The F. M. Duffy Reports

July 2006 Volume 11, Number 3

Quarterly reports on the challenges of creating and sustaining whole-system change in school districts

Creating Shared Visions of the Future for K-12 Education: A Systemic Transformation Process for a Learner-Centered Paradigm

by

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In this edition of **The F. M. Duffy Reports** Reigeluth, Carr-Chellman, Beabout, and Watson offer an important analysis of several approaches to the challenge of creating and sustaining whole-system change in school districts. There analysis compares and contrasts the different approaches, thereby offering readers insights to pros and cons of each paradigm.

I am honored and pleased to tell you that the October edition of these Reports will feature an article by Professor Russell Ackoff. Dr. Ackoff is a Professor Emeritus in the Wharton School of Business at the University of Pennsylvania and internationally renown for his work in the field of systems theory as it applies to organizations.

Abstract

This article compares a number of systemic change approaches to K-12 school innovation. The approaches reviewed in this article range from idealized design to leveraged emergent design, school-wide to district-wide transformation, and key-leader-directed to broad-stakeholder-directed transformation. Definitions of each approach are reviewed, along with key practices of each and comparisons among them. The article does not recommend a particular approach for all or even most cases, but rather is intended to stimulate discussion and understanding of their advantages and disadvantages within the culture and context of any particular school community.

Key Reflection Points

As you read the article, please use the following questions to guide your thinking about the approaches to whole-system change that are presented and compared.

- What are the major advantages and disadvantages of each approach?
- What sort of school culture is best suited to any particular approach?
- What other situational variables are important for selecting any particular approach?
- What research studies would be most helpful for school districts' selection of an approach to systemic change?

Introduction

This article presents a variety of alternative approaches to the process of helping K-12 school districts to transform themselves from the industrial-age paradigm of education to a learner-centered, information-age paradigm. The purpose of the article is to generate discussion about the pros and cons of each alternative. While the approaches are presented in dyads, this oversimplifies the complexity of the alternatives available to school change participants

as they try to determine which approach or combination of approaches is best for their situation. We do not think that choices are typically dichotomous or that these represent the entire array of possible choices. Rather this structure helps to bring into relief and clarity the differences between some of the most important alternatives we have encountered.

The article begins with a look at idealized design as compared to leveraged emergent design, followed by an examination of school-wide versus district-wide transformation, followed by key-leader directed change versus broad-stakeholder directed change. Each pair of approaches is defined, the key practices are identified, and a comparison between the two options is discussed. We hope that this article will generate lively discussion about alternative approaches to systemic change and will indicate productive avenues for future research.

Idealized Design vs. Leveraged Emergent Design

The primary approach offered in the literature is the idealized design approach pioneered by Ackoff in the corporate sector and adapted by Banathy to the K-12 education context. This is discussed next, followed by the leveraged emergent design approach – a newly developed alternative (Reigeluth, 2006).

Idealized Design

Definition

Those adhering to an idealized design approach to the creation of educational systems focus on the creation of a "guiding image" (Banathy, 1992, p. 178) that is created by the designers as they attempt to break free from the traditions, assumptions, and inertia of current schooling practices in creating more effective systems of education. Ackoff (1979) refers to idealized design as "a design of the system with which the designers would replace the existing system *now* if they were free to do so" (p. 191). There is a palpable "stopping of time" as designers and stakeholders remove themselves from the day-to-day operations of the system and spend time focused entirely on dreaming up the ideal system. Thus, **idealized design is a design process initiated by creating a "picture" of what the system would look like in a perfect world**.

Nelson and Stolterman use the term *desiderata* to explain "the original expression of what is desired" (2003, p. 48). These desires differ from what many refer to as a *vision* in that desiderata are temporary, fuzzy gut-feelings of the way things could be which are refined throughout the design process. This stands in contrast to a *vision* which, once created, remains a fixed point towards which the change is directed. So we could redefine **idealized design as a design process initiated by articulating a "desiderata" of what the system would look like in a perfect world**.

How it Works

Nelson and Stolterman describe design as "the ability to imagine *that-which-does-not-yet-exist*" (Nelson & Stolterman, 2003, p. 10). There is a conscious letting go of the particular realities which may have led to the initiation of the design process and a focus on the ideal. Nelson and Stolterman's term *parti,* defined as an "explosive appearance of an… encoded solution to a complex design challenge" (p. 212), is a result of engagement with the design process. The *parti* is the new, creative breakthrough that propels the design process forward. The *parti*, informed by the desiderata, serves as the seed for the entire design effort and may come from anywhere in the organizational hierarchy. The creation of this "seed" becomes the most important part of the idealized design experience.

Work in idealized design comes primarily out of the operations research work in the business sector pioneered by Russell Ackoff. He sought a proactive de-

sign paradigm that would create organizations based on participation, continuity and holism (Ackoff, 1979). The *principle of participation* posits the idea that the planning *process* is more valuable than any plans for action that might come out of it. Thus, a broad base of stakeholders should be involved in planning for change. The *principle of continuity* states that planning and implementation should not be seen as serial processes, but should proceed continuously in parallel, each informing the other. Finally, the *principle of holism* concludes that: "all units at the same level of an organization should be planned for simultaneously and interdependently" (Ackoff, 1979, p.190). Those that plan change in a way that does not abide by this principle run the risk of implementing change that is rejected by certain parts of the system. This proactive design approach has been adopted by practitioners and researchers in a number of organizational contexts (Carroll, 2000; Omerod, 1995; Pourdehnad & Hebb, 2002). Ackoff's groundwork in organizational planning, focusing on stakeholder inclusion, constant searching for improvements, and recognizing important interdependencies set the stage for Banathy to apply these ideas to the design of education systems.

Banathy (1991) recognized that society has undergone a dramatic paradigm shift, leaving our educational system out of synch with the needs and wishes of society. He calls for a *systems design approach* that will realign our lagging educational system with the constantly changing society of which it is a part. In true idealized design fashion, Banathy explains: We should 'jump out from the system,' explore educational change and renewal from the larger vistas of the transformed society and envision a new design. Starting design from the perspectives of the overall societal context, we extend our horizon and develop the LARGEST POSSIBLE PICTURE of education within the LARGEST POSSIBLE SOCIETAL CONTEXT (1991, p. 15).

Starting with society as a whole frees the designers from the inertia of the current system and allows them to create a functioning system that is unlikely to be rejected upon implementation. This design process begins with an idealized *image* and moves through a series of iterative stages for elaborating that image to progressively greater levels of detail and clarity, and then to implementation and institutionalization of the new design. Extensions of Banathy's work in the realm of education have been numerous (Carr, 1996; Joseph, 2003; Reigeluth, 1993; Squire, 1999).

Idealized design lends itself to certain types of design settings as opposed to others. It requires an unwavering commitment to the change process, as participants must be trained and continuously supported in their new roles as change agents (Borko, Wolf, Simone & Uchiyama, 2003). This requires a commitment of both financial resources and time. Volatile organizations undergoing high leadership turnover (Corcoran & Lawrence, 2003), those undergoing extreme changes in the number or type of clients (Arriaza, 2004), and organizations uncertain of the need for change (Fullan, 2000) are not likely to succeed with any type of change, let alone this rigorous model. This is not to say that the need for change cannot be developed and shared amongst stakeholders, but all participants in the process must be willing to work together in good faith if consensus and commitment are to be developed (Reigeluth, 2006). Those organizations able to successfully implement idealized design are first able to generate a strong commitment from all stakeholder groups to both the organization and the process itself.

Ackoff (1979) outlines a five-step process for carrying out idealized design in an organizational context. His first step, *formulating the mess*, involves a holistic, systemic look at the

organization and its environment. Second, means-*ends planning*, involves creating an idealized vision of the future and determining what changes are necessary in the current system to move it towards that vision. Third, *resource planning*, determines how facilities, people, money, information and other resources can be best utilized to meet the vision. Fourth, *organizational and management planning* determines what structures need to be in place for proper executive functioning of the system and for effective organizational learning. Fifth and last, *design of implementation and control* determines who will carry out what tasks in the change process and what the standards of quality implementation will be. This process is similar to Banathy's (1996) four design spirals: formulating the core definition, developing specifications, selecting functions, and designing the enabling systems. While Ackoff's five-step process of idealized design begins with a close look at the present organization and its environment before moving to the creation of an idealized vision of the future, Banathy's model begins with an idealized vision and then proceeds to develop specific functions to bring the ideal system into being. While they start in different places, both Ackoff (1979) and Banathy (1996) emphasize iteration, a systems perspective, establishing a shared vision, and managing the process of meeting that vision. These practices differ considerably from the practice of leveraged emergent design, to which we turn next.

Leveraged Emergent Design

Definition

An alternative to (or adaptation of) the idealized design approach is the leveraged emergent design approach developed by Reigeluth (2006) in a systemic transformation effort in Indianapolis. It is based on the following principles:

Leverage. In transforming an existing system to a new paradigm, it is hard to change everything at once. When you change one part of the system, it becomes incompatible with the rest of the system, which then works to change it back. Therefore, you must first change a part or parts of the system that can exert powerful leverage on the remaining parts of the old system – to overcome the force that the old system will exert to push the new parts back to what they were. Starting with a few high-leverage changes can make the whole systemic change process considerably quicker and easier. (Note that this is not piecemeal change even though you start by changing a small number of high-leverage pieces, because the changes will, if done right, result in a different paradigm of education, just as if the idealized design approach had been used.)

Visible progress. It is important for participants in a systemic change process to be able to see progress often. This sustains motivation and wins over skeptics.

Emergent design. It is difficult to design such a complex new system from scratch, for it is difficult to predict what will work best. In an emergent approach, a few guiding principles or beliefs ("strange attractors" in Chaos Theory or "desiderata" in Nelson & Stolterman's work) are selected, then a few high-leverage changes that are consistent with the guiding beliefs are implemented, and finally the remaining changes occur through creativity, trial, and error – they gradually emerge over time.

Transcending traditional mindsets. A different paradigm requires a different worldview. Helping stakeholders transcend their traditional mental models or mindsets about education is critical to a systemic change process. Failure to transcend causes resistance, or at best an inability to implement the new system, due to a lack of understanding.

Ideal seeking. As in Ackoff's idealized design ap-

proach, thinking in the ideal helps participants to transcend the mental model of the current paradigm and imagine something potentially far superior. This makes it most valuable to use at the beginning of the change process, while preparing what Ackoff calls a "rough sketch" of the new system. That rough sketch is the guiding beliefs (which serve as "strange attractors"). To allow the principles of leverage and emergence to play out, the idealized design should end when the rough sketch is completed, after the participants have transcended their traditional mental models about education.

Broad Stakeholder Ownership. Given the importance of transcending traditional mindsets, it is essential to have broad participation in the change process, so that a sufficient number of stakeholder mindsets support the systemic change. However, to develop true commitment to the new shared vision (represented by the guiding beliefs) and thereby minimize resistance, participants must go beyond participation to a sense of ownership of the new vision. Ownership is developed by encouraging participants to revise the vision (ideal beliefs), which ties in with the principle of emergence.

Consensus Building. Broad ownership can't happen without a consensus-building process, because participants begin with very different beliefs about what an ideal educational system would be like. The consensus-building process helps participants to understand others' perspectives and thereby evolve their mental models to a set of shared beliefs.

How it Works

Here is a tentative process for using the leveraged emergent design approach:

1. **Develop district-wide ideal beliefs.** A district Leadership Team is formed of about 25 opinion leaders in all stakeholder groups to develop a set of ideal beliefs for the entire school district, with broad stakeholder involvement.

2. **Develop district strategy and support capacity.** The district Leadership Team develops a broad strategy for the systemic transformation process. Primarily, this entails deciding how much of the district to transform at once: all "feeder systems" (a feeder system is all schools that feed into a single high school) or just one; all grade levels in a feeder system or begin with, say, K-3 and move up one grade level per year; all schools in the feeder system or just a few, and so forth. This decision is influenced by the amount of district and external resources to support those who are transforming, and it should be made with broad stakeholder ownership in a consensus-building process. In addition, a Central Support Team is formed in the Central Office, to support the formation and operation of building-level design teams.

3. **Create building-level design teams and strategy.** A School Design Team is formed in each building with broad stakeholder involvement. Each Design Team's first task is to decide, again with broad stakeholder involvement, on a building-level strategy for the systemic transformation process. Primarily, this entails deciding how much of the school to transform at once. If it is a large school, they may decide to form several small schools or learning communities within the building, and they may decide to start with just one or all of them. This decision depends primarily on school size, teacher cohesion, and mindsets.

4. **Elaborate the beliefs.** One School Design Team is formed for each "new" school to be designed in each building with broad stakeholder involvement. Each Design Team elaborates the district-wide ideal beliefs in such a way as to

tailor them to their school and neighborhood and develop broad stakeholder ownership of them. These will serve as "strange attractors." Duffy, Rogerson & Blick (2000) also recommends that a **district-level design team** be formed because the "core work process" should be viewed as the P-12 process, not a P-6 process, a 7-8 process, and a 9-12 process. This helps ensure systemic coherence.

5. **Decide on high-leverage, structural changes.** The Central Support Team helps each School Design Team to reach broad stakeholder consensus (mindset change) on a few high-leverage, structural changes that will implement the guiding beliefs for systemic transformation to a learner-centered paradigm. Sample high-leverage, structural changes are offered to help participants understand what they are, and different schools might choose different structural changes that they believe will be more consistent with their beliefs or will provide more leverage in their school. Samples might include:

   - replacing the current report card with an inventory of attainments whereby each student must reach a standard of attainment before progressing to the next attainment,
   - requiring a personal learning plan (or IEP) for every student whereby each student can immediately progress to the next attainment that is appropriate for him or her upon mastering the current one,
   - requiring a change in the teacher's role to a coach or facilitator, and
   - requiring active parent participation in setting and attaining their student's goals.

This phase is the heart of the leveraged emergent design approach, so the following is some additional guidance for conducting it.

5.1. **Elaborate the ideal beliefs.** Design teams engage their stakeholders in discussions of the district-wide ideal beliefs to build a deeper understanding of them and to develop a more detailed set of ideal beliefs tailored to their educational level, but compatible with the district-wide beliefs. Discussions of learner-centered instruction are also important to this task.

5.2. **Understand high-leverage, structural changes.** Design Teams engage their stakeholders in discussions of the high-leverage, initial changes listed above as ways to understand what they are.

5.3. **Decide on initial changes.** Design Teams engage their stakeholders in reaching broad stakeholder consensus on whatever initial changes they believe will best serve the high-leverage function for their elaborated ideal beliefs. Mindset change and consensus-building are paramount here.

   - Different schools will require different amounts of time to reach broad consensus on their ideal beliefs and initial changes.
   - The consensus must be very broad among all the school's stakeholder groups, and it must be true consensus, not acquiescence.
   - A Design Team could, of course, plan and implement more changes at the same time, to support those changes, such as students having the same teacher for three or four years and changing classrooms into multiage, non-graded learning environments. However, they must avoid the temptation to plan out the new system in detail, be-

cause that is very time consuming.

The high-leverage, structural changes are the vehicles for change and sources of leverage. They provide sufficient sustainability and leverage to gradually change all other aspects of the old system to be compatible with the new paradigm. There is no detailed ideal design for each building to develop and implement. This is a truly emergent approach, with the guiding beliefs serving as "strange attractors" to guide the emergence.

6. **Plan the means.** The means planning stage is very similar to Ackoff's counterpart in the idealized design approach. Once broad consensus has been reached on its high-leverage initial changes, each design team identifies and procures, with help from the Central Support Team, appropriate instructional methods, practices, and tools for implementing all of its initial, high-leverage, structural changes. Task forces may be created to accomplish particular tasks, such as developing their inventory of attainments. Some task forces may be jointly formed by more than one Design Team. Task forces receive considerable support from the Central Service Center. The Design Teams provide professional development experiences for their staff to develop their competence in using those methods, practices, and tools. They procure and install equipment and remodel facilities as needed. External funding is important for being able to "retool" their school.

7. **Implement the initial changes.** The methods, practices, and tools are implemented for all the initial, high-leverage, structural changes. Professional learning communities are formed to help members implement and improve the initial changes and any other changes that may be found helpful to support those initial changes. Formative evaluation and revision are continuous.

Comparison

In this section we discuss advantages for each of the two approaches and explore some comparisons between these two alternatives. As we've pointed out earlier in this article, it is certainly not the case that we wish to engage in dichotomous thinking, rather we see these two as viable options on a continuum from a process in which the new system is completely designed in great detail before any changes are made, to a process in which the new system is only partially designed before any changes are actually made.

Pros for the leveraged emergent design approach

Some of the advantages of this approach over the idealized design approach include:

- There is a much lighter up-front investment of time and resources in designing changes that can be implemented in each building, reducing expenses and allowing more schools to proceed at the same time.
- Stakeholders don't need to reach consensus on every aspect of the design before implementation – just the few high-leverage initial changes – so it is easier to reach broad consensus.
- Early implementation of the initial changes may help skeptics to see the value and workability of the changes.
- Significant changes are implemented sooner than with the idealized design approach, serving students sooner, as well as helping to maintain participant motivation.

Pros for the idealized design approach

Some of the advantages of this approach over the leveraged emergent design approach include:

- With the leveraged emergent design, poor choice of initial

changes could result in a failed effort if only piecemeal changes are made. [1]

- With the leveraged emergent design, poor choice of initial changes could result in a failed effort if they don't have enough leverage to keep the old system from forcing the changes to be undone.
- With idealized design, the change process is likely to be less uncertain and chaotic.
- With the idealized design, while attaining consensus is more difficult, all participants share a clear, common vision of the idealized system.

Whichever approach is used, it is essential to continue to work and think systemically. Without clear communication and permeable boundaries between systems, any set of changes will be likely to fail. Instead, leveraged emergent design or idealized design must take place within a systemic view, keeping in mind the essential tenets of systems thinking and systems theory.

School-Wide vs. District-Wide Transformation

Banathy (1996) notes that systems exist solely in the mind as a way of assigning meaning to an entity or phenomenon. Two popular ways to define the system-to-be-changed in educational reform are as the school and the school district (Squire & Reigeluth, 2000), and each represents a different approach to systemic change. School-wide transformation is discussed next, followed by district-wide transformation.

School-Wide Transformation

Definitions

Those adhering to a school-wide transformation approach to systemic change define the system of interest as the school. Several different terms are used to describe this approach, including whole-school reform, site-based or school-based reform, and most commonly, comprehensive school reform (CSR).

School-wide transformation is a broad approach that covers a diverse number of change processes and designs. While these designs differ in their focus, they share characteristics, the foremost being a comprehensive transformation of the individual school. The designs also share a focus on helping all students achieve high academic standards, the application of research on best practices, the involvement of parents and community members in schools, professional development of teachers and administrators, and the creation of a shared vision across faculty and community (McChesney, 1998).

Borman, Hewes, Overman, and Brown (2002) state that CSR is defined by the U.S. Department of Education using eleven components that cover these previous characteristics but also include a focus on using designs that have been scientifically shown to significantly improve student academic achievement, identifying resources for sustaining the change effort, incorporating assistance from an expert entity in school reform (for example, an institute of higher education), and implementing yearly assessments of the change effort.

How it Works

Most systemic reform implementations in the past twenty years have utilized the school-wide approach. Many of these implementations were funded by one of two programs: New American Schools (NAS) and the Comprehensive School Reform Program (CSRP), and CSR tends to focus on established reform model designs and the processes for implementing them.

New American Schools [2]

NAS was formed by the first Bush administration in 1991, raising private funds to support design teams which were to develop

"break the mold" whole-school designs. Eleven initial design teams were awarded funds, and NAS's first phased implementation? of the designs concluded in 1998, with design teams having partnered with more than 550 schools by 1995, including ATLAS, Co-nect Schools, Expeditionary Learning Outward Bound (ELOB), Modern Red Schoolhouse (MRS), and America's Choice Design Network (ACDN; originally National Alliance for Restructuring Education), and Success for All/Roots & Wings (SA) (Berends, Bodilly & Kirby, 2002). The implementation of design models was conducted by schools partnering with a specific design team, which assisted in the implementation of the model.

The different design models focus primarily on what the new schools should be like, so their change process approaches are primarily implementation approaches, rather than design approaches, although some room for adaptation of their designs is often allowed. While the implementation approaches of the five different design models listed above do vary considerably, three of them focus on faculty professional development and teamwork (ATLAS, ELOB, ACDN).

After initial feedback of schools struggling to reform within unsupportive districts, NAS outlined a scale-up strategy to partner with school districts rather than just schools (Berends et al., 2002). These districts pledged to have 30% of their schools using NAS designs within three years and provide support for these schools, with the idea that this would create a stable core of schools within the district that would help to encourage all district schools to reform. This is a small step away from the school-wide approach toward the district-wide approach. Hatch (2000) reports that results were mixed, with many schools that tried drastic systemic reforms in such districts lagging behind and largely being unsuccessful. NAS had RAND implement several evaluation studies of the schools, which found that reform initiatives were active and influenced policy but that the initial hypothesis that a school could improve its performance by adopting a whole-school design was largely unproved (Berends et al., 2002). Furthermore, the scale-up hypothesis, that a district that reformed 30% of its schools using NAS whole-school approaches would become stable and high performing, was disproved, with districts reverting back to their former status when administrations changed (Berends et al., 2002).

Comprehensive School Reform Programs (CSRP)

CSRP (originally the Comprehensive School Reform Demonstration program) was formed in 1997 when Congress appropriated $150 million to support schools implementing CSR models. It was included as a part of the No Child Left Behind Act, with over 1,800 schools in all 50 states, the District of Columbia, Puerto Rico, and schools funded by the Bureau of Indian Affairs receiving grants as part of the original 1998 cohort. $368 million was appropriated in 2003 for CSRP, and an estimated 3,000 new schools are annually expected to receive funding ("Comprehensive School Reform Program: About Us").

While some schools involved in CSR develop their own reform models, many try to adhere to the CSR guidelines by turning to expert external groups for a pre-designed and researched model and support, including some of the original NAS design teams. Some of the more well-known groups, apart from any of the surviving NAS teams, such as Success for All, include Comer's School Development Program (SDP), focusing on creating schools that support students' health, social, emotional, and academic challenges; Hirsch's Core Knowledge reform (CK), focusing on the establishment of a common core of knowledge for all children; and Sizer's Coalition of Essential Schools (CES), which attempts to create suppor-

tive and rich learning environments by adhering to nine broad principles (Borman et al., 2002).

These groups share similar visions, which largely adhere to the CSR guidelines, but they also are similar in their lack of guidance for the change process. They tend to offer a model and expect it to be implemented.

District-Wide Transformation

Definition

Those adhering to a district-wide transformation approach to systemic change define the system at the school district level. Schlechty (1990) identifies the school district as the unit for change, emphasizing how school districts often lack a shared vision and necessary supports for change to occur, and therefore, leadership needs to be emphasized within the district. Duffy, Rogerson and Blick (2000) emphasize the district even more strongly, stating that limiting change to school-wide reform is a piecemeal approach and is insufficient by itself to produce systemic change. Jenlink, Reigeluth, Carr, & Nelson (1996) advocate district-wide systemic change, saying "that systemic changes require changes beyond the scope of a classroom or a school building; that they require district-level changes as well" (p. 22).

The argument for selecting the district as the focus for change is that school-based change efforts are likely to fail if the schools do not have the support and shared vision of the district. Duffy and colleagues argue that focusing on a megasystem larger than the school district as the unit of change would be too complex and untenable (2000). Therefore, the school district should work with its schools to create a shared vision, while ceding autonomy to them for designing and implementing models that fit the vision (Duffy et al., 2000; Jenlink et al., 1996).

How it Works

There are several processes for implementing systemic change at the district level. Duffy and colleagues' (2000) Knowledge Work Supervision (KWS) process focuses on four phases: [3]

- Building support for innovation
- Redesigning for high performance
- Achieving stability and diffusion
- Sustaining school improvement

Their process identifies five key players:

- A knowledge work coordinator, who serves as an "integrator" who provides tactical leadership
- Cluster improvement teams, which are composed of K-12 inter-connected schools such as a high school and the elementary and middle schools that feed into it
- Site improvement teams, which create new designs for their buildings while considering the relationship to other members of their cluster
- Communities of practice, whether formal or informal, that disseminate their knowledge throughout the system
- A central service center, which is a redesigned central office that supports teachers and administrators as they pursue their change goals.

Jenlink, Reigeluth, Carr, and Nelson (1998) identify a five-phased approach broken down into 26 discrete events and many continuous events. The phases are:

- Assess readiness and negotiate an agreement
- Prepare core team for change process
- Prepare expanded teams for the process
- Engage in design of new educational system
- Implement and evolve new system

Both of these processes share key characteristics for transforming a school

district systemically. These include strong attention to creating a shared vision in the district, involving stakeholders, illustrating the need for change, creating momentum to drive the change process, and giving schools control over their own designs.

While no complete evaluations of district-wide systemic change programs were available, it is worth noting that some of the evaluations of school-wide programs identify the need for a larger, district-wide process. Datnow and Stringfield (2000) reviewed findings from 16 reform projects and more than 300 case studies and found that reform efforts are more likely to be effective when goals and work are shared across design team, school, district and state. Furthermore, the RAND study of NAS findings "dramatically proved" that the district needs to provide a supportive environment for schools to successfully implement change (Berends et al., 2002, p 174). The NAS' scale-up methodology showed their own recognition of the need to shift focus to the district level.

Comparison

Pros for the School-Wide Transformation approach

Some of the advantages of this approach over the District-Wide Transformation approach include:

- Less complexity
- Fewer resources required
- Shorter time frame
- Stronger research base on past implementations and models.

Pros for the District-Wide Transformation approach

Some of the advantages of this approach over the School-Wide Transformation approach include:

- Stronger support mechanisms for schools to implement change
- A more systemic view of process
- A shared vision for all stakeholders
- Ongoing commitment to the district as a learning organization

Key-Leader Directed vs. Broad Stakeholder Directed Transformation

Schlechty (1990) has developed a "marketing approach" to systemic change that is driven principally by a visionary superintendent. This stands in contrast to a user-designer approach that is driven by as broad a range of stakeholders as possible.

Key-Leader Directed Transformation

Definition

"If new structures are to be invented, then educational leaders must be risk takers" (Schlechty, 1990, p.152). In the work of educational reformer Phillip Schlechty, there is a staunch reliance on leadership to initiate change. Leadership can come from any place in the organization, but "ideas begin with individual women and men; they do not begin in groups" (p. 50). According to Schlechty, without the efforts of a visionary leader, most attempts at change are destined to fail. Schlechty also sees the nearly continuous string of failed school reforms since the 1950s as a result of the "sales approach" to school change:

Too often, those who try to bring about change approach the task as a sales problem. Just as sales tries to break down market resistance to a new product, leaders of change concentrate on overcoming resistance to change… Marketing change, by contrast, begins from the view that change must satisfy the needs and values of those whose support is essential… It is one thing to get people to tolerate change; it is another to get them to support change with their own time, energy, and creative capabilities (Schlechty, 1990, p. 84)

Educational reformers utilizing Schlechty's "marketing approach" must initially focus on the customers, which in this case are students. By providing stu-

dents with important school work at which they can be successful, schools can change and remain viable democratic institutions in our information-based society. Proponents of key-leader directed change *set their sights on students and how to make their experience successful*. An important distinction of key-leader directed design is that the suggested change is purposefully altered based on the change agent's understanding of stakeholder values. If the proposed change is predicted to contradict deeply held stakeholder values, then alterations to the change are made to make it more palatable. This approach is flexible in terms of specific changes, but does not explicitly invite stakeholders into the formation of overarching goals.

How it Works

Schlechty (1990) notes three powerful ways in which leaders can increase the chances of successful change: 1) foster and communicate a shared vision, 2) emphasize a results orientation, and 3) utilize shared decision making.

Schlechty's version of creating a shared vision includes allowing information to spread easily throughout the organization so that bottom-up reforms, which might be more easily implemented due to higher initial support, can reach the leadership rapidly. Obtaining a shared vision might also include strategic marketing in which "the trick is to segment the market so that the values that come into play are taken into account and to group the customers (for analytical purposes) in ways that reflect significant clusterings and emphases on these values" (1990, p. 85). Thus, identifying possible flash points for opposition in advance and addressing them early-on becomes an important part of the marketing approach.

Emphasizing a results orientation involves evaluating current and future practice in reference to the school's established purpose. Schlechty states that the purpose of a school, when viewed as a knowledge-work organization is "to invent schoolwork (knowledge work) at which students are successful (students can do it and do do it) and from which students learn something that is of consequence to those on whose support the school relies" (1990, p. 53). If this purpose is assumed, then evaluating results is simply a matter of evaluating whether or not activities move the school towards this stated purpose.

Utilizing shared decision making is viewed by Schlechty as both an aesthetically pleasing practice in a democratic society as well as a style of leadership that will result in "better decisions and better results" (1990, p. 52). Restructuring management and time so that workers who are low in an organization's hierarchical structure have the opportunity to participate in decision making is believed to result in an organization that is better able to function effectively.

All three of these characteristics go together, and none can be fully implemented without the other two.

Additional work in key-leader directed design has been done by researchers interested in the ways leaders can prepare organizations for change. Latchem and Hanna (2002) apply Schlechty's work to the integration of computers into the classroom. They describe "disruptive technology" (p. 204) as that which responds to customer needs and forces the organization to operate differently. This outgrowth of key-leader directed change maintains a customer focus but is not as reliant on managers as the original. Additionally, scholarly work has focused on teacher leadership as educational change and how leadership development for teachers might serve to improve a school's operation in a context of change (Cox, 1999).

An important distinction of key-leader directed design

is that the suggested change is purposefully altered based on the change agents' understanding of stakeholder values. If the proposed change is predicted to contradict deeply held stakeholder values, then alterations to the change are made to make it more palatable.

Broad Stakeholder Directed Transformation

Definition

User-design is an approach to design that is highly aligned with idealized design and focuses on a very significant, empowered engagement of many stakeholders. It has been defined (Carr-Chellman, in press) as "**an authentic empowerment of a particular set of stakeholders, the users of any innovation, such that they are creating their own systems of human learning**." User design is founded on systems theories and understandings of the basics of systems such as interconnections and interdependencies. User design as applied to Educational Systems Design (ESD) stems from work done by Banathy (1991), Reigeluth (1993), and Jenlink (1995). All of this earlier work from the 90's focused on very potent forms of stakeholder participation that went far beyond earlier conceptions of stakeholder participation, such as those of Epstein (1997).

The foundations of user-design are deeply rooted in Human Computer Interface, and particularly the Scandinavian theories surrounding Participatory Design (Schuler & Namioka, 1993). The process of user design is less systematic and linear than traditional instructional design, and therefore has more in common with idealized design processes.

How it Works

The underlying principles of user-design are that the design and decision making need to be a shared activity across as many different stakeholders as possible. In this sort of approach, the users *become* designers, and the professional designer has to offer assistance and education where appropriate with just-in-time learning. This is a dramatic shift in the role of the designer and in the role of the participants/former recipients of innovations. Because of this shift, power has to be carefully considered as a primary variable in the implementation of user-design approaches. In certain contexts, user-design will not be possible because the idea of shared power is simply not compatible with the leadership or the designers.

Despite this possible drawback, in general, we can say that the empirical findings on the engagement of stakeholders in public school change show positive outcomes on both significant and superficial stakeholder participation (e.g., Hafner, 1992; Henry, Dickey & Areson, 1991; Wang, Haertel & Walberg, 1995). In addition, engagement of stakeholders in more general social systems design tended to yield positive outcomes (e.g., Brandon, 1999; Greene, 1988; Saegert, 1996). These research findings are encouraging and should help those readers willing to consider such a radical approach.

The basic stages of user-design include: readiness, team selection, process/design tool selection, capacity building, process engagement, trials of innovations, iterative assessment of process and products innovations, and evaluation of user-design systemic impacts (Carr-Chellman, in press). These stages are moved through very loosely and not in any sort of true linear fashion. But in general, some stages will come before others, such that, for example, the readiness of any organization should be at least initially assessed prior to selecting team members or tools. There is a variety of considerations associated with each of these phases, for example, tool selection should be a shared activity, one which is facilitated by the designers but not owned by the designers. The basic process calls for fairly early trials of innovations in somewhat of a rapid proto-

typing fashion. Further discussion of each phase can be found in Carr-Chellman (in press).

Comparison

The key-leader approach and the user-design approach share some commonalities, particularly as the key-leader approach requires building a shared vision and respects the notion that innovative ideas may come from anywhere within the system. However, there is a fairly large gap where power is concerned. It is clear that power remains with leadership in the case of the key-leader approach, whereas in user-design the decision-making power resides with users themselves. In many cases, the user-design approach may not be appropriate, despite its more aggressive user-engagement, because the context may not be at all friendly to the necessary notions of power redistribution or because the requisite resources in terms of time and people may simply not be available. User-design also requires a certain amount of active engagement and responsibility on the part of all system users, and if a context is not prepared for this, then the user-design approach may not meet the needs of a particular school community.

On the other hand, the key leader approach needs to have willing followers who will engage in the process under the direction of a key leader, and thus a significant key leader must be present in the context. And presumably, the key leader should be an innovator with good communication skills and a compelling personality. Thus, neither of these approaches may be appropriate for all school cultures. In both cases, readiness is essential.

Conclusion

This article described a number of systemic change approaches to k-12 school innovation. The approaches included idealized design versus leveraged emergent design, school-wide versus district-wide transformation, and key-leader-directed versus broad-stakeholder-directed transformation. Definitions of each approach were reviewed, along with key practices of each and comparisons among them. Hopefully, this material will stimulate discussion and understanding of their advantages and disadvantages within the culture and context of any particular school community, and will help identify productive avenues for future research.

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Reigeluth, C. M., Carr-Chellman, A. A., Beabout, B. & Watson, W. (2006). Creating shared visions of the future for K-12 education: A systemic transformation process for a learner-centered paradigm. *The F. M. Duffy Reports*, 11(3), 1-18.

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Endnotes

[1] Based on our definition of idealized design, it is impossible for piecemeal changes to emerge from an idealized design process.

[2] The New American Schools enterprise merged with the American Institutes for Research in 2004.

[3] ***Knowledge Work Supervision*** has evolved into a three-step transformation process preceded by a Pre-Launch Preparation Phase. The modified method is now known as ***Step-Up-To-Excellence*** (Duffy, 2006)