# A Review of Systems Design Including Its Role in Planning For School-Community Relationships

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December 14, 2006

**Topic**

I chose to investigate the theory of *Systems Design* as a mechanism for planning school-community partnerships including its role in affecting change across systems of implementation.

**Purpose**

One thing constant in education is the ongoing call for reform. Educational leaders, political pundits, public officials, school administrators, and the general populace seem consumed with the need to advance theories and ideals advocating different and better ways to teach our children in public school systems around the country. Much of these criticisms are valid and appropriate. Rethinking how we engage in what we do, whether it is related to education or otherwise, is a healthy exercise by most accounts. *Systems Theory*, as it relates to education, is what some might say a radical way of thinking about how we address change in our schools and is a founding principle on which a more refined methodology termed "Systems Design" has been developed. For this reason alone this concept should be considered important reading for any school leader who has the facility to affect change in educational policy and practices.

As one who has been trained as an "Educational Technologist" the topic of *Systems Design* is naturally interesting to me. Most educational technologists by their own omission will admit to advocating change in some form or fashion, and I am interested to learn more about how Systems Design could potentially be used to advance change on a global scale in public schools. Technology fuels innovation and has changed how we interact and communicate and will, I assume, be a driving force behind Systems Design. I am curious to see if this is true. Additionally, I am also interested to learn how Systems Design relates (i.e.

has the potential to be applied) to community and school relationships. In my mind, these are just a few of the issues that lend credence to learning more about this particular topic.

**Questions At Issue**

One of the major questions at issue is whether Systems Design makes sense as a vehicle to help interpret the environment when planning for district-community partnerships. Most will agree a well-developed plan is critical to the success of a school-community partnership, and at the heart of the theory behind Systems Design is the need to formulate a *holistic* plan that incorporates a multitude of ways to look at an issue, primarily because the essence of the theory lies in viewing environments as a series of processes rather than a sequence of individual acts in and of themselves. Those who study Systems Design will also understand the importance of *change* as a contingency when adopting a contemporary community-based approach. With these in mind, it behooves administrative leaders and community advocates to recognize attributes of Systems Design when developing their formulas for school and community partnerships.

For example, there are elements of Systems Design theory that leaders could apply, such as the need to look ahead to gain understanding of how and where one wants to arrive *in the future* rather than focusing on where one is now and how he or she ended up here, in context to their planning models. It is also important for leaders to be able to anticipate how systematic changes will most likely affect people so they can plan accordingly. Understanding the natural cycle of adoption including how to best socialize ideas to bring a system to the point of disequilibrium so change can occur is key to this anticipation (Rogers, 1995; Reigeluth, 2004). In all, the need to have the ability to look ahead, to set clear goals and to adequately plan for systematic change are all elements that should be considered before implementing a new school community partnership. Consequently, leaders who study the

theory and practicality behind Systems Design will be better equipped to make informed decisions in relation to these needs.

**Topic Information**

Systems Design in many ways can be better described as a philosophy rather than a strategy, model or specific approach. Those who study its underpinnings will recognize its application as a new way of thinking about how schools could (should?) be designed to more effectively educate the youth of today and tomorrow. A realist or naysayer might view Systems Design at best, impractical or, at worst, impossible to apply to our current public educational system. Why? Because it involves a complete "tear down" of our current system with an eye towards rebuilding from the ground up.

The theory behind Systems Design drives "out-of-the-box" ideals that have been advanced in business and medical fields as a way to "think differently," embrace change and adapt to ever changing conditions willingly and accordingly. It is built on the premise that a methodology or way of doing things is best realized when it is viewed as a flexible system where all parts are designed simultaneously to act interdependently upon one another (Banathy, 1996). Or, in contrast, that a system will ultimately stall and break down when problems inherent to its design are viewed individually as separate parts, or reduced to a series of decisions made to address a specific issue, without maintaining global perspective in reference to how said issues relate to the system surrounding them. It is in this context that proponents of Systems Design will argue that to adequately address the problems facing our schools we need a fresh start that takes into account how all parts of the system function together; abandoning the notion that problems should and can be addressed and solved in isolation. With this in mind, many purport our current public educational system is so fraught with difficulties that the only thing we can do is to "think differently" about how we

can do a better job, including how we should create a new system with an eye on how to better leverage community and business assets into the new design. There have been compelling arguments made to support this viewpoint.

Our current educational system was built on 19th century methodologies that are no longer appropriate for students who need to learn how to exist in today's (let alone tomorrow's) society. For example, adherence to stand and deliver teaching, skill building and the recall of factual information should no longer be advanced as preferred methods of instruction. Our schools should instead help students become skillful manipulators, synthesizers and creators of knowledge (King, 1999). Upon further reflection, it is difficult to understand why schools continue to embrace single-room, single teacher-led instructional environments.

Why isn't there more classroom collaboration occurring, not only within a school itself but between students and teachers based all over the world? Networked environments have made it possible to expand learning opportunities and remove past barriers of physical space. Yet, our current system still promotes a system advanced from the industrial age when clear boundaries, roles and policies, accountabilities and expectations, and organizational schemes were the order of the day, and, consequently, the foundations for our current system's design. Society no longer relies primarily on factor workers, but on life long learners who can think critically, solve problems, and work collaboratively. These are the skills needed for tomorrow's "knowledge workers" (Drucker, 1994 as read in King, 1999).

Technology drives innovation and the need to adapt, which, in turn, drives the call for a new model that can only be implemented with *systematic* change. Not all agree that change brought about by technology is positive, including some who report concern that children who have grown up with computers lack creative function and hands-on skills

(Cordes, 2004). However, even those who argue for a de-emphasis on high tech products admit that educational technology should be considered in relation to its overall place within a system of teaching and learning.

One way that school leaders can help determine how to serve and produce these new "knowledge workers" is to reach out and form strong relationships with parents and the community. As Carroll points out, a networked learning community IS NOT a community of learners that is or can be defined by physical boundaries. Schools, instead of reflecting the linear and hierarchical design of the past, should instead be referred to as "nodes" of learning where all vested participants collaborate together to form knowledge through communication and collaboration. Members of these learning "nodes" should include community associates as well as teachers and students who mutually engage in knowledge generation where interaction supplants teaching; meaning, everyone in a node becomes a learner (Carroll, 2000).

Proponents of constructivism will no doubt applaud this philosophy which bemoans the ever present "sage on the stage," one-way transmission of knowledge still prevalent in classrooms across our country. Some will even go so far as to say our world is a living system where everything is built upon relationships and nothing exists in isolation, and our schools should reflect this fabric of interdependency. The richest learning opportunities are weaved and connected through a tapestry of mutual dependencies and common, community-built relationships (Wheatly, 1999). The study of Systems Design may help leaders better appreciate these ideas and consider their merit and value when considering how to address problems in their educational systems.

Some have provided specific strategies in relation to Educational Systems Design that build on these principles of interdependency and importance of mutually beneficial

relationships. To facilitate systematic change, leaders need to assess the readiness of the community, get a commitment from all stakeholder groups, relate with nonparticipants, find common values and analyze learner and societal needs and develop core ideas and goals (Reigeluth, 1993). This could take the form of a community school partnership or even a "Community School," a learning environment characterized by flexibility and the ability to change in response to changing needs (Melaville, 2002). Schools are ideal places to vet innovation, spread new things and ideas among all stakeholders. In this way the school-community relationship is a "two-way" street where the community receives some service and in return the school benefits through more active parent involvement. To this extent the promise of a community school partnership will be fulfilled when the school actively looks for ways to help the community, rather than the other way around (Arriaza, 2004). Examples of these types of partnerships include "museum" and Montessori schools where community members play a prominent role in promoting "learning diversity" and teaching students to become problem solvers and lifelong learners. Stakeholders within a community are the ones who can best understand their own unique goals and needs and are best equipped to provide input into an educational environment to this effect (King, 1999).

This is the type of thinking Systems Design can spawn when leaders recognize the current system no longer meets the needs of today's learners, and they begin to view their schools holistically in relation to the community and to realize the school itself exists as more than just an individual system. Once this recognition is made leaders will understand that fundamental, systematic change through Systems Design could be a well-founded method to address difficult issues at hand.

**Interpretation**

The theory behind Systems Design advances the idea that a system should be looked at interdependently and that ultimate success will be assured if all its parts are designed simultaneously. Is this realistic in a large public school district environment? In a literal sense, probably not. It is not likely that there will be enough people who share a "like vision" within a community-school network to engage in systematic change and re-forge their educational system from the ground up. However, leaders who are versed in the principles of Systems Design are more likely to take a "big picture" view when considering important educational decisions, including ensuring their communities have the opportunity to share in plannings that will ultimately formulate the basis for broad district learning goals. School leaders must reframe their thinking ("think differently") and see their communities as equal partners rather than just a provision for resources (Arriaza, 2004), and internalize that a shared vision defined by mutually beneficial goals and objectives will give support to a stronger total system of education (Engeln, 2003). Districts cannot operate in isolation and need to consider their role in relation to the overall community systems in which they serve.

Additionally, school leaders who are versed in Systems Design will be more apt to understand how technology can promote learning environments that are less centralized and more flexible (Frick, 1991), and how technology can advance *interdependent* learning systems steeped in the notion that all stakeholders who reside in a community **must** have the opportunity to become learners in the educational systems of tomorrow.

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