluation of their teaching by someone who possibly did not know as much about teaching and instruction as they did; or that they considered themselves to be excellent planners and organizers and any outside input might simply disrupt these successful procedures.

Other findings of interest from the matrix (Table 4) were that HCL teachers preferred other teachers far above all other sources as the one from whom they sought assistance in improving communication with their students; that HCL teachers did not seek assistance in lesson delivery from others, such as the guidance counselor or librarian; and that HCL teachers did seek assistance from others, such as the guidance counselor, for assistance in evaluation of student progress. A possible explanation for the negative correlation between HCL and seeking assistance in lesson delivery from others might be that HCL

teachers did not perceive these individuals as being an appropriate source of help with that service. Again, the teachers' awareness of who would provide optimum assistance and have the most skill or competence in an area, either because of position or because of daily contact with a similar situation, may be responsible for these findings. Or, because of the number of correlations contained in the matrix, any of these findings could simply be accidental or a result of instrumentation.

Hypothesis 4. The location from which resource materials and information are sought will be significantly related to teachers' conceptual level.

This hypothesis was not supported. However, there were several findings worth considering in relation to Conceptual Systems Theory. HCL teachers did use activity books from college libraries, audiotapes from regional or public libraries, and books from their school libraries and personal libraries more frequently than LCL teachers. These findings could simply be the result of HCL teachers seeking out more resources than LCL teachers. Their perception, also, of which resource center might have better quality and a larger quantity of resources might have affected these results. Two negative correlations (see Table 6 somewhat support the idea of the perception of best location of resources and the perceived usefulness of resources. HCL and use of videotapes from the school library and HCL and use of other--such as ERIC, EIC--from one's personal library were negatively correlated. There are at least two possible explanations for this negative relationship: (a) HCL teachers did not perceive these resources as being useful in improving instruction or in enhancing their professional

development; and (b) these resources actually were not available at those locations. Again, these explanations are speculations, and these findings could simply be accidental.

Hypothesis 5. The use of a greater variety of resources from a greater variety of locations will be significantly related to teachers' conceptual level.

This hypothesis was not supported. Although HCL teachers did indicate using more books as resources than LCL teachers indicated using, this hypothesized relationship was not supported by data from QUESS. However, in interview one when teachers were asked to identify the places they visited for resources and the resources they used from these locations, HCL teachers reported a greater use of resources than LCL teachers reported. However, the number of visits reported was not correlated with conceptual level. Again, HCL teachers appeared to be seeking and using more resources for instructional improvement and professional development than LCL teachers. Speculation as to why HCL teachers did not report more visits to resource centers suggests several possible explanations: (a) they did not visit these centers more frequently; (b) the method of measurement of this behavior was affected by recall difficulties (e.g., when asked to identify resources they used from each center, teachers gave specific responses; yet, when asked the number of times they visited these centers, many teachers experienced difficulty in assigning a number to this behavior); or (c) when they did visit a center, they made wise use of their visit and checked out ample resources for a month or two at a time.

Hypothesis 6. The perceived availability of supervisors and other avenues of assistance will be significantly related to teachers' conceptual level.

This hypothesis was not supported; however, findings relevant to this relationship were paradoxical. Theoretically, HCL teachers would be aware of more avenues of assistance than LCL teachers. Based on QUESS data, HCL teachers did not perceive the availability of more materials and resources than HCL teachers. And, looking at the relationship between availability of sources (persons) of assistance and conceptual level, HCL teachers indicated that there were no or few persons available to assist them with developing lesson objectives. Perhaps the measurement was imprecise, for teachers were asked to indicate an estimate of the number of resources available to them, and some individuals could be better at estimating than others. Or, as the data illustrated, maybe there simply were no differences in teachers' perceptions. The negative relationship between HCL and perceived availability of sources to assist with lesson objectives is worthy of contemplation. Assistance in selecting, developing, or using lesson objectives and activities might have been considered by HCL teachers as interference with their own internally developed schemata for lesson procedures or delivery. Or, possibly, HCL teachers did not perceive any of the available sources as having equal or greater competence than they had in the area of lesson objectives and activities. Or, these findings could simply be the result of chance. Only a few individuals in the sample indicated that no one was available to help in specific areas relevant to classroom instruction; it just "happened" that those few were the HCL subjects.

When subjects were asked in interview one to name those individuals or sources who were available to provide them with assistance with lesson

objectives, activities, materials, and evaluation, HCL teachers identified more available sources than LCL teachers. These data were not analyzed by section (i.e., objectives, then activities, etc.); however, a cursory review of teacher responses concerning whom they actually went to for assistance revealed that most sources identified were those who provided assistance with lesson activities and materials, especially materials.

In summary, when asked to indicate by "yes" or "no" the availability of sources for overall assistance in selecting, developing, or using lesson objectives, activities, materials, or methods of evaluation, teachers functioning at higher conceptual levels gave responses similar to those made by teachers functioning at lower conceptual levels. Yet, when looked at from a slightly different perspective, different results occurred. When asked to name those sources who were available to assist with these four tasks, HCL teachers identified a greater number of sources. The relationship of perceived availability of supervisors and other avenues of assistance with teachers' conceptual level appears to be quite complex.

Hypothesis 7. The value assigned to various modes of direct assistance supervisory services will be related to teachers' conceptual level.

This hypothesis was not tested. The expectation of significant differences was made based on the awareness of HCL subjects of the interdependence and mutuality of individuals within an environment and on the expectation that HCL subjects would place a higher value on information or sources which were available to assist them in their professional growth and in making desired changes in the classrooms.

However, the quality of data elicited by this item was questionable. There were many empty cells in the matrix (see Table 7 . Also, most of the subjects indicated that the services they received were 1 (very valuable) or 2 (valuable); so, although a five-point rating scale was used, the distribution of ratings was limited. Maybe the desire to give a "socially desirable answer" was at work here. Teachers may have felt that any response other than one labelled "Valuable" would be disloyal to their administrators and supervisors, or school system. Or, maybe there simply is no difference between the value assigned to these services by teachers functioning at different conceptual levels. Other factors--such as the variability in the personality of sources who provided assistance, the variability of the reasons given for using different sources, and the variability in the perceived competence of the source who would provide the assistance--may have had a much stronger influence than CL.

Hypothesis 8. The number of formal professional development activities engaged in by teachers will be significantly related to conceptual level.

Hypothesis 9. The amount of time teachers spend engaged in formal professional development activities will be significantly related to conceptual level.

Hypothesis 8 was not tested because of instrumentation problems; therefore, no judgment concerning this relationship could be made.

Hypothesis 9 was not supported. HCL teachers did not participate, by time, in more formal professional development activities (FPDA) than LCL teachers. The expectation of a relationship between CL and participation was based on a prediction from Conceptual Systems Theory (CST) that HCL subjects would demonstrate a higher degree of information

seeking behavior. Other factors which could have been operating more strongly were teachers' perceptions of the quality of the FPDA offered and of the relevance of the FPDA offered in relation to their individual needs. Also, the majority of the FPDA activities identified by teachers were required by the school system or were needed for certification renewal. Maybe HCL teachers did not perceive the available FPDA as being an optimum form of professional development for them, either because of quality, content, or time required for participation. Regardless of the reasons, this investigation provided no indication of a relationship between CL and teachers' participation in formal professional development activities.

Hypothesis 10. The number of informal professional development activities engaged in by teachers will be significantly related to conceptual level.

Hypothesis 11. The amount of time teachers spend engaged in informal professional development activities will be significantly related to conceptual level.

These two hypotheses were supported. HCL teachers participated--in both number of activities and amount of engaged time--in more informal professional development activities (IPDA) than LCL teachers. The theoretical basis for this expectation was the same as the one described for Hypotheses 8 and 9: HCL subjects generally seek more information than LCL subjects. Speculation as to why these two hypotheses were supported while the two on FPDA were not includes the suggestions given in the discussion of Hypotheses 8 and 9, the higher reliability of the items which measured these behaviors (correlation coefficient, .72), and the teachers opportunity to choose and select how and with whom they

wanted to spend the time they allotted to professional development. Contrasting the results of Hypothesis 9 would indicate that when higher conceptual level teachers have control over their inservice (i.e., internal), they seek out more activities than lower conceptual level teachers. However, when the inservice is controlled by the school system (i.e., formal), the conceptual level has no relationship with professional activities sought.

Summary of Results

Is the utilization of supervisory services to improve the instructional environment related to conceptual level? No, based on the data analyzed as part of this investigation, teachers functioning at higher conceptual levels did not appear to seek significantly more information and resources than teachers functioning at lower conceptual levels. However, teachers at higher conceptual levels did seem to perceive and identify the source most apt to provide optimum assistance with a service or most apt to provide a direct route to the resources they wanted; and, by their own reports given during interview one, they did request assistance, information, or material from that source more frequently than teachers functioning at lower conceptual levels.

Conclusions

Specific conclusions drawn from any research are generalizable only to groups similar to the sample of the original study. Therefore, conclusions about the nature of the relationship between conceptual level (CL) and teacher utilization of supervisory services

on the basis of this study can be made only for a group of teachers of grades one through four who

teach in a metropolitan setting which includes student populations of low, moderate, and high socio-economic status and a large cadre of organizationally designated supervisors.

Consideration should also be given to sample size. There were 52 teachers in this sample. Instrumentation was complex and beset by problems common to studies involving personal variables and to studies involving the development of new measures. For example, the PCM was a gross measure for classifying a person's position on the CL dimension;

and QUESS and Teacher Interview Schedules I and II were new instruments developed to measure the supervisory services variable. Data analysis was complex, and the synthesis of this analysis into accurate and coherent results was difficult. Any inferences drawn should be interpreted with these factors and limitations in mind. Now, the following conclusions are offered, based on the findings of this study and on the review of related literature on teachers' conceptual level.

1. The teaching population ranges by conceptual level from those teachers functioning at a low conceptual level to those teachers functioning at a high conceptual level, with most teachers functioning at an intermediate or moderate conceptual level.
2. There does not appear to be a significant relationship between the conceptual level of teachers and
   (a) frequency of requests for direct assistance services,
   (b) variety of direct assistance services sought,

(c) services sought for direct assistance services,

(d) location of resources sought for instructional improvement,

(e) use of a variety of resources from a variety of locations, and

(f) perceived availability of supervisors and other avenues of assistance for instructional improvement.

3. Conceptual level does in some ways relate to "real world" differences in teacher behavior with inservice education and classroom environment.

Teachers vary in the amount of time they spend and in the type of informal professional development activities in which they engage; conceptual level appears to be one factor influencing this variability.

(a) HCL teachers participate--in number and in amount of engaged time--in more informal professional development activities than LCL teachers.

(b) HCL teachers read more professionally helpful books, own more instructional and professional resource materials, and belong to more professional organizations than LCL teachers.

Recommendations

The following considerations are offered to persons whose roles denote leadership in adult/teacher development.

1. Supervisors and others who work with adults should consider the implications of Conceptual Systems Theory (CST). Teachers functioning at higher conceptual levels may not respond well in response to a directive supervisory approach or to highly structured staff development programs. Supervisors and teacher educators may need to make adjustmerts in their interactions with teachers to accommodate individual learning styles among teachers, just as teachers are expected to make adjustments with their students to accommodate individual learning styles and stages of development among the students in their classrooms.

2. The educational leaders within a school system must decide on the behaviors they value. Teachers at lower conceptual levels function well in a bureaucratic setting. If those behaviors common to individuals functioning at higher conceptual levels are determined to be a value for that school system--if persons who are able to generate more alternatives; to respond more comprehensively and empathetically to their students, peers, and supervisors; and to encourage students to conceptualize and theorize, to form ideas, are valued--then, modifications may need to be made in current instructional improvement efforts.

3. Supervisors should be aware of and knowledgeable about adult development theories. They should select those theories which appear to have the most power for explaining variations in adult behavior and use these theories to enhance their understanding of the behavior of those individuals with whom they work. CST describes only one aspect of a teacher's personality; other aspects are of equal importance in human development. However, CST was selected as worthy of exploration and used by this investigator because it appeared to explain recognized differences in teacher behavior and because it was closely linked to information seeking behavior, a behavior respected by this investigator. Therefore, CST is offered as one of many "screens" supervisors need as they read and flex to the teachers with whom they work.

4. As mentioned above, CST should be used as an aid to understanding teacher behavior. It should not be used as a vehicle for labeling teachers. General administration of instruments, such as the PCM, to measure teachers' conceptual levels is not advocated.

5. Teachers functioning at lower conceptual levels may not seek the materials or assistance they need from supervisors, peers, or others to improve

the instruction they offer students. Supervisors and administrators may have to provide more awareness activities to ensure that LCL teachers know that materials are available. In some instances, sources of assistance who have line authority may be able to induce needed changes when other sources have failed.

6. Since LCL teachers are not as active in seeking information through personal and professional reading and through participation in voluntary staff development activities, supervisors and educational leaders may have to make a more extensive effort when working with some teachers in order to encourage their professional development.

A Final Word

The demand on today's educators for the application of both skill and intelligence is awesome; however, skills and intelligence alone are not sufficient. Individuals must make a conscious effort, not only to maintain competence, but to enhance it. The person's growth states in the conceptual dimension may have a vital impact on his professional development activities. Teachers with low CL's may stabilize at the survival stage and never "become" a professional. Teachers who stabilize at the conformist stage may have a minimal commitment to education and become static in their attitude toward teaching. What can supervisors do to create a challenge and provide support for individual professional growth?

What provisions has the educational system made for offering structured but imaginative activities to encourage teachers toward professional efficacy? Some teachers become so involved in coping that they are not able to consider involvement in professional growth and development. Some energetic, highly motivated teachers move steadily toward professionalism; others never

move past the becoming or growing phase. Those that stagnate at the lower conceptual levels may never ask themselves these two key questons: What do I expect of myself as a professional? What am I willing to do--independently or within the organization--to achieve it?

Teachers who believe in lifelong learning model this behavior in the classroom. They participate in inquiry by searching for new information which enhances their intellectual growth. This quest, however, is not simply for increased knowledge; it is a quest--at times joyous, sometimes frustrating--toward actualizing one's potential as a human. Modeling continued learning and acknowledging the pleasure, delight, and frustration involved might not be so important if teacher effectiveness is based solely on reading, math, science, spelling, etc., achievement test scores; but if teacher effectiveness is based partially on an increase in the frequency with which students think critically and gain conceptual control of their environment, this modeling becomes critical.

Teachers must have confidence in their ability to educate students not through transmittal of facts but through guiding students to and through processes and strategies which will provide for optimum interactions with the stimuli of a universal, dynamic environment which is changing at an exponential rate. What can supervisors do to aid teachers with these difficult tasks they face daily? Goodlad (1983), p. 558) provides a concise but potent answer: "Fortunately, teachers--on whom school improvement primarily depends--can be motivated to do the job. It behooves those in positions of authority to provide the trust, support, and resources--unless we are content with the schools we have."

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