THEORY OF THE SCHOOL AS A OPEN-SOCIAL SYSTEM

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Many scholars (e. g., Homans, 1950; Senge, 1990; Whitehead,1925) have argued that the concept of system has a rich history in both the physical and social sciences; in fact, the idea of an organized whole, or system, is fundamental and essential to science. Virtually all social systems are open systems; that is, they are not only influenced by their environments, but also are dependent upon them. Organizations such as schools are open-social systems. They take inputs from their environment (resources) and transform those inputs into outputs (products of various kinds). For example, schools take resources such as labor, students, and money (inputs) from the environment and transform students through teaching and learning to literate and educated students and graduates (outputs). Feedback loops supply information back to the transformation process so that the process can be evaluated and adjusted. A picture of the open-systems model is provided in the Figure 1 below.
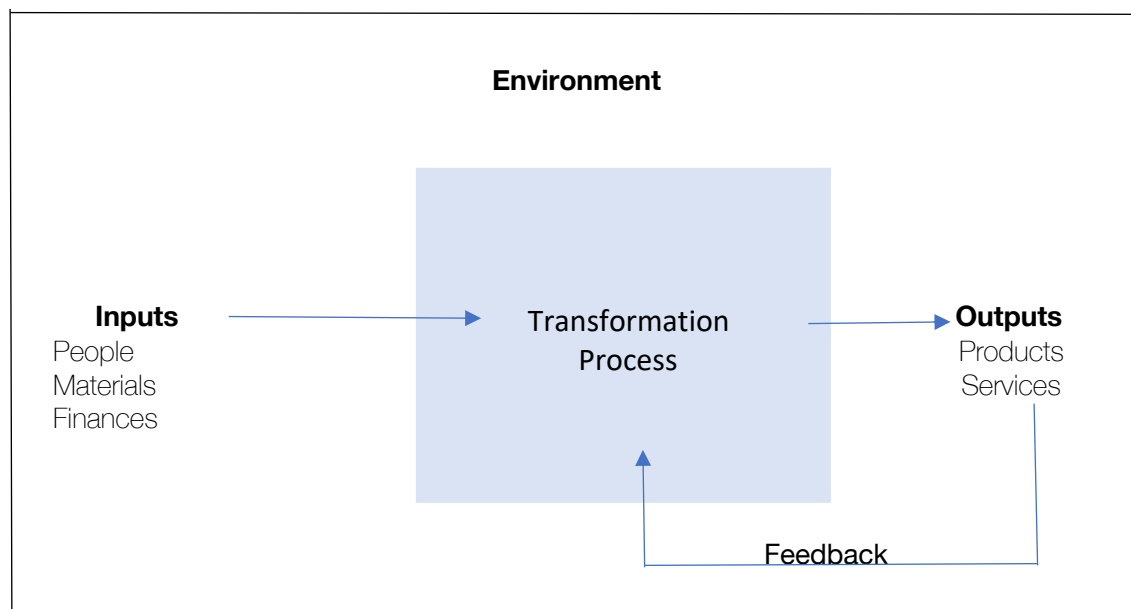

Figure 1 Open-systems Model with a Feedback Loop

This model is a summary of the major parts of an open-social system—environment, inputs, transformation process (throughputs), outputs, and feedback. The figure cannot capture the full dynamic movement of a system as it responds to its environment and as the system elements interact with each other; in fact, do not lose sight of the fact that the system is a working whole, and the whole is greater than the sum of its parts. The model is useful in understanding and evaluating schools. In the next section, we will demonstrate how the model is applied to schools, including the environment, key elements of the transformation process, the outputs of the school, and how the model through feedback can be used to evaluate the effectiveness of the school.

THE ENVIRONMENT

Social systems have boundaries; anything outside the system is it environment. The environments of schools are complex; they provide the system's source of energy as well as general direction for the school. The system takes inputs from the environment in terms of human and capital resources, mission statements, community values, federal and state laws, etc., all of which provide constraints and opportunities for the school.

THE INTERNAL ELEMENTS OF THE SYSTEM

The school social system has five basic internal elements—structure, individuals, culture, politics, and the teaching and learning core. These system elements interact and transform inputs into outputs.

Structure in Schools. Bureaucratic structure is the formal organization specifically established to achieve school goals and carry out administrative tasks. The structure provides a set of bureaucratic expectations. Rules, regulations, hierarchy, and division of labor are designed to attain school goals in a rational and impartial way. Division of labor and specialization produce impersonal experts who make technically correct, rational decisions based on fact. Once these decisions have been made, the hierarchy of authority implements a disciplined, coordinated compliance to directives through rules and regulations. Career-oriented teachers have an incentive to be loyal and productive. Contemporary research on school structures suggests that it is not so much the amount of structure but the kind of structure that determines whether it will have positive or negative consequences for the effectiveness and efficiency of the school.

Individuals in Schools. The fact that an organization has been formally established does not mean that all its activities and interactions conform to structural requirements. The individual is also a key element of all social systems. Students, teachers, and administrators bring with them individual needs, goals, beliefs, and develop their own personal orientations and intellectual understanding of their roles. Just as structure helps shape behavior in schools, so too do the needs, goals, beliefs, and motivations of individuals. Individual motivation is of particular importance.

Work motivation is a set of energetic forces that originate both within as well as beyond an individual's being. Individual goals and goal setting are key ingredients of personal motivation, especially when the goals are embraced by the individual and are specific, challenging, and attainable. These forces initiate work-related behavior and determine the form, direction, intensity, and duration of motivation. Moreover, individual performance is closely related to self-efficacy, the belief that one has the capability to organize and execute a course of action that is required to attain the desired level of performance. Finally, motivation that comes from the interest and challenge of the activity itself is intrinsic, whereas extrinsic motivation is based on rewards and punishment. Although both can motivate, intrinsic motivation is typically more effective.

Culture and Climate of Schools. Two of the most frequently used terms to describe the *feel of the workplace* are organizational culture and organizational climate. These two related terms uncover the shared meanings and unwritten rules that govern organizational behavior. Many use the terms interchangeable, but there are some subtle differences. Culture focuses on shared perceptions of core values or beliefs whereas climate concentrates on shared perceptions of dominant behaviors. The be sure, however, shared perceptions of values and beliefs are typically not much different than shared perceptions of behavior. Each of these concepts goes beyond the formal and individual aspects of organizational life. Each suggests a natural, spontaneous, and human side to organization; each suggests

that the whole is greater than the sum of its parts; and each deals with shared meanings and unwritten rules that guide organizational behavior.

Research suggests that effective systems have authentic climates and strong cultures: cultures characterized by intimacy, trust, cooperation, egalitarianism, a bias for action, and orientations that stress quality, innovation, and people. Yet, in many respects, culture is like structure; it can improve or impede the effective functioning of the school depending on the mission and environmental conditions. Current research suggests that a culture of *academic optimism* with its emphasis of trust, efficacy, and academics generally provides a setting that facilitates the academic achievement of students, and a culture of humanistic pupil control promotes positive social-emotional development of students. Changing the climate or culture of a school is a long-term objective; there are no simple, quick fixes.

Power and Politics in Schools. Upon joining an organization, individuals grant the use of formal authority to the system when they agree to comply with legitimate commands. Once in the organization, however, power relations expand; in fact, power becomes a central aspect of relations within the system. Power is a broad construct that includes both legitimate and illegitimate and formal and informal methods of ensuring compliance. Four basic kinds of organizational power exist: two forms are legitimate—formal and informal authority—and two kinds are illegitimate— coercive and political power.

The legitimate system of authority promotes coordination and compliance and contributes to attainment of the formal goals. Legitimate power comes from the formal organization by virtue of position, from informal norms and values of the culture, and from the expertise of individuals in the system. But those with power also have personal needs. In the process of striving to accomplish the broader organizational needs, individuals find they have discretion, and discretion opens the way to political power. Hence, a system of political power emerges that is not sanctioned by formal authority, culture, or certified expertise; in fact, it is typically divisive, parochial, and illegitimate. Politics is illegitimate because it is a means to serve personal ends at the expense of the overall organization. That does not mean that politics never produces positive results. To the contrary, politics can promote change blocked by the formal organization, can ensure that strong members acquire leadership roles, can encourage debate among diverse positions, and can help in the execution of decisions. Politics is a fact of organizational life. Political tactics are the bases of a system of political games played to resist authority, to counter resistance, to build power bases, to defeat opponents, and to change the organization. The system of politics typically coexists with the more legitimate systems of influence without dominating them, but power and politics generate conflict.

Teaching and Learning in Schools. The teaching-learning process is the technical core of the school. Other activities are secondary to the basic mission of teaching and learning. Teaching and learning provide a crucial set of internal opportunities and constraints. Both teaching and learning are elaborate processes that need careful attention. Learning occurs when there is a stable change in an individual's knowledge or behavior. Learning is a complex cognitive process and there is no one best explanation of learning. Different theories of learning offer more or less useful explanations depending on what is to be explained. Three general theories of learning—behavioral, cognitive, and constructivist— prevail in schools.

Behavioral theories of learning stress observable changes in behaviors, skills, and habits. The focus of this perspective is clearly on behavior. Learning is defined as a change in behavior brought about by experience. Behavior is simply what a person does in a given situation. The intellectual underpinnings of this perspective rest with Skinner's (1950) operant conditioning. Learning objectives, mastery learning, direct instruction, and basic skills are teaching strategies that evolve from this perspective. *When specific skills and behaviors need to be learned, teaching approaches consistent with behavioral learning theory are quite effective*.

Cognitive theories of learning focus on thinking, remembering, creating, and problem solving. How information is remembered and processed as well as how individuals use their own knowledge to monitor and regulate their cognitive processes are critical in this perspective. Some of the most important teaching applications of cognitive theories are teaching students how to learn and remember by using learning tactics such as note taking, mnemonics, and use of visuals. Teaching strategies based on cognitive views of learning, particularly information processing, highlight the importance of attention, organization, practice, and elaboration in learning and provide ways to give students more control over their own learning by developing and improving their own self-regulated learning strategies. *The emphasis of the cognitive approach is on what is happening "inside the head" of the learner*.

Constructivist theories of learning are concerned with how individuals make meaning of events and activities; hence, learning is seen as the construction of knowledge. In general, constructivism assumes that people create and construct knowledge rather than internalize it from the external environment, but there are a variety of different approaches to constructivism. Constructivist perspectives on learning and teaching, which are increasingly influential today, are grounded in the research of Piaget, Bruner, Dewey, and Vygotsky. Inquiry and problem-based learning, cooperative learning, and cognitive apprenticeships are typical teaching strategies that are grounded in the constructivist approach. *The essence of the constructivist approach is that it places the students' own efforts at the center of the educational process*. This model of the school as a social system is described pictorially below (Figure 2).

THE DYNAMICS OF THE SOCIAL SYSTEM

The Dynamics of the Social System. Let's examine Figure 2. The environment is everything outside the school's internal system. We have identified some of important inputs from the environment (human and capital resources, board policy, etc.) that influence the school's products (outputs—student achievement, absenteeism, satisfaction, etc). The model is simplified because there is no way we can represent all the important inputs, outputs, and the all the internal elements of the transformational system. We have selected the major elements of the internal system—structure (S), individuals (I), culture (C), politics (P), and the teaching-learning core (T-L). These critical elements of the systems and their interactions determine behavior in the school as well as the quality of outputs. In other words, there are five subsystems in operation: the structural, individual, cultural, political, and teaching-learning systems. These systems interact with each other in many ways. System effectiveness is based on the *Congruence Principle: the system is more effective as all the interactions move toward congruence (a lack of conflict).* For example, when there is minimum conflict among the structure, individuals, culture, and politics as they interact with the teaching-learning process, the system will be effective.

To get a sense of the effectiveness of the school, administrators and the board often set specific goals and expectations for the school. The school is effective to the extent that actual outcomes are consistent with expected ones (see Figure 2). If there is a major discrepancy between expected and actual outcomes, the information is feed back to the internal system as well as the board and community. It is likely there are problems with structure, individual teachers, culture, politics, or the delivery of the teaching learning process. Effective schools require not only the allocation of sufficient resources, but also the integration of the basic organizational dimensions (structure, culture, individuals, and politics and teaching and learning).
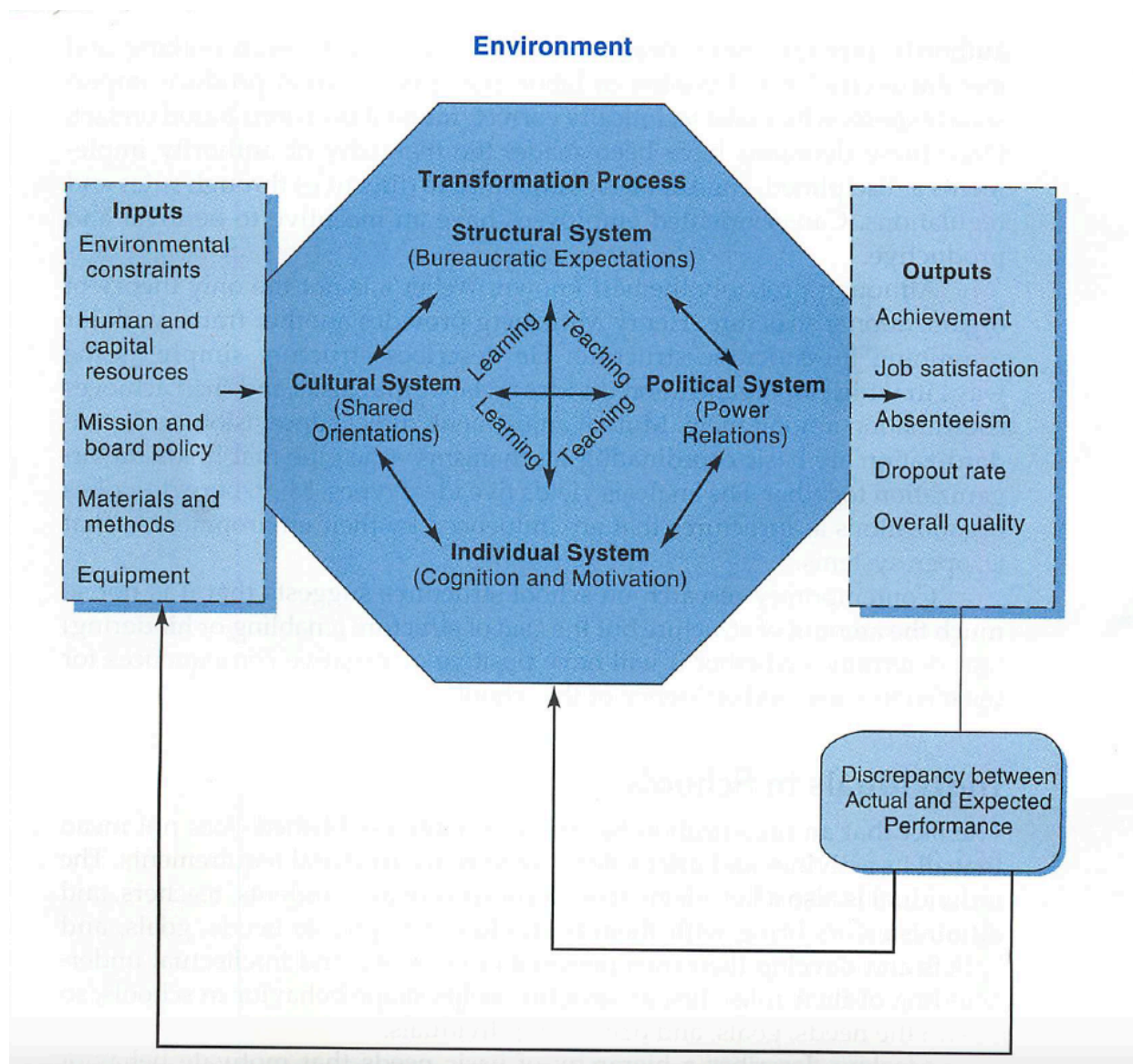
Figure 2: A Simplified Theoretical Model of the School as a Social System (Hoy & Miskel, 2013)

KEY ADMINISTRATIVE PROCESSES

The system is also held together by administrators at work. Three basic administrative processes are of particular importance in guiding and enabling system effectiveness—leading, communicating, and deciding.

Leading. Leaders are important because they serve as anchors, provide guidance in times of change, and are responsible for the effectiveness of organizations. General agreement exists that leadership involves a social influence process. The leader exerts intentional influence over others to structure activities and relationships in a

group or organization. A number of personal, motivational, and skill characteristics increase the likelihood that individuals can and will engage in effective leadership efforts to influence others.

During the 1980s contingency models of leadership became highly influential. These theories attempted to explain the interrelationships among traits, situations, behaviors, and effectiveness. Most contemporary *scholars of leadership agree that there is no one best way to lead*. Leadership effectiveness is contingent upon matching the appropriate leadership behavior with the situation. A relatively new approach, transformational leadership, is currently receiving extensive attention from scholars and practitioners. It has four critical elements: idealized influence, inspirational motivation, intellectual stimulation, and individualized consideration. Transformational leaders expand on transactional relationships to manage meaning, emphasize the importance of the followers' emotional responses, and achieve unusually high-performance outcomes.

Communicating. Communicating is another process that administrators need to become proficient because it is an inseparable part of leading and managing. Communication is a relational process that people use to exchange significant messages and share meaning about their ideas and feelings with one another. One-way communication is unilateral, initiated by a speaker and terminated at a listener. In contrast, two-way communication is reciprocal and interactive with all participants initiating and receiving messages. One-way communication may be fast, but it has severe limitations—mutual understanding being most problematic. Two-way communication is usually superior to one-way in large part because of the feedback built into the two-way interaction. Formal and informal communication are both important, but administrators who know how to gain access and use the informal have a big advantage. Nonverbal communication should be congruent to verbal if it is behavior is to be understood and perceived as authentic. Finally, communication by email, tweeting, or texting can be useful, but it is dangerous and should be used carefully and appropriately.

Deciding. Deciding is a "sine qua non" of educational administration because the school, like all formal organizations, is basically a decision-making structure. Administrators quickly learn that optimizing decisions is an unrealistic expectation. Rather a realistic decision-making model for administration is satisficing, that is, *finding a satisfactory and sufficient solution rather than the best one.* The satisfying model is similar to classic decision making in that the problem is first identified and framed, then relevant data are collected, a comprehensive set of alternatives is analyzed before selecting a strategy of action. The chief difference between optimizing and satisfying is that alternatives are analyzed in terms of a satisfactory rather than best solution. If time is an issue, a truncated satisficing model may be appropriate; take the first solution that is viewed as satisfactory. Another model of deciding is the so-called mixed scanning model, which is an incremental model that is guided by policy and mission. Decisions are made in small, incremental steps that are positive and consistent with policy. There is no one best way to decide, however, just as there is no best way to teach. The appropriate decision-making model for a given issue or situation is based on information required, time available, and importance of the decision. See "Theory of Decision Making on this webpage (www.waynekhoy.com).

Time permitting, it is sometimes wise to involve others in the decision-making process. The key question is: Under what conditions should you use a model of participative decision making? If the decision is relevant to others, they have a personal stake in the outcome, and you trust them to decide in the best interests of the school rather than themselves, then their involvement is prudent. See "Theory for Shared Decision Making" on this webpage (www.waynekhoy.com).

SUMMARY

Social-systems theory is useful in describing the recurring structures and dynamic processes in educational organizations. In this model of schools, organizational performance is determined by sets of key internal elements—structure, the individual, culture and climate, and power and politics—as they interact with the teaching-learning process, the core element of the system. These elements take inputs from the environment and transform them. The elements and their interactions form the transformation system, which is constrained by the opportunities and demands from the environment. In addition, internal and external feedback mechanisms enable the system to evaluate the quality of its products. Effectiveness is defined by discrepancies between actual and expected performance; feedback enables the system to adjust to discrepancies to improve effectiveness.

There are three important administrative processes that both bind the elements into a social unit and enable the system to be effective—leading, communicating, and deciding. Administrative behavior in the context of teaching and learning should be analyzed in relation to the primary elements of the school social system. Structure, individuals, culture, and politics represent "leverage points" that can be used to influence the performance of organizational members. A number of observations are important and bear repeating:

- First, leading, communicating, and deciding are key processes that modify school performance. If a leader consciously manipulates one dimension of the system, a "ripple effect" is created; the other dimensions are affected, and a new combination of expectations and behaviors results.
- Second, a variety of means is available to reach desired goals: there is no one best way to organize, lead, decide, motivate, or teach. Rather, the means to achieve goals depend on many factors including the community, complexity, and culture as well as opportunities and constraints in the situation. Administration is a complex process that requires careful reflection and continuous vigilance to changing conditions.
- Finally, complexity and connectedness in schools require "systems thinking"—recognition of the importance of the whole rather than a focus on parts; the school is a social system in which the whole is always greater than the sum of its parts. This social-systems framework is the theoretical basis for Hoy and Miskel's (2013) extensive analysis of administration in schools.