

TRENDS AND ISSUES IN INSTRUCTIONAL DESIGN AND TECHNOLOGY

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CHAPTER 21

Trends and Issues in P–12 Educational Change

Editors' Introduction

In this chapter Charles Reigeluth and Frank Duffy argue that piecemeal change is inadequate in P–12 education today and that systemic change is crucial to meeting our students' and communities' needs in the information age. They review some of the different meanings for the term *systemic change* and describe ecological systemic change as addressing three key areas of a school system. They also argue that a "process approach" to ecological systemic change is more important than a "product approach." The role of instructional design and technology specialists in the change process is described as well as two projects that have been conducted for districtwide ecological systemic transformation. Finally, the authors discuss needs and future directions for ecological systemic change in P–12 education.

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Knowledge and Comprehension Questions

1. What are the triple societal forces creating pressure for education reform in American school districts?
2. Describe the difference between *piecemeal* change and *systemic* change.
3. Explain why systemic change is needed in P–12 education today.
4. Describe the four different definitions of *systemic change* found in the literature.
5. What is the dominant paradigm for improving P–12 education in America today?
6. What are the three change paths that must be followed simultaneously to create and sustain ecological systemic change?
7. What are the key differences between product and process approaches to change?
8. What are the three major components of the GSTE?
9. What are the five phases of the GSTE's discrete events? Describe the focus of each phase.
10. What conditions need to be in place before launching an ecological systemic change effort?
11. What are the steps in the Step-Up-To-Excellence methodology? Describe the focus of each step.
12. What are the special teams and roles that provide change leadership for the Step-Up-To-Excellence methodology?
13. Describe the role of instructional design and technology specialists in the systemic change process.
14. Describe the ecological systemic change efforts that have occurred in two school districts in the United States.
15. Describe five of the biggest needs for educational reform in P–12 education.

The field of instructional design and technology (IDT) is focused on improving learning and performance (Reiser & Dempsey, 2002). Learning and performance typically occur within organizations (systems), including school districts, universities, businesses, government institutions, and others. IDT professionals design instructional systems to improve learning and performance, but over the past 20 years there has been increasing recognition that organizational characteristics can severely constrain learning and performance within those organizations (Burke, 2002; Cummings & Worley, 2001). Consequently, it is often necessary for IDT professionals to work for significant changes on an organizational level.

Systems thinkers in corporate and educational contexts have made much progress over the past 20 years in developing knowledge about systemic organizational change (see e.g., Ackoff, 1981; Banathy, 1991, 1996; Checkland, 1984; Duffy, 2002, 2003; Duffy, Rogerson, & Blick, 2000; Hammer & Champy, 2001; Jenlink, Reigeluth, Carr, & Nelson, 1996, 1998; Pasmore, 1988). This chapter focuses on issues and trends in systemic organizational change in the P–12 education sector (preschool through 12th grade), but most of these issues and trends are relevant to such change in other sectors and countries.

In the P–12 education sector in the United States, there has periodically been pressure for change, from Sputnik in the early 1960s to the *Nation at Risk* report (National Commission on Excellence in Education, 1983), and most recently the accountability movement as represented by the No Child Left Behind (NCLB) Act. Each of these pressures has been a response to perceived shortcomings of our public education systems in meeting the rapidly changing educational needs and realities of our society.

Although not much has changed in the design and functioning of school systems, what has changed is the amount of political and social pressure being applied by NCLB to school districts to improve the quality of education. The pressure comes in the form of standards, assessments, and accountability and these dynamics can be characterized as the triple engines driving school improvement into the twenty-first century. These dynamics are not going away anytime soon, and school districts desperately need knowledge that will help them respond effectively to these pressures.

In this chapter we begin with a discussion of types of change in education. Then we briefly review current knowledge for systemic redesign, including a discussion of the role of instructional design and technology specialists in the systemic change process, followed by a description of several recent projects for systemic redesign of a school district. We conclude with a discussion of

needs and future directions for knowledge in this important area.

Types of Change in Education

Two distinctions may be helpful here: one is between piecemeal and systemic change, and the other is between product and process approaches to change.

Piecemeal vs. Systemic Change

Perhaps the most important distinction among types of change is that between *piecemeal* change, which entails tinkering or adjusting one or two parts of a system but leaving the basic structure of the system intact, and *systemic* change, which entails redesigning or transforming the whole system. When a system's environment is relatively stable, piecemeal change is typically the more appropriate type of change, whereas when a system's environment is undergoing massive changes, systemic change is typically more appropriate. In either event, if a significant change is made in one part of a system, that part will usually become incompatible with other parts of the system, and the system will work to change that part back to what it was before. This pattern of change and reversion has occurred frequently in P–12 educational systems.

The term *systemic change* is used in several different ways, which often results in miscommunication. Squire and Reigeluth (2000) identify four distinct meanings of the term:

1. *Statewide policy systemic change.* Systemic change is statewide changes in tests, curricular guidelines, teacher certification requirements, textbook adoptions, funding policies, and so forth that are coordinated to support one another (Smith & O'Day, 1990). This meaning is how policymakers typically think of systemic change.
2. *Districtwide systemic change.* Systemic change is any changes or programs instituted throughout a school district. This meaning is how P–12 educators typically think of systemic change.
3. *Schoolwide systemic change.* Systemic change is any change or program instituted throughout a school, and it typically involves "a deeper (re)thinking of the purposes of schooling and the goals of education" (Squire & Reigeluth, 2000, p. 144). This meaning is how educators participating in the Coalition of Essential Schools typically think of systemic change.
4. *Ecological systemic change.* Systemic change is based on a clear understanding of interrelationships and interdependencies within the system of interest and between the system of interest and its "systemic environment" (the larger system of which it is a part, its peer systems

within that larger system, and other systems with which it interacts outside of its larger system). It recognizes that a significant change in one part of a system requires changes in other parts of the system. It also recognizes the need for changes in three spheres: the system's core work processes, its social architecture, and relationships with its environment (Duffy et al., 2000). Of necessity, this meaning of systemic change subsumes all the other three meanings, and it is how "systems thinkers" view systemic change (see e.g., Ackoff, 1981; Banathy, 1996; Checkland, 1984; Emery & Purser, 1996; Senge, 1990).

Ever since John Goodlad (1984) wrote *A Place Called School* and argued for school-based management, school-wide systemic change (see list item 3) has been the dominant paradigm for improving schooling in America's school districts. Yet, after 30 years of using this process, very little has changed in the design and functioning of school systems. We believe that ecological systemic change (see list item 4) is the only kind of change that has the potential to create and sustain systemwide improvement in school districts. This is because the ecological systemic change process requires simultaneous improvements in three key areas of a school system: (1) the core and supporting work; (2) the internal "social architecture" (which includes organization culture, communication, the reward system, and power and political dynamics); and (3) the district's relationship with its external environment. The literature and research on ecological (or whole-system) improvement is clear that organizationwide improvement can only be accomplished by following those three paths (e.g., Duffy, 2002, 2003, 2004; Emery, 1977; Pasmore, 1988; Trist, Higgin, Murray, & Pollack, 1963).

Product vs. Process Approaches to Change

It is helpful to distinguish between the product and process of change. The *product* of the change process is the redesigned or transformed educational system. School change models that are product oriented focus on what the new educational system should look like by describing and prescribing what the schools should be like. For example, the 10 principles of the Coalition of Essential Schools (CES) describe what schools should be like (Sizer, 2002). They offer no guidance, however, to help educators engage in a process that will result in the successful implementation of the principles. The "comprehensive school reform" designs, such as Success for All, CoNECT, and Modern Red Schoolhouse (see e.g., Stringfield, Ross, & Smith, 1996), are similarly product focused. At the 2002 conference of the American Educational Research Association (AERA), researchers presented findings on the NAS models that revealed significant implementation problems and failures.

These findings provide growing evidence that we need a better understanding of the *process* of transforming schools and districts, and that no matter how good a design is, it will not succeed in its implementation if a sound transformation process is not used (Joseph & Reigeluth, in press).

Given these considerations, the remainder of this chapter focuses on the process orientation to ecological systemic change. We begin with an overview of the current knowledge for this kind of systemic change. We next describe a few projects that have used this approach. We conclude with a discussion of needs and future directions.

Current Knowledge about the Ecological Systemic Change Process

In this section, we describe two major lines of work regarding the ecological systemic change process: the Guidance System for Transforming Education by Jenlink et al. (1996, 1998), and Step-Up-To-Excellence by Frank Duffy (2002, 2003, 2004). Following this description, we discuss the role of instructional design and technology specialists in the systemic change process.

Guidance System for Transforming Education

The Guidance System for Transforming Education (GSTE) (Jenlink et al., 1996, 1998) is a process model for facilitating systemic change. The GSTE was designed to provide process guidelines to a facilitator engaging in a districtwide systemic change effort. The GSTE does not provide any indication of what changes should be made in the district (the "product" issue). Rather, it provides the facilitator with guidance about the process in which the school district and its community should engage for systemic change to occur successfully.

The GSTE is comprised of:

- A set of core values about the change process (Table 21.1).
- Some "discrete events" (Table 21.2), a chronological series of activities for engaging in systemic change.
- Some "continuous events" (Figure 21.1), activities that must be addressed continuously throughout much or all of the change process (Jenlink et al., 1998).

The discrete events listed in Table 21.2 reflect some tentative revisions based on Reigeluth's experience using the GSTE with a small school district in Indianapolis (described later in this chapter). Furthermore, there are many principles and suggested activities that help one to understand and engage in those events.

TABLE 21.1 Core values underlying the GSTE

Caring for children and their future	Respect
Systemic thinking	Responsibility
Evolution of mindsets about education	Readiness
Inclusiveness	Collaboration
Stakeholder empowerment and ownership	Community
Participant commitment	Ideal vision
Co-evolution	Wholeness
Facilitator	Common language
Process orientation	Conversation
Context	Democracy
Time	Culture
Space	

TABLE 21.2 Revised discrete events in the GSTE

<i>Phase I.</i> <i>Initiate Systemic Change Effort</i>	<ol style="list-style-type: none"> 1. Facilitators assess and enhance their own readiness for the process and form a Support Team. 2. Facilitators establish or redefine a relationship with a school district and discuss per diem payment for Event 3. 3. Facilitators assess and enhance district readiness for change. 4. Negotiate and sign a contract/agreement with the superintendent and board for Phase II.
<i>Phase II.</i> <i>Develop Starter Team</i>	<ol style="list-style-type: none"> 5. Facilitators and superintendent form the Starter Team. 6. Hold a retreat to develop the Starter Team dynamic. 7. Develop Starter Team understanding of systems, design, mental models, the systemic change process, dialogue, and small-group facilitation. 8. Assess and enhance district and community capacity for change. (Identify assets and barriers, and use community forums if needed.) 9. Develop an agreement/contract with the Starter Team and School Board for Phase III, determine resource needs, and plan a budget for internal funding and a proposal for external funding.
<i>Phase III.</i> <i>Develop District-Wide Framework and Capacity for Change</i>	<ol style="list-style-type: none"> 10. Starter Team expands into the Leadership Team, Starter Team becomes facilitators, facilitator becomes an advisor and "critical friend." 11. Hold a one-day retreat to develop the Leadership Team dynamic. 12. Facilitators develop Leadership Team understanding of systems, design, mental models, the systemic change process, dialogue, and small-group facilitation. (Address throughout Events 13–17) 13. Leadership Team develops a districtwide framework with broad stakeholder participation (community forums). This includes identifying changes in the community's educational needs, and using them to develop a mission, vision, and core values for an ideal school system. It takes this opportunity to assess and enhance district and community interest in, and culture for, systemic change. It develops pyramid groups for broad stakeholder involvement. 14. Leadership Team identifies current and recent change efforts and decides what relation those should have with this effort. 15. Leadership Team develops a change process strategy, including capacity building and funding. Advisor's role is defined and funded for Phase IV.
<i>Phase IV.</i> <i>Create Ideal Designs for a New Educational System</i>	<ol style="list-style-type: none"> 16. Leadership Team forms and capacitates building-level Design Teams and conducts a workshop on the framework. 17. Design Teams create building-level designs and systems for evaluating those designs with broad stakeholder involvement. Leadership Team supports and monitors the Design Teams. 18. Leadership Team forms and capacitates a district-level Design Team. 19. Design Team creates a design for ideal district administrative and governance systems, and systems for evaluating that design, with broad stakeholder involvement. Leadership Team supports and monitors this Design Team.

TABLE 21.2 Continued

<i>Phase IV. Create Ideal Designs for a New Educational System</i>	20. Design Teams create building-level processes for evolving as close as possible to their ideal designs. Leadership Team supports and monitors the Design Teams.
	21. Carry out implementation plans, formative evaluations, and revisions of the evolving designs and the implementation processes.
	22. Periodically evolve the ideal designs (building level and district level).

Evaluate and improve the change process.
 Build and maintain political support.
 Sustain motivation.
 Develop and sustain appropriate leadership.
 Build and maintain trust.
 Evolve mindset and culture.
 Periodically secure necessary resources.
 Develop skills in systems thinking.
 Periodically and appropriately allocate necessary resources.
 Develop group-process and team-building skills.
 Build team spirit.
 Engage in self-disclosure.
 Engage in reflection.
 Develop design skills.
 Communicate with stakeholders (two-way).
 Build and evolve community.
 Foster organizational learning.
 Build an organizational memory.

FIGURE 21.1 Continuous events in the GSTE.

Step-Up-To-Excellence

Step-Up-To-Excellence (SUTE) (Duffy, 2002, 2003, 2004) is a process methodology designed to help change leaders in school districts create and sustain whole-district improvement. This methodology combines proven and effective tools for school system improvement. Although these tools have been used singly for more than 40 years in different kinds of organizations, they never have been combined to provide educators with a comprehensive, unified, systematic, and systemic methodology for redesigning their entire school system.

Step-Up-To-Excellence is designed for successful or average-performing school systems that want to step up to the next higher performance level. It can also be used with failing or low-performing districts if these districts develop the necessary conditions for successful whole-district change. These conditions include:

- Senior leaders who act on the basis of personal courage, passion, and vision; not on the basis of fear or self-survival.
- Senior leaders who conceive of their districts as whole systems; not as a collection of individual schools and programs.

- Leaders and followers who have a clear view of the opportunities that systemic redesign offers them; not a view of “We can’t do this because . . .”
- Leaders and followers who possess the professional intellect, change-minded attitudes, and change-management skills to move their districts toward higher levels of performance; not people without an inkling about the requirements of systemic change management.
- Sufficient human, financial, and technical resources to launch systemic change with the knowledge that more resources will be required to sustain the effort; not resources solely acquired through a within-district reallocation of funds that undermines the overall operations of the district.

If these conditions are not in place before educators begin a whole-district improvement process, then they need to be developed during the Pre-Launch Preparation phase of SUTE.

Step-Up-To-Excellence is an innovative approach to create and sustain whole-system change in school systems. It is a five-step process preceded by a Pre-Launch Preparation phase as illustrated in Figure 21.2.

One of the most common reasons for organization transformation to fail is lack of good preparation and planning (Kotter, 1995). Therefore, change leaders must take the time to engage their school system in the Pre-Launch Preparation activities. What happens during this phase will significantly influence the success (or failure) of their district’s transformation. Remember, quick fixes almost always fail.

The early Pre-Launch Preparation activities are conducted by the superintendent of schools and several hand-picked subordinates. The superintendent also may wish to include one or two trusted school board members in this small planning team. It is important to know that this small team is temporary and that it will not lead the transformation. It has one purpose and one purpose only—to prepare the system to engage in systemic change.

At some point in the Pre-Launch Preparation phase a decision will be made to launch the transformation effort or not to launch it. If a launch decision is made, then the remaining activities are transferred to a Strategic Leadership Team composed of the superintendent and several others, including teachers and building administrators appointed to the team by their peers (not by the superintendent). This team also appoints and trains a Transformation Coordinator who will provide tactical leadership for the transformation.

After the Strategic Leadership Team assumes leadership of the transformation, other educators become involved.

One of the key events for involving other educators in a school district is the District Engagement Conference. The results of this conference create a new strategic framework for the district that includes a new mission, vision, and strategic plan.

There are many more Pre-Launch Preparation activities that need to be completed. A full description is found in Duffy (2004).

During Step 1, educators working on small teams within clusters of schools redesign their entire school district by making three simultaneous improvements. They improve their district’s core and supporting work processes, the district’s internal social architecture, and the district’s relationship with its environment. This is a core principle from the field of organization improvement (e.g., see the writings of Fred Emery, 1977; William Pasmore, 1988; and Eric Trist [Trist et al., 1963]).

Following the redesign of a district, change leaders then make a transition to Steps 2–4 of the methodology. Activities during these steps invite educators to align the work of individuals with the goals of their teams, the work of teams with the goals of their schools, the work of schools with the goals of their clusters, and the work of clusters with the goals of the district. This is also called “creating strategic alignment” (Duffy, 2004).

Creating strategic alignment accomplishes three things (Duffy, 2004): First, it ensures that everyone is working toward the same broad strategic goals and vision for the

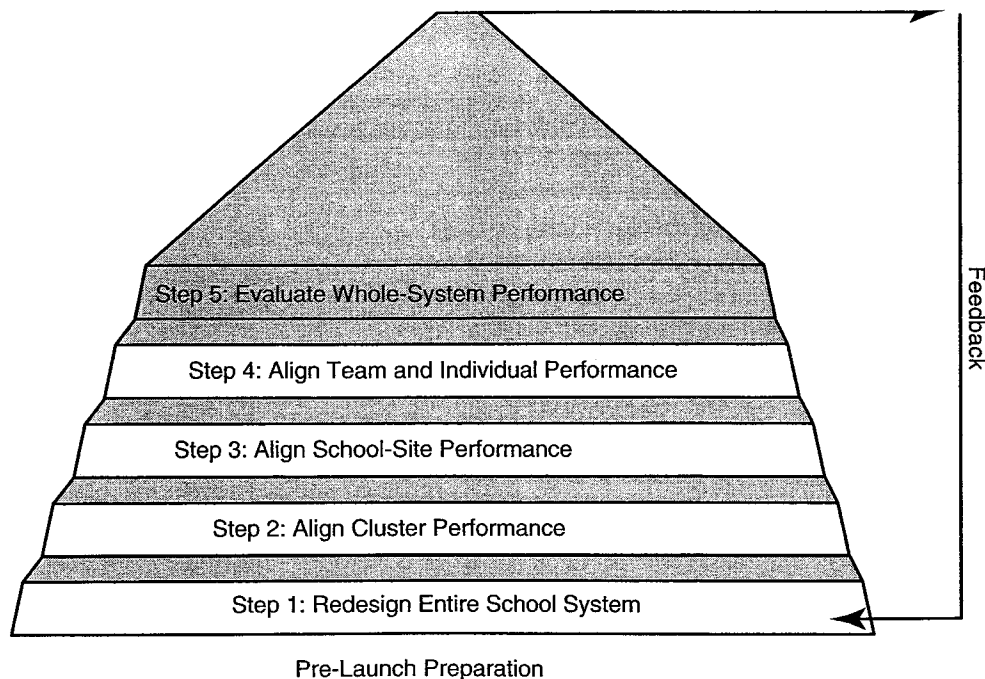


FIGURE 21.2 Step-Up-To-Excellence—Five steps to whole-district improvement. Source: Copyright © 2002 by Francis M. Duffy. All rights reserved. Reprinted by permission.

district. Second, it weaves a web of accountabilities that makes everyone who touches the educational experience of a child accountable for their own part in shaping that experience. And third, it forms a social architecture that is free of bureaucratic hassles, dysfunctional policies, and obstructionist procedures that limit individual and team effectiveness. You will recall that W. Edwards Deming (1982), among others, says that it is these hassles, policies, and procedures that cause at least 80% of the performance problems that we usually blame on individuals and teams.

After strategic alignment is achieved and the rate of change is slowed down so people can learn the knowledge and skills required by the newly redesigned school system, then change leaders move their district to Step 5. During Step 5, change leaders evaluate the performance of the entire district, including the performance of its clusters, schools, and teams. The purpose of this level of evaluation is to measure the success of everyone's efforts to educate children. Evaluation data are also reported to stakeholders in the environment to demonstrate the district's effectiveness.

The evaluation data from Step 5 are also used to sustain school district improvement by managing the performance of the district, clusters, schools, teams, and individuals. Then, after a predetermined period, the district "steps up" again by cycling back to Step 1: Redesign the Entire District. Achieving high performance is a lifelong journey for a school district.

SUTE is powered by the collective efforts of several teams, informal learning networks, and a special leadership role. Each one is briefly described in the following paragraphs.

Strategic Leadership Team (SLT). The SLT provides strategic leadership for whole-district improvement. It does not get involved with the daily work of improvement. Those tasks go to a special role described later in this section.

The SLT is responsible for initiating SUTE. At a minimum, it is composed of the superintendent, one or two administrative subordinates, and one principal and one teacher from each level of schooling in the district. The principals and teachers are appointed to the SLT by their peers, not by the superintendent. Some districts may decide to include other members such as a teachers' union leader, a school board member, a parent, or a student. Team size should be no larger than 15 people. Teams larger than 15 are notoriously ineffective.

Cluster Improvement Teams. In SUTE, clusters of feeder schools and clusters of supporting workers are the units of change. For example, one cluster would be the central administration staff; a second would be supporting workers such as cafeteria, transportation, and building

maintenance staff. Each of these clusters is led by a Cluster Improvement Team.

Site Improvement Teams. Within each cluster there are individual schools or supporting departments. Each school and department must have a Site Improvement Team that focuses on improving what happens inside their building or department and that ensures that what they are doing is aligned with their cluster's goals.

Organization Learning Networks. School districts are knowledge-creating organizations, and teachers are knowledge workers (Duffy et al., 2000). This characteristic requires school systems to create and support opportunities for personal, team, and organizational learning. Organization Learning Networks (OLNs) are informal learning communities that respond to this need.

On-Track Seminars. This mechanism is a variation of the OLN, described previously. While OLN focus on developing professional knowledge and then distributing that knowledge throughout a school system, On-Track Seminars focus on what Argyris and Schön (1978) call "double-loop" learning.

With single-loop learning, people learn about what happened and may make changes in response to what happened, but they do not uncover and examine "why" things happened the way they did. By adding learning about why something happened, and by surfacing and examining underlying mental models that influenced outcomes, people add a second loop to their learning process, thereby creating double-loop learning. Double-loop learning activities are particularly useful for solving problems that are complex and ill structured and that change over time.

The On-Track Seminars use formative and summative evaluation data to help educators learn what happened in their change process and why it happened.

The Transformation Coordinator Role. Someone has to manage the daily, tactical work of school district improvement. This "someone" is a Transformation Coordinator. This person can be hired from within a district or can be a "new hire." The Frederick County Public School System in Maryland, for example, created a new position called Executive Director of District and Community Relations to coordinate that district's improvement effort. The superintendent, Dr. Jack Dale, hired an outside person to fill this role. Whether from within a district or from outside, the person filling this role must have superior knowledge of organization development and ecological systemic change processes.

Role of instructional design and technology specialists. Many IDT specialists know and understand systems and how they function. Many also understand

effective processes for implementation of innovations. This knowledge can be particularly helpful to school districts involved in creating and sustaining ecological systemic change.

Another role that IDT specialists can play is in working to create improvements in the core and supporting work, the first of the three key areas for ecological systemic change listed. The core work of a school district is classroom teaching and learning. IDT specialists have focused on making improvements in this core work, and their expertise can be magnified if it is applied within the context of a whole-system process that creates and sustains improvements in the three key areas listed earlier.

Projects For Systemic Redesign

We are aware of several projects that have been conducted for districtwide ecological systemic transformation and will describe two in some detail in the following subsections. The first project is being facilitated by Charles Reigeluth, who is using the GSTE for guidance. The second was not conducted according to either the GSTE or the SUTE, but nevertheless exhibits most features of a sound transformation process. Several additional districtwide ecological systemic transformation efforts will also be briefly mentioned.

Decatur Township School District

The Metropolitan School District of Decatur Township initiated a systemic change effort in January 2001, a few months after a new superintendent, Donald Stinson, began working there. Charles Reigeluth, a professor at Indiana University, agreed to serve as facilitator for the change effort, along with a graduate student in Instructional Systems Technology, Roberto Joseph, only after being expressly invited by leaders of all the major stakeholder groups in the school district. The facilitators used the Guidance System for Transforming Education (GSTE) described previously to guide their facilitation efforts.

The major objective of the transformation process was to help stakeholders evolve their thinking (mental models or mindsets) about education, to reach consensus on a set of ideal beliefs or core values about education, and to design an ideal system in accordance with those beliefs. To succeed with such a fundamental transformation of their school system, the facilitators believed it was important for as many stakeholders as possible to participate in the change process and feel a sense of ownership of both the process and whatever design resulted. Two strategies were used to accomplish this: (1) forming a Leadership Team

comprised of 20–25 key opinion leaders from all of the stakeholder groups in the school system and community; and (2) conducting numerous community forums in which as many stakeholders as possible could participate in shaping and conducting the transformation process. Crucial to the success of both strategies was establishing an appropriate culture for change, central to which was building greater trust and communication among all stakeholder groups.

Forming the leadership team. Because it is difficult to shape the culture and dynamic of a group that size, the GSTE calls for forming a Core Team or “Starter Team” of about five to seven key opinion leaders from all the major stakeholder groups, establishing a culture and understanding of systemic change, and expanding into the Leadership Team. The Starter Team was formed in February 2001 by the superintendent and facilitator. Team members included:

- A school board member
- A principal
- A PTA leader
- The president of the Decatur Education Association
- The superintendent.

From March to May 2001, the Starter Team met weekly with the facilitators to establish a culture for systemic change and develop an understanding of systemic thinking and the systemic change process. The team identified core ideas and values that should guide the process of improving the Decatur Township Schools’ ability to meet all children’s needs. Those ideas and values placed heavy emphasis on all stakeholders (parents, teachers, students, staff, administrators, employers, and other community members) reaching consensus on the changes that would benefit their children.

Conducting community forums. As its first step to getting many stakeholders involved in the journey toward excellence, the Starter Team held six widely publicized meetings to which all community members were invited. The purpose of those meetings, which took place between January 22 and February 7, 2002, was to start to identify the educational needs of the students and community and how those needs had changed over the past generation or two. Results were reported in the local newspaper with an invitation for more input from community members.

In January 2003, the Starter Team expanded to include about 25 key leaders of all stakeholder groups in the community, and that expanded team’s first task was to develop a framework of ideal beliefs or core values about education, along with a strategic plan for helping building-level

“design teams” to create ideal designs for their respective schools within the districtwide framework. The development of the framework and strategic plan occurred simultaneously with activities that helped Leadership Team members to function effectively as a team and to evolve their mindsets about education.

When this stage of the process is complete, building-level teams will be charged with creating ideal designs within the boundaries of the districtwide framework. Then it is likely that a district-level design team will be formed, including one person from each building-level design team, to design ideal district-level administration and governance systems to support the building-level designs. Finally, they will develop a strategic plan for evolving their current system as close as possible to their ideal designs as time and resources allow.

Chugach School District

The Chugach School District in Anchorage, Alaska, won one of the first two Malcolm Baldrige Excellence Awards in education. (The other district was the Pearl River District in Pearl River, New York.)

The Chugach School District is small. Its 214 students are scattered throughout 22,000 square miles of remote South Central Alaska. With 30 faculty and staff, CSD is the smallest organization to ever win a Baldrige Award. The district provides instruction from preschool up to age 21 in a comprehensive, standards-based system. Education occurs 24 hours a day, 7 days a week. Instruction is delivered in the workplace, in the community, in the home, and in school. Fifty percent of the students in the Chugach School District are minorities (Native Alaskans).

The process that the Chugach superintendent of schools, Richard De Lorenzo, and his colleagues used was highly influenced by the requirements of the Baldrige National Quality Program (2003). The process is documented in *A Guide to Reinventing Schools* (Chugach School District, 2002) and summarized here.

The Chugach transformation process started in 1994 and culminated when the school district received one of the first two Baldrige Awards in Education in 2001. Their process had four phases—design, delivery, refinement, and continuous improvement.

The design phase. The design phase of the Chugach whole-district improvement process included activities aimed at developing a shared vision among stakeholders for the district, creating a balanced instructional model that was tailored to the needs of their students, writing districtwide standards of performance, developing districtwide assessments to evaluate performance against their standards, and

creating aligned tools for reporting the results of their assessments.

The delivery phase. Once the design phase was completed and all the pieces in place, district leaders and teachers implemented their improvement plans.

The refinement phase. During implementation, change leaders and educators in the district focused on phasing in the district’s new standards, assessments, and reporting tools. As they phased these elements into their district, they identified and corrected glitches in the process. They also screened their students to identify their individual learning needs and made necessary changes in instruction and teaching schedules to respond to the needs. One of the important tactics they used to respond better to students’ learning needs was to petition their State Department of Education for a waiver of the Carnegie Unit formula. They received the waiver.

The continuous improvement phase. At the time of this writing the district was in the continuous improvement phase, which brought members back to where they started, thereby creating a closed loop. They are once again focusing on developing a shared vision for the future of their district, which will lead to them revisiting all of the other phases as summarized.

Other Redesign Efforts

Five other districts that engaged in whole-system change participated in a research study conducted by the Learning First Alliance (Togneri & Anderson, 2003):

- Aldine Independent School District, Texas
- Chula Vista Elementary School District, California
- Kent County Public Schools, Maryland
- Minneapolis Public Schools, Minnesota
- Providence Public Schools, Rhode Island

Although the systemic redesign process these districts used is not clear in the research report, it is clear what they aimed to do through the process they used.

First, change leaders in each district worked to develop their district’s readiness and willingness to engage in districtwide reform. This was followed by the development of a vision of where they wanted to take their district. Next, they scouted for new approaches to professional development focusing on improving instructional strategies. They also refined their leadership roles and engaged multiple stakeholders in their improvement process. Details about the outcomes of their efforts are found in a summary report available online at <http://www.learningfirst.org/publications/districts/>.

Needs and Future Directions

The school-based improvement process still dominates the literature and practice of school improvement. One of the biggest needs, therefore, for education reform is for educators and policymakers to recognize the power of using an ecological systems approach to improvement. This recognition, we think, will be facilitated by providing case study examples of successful whole-system improvement efforts such as the ones identified in this chapter.

Another important need is to help educators realize that districtwide ecological systemic improvement is not only needed, but doable. The thought of improving an entire district is a scary one for many people. There is so much that needs doing, so little time to do it, and, on top of all that, educators cannot stop teaching children while they try to redesign their school systems. But, the redesign process *is* learnable and doable, and educators need to learn about this.

A third important need is for policymakers on state and national levels to realize the need for and nature of ecological systemic transformation of school districts. They must recognize that, even though the new systems that districts design will likely not be more expensive to operate, there is considerable expense to redesign and transform the current system into the new one. Without outside financial support, it is unlikely that districts that are ready for systemic change will be able to successfully navigate the treacherous waters of such change. Systemic transformation is far more complex, difficult, and expensive than piecemeal change. Given the scope of this need, charitable foundations and state governments must recognize the importance of this kind of change and help support the transformation process.

A fourth need is related to the third one. Although “extra” money is needed to kick start a districtwide improvement process, a district must find permanent money in its budget to sustain improvements. Unless a district takes steps to create a permanent budget line for continuous ecological improvement and fund that line with permanent dollars, continuous ecological improvement will be unsustainable.

Unlike traditional reform efforts, continuous ecological improvement cannot be sustained solely through small increases in operating budgets. Because ecological improvement touches all aspects of a school district’s core operations, it imposes significant resource requirements and demands a rethinking of the way current resources are allocated, as well as some creative thinking about how to use “extra” money that will be needed to jump start ecological improvement (Duffy, 2003).

Financing continuous ecological improvement also requires school-based budgeting that is coordinated and aligned with centralized budgeting processes. Financing ecological improvement is not an “either centralized or

school-based” endeavor. It requires both a centralized *and* school-based budgeting approach.

What we are arguing for is the principle that money is an indicator of priorities and commitment. A significant line item in the budget sends a clear message to administrators, teachers, and other stakeholders about the importance of continuous ecological improvement. We are arguing in support of the position that educators should think more creatively and comprehensively about how to fund continuous ecological improvement in the short term to jumpstart the process and for the long term by making these improvement funds a permanent part of a district’s core operations. We believe that finding the extra money “out there somewhere” will surely help get a whole-district improvement process moving, but it will not be able to sustain it over time or fund the effort completely. Continuous ecological improvement ought to be a core function of a school system, funded by core resources that can be spent more wisely to transform entire school systems into high-performing organizations of learners (Duffy, Cascarino, & Henson, 2005).

Finally, there is a knowledge need. We need to know more about the ecological systemic transformation process. The GSTE and the SUTE models offer some important, well-validated principles and activities, but the complexity of the process requires additional knowledge about how to manage and lead it. It is also likely that the process should change in important ways from one kind of school district to another. There is, therefore, a strong need for government agencies and foundations to support research on the ecological systemic transformation process.

Summary

In this chapter we discussed why piecemeal change is inadequate in P–12 education today and why systemic change is crucial to meeting our students’ and communities’ needs in the information age. We discussed different meanings for the term *systemic change*; we described ecological systemic change as addressing three key areas of a school system—(1) the core and supporting work, (2) the internal “social architecture”; and (3) the district’s relationship with its external environment; and we discussed why ecological systemic change is so desperately needed today. We discussed why a “process approach” to ecological systemic change is more important than a “product approach.”

Next, we described two major lines of work regarding the ecological systemic change process, the GSTE and SUTE. We discussed the role of instructional design and technology specialists in the change process. We described two

projects that have been conducted for districtwide ecological systemic transformation. Finally, we discussed needs and future directions for ecological systemic change in P–12 education. Only with a much wider recognition of the need

for ecological systemic change among policymakers, school district leaders, funders, and researchers will it be possible for communities to succeed in transforming their school systems to meet their needs in the information age.

Application Questions

1. Review the prerequisite conditions that need to be in place in a school system before it can successfully engage in whole-district change. Determine if these conditions exist in your district and assess their relative strength.
2. Given your assessment of the degree to which the prerequisite conditions exist in your school system, develop an action plan to (1) reinforce those conditions already in place and (2) develop those conditions not yet in place.
3. Interview several key leaders in your school system to diagnose which definition of *systemic change* they hold. Their definition(s) are a reflection of their mental models for change. Make a judgment about whether their mental models will help or hinder whole-district change in your system.
4. Review the Step-Up-To-Excellence methodology and the GSTE. Develop a staff development activity that will introduce both methodologies to your colleagues.
5. Contact change leaders in several of the school districts identified in the chapter that engaged in whole-district change. Interview them about the change process they used, how effective it was, and what they would do differently the next time they engage their districts in whole-system change.

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