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AUTHOR   Sirois, Herman A.; Villanova, Robert M.
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ABSTRACT
          The current research on the "characteristics of
effective schools" suffers from a lack of any sound theoretical
foundation. In order to establish such a foundation, researchers used
the methodology of clinical analysis to determine the goals,
purposes, and beliefs underlying the overt behavior patterns found in
the effective school improvement projects being conducted in four
states and at least eight Connecticut school districts. The
characteristics of effective schools found through this process
consisted of isolated, if not unrelated, variables. Analysis revealed
a common theoretical basis for behavior across three effect domains:
school effects, teacher effects, and student effects. The analysis
also suggests listing overt behaviors as a method of identifying what
actions might be taken at the school level to increase student
achievement. Clinical analysis of one effective school
characteristic, the opportunity to learn, supports a theory stating
that the principles of behaviorism can be built into the school and
the classroom and can ultimately be brought to bear on the student.
(Author/PGD)

THEORY INTO PRACTICE: A THEORETICAL AND RESEARCH BASE FOR
THE CHARACTERISTICS OF EFFECTIVE SCHOOLS

Herman A. Sirois, Assistant Superintendent
Levittown, New York Public Schools, and
Robert M. Villanova, Principal, Wesley School
Middletown, CT.

The Problem

.The search for process variables which may define
effective vs. less effective educational practices, policies
and structures has been the genesis of most research and
reform in education during the twentieth century. All too
often, however, educational research suffers from
shortcomings which render its findings insignificant, both
statistically and in terms of its impact on policy and
action.

Kerlinger and Gage have suggested two reasons for the
failure of educational research to influence action and
policy. Too often, Gage has pointed out, educational
research and practice has proceded "without explicit
theoretical framework, in intellectual disarray, to the
testing...(and implementation)...of arbitrary,

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unrationalized hypotheses (1963, p.102)." Kerlinger and
Pedhazur, on the other hand, suggest that educational
research suffers from "one-variable thinking." It seems,
they conclude, "that much of the world is correlated -
especially the world of (educational) variables...(1973,
p.46)", but educational research tends to ignore this fact.

Major studies such as Coleman's 1966 Study of Equal
Educational Opportunity have attempted to account for the
multivariate reality of educational settings as suggested by
Kerlinger while continuing to overlook Gage's concerns
regarding theoretical framework. The results of such
studies, among other things, have tended to ascribe
erroneous causality to static variables such as SES
(Socio-economic status) due to the fact that, in
multi-variate analysis, global variables such as SES tend to
override dynamic variables closer to student learning
(dynamic variables being defined as those which may be
manipulated).

A further result of such research has been a sense of
hopelessness in American education. Faced with the
overriding statistical significance of global variables such
as SES educators readily lost faith in instructional
interventions and accepted achievement as the predestination
of SES.

A major reaction to the educational doomsday prophets
such as Coleman (1966) and Jenks (1972) has been a vein of
research collectively referred to as "School Climate" or the

"Characteristics of Effective Schools." This research and
the myriad of school improvement projects based on its
results also suffer from a lack of any cohesive theoretical
framework. The research on the Characteristics of Effective
Schools has, by design, avoided theoretical foundations,
choosing instead various "shotgun" research methods,
including ex post facto designs, simple correlational
analyses, and the generation of hypotheses in an ex post
facto manner (e.g., Edmonds 1981; Lezotte 1980; Denham &
Lieberman 1980).

This approach to research and practice, in the absence
of any theoretical foundation, is already presenting
problems for both the advancement of research on the
characteristics of effective schools and the implementation
of these characteristics in public school settings. School
improvement projects based on the characteristics of
effective schools already are proceeding in piecemeal
fashion, identifying a promising characteristic and
implementing it, most often in isolation and without regard
for the student and the psychological, social and
organizational milieu of the public school.

Practicing teachers, for example, often fail to see
any relationship between their classroom procedures, the
building administration's decisions requiring or limiting
certain procedures and student achievement. The
characteristics of effective schools do, however, appear to
have firm foundations in learning, behavior, and

organizational theory. Such foundations must be identified and articulated in order to conceptualize sound hypotheses, research designs, and implementation strategies for these characteristics (Miller, 1969). A theoretical framework for the Characteristics of Effective Schools can reveal the interdependence of actions such as these, previously considered to be independent or at best "loosely coupled."

Objectives and Methodology

The aim of this paper is to establish a model for the identification of the theoretical bases and provide a conceptual framework for the guidance of further research and practice on the characteristics of effective schools.

This aim is accomplished by a clinical analysis of the research and practice to date on one of the several characteristics of effective schools. The methodology of clinical analysis is adopted from Argyris and Schon's (1974) work on "theory-into-practice" and involves an analysis of overt behavior (as opposed to the statistical analysis of coded behavior). The methodology attempts to identify the theoretical underpinnings of such behavior.

Argyris and Schon's work on theory-into-practice is a special application of clinical analysis and is based on theoretical assumption most applicable to the present analysis. This is so, particularly if we consider both the research and implementation activities relative to the characteristicss of effective schools as clinical examples

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of overt behavior. The several assumptions of clinical analysis make this clear: (a) most behavior (including research) is goal-directed; (b) goal-directed behavior is self-sustaining, (i.e., repetitive); (c) such behavior repeats itself in patterns; (d) such behavior patterns are identifiable; and (e) the effect (character, identity, etc.) of an activity, group, individual, etc. is the result of behavior patterns (as opposed to isolated behaviors). The methodology of clinical analysis essentially traces overt behavior, in reverse order, through t ese assumptions. The identification of a theoretical underpinning, then, comes at the point of analysis where the goal, purpose, or underlying belief of the behavior pattern is hypothesized (i.e., at assumption "a").

Analysis

A review of effective school improvement projects in four states and at least eight Connecticut school districts reveals patterns of behavior that define the several characteristics of effective schools as isolated, if not unrelated, variables. Research studies tend to deal with a single characteristic such as time-on-task (Denham & Lieberman, 1980) in isolation, apart from the several other characteristics of effective schools, and in one dimension, usually at the classroom level, apart from the school organizational unit. It is typical, further, for schools involved in school improvement projects to either a)

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identify only one or two of the several characteristics of
effective schools as "priorities" for action plans,
disregarding the other characteristics, or b) specify plans
of actions which address only one dimension of the school
organization, typically either the classroom, the
principal's office, the custodians, the cafeteria, etc. but
rarely all of these in a unified manner. Clinical analysis
provides a structure by which the characteristics of
effective schools can be addressed at all levels of the
school organization and in relation to each other.

Clinical analysis also establishes a structure for the
productive review of the often disparate research on school
effectiveness. A review of the historical development and
of the current literature (Coleman 1966; Jenks 1972; Edmonds
1979; Lezotte 1980; Madaus, et al 1980) on the
characteristics of effective schools, for example, yields
both isolated definitions and a more useful set of "loosely
coupled" definitions. Clinical analysis allows us to
utilize such definitions as the latter to (a) identify the
characteristics of effective schools as "school effect"
variables; (b) through clinical analysis, place each of
these into a theoretical matrix (variable x effect domains)
along with corresponding "teacher effects" (classroom
effects) and "student effects" (individual learning traits);
(c) identify patterns of overt behaviors across effect
domains; and (d) continuing through the final stage of
clinical analysis, identify the theoretical underpinnings of

the patterns of behavior that define a given variable or characteristic of effective schools.

Figure One illustrates a clinical analysis matrix for the effective school characteristic "Opportunity to Learn". In this example, the effective school characteristic, opportunity to learn, displays itself in the literature and in practice by overt behaviors in a school such as provisions in the master schedule for allotted academic learning time; a minimum of interruption of the classrooms by assemblies, notices from the office, etc.; enforcement of punctual recess periods; the minimization of pull-out programs; etc., as listed under column one of Figure One.

The literature on the characteristic "Opportunity to Learn" couples this school effect with the classroom or teacher effect of "Time-on-Task", which as revealed in practice and in the literature is characterized by overt behaviors such as classes starting on time; evidence of classroom structures; and the monitoring of student engaged learning time by teachers as listed under the second column in Figure One.

It is important to note that the apparent relationship between the school effect variable, opportunity to learn, and the classroom effect variable, time-on-task, is not coincide al. One of the assumptions of clinical analysis is that the overt behaviors of one dimension, of the organization (e.g., school effects) facilitate the performance of overt behaviors in another dimension of the

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organization (e.g. classroom effects). This is a basic building block of a theory-of-action, and provides direct implications for implementation. The school effect variable, opportunity to learn, for example, facilitates (if not precurses) the classroom effect, time-on-task.

When we look at column three of Figure One, student effects, the prerequisite conditions of school effects and classroom effects become obvious. The overt student behaviors listed in column three describe the student as efficiently and actively engaged in his or her learning. The structures providing for opportunity to learn at the school or building level facilitate classroom time-on-task structures which works to maximize student engaged time. It is seen that the parts of the school system must and can work together for greater student achievement.

Column four in Figure One, finally, reviews the pattern of overt behavior across school effects, teacher effects and student effects, and identifies the theoretical structure or structures which underlie the identified pattern. In this case, the pattern of overt behaviors indicates a consistent application of the "Law of Exercise" (Thorndike, 1931) of operant conditioning as a theoretical basis for the effective school characteristic "opportunity to learn".

FIGURE ONE: THEORETICAL MATRIX FOR THE CHARACTERISTIC OF EFFECTIVE SCHOOLS: OPPORTUNITY TO LEARN

Effect Domains ⟶

Variables ↓

I. School Effects (Characteristics of Effective Schools)	II. Teacher Effects (Classroom Effects)	III. Student Effects (Individual Learning Traits)	IV. Underlying Theoretical Structure(s)
Opportunity to Learn	Time-on-Task	Student Engaged Time	(Behaviorism: Operant Conditioning Law-of-Exercise)
a. Provision in master schedule for allotted academic learning time; b. This time is uninterrupted by assemblies, etc.; c. Recess periods are punctual and as brief as possible d. Minimization of pull-out programs. (Denham & Lieberman,1980; Edmonds,1981)	a. Teacher starts classes on time. b. Student engaged-time and/or on-task behavior is monitored and recorded on a regular basis; c. Evidence of teacher directed instruction in a diagnostic-prescriptive manner; d. Evidence of task analysis of any independent work. (Bloom 1976; Lezotte,1980; Denham & Lieberman,1980)	a. Students begin class work/ instruction without delay. b. Student repeatedly displays the prescribed or assigned task or behavior; c. Student achieves success on assigned task or behavior most of the time: d. Student seeks out assigned task with alacrity. (Lezotte, 1980 Fairman & Traver, 1981)	The overt behaviors to the left reveal a pattern which, in every case, is designed to maximize student "engaged time" behaviors. Such behaviors appear to be an example of the "Law-of-Exercise" in operation. As such, it is concluded that operant conditioning is a theoretical underpinning of the effective school characteristic "Opportunity to Learn".

This law states:

> Any response to a situation will, other
> things being equal, be more strongly
> connected with the situation in proportion
> to the number of times it has been
> connected with that situation and to the
> average vigor and duration of the
> connections (Thorndike, 1931).

Conclusions

Clinical analysis of underlying theoretical structures
can provide unity to the "loosely coupled" or disjointed
constructs of the characteristics of effective schools.
This analysis reveals a common theoretical basis for
behavior across effect domains (i.e., school effects,
teacher effects, student effects, as illustrated in Figure
One). The analysis also suggests a theory-of-action
relative to the characteristics of effective schools,
identifying via the listing of overt behaviors what actions
might be taken at each level of a school organization to
effect greater student achievement.

Finally, via clinical analysis, a theory is generated
which serves as a guide to future research. This model can
be subject to empirical test in research designs. The
theoretical structure as revealed by the clinical analysis
of the effective school characteristic, opportunity to
learn, states that the principles of behaviorism can be
built into the school, the classroom, and ultimately brought
to bear on the student to expect learning.

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