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The Impact of Bureaucratic Structure, Scientific Management, and Institutionalism on
Standards-Based Educational Reform

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Abstract

The world of public education today is dominated by a focus on standards-based reform and high-stakes accountability systems. School leaders, who are under immense pressure to raise standardized test scores, particularly for poor and minority children, attempt to do so by applying politically sanctioned solutions to educational problems without subjecting them to critical scrutiny within the context in which they are applied. Further, these “solutions” often conflict with well-established theoretical paradigms governing professional knowledge in the areas of organizational behavior and child development.

This paper presents a theoretical explanation of how this phenomenon occurs by connecting the institutional school of organizational analysis (Meyer and Scott, 1983; Zucker 1983), Max Weber’s sociology of domination, including his typology of bureaucracy and social control (1978), and Frederick Taylor’s (1911) theory of scientific management.

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The world of public education today is dominated by a focus on standards-based reform and high-stakes accountability systems. This movement is based on a general “theory of action” (Argyris & Schon, 1978). According to Argyris and Schoen, theories of action are the “mechanisms” by which thoughts are linked to action. A number of elements are inherently linked with these theories, including action strategies, consequences for self, consequences for others, governing values, and action strategy effectiveness. Modern school accountability systems conform to this framework by espousing the following beliefs:

1. Performance, or student achievement, is the key value or goal of schooling, and constructing accountability around performance focuses attention on it;
2. Performance is accurately and authentically measured by the assessment instruments in use;
3. Consequences, or stakes, motivate school personnel and students;
4. Unfortunate unintended consequences are few (Fuhrman & Elmore, 2004, p.8)

As a result, school accountability frameworks are characterized by development of student performance standards, standardized-testing to measure the degree of achievement of these standards, rewards for schools, teachers, school leaders (financial and positive recognition), and students (promotion to the next grade) who demonstrate satisfactory achievement, and punishment for schools, teachers, school leaders (termination, demotion, public embarrassment through public ranking of schools, school reconstitution) and students (grade retention) for those who do not. These frameworks are an outgrowth of a political climate that makes strong parallels between education and business, with a focus on the bottom line – student achievement

as measured by standardized test scores. Giroux (2002) describes this orientation as “neoliberalism.” Neoliberalism is characterized by a political discourse wherein “individual and social agency is defined largely through market-driven notions of individualism, competition, and consumption (Giroux, p. 426.)” As such, education is conceptualized through a human capital framework that defines the primary goal of education as economic growth, in contrast to other ideologies that might emphasize the passing on of culture or the education of students for social justice. Becker (1994) posits that economic growth depends on the knowledge, information, ideas, skills, and health of the workforce, and therefore investments in education will improve human capital leading to economic growth. Human capital economics values knowledge or curriculum according to how it meets the needs of the economic system undergirded by a vision of education as a business preparing workers for business.

Strongly connected to modern school accountability frameworks is an array of strategies and programs designed to improve “student achievement” (standardized test scores) and meet accountability requirements. In many instances, these strategies claim to be “scientifically-based” and come complete with “best-practices” that, when implemented, should result in higher levels of student achievement. However, St. Clair (2005) expresses concern with this direction by stating, “The view that it may be possible to link educational practices and outcomes unproblematically is surprisingly widespread, and it underpins the idea that it is possible to define “best practices” (p. 2). This idea is further promoted by the federal government through No Child Left Behind by promoting a neo-positivist approach to educational research. The term “neopositivism” or “logical empiricism” dates from the turn of the 20th Century and

signals the “pre-eminence of a quasi-scientific method of knowledge. It rejects Metaphysics, and regards as basic the principle of verification, i.e. a process definition of truth or untruth of a postulate by empirical proof” (St. Clair, 2005). In other words, value-oriented, culturally-based and to a large extent, political concerns are not important to neopositivists or logical empiricists; what matters is whether an argument can be proven by empirical data (Belzer and St. Clair, 2005).

It is clear that this neopositivist position along with the discourse of neoliberalism is prominent in shaping education legislation and is intractably connected to the philosophical orientation underpinning state and federal accountability systems. For example, the term “scientifically-based research” is conceptualized in the No Child Left Behind Act in a manner that is consistent with a neopositivist position. The Act (2002) states:

The term “scientifically-based reading research” means research that ---

- (A) Applies rigorous, systematic, and objective procedures to obtain valid knowledge relevant to reading development, reading instruction, and reading difficulties; and
- (B) includes research that ---
 - i. employs systematic, empirical methods that draw on observation or experiment;
 - ii. involves rigorous data analyses that are adequate to test the stated hypotheses and across multiple measures and observations; and
 - iii. relies on measurements or observational methods that provide valid data across evaluators and observers and across multiple measurements and observations; and
 - iv. has been accepted by a peer-reviewed journal or approved by a panel of independent experts through a comparably, rigorous, objective, and scientific review. (§1208, part 6)

Beltzer and St. Clair (2005) in their analysis of this definition state:

Throughout the definition, there is an implicit assumption that good research follows a hypothetico-deductive model, and the use of wording such as “rigorous

data analysis that are adequate to test the stated hypotheses” and “valid data across evaluators and observers and across multiple measurements and observations” clearly underlines the assumption that research is an objective, technical activity. The definition is extraordinarily limiting, especially for a field like education, in which the notion of repeatable “experiments” with consistent “general conclusions” is often unsustainable (p. 139).

Public school educational leaders are socialized through both institutional and political pressures to accept this approach to educational problem-solving by adopting so-called “best practices” absent critical scrutiny that are purported “to work” in all settings, with all children. Unfortunately, these practices are consistently directed toward poor and minority children and the results, more often than not, fail to produce the intended results of improved student achievement. Many of the theories upon which these practices are based may contain practices that are beneficial to educating children in a variety of contexts. However, as stated by English (2003), “To reduce such claims to standardized lists (‘effective schools’) or ‘school improvement models’ based on decontextualized behaviors on a ‘research base’ which itself has been standardized in ‘right truth-seeking methods,’ is to resort to hegemonic practices which can only be supported via political enforcement. Inevitably, the politics of consensus lists as one of its victims a complex truth(s) that is lost in its simplistic pursuit” (p. 4).

In this article, I will argue that public school leaders, who are under immense pressure to raise standardized test scores, particularly for poor and minority children, attempt to do so by applying politically sanctioned solutions to educational problems without subjecting them to critical scrutiny within the context in which they are applied. Further, these “solutions” often conflict with well-established theoretical paradigms governing professional knowledge in the areas of organizational behavior and child

development. The foundation of this argument is based on the institutional school of organizational analysis (Meyer & Scott, 1983; Zucker 1983), which deals with large-scale patterns of meaning that come to be taken for granted in a society that underlie everyday action in organized settings. In addition, I will draw on Max Weber's sociology of domination, including his typology of bureaucracy and social control (1895). Finally, I will argue that these two forces along with Taylor's principles of "scientific management" (1911), upon which school accountability systems are based, negatively impact the ability of public school leaders to forge a conceptual understanding of the neopositive strategies of school improvement, impede critical reflection that might lead to a more effective discourse of school improvement, and to practices that, in fact, undermine serious efforts for school improvement.

This article represents an attempt to identify, not empirically validate, the structural and political impediments to meaningful school reform and the effect of these impediments on the professional actions of public school administrators. Further, it attempts to present a nomological set of constructs and theory that can be formally validated and tested in future studies. The validity of the proposed constructs presented is limited to content validity based on logic, observations, a review of accepted theoretical paradigms and, in some cases, empirical analogy.

Standards-Based Reform as a Reincarnation of Scientific Management

The logic of standards-based reform is firmly rooted in the work of Frederick Taylor and the principles of scientific management. Robert Kanigel (1997) in his biography of Taylor, states:

Taylor bequeathed a clockwork world of tasks timed to the hundredth of a minute, of standardized factories, machines, women, and men. He helped instill in us a fierce, unholy obsessions (sic) with time, order, productivity, and efficiency that marks our age. (p.7)

Kanigel's description of Taylor's concern with productivity and efficiency of the workers on the factory floor can easily be seen in the present-day view of "workers" in the school. Taylor's obsession with productivity, efficiency, standardized work processes based on scientific study, tying compensation to production based on predetermined worker output, training workers in the best methods, and direction of work by supervisors who know best are clearly manifested in the principles that guide standards-based reform. These principles are operationalized through reliance on whole-school reform models that utilize scripted "teacher-proof" curricula, teacher training focused on "scientifically-determined best practices," teacher and administrator evaluation systems designed to focus on observing "effective" and "efficient" standards of behavior by trained supervisors, teacher pay-for-performance and sanctions against teachers, administrators, schools, and students for failure to achieve predetermined standards of performance. As stated by Taylor (1911),

It is only through *enforced* standardization of methods, *enforced* adoption of the best implements and working conditions, and *enforced* cooperation that this faster work can be assured. And the duty of enforcing the adoption of standards and enforcing this cooperation rests with *management* alone. The management must supply continually one or more teachers to show each new man the new and simpler motions and the slower men must be continually watched and helped until they have risen to their proper speed. All of those who, after proper teaching, either will not or cannot work in accordance with the new methods and at the higher speed must be discharged by the management. (p.42)

Further, these practices are enforced through legal means such as No Child Left Behind and a myriad of laws that comprise state school accountability systems, or encouraged

by offering financial incentives to adopt these practices as evidenced by the “Race to the Top” competitive grants administered by the U.S. Department of Education. These strategies as were those proposed and implemented by Taylor, frame the achievement of standards as directly related to the motivation of teachers, students, and administrators and impose threats of sanctions as stimuli to increase the motivation necessary to achieve higher levels of student achievement. In addition, the language comprising the discourse surrounding these accountability measures is derived from the application of business models to schools such as Total Quality Management (TQM), Continuous Quality Improvement (CQI), Management by Objectives (MBO), Strategic Planning, Benchmarking, and Business Process Reengineering. The application of scientific management principles is the first tool of compliance used by the state to control the thinking and actions of school personnel in the application of standards-based reform and corresponding systems of accountability.

Bureaucratic Structure and Foundations of Authority

The concept of rational-legal domination is derived from Max Weber’s classification of authority (1921). In addition to the rational-legal concept of authority, Weber identified two other forms: traditional authority and charismatic authority. All three domination types are representative of his ideal type concept. In traditional authority, the legitimacy of the authority comes from tradition. Charismatic authority is legitimized by the personality and leadership qualities of the ruling individual. Finally, rational-legal authority derives its powers from the system of bureaucracy and legality. Under rational-legal authority, legitimacy is seen as coming from a legal order and the laws that have been enacted in it.

Weber (1921) defined legal order as a system where the rules are enacted and obeyed as legitimate because they are in line with other laws on how they can be enacted and how they should be obeyed. Laws are thus enacted by government and compliance compelled through the legitimate use of physical force. Weber further explains that in order to insure adherence to the legal system, rational-leaders or bureaucratic officials must be employed by the state. Weber describes a number of characteristics of bureaucratic officials. Of the characteristics cited (Weber, 1921), one states that the official must exercise his judgment and his skills, but his duty is to place these at the service of a higher authority. Ultimately he is responsible only for the impartial execution of assigned tasks and must sacrifice his personal judgment if it runs counter to his official duties.

This line of reasoning is further extended by Weber with his description of rationalization (which is embedded as a part of bureaucratization) as a shift from a value-oriented organization and action (traditional authority and charismatic authority) to a goal-oriented organization and action (legal-rational authority). The result, according to Weber, is a "polar night of icy darkness", in which increasing rationalization of human life traps individuals in an "iron cage" of rule-based, rational control (Ashworth et al, 2009).

Public school leaders are bureaucratic officials employed to insure that the legally established policies and procedures of the state are executed in a manner that will facilitate accomplishment of predetermined goals. Concomitantly, a system of accountability, consistent with Taylor's concepts of close supervision and monitoring, is developed that is heavily dependent upon punishment for failure to achieve goals and

reward for success. The goals that are imbedded in the accountability system include the achievement of Adequate Yearly Progress (AYP) and increasing standardized test scores to confirm student achievement of state required curriculum standards. In addition, the state, through frameworks such as the Interstate Leaders Licensure Consortium (ISLLC) standards, and legislative inducements through NCLB for school leaders “to develop comprehensive school reforms, based upon scientifically based research and effective practices that include an emphasis on basic academics and parental involvement” (NCLB, §1601, part F), creates parameters to guide the desired actions of school leaders to accomplish required goals. These parameters are based on best practices which are, according to Deming (1986, pp.239-242) the result of hierarchical positioning by virtue of parsimony, and the search for one or a few Pareto-type generalizations that maximize the result of actions without concern for localized conditions.

The combination of the state’s rational-legal authority to impose and enforce requirements on schools including inputs, processes, outputs, and outcomes results in “the ‘dumbing down’ of the roles of educational administrators via job deskilling in the same way Taylor advocated simplifying highly skilled management roles in applying scientific management in industrial settings” (English, 2003, p. 106). School leaders, therefore, are impeded from employing critical thinking in the pursuit of educational problem-solving and instead follow the dictates of the state regardless of whether these dictates conflict with their professional judgment regarding appropriate professional practice within the environment in which they are attempting to effect school improvement. Such dictates include an almost exclusive curricular focus on reading and

mathematics in exclusion of a broader curriculum that includes the arts, physical education, and social studies.

A final caveat to this process is revealed by Weber's description of bureaucratic officials' desire to move on to "bigger and better positions". Since the determination of their worthiness to move to higher positions is determined by higher level bureaucratic officials who often make judgments based on how well they have conformed to bureaucratic control and domination in their current roles, rather than to actual accomplishment of goals, there is further incentive to blindly accept and implement all processes and procedures dictated by the state to demonstrate their willingness to conform and thus, their worthiness for promotion.

The Impact of Institutionalism

The institutional school of organizational analysis (Meyer & Scott, 1983; Zucker 1983) deals with large-scale patterns of meaning that comes to be taken for granted in a society and underlie everyday actions in organized settings. These patterns of meaning are cultural assumptions and "understood" ideas about the proper ways of structuring relationships among individuals. The institutional school is rooted in phenomenological sociology, a theoretical perspective that argues that people create a social order through interactions with one another and assign meanings to their interactions (Meyer and Scott). Although sociological in origin, the institutional school has psychological implications in its concern for the social origin of cognitive structures and matters of social process (Zucker, 1983). The theoretical underpinnings of the institutional school are found in part in the work of Max Weber (1921) and are directly related to Weber's typology of authority and legitimating principles as previously discussed.

Much of the research within modern conceptions of institutional theory, referred to as “new institutionalism”, deals with the pervasive influence of institutions on human behavior through rules, norms, and other frameworks. Previous theories held that institutions can influence individuals to act in one of two ways: they can cause individuals within institutions to maximize benefits, or to act out of duty or an awareness of what one is "supposed" to do (Scott, 2001). An important contribution of new institutionalism was to add a cognitive type influence. This perspective adds that, instead of acting under rules or based on obligation, individuals act because of conceptions. "Compliance occurs in many circumstances because other types of behavior are inconceivable; routines are followed because they are taken for granted as 'the way we do these things'" (Scott 2001, p. 57). Individuals make certain choices or perform certain actions not because they fear punishment or attempt to conform; neither do they do so because an action is appropriate or the individual feels some sort of social obligation. Instead, the cognitive element of new institutionalism suggests that individuals make certain choices because they can conceive of no alternative (Scott).

Lounsbury (2001) discusses the concept of “logic” as it refers to institutionalism. The concept of logic generally refers to broader cultural beliefs and rules that structure cognition and guide decision-making in a field. At the organization level, logics can focus the attention of key decision-makers on a delimited set of issues and solutions (Ocasio, 1997), leading to logic-consistent decisions that reinforce extant organizational identities and strategies (Thornton, 2002). In line with the new institutionalism, social rule system theory stresses that particular institutions with their organizational norms, practices, and processes are deeply embedded in cultural, social, and political

environments and that particular structures and practices are often reflections of, as well as responses to, rules, laws, conventions, and paradigms built into the wider environment (Powell, 2007). In other words, norms and formal rules of institutions will shape the actions of those acting within them. Rather than a series of calculated actions designed to maximize perceived benefit, any given actor within an institution will feel to some extent constrained and obligated by the norms and rules of the institution.

The concept of institutionalism provides a nexus between scientific management and Weber's view of domination and authority in bureaucratic institutions. Modern efforts at school improvement are framed primarily in terms of problems with human motivation that can be improved through coercive means characterized by rules, regulations, "best practices," and threats of punishment that permeate the professional lives of educational leaders. Due to the constant and ubiquitous nature of these coercive efforts, school leaders, consistent with institutional theory, come to embrace and accept these strategies as appropriate for improving student achievement and schools without employing critical problem-solving strategies. Considered the most complex of all intellectual functions, problem solving has been defined as a higher-order cognitive process that requires the modulation and control of more routine or fundamental skills. As elucidated by Dietrich Dörner (1983) and later expanded upon by Joachim Funke (1991), difficult problems have some typical characteristics, including lack of clarity of the situation, multiple goals, large numbers of items consisting of interrelations and decisions, and time considerations. Clearly, it is necessary to conceptualize difficult problems using higher level mental processes to uncover viable solutions. School reform solutions that are underpinned by principles of scientific

management and rational-legal domination are more likely to result in unquestioned compliance absent critical problem-solving, thus, reinforcing the very problems they hope to solve. As Gouldner (1955) points out, there are both intended and unintended consequences of bureaucratic structure and rules.

Consistent with Weber's description of the characteristics of bureaucratic officials, educational leaders often seek to identify "solutions" to student achievement problems that are developed by experts (whole school reform models) and "proven" to be effective in similar contexts (best practices), with the belief that they can be transplanted as developed without modification or critical analysis to their current environment and achieve the same or similar results. Clearly, these decisions are most often made without the benefit of critical problem-solving strategies.

Conclusions

The present view of school reform as described in this paper is characterized by bureaucratic rules and policies with an emphasis on standardization of work processes designed to enact simple causal chains between these processes and improving student achievement. The organization and implementation of reform is accomplished through school systems that are configured through a structure described by Mintzberg (1980) as a "machine bureaucracy " (p. 322). According to Mintzberg,

The Machine Bureaucracy coordinates primarily by the imposition of work standards from the technostructure; jobs are-highly specialized and formalized, units functional and very large (at the operating level), power centralized vertically at the strategic apex with limited horizontal decentralization to the technostructure (p. 322).

In contrast to a machine bureaucracy, Weick (1976) describes educational organizations as "loosely coupled systems." Loose coupling refers to connections

between organizational subsystems that may be infrequent, circumscribed, weak in their mutual effects, unimportant or slow to respond (Weick, 1976). In other words, in contrast to the machine bureaucracy view that reform should be carried out in organizations that are coupled through dense, tight linkages, Weick describes the elements in school systems as tied together frequently and loosely. Further, a systems view of schools and school systems describes them as open and dynamic systems composed of patterns of interacting elements and subsystems loosely or tightly coupled to each other and their environments (Birnbaum, 1988). A systems perspective requires educational leaders to replace linear thinking with an understanding of how elements and subsystems are connected to each other in nonlinear circles of reciprocal interaction and influence (Birnbaum, 1988). Thus, what is the “cause” and what is the “effect” is often difficult, if not impossible, to ascertain. From this point of view, it is not possible to prescribe solutions to many of the seemingly intractable problems with which public education are confronted based on decontextualized lists of practices and reform programs that purport to result in positive results in all educational environments. Nor will the politics of neoliberal thinking that attempts to impose business processes rooted in the logic of the market, competition, and capitalism yield positive results in a loosely coupled organizational environment.

Educational leaders must move beyond the current tendency to embrace decontextualized school reform strategies that are more often derived through the political process absent appropriate reference to accepted theory and research on children’s cognitive development, organizational structure, organizational behavior, and effective leadership strategies. It is absolutely necessary for school leaders to become

more creative thinkers, for it is only through deep, critical thought that many of the seemingly intractable educational problems with which we are confronted can be solved. The reductionist approach of politically-derived solutions that are reinforced through scientific management, bureaucratic systems of domination, and institutional norms and rules, can only continue the cycle of failure by schools serving those children who are most in need of sound educational practice. As stated by H.L. Mencken (1948), “Explanations exist; they have existed for all time; there is always a well-known solution to every human problem — neat, plausible, and wrong.” Solutions to educational problems are not neat and many, though plausible, are just plain wrong. Future educational leaders will need to move past these “neat” solutions and apply critical thinking to solving America’s educational problems.

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