

# PROFESSIONAL DEVELOPMENT IN SYSTEMIC EDUCATIONAL CHANGE

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**A**s systemic educational change becomes a major force in school restructuring efforts, there is a growing need for educators to become proficient in facilitating and participating in systemic change. To answer this need, professional development programs in systemic educational change must be created to help educators develop an understanding of the process. This understanding should be supported through the acquisition of specific attitudes, knowledge, and skills necessary for proficient participation in the systemic change process. Professional development programs should be designed to address each of the particular needs of preservice, inservice, and postservice educators. They should also encourage collaborative efforts among all levels of education, from the elementary to the university level.

The purpose of this chapter is to examine how each of these issues can be addressed through effective professional development in systemic educational change. This discussion begins with a review of what systemic educational change is and why it is vital to the endurance of school reform, the process educators engage in during systemic change, and the issues affecting this process. The

chapter continues with a look at the rationale and purpose of professional development in systemic educational change and the ways in which it can best be accomplished.

## SYSTEMIC EDUCATIONAL CHANGE

Educators and the public are concerned with improving the ways in which schools meet the needs of learners. Currently, school restructuring refers to many of the educational reform efforts aimed at helping schools become better learning environments. Yet, many of these efforts are accused of having no clear objective and no clear knowledge of the real clients (Kaufman 1993), while effecting only change at the margins and piecemeal reform (Banathy 1991; Reigeluth 1994). Systemic educational change attempts to overcome many of these shortcomings by taking a contextual approach to change that examines the interrelated components and functions of a school system (Banathy 1992). The systemic approach to restructuring advocates the development of a new paradigm of education built upon evolutionary change, systems thinking, and design theory (Banathy 1991, 1992). These three constructs are the basis from which

systemic change operates and are vital to the formation of a new mindset ready to take on the task of educational restructuring. These constructs will be described in the discussion of how this mindset is developed.

Thus, systemic educational change attempts to address, through systemic redesign, many of the problems plaguing our school systems. The process by which this occurs is centered around a design team made up of those most vested in the success of the school, the stakeholders (Eason 1988). Stakeholders include teachers, parents, students, administrators, and community members. Systemic change involves stakeholders in creating a design of an educational environment that will best meet the future needs of their learners. To assist stakeholders in this process, a facilitator should support and structure their efforts as needed. There should be a significant amount of interaction and group processing among participants, as well as professional development to assist educators. Before addressing this need, we will first discuss systemic change.

### THE PROCESS OF SYSTEMIC CHANGE

To be effective instigators, participants, facilitators, and maintainers of systemic change, educators must understand the overall systemic change process. They need to learn how to participate in each of its nonlinear, cyclical phases: (1) instigating change; (2) developing a new mindset toward educational change; (3) creating a vision of the ideal future society and its educational systems; (4) designing the needed learning environments and instructional, administrative, and governance systems to support this vision; and (5) operationalizing the design through effective development, implementation, and maintenance.

It is important to emphasize that these phases are not linear. Rather, individuals and teams move into these stages at different times. Also, many of the phases can occur recursively as well as interact concurrently. For the sake of clarity, and to assist in conveying their specific characteristics, the phases are described in a sequential manner.

### Instigating Change

The instigation for systemic change begins with an awareness of the historical background from which our current public education system has developed. Throughout history, educational systems have emerged that reflect the needs of society during a given time period (Reigeluth 1994; Toffler 1980). The one-room schoolhouse answered the needs of the agrarian age. Then, as the agrarian age gave way to the industrial age, this was superseded by the current system of mass education. Now, we find ourselves rushing ever faster into the information age and the new demands created by the infoglut of the burgeoning information highway. Just as the one-room school could not meet the requirements of the industrial age, our current industrial age school system cannot effectively prepare learners for their roles in the twenty-first century (Branson 1987). In essence, our antiquated school systems no longer have the agility to respond to the real, contextual demands of learners preparing for the information age—a realization that provides a strong incentive for change. (This should be one element of a professional development program for systemic change.)

Through systemic change, educators attempt to insure that schools will be able to keep pace with society. This underscores the importance of designing educational environments that prepare learners for the roles necessary for success in the twenty-first century. Reich (1991) discusses these roles in *The Work of Nations*. He describes the functions of problem solvers and problem identifiers as well as "strategic brokers." Strategic brokers are those who have the skills to link the first two roles. Other information age competencies are also highlighted in the SCANS report (Secretary's Commission 1991). This report identifies three foundational requirements for all individuals—basic skills, thinking skills, and personal qualities—and four areas that a successful employee must be able to identify and manipulate—resources, interpersonal skills, information systems, and technology. The new learning environments required to educate learners for these roles and skills will be, by necessity, quite different from those that mass produced the

obedient workers needed for the industrial age. This need provides a powerful justification for the redesign of our school systems. Once educators understand these global reasons for systemic change, they can begin to focus on more-localized imperatives for change identifiable within their own communities. (This is a second important element of a professional development program.)

Evaluating how well schools or districts are currently meeting their learners' needs is another activity that educators can do to instigate change. Such an evaluation requires educators to first describe the competencies and attributes their graduates will need for them to be most successful and happy in the twenty-first century, then measure their own schools against this standard (Peck 1994). As educators compare what *should* be with what is actually occurring in their schools, they can come to conclusions about what changes need to be made. This self-evaluation identifies problems and shortcomings in a nonthreatening way. Self-evaluation is much more powerful than mandates and suggestions from outside sources. It is also the most meaningful incentive for change (and should be a third element of a professional development program).

During the instigation-for-change phase, it is important to recognize that educators from within the system are also better equipped to be sensitive to the culture of the school and community. This allows them to evaluate readiness for change and identify potential problems. Decisions determining the appropriate timing of change as well as negotiations of situations requiring diplomacy are also handled more effectively by those within the school. This can enhance the opportunities for effective systemic change to take place. (All these elements are important for instigating positive, systemic change and should be addressed in a professional development program, which is discussed later.)

## Developing a New Mindset

Once stakeholders determine that fundamental change is needed, they must begin developing a new mindset that allows them to understand and

participate in a systemic change process within their schools. This change begins with a paradigm shift and requires a basic understanding of the underlying constructs of systemic change—evolutionary change, systems thinking, and design theory. Without these three perspectives, educators are more likely to attempt unrelated, piecemeal changes rather than using a holistic, systems approach.

The first phase of mindset development begins when stakeholders acquire an appreciation for the **evolutionary nature** of educational systems. These systems need to be adaptive and reflexive to societal changes. When society undergoes such massive changes as it did during the industrial revolution and as it is doing now with the advent of the global information age, important new educational needs and contextual conditions emerge. Schools must keep pace with these changes and coevolve with society if they are to meet society's needs. In order for this to occur, an educational system must be redesigned in such a manner that it can respond to and accommodate evolutionary changes originating from both inside and outside of the system. This process of redesign is also supported by an understanding of the principles underlying systems thinking and design theory. Combined with evolutionary change, these perspectives are integral to the change process as practitioners use them to create new educational systems.

**Systems thinking** (Checkland 1984) acknowledges the interconnectedness among components (subsystems) within an organized system, such as an educational system. Through systemic thinking, stakeholders are encouraged to think outside of their present definitions of schooling. This new mindset allows them to begin thinking of a school as a human activity system embedded within an environmental context of suprasystems (e.g., social, economic, governmental), peer systems (e.g., social services), and subsystems (e.g., administrative, faculty, maintenance) (Banathy 1992). Each system is interdependent with, and impacted by, the condition and functions of all other systems. This interdependency requires educators to take a global look at a school and address all the systems it influences or is influenced by. This is achieved

through an examination of the interrelationships between the needs, values, functions, and purposes of all elements that impinge upon the school, its learners, and the community. This develops an understanding of the ways in which change in one system or its parts influences change in other systems. Therefore, school restructuring must be approached from the perspective of systems thinking because systemically designed schools more closely answer the current needs of learners, the community, and society at large.

In addition to evolutionary change and systems thinking, **design theory** is the other important theoretical foundation of systemic educational change. Design theory gives powerful tools and insights for using a design approach. As it relates to systemic change, a design approach is used as a way to resolve problems through customized, pragmatic design grounded in purpose and volition (Nelson 1994). This contrasts significantly with most school reform efforts and their related professional development programs that use an "adoption" approach (Rogers 1983). The adoption approach uses generic, off-the-shelf solutions that are usually devoid of any input from the actual users. In comparison, a design approach seeks to empower users to address the contextual and situational issues affecting a school system and to design the needed innovations. Therefore, it is important for stakeholders to develop design abilities that allow them to think and behave in the same ways that other types of designers do when resolving ill-defined problems (Cross 1990). Applying a design approach also encourages flexibility and adaptability during the creative phases of the change process. In these ways, design theory is a critical complement to the evolutionary and systemic nature of the change process.

As participants begin to meld an understanding of the constructs of evolutionary change, systems thinking, and design theory, a powerful new mindset for educational restructuring emerges. From this mindset, innovative designs for schools develop in anticipation of the educational needs of future learners. (Therefore, these three elements should be included in a professional development program for systemic change.)

## Creating a Vision of Society

With this new mindset in place, practitioners can begin to move into the visioning stage, where they create a vision of what they want their society of the future to be like. This is not a process of guessing the future but of envisioning the future as they want it to be. The practitioners are taking an interactive versus a reactive posture to the future by being accountable for *creating* the future instead of just letting it develop unplanned (Banathy 1991). This process acknowledges the power we have to impact our own futures, rather than to act only as inert recipients.

During this phase, it should be pointed out to participants that this interactive visioning can be contrasted with the more reactive, precursor activity done during the instigation phase. During the initial phase, participants describe what they think learners need in the twenty-first century. In comparison, during the visioning stage, stakeholders take a counterposition as they describe an ideal future society. They actively plan the future rather than passively predict it. After this vision of the ideal future society is articulated, systemic change participants are ready to begin envisioning the learning environments that can prepare learners to function as members and sustainers of that society.

## Designing the System

In the visioning phase, the participants conceive and outline the vision of the ideal society, then they design complementary educational systems. Again, participants in systemic change do not seek to predict, but rather to design the learning environments that will most effectively assist in realizing their ideal society. Later, they can compromise as necessary to accommodate existing constraints, then continue to strive to come ever closer to their ideal. This "idealized design" approach has proved advantageous because most constraints can often be overcome later, either in the short run or the long run.

Therefore, participants can begin by using an educational systems design, which integrates systems theory and design theory, to create an ideal design of the specific educational system for their

community. During the creation of their design, stakeholders identify the needs, values, and goals that will provide the underpinnings of their educational system. This vague vision or image of an ideal educational system of the future is then solidified through a series of design spirals that successively identify and clarify the purposes, functions, and components of the new educational system. Each spiral produces a progressively clearer image of the new system. Detailed design plans of each component are created with descriptions of its function and relationships to other components within the system.

To keep the design focused on the learning needs for fostering an ideal community, it is best to start by designing the learning-experience level of the new system and the instructional system that can best foster those learning experiences. But to maintain the systemic nature of the design, it is important to keep in mind the interrelationships or impact each level of the new system has on other levels (learning experience, instruction, administration, and governance).

Once the design is clearly formed, the design team can begin to operationalize it.

## Operationalizing the Design

Each level of the system is operationalized as the design team develops, implements, and maintains the components of the new design. Development of the design occurs as the team identifies and activates the specific resources needed for the school system to function. These may include such resources as personnel, instructional materials, appropriate technologies, physical facilities, and sources of funding. Once resources have been identified and acquired, the participants initiate the implementation plan.

Ideally, some elements of the implementation plan are developed and carried out concurrently with the design phase. For example, involving all major stakeholder groups from the beginning of the design work creates an understanding and a sense of ownership that avoids potentially disastrous obstacles to implementation. For this to happen, design plans must be continuously disseminated to all

stakeholders, and their input must be sought and acted upon.

Once implemented, the school system is then continuously “debugged” and improved. However, it is important not to expect any dramatic superiority of the new system for at least three to five years. In fact, the first few years may show an actual decrease on the traditional measures of educational effectiveness. This points out the importance of the participants deciding what outcomes they think are important, and making sure that there are appropriate measures for them. Also, to the extent that the ideal design was compromised in its initial implementation, the design team should pursue a plan that will gradually move it back on track. Furthermore, it should not be expected that the new system will remain forever ideal to the community. The community will continue to change; therefore, there must be a redesigning process that ensures the new system can make the adjustments needed to coevolve with it.

Gaining an understanding of the purpose and process of systemic change and developing an ability to participate in it are the major goals for professional development in systemic change. In addition, educators should be aware of the issues that influence and often act as obstacles to systemic change.

## ISSUES AFFECTING SYSTEMIC EDUCATIONAL CHANGE

A variety of issues can impact the success of systemic educational change. These influences can originate inside or outside of the primary school system and include opposition to school change efforts, persistence of old paradigms of professional development, availability of needed resources, and political factors. In order to effectively mitigate the potential impact of these issues, they must be well understood.

### Opposition to Change

First, there is often open opposition to school reform efforts. This may come from within the school as well as from without. Teachers, administrators, and

