A Connected School

Improving Schools and Communities from the Inside Out

Frederic W. Good

Contrary to what we've been taught, genes do not determine physical and character traits on their own. Rather, they interact with the environment in a dynamic, ongoing process that produces and continually refines an individual.

David Shenk
From *The Genius in All of Us:*
Why Everything You've Been Told About
Genetics, Talent, and IQ is Wrong
New York: Doubleday, 2010.

CONTENTS

ABSTRACT

Perceptual Control Theory offers a framework for understanding and predicting the effects of a range of evidence-based school improvement strategies and practices currently in use throughout K-12 public schools in the United States. The goals of public school education are explored in light of the social and political controversies that surround school improvement efforts and how these have shaped the public discourse. PCT presents a way of looking at group behavior in light of, and as a consequence of, individual behavior. The theory is an important knowledge base for all individuals who want to help others learn and grow.

SUMMARY

Teaching PCT and practical applications derived from the theory to K-12 educators provides them with a framework for managing themselves, their classrooms, and their schools. As a knowledge base, PCT can help K-12 education policy makers and practitioners better understand and identify effective strategies for creating positive school climates and for learning and constantly improving sound classroom practices.

PCT explains why we can control only ourselves. This may seem like common sense. It is at the root of many of the difficulties educators face in K-12 public schools. *A Connected School* is a staff development program designed to teach the basic concepts of PCT and to help educators learn to model self-evaluation skills derived from understanding PCT. These skills help teachers and administrators improve relationships with their students and their peers.

A Connected School is primarily concerned with improving school climate, a catchall phrase that refers to those factors not directly associated with teaching standards or course content. The most important element in school climate has to do with the relationships in a school. The connection between school climate and achievement is now well documented. Students who feel connected to their schools do better than students who do not feel connected. Helping teachers learn how to better connect with their students and helping them model self-evaluation skills sets a tone and direction for school improvement which is aligned with PCT principles.

Two ideas underscore the approach taken by *A Connected School*. The first has to do with the idea that schools must change from within. The second puts emphasis on teachers changing their behavior rather than focusing on ways to change student behavior. Educational research certainly seems to support this approach. What makes *A Connected School* unique is that the program is based on PCT (and the method of levels) and is deliberate about teaching communication skills through involvement activities and role play.

I. INTRODUCTION

Anyone who has been seriously interested and involved in the evolution of public schools in America and in efforts to make them better over the past 60 years has been on a roller coaster ride. Hundreds of proposals to improve schools have been advanced. Hundreds of billions of dollars have been spent on trying to make them better. The goal that every child in America be availed of a high quality public school education is clearly stated in the legislation. Yet, as a country, we have a long way to go to meet that goal.

Part of the reason improving K-12 public education is difficult is because we remain conflicted about what we really want. Absent a clearly articulated national policy on what we believe about treating children, we lack a foundation for creating schools where all children feel safe and all children receive a high quality education. Schools are subjected to policies, often conflicting, set by a combination of elected school boards, individual states and the federal government. They sometimes become the battleground where conflicting ideologies fight for control at the expense of children.

Among the many factors influencing school reform is the fact that we have moved from a manufacturing society in which people with little formal education could earn a living wage to a knowledge-based one in which a high level of formal education is necessary to achieve a decent standard of living (National Research Council, 1999, 2002). Public schools are under pressure from different directions to offer all students an equal opportunity to achieve their potential in a rapidly changing economic, and increasingly global, environment.

Two events in the early 1960s profoundly affected public schooling in America. President John F. Kennedy read Michael Harrington's book, *The Other America*, which revealed the extent of the deep seated poverty in our country. The result was the federally mandated anti-poverty program established in 1964. The Civil Rights Movement led to the desegregation of public schools a year later.

Public schools are a government enterprise, mostly funded through the 50 state governments with some funds coming from county and city coffers. Until the end of segregated schools, the influence of the federal government in public schooling was limited. With passage of the Elementary and Secondary Education Act of 1965, that changed significantly. Schools became a battleground for social and political change. On one hand, the movement for local control of schools resulted in locally-elected school boards; on the other hand, the federal government directed its efforts at providing equal access to a quality education for all children. Title I, which provides as much as half of the money that goes into school improvement, is authorized by the Elementary and Secondary Education Act of 1965. It was amended in 2002 to read as follows: "The purpose of this title is to ensure that all children have a fair, equal, and significant opportunity to

obtain a high-quality education and reach, at a minimum, proficiency on challenging state academic achievement standards and state academic assessments." A total of $114 billion was authorized for the years 2002 through 2007 by this title popularly known as "No Child Left Behind."

While Americans are taught to believe in certain principles such as democracy and the separation of church and state, these principles can become blurred in the real world. Schools tend to reflect the communities in which they are located. School boards set policies for their schools and hire superintendents to implement those policies. While educational standards are largely dictated at the state level, school boards can choose how they want to meet those standards. Controversies around issues such as teaching evolution can become contentious. Differing perceptions of what constitutes democracy and democratic decision making result in tension. In the end, improving public schools is tied to social change, and social change is difficult by any measure.

During the decades following the Elementary and Secondary Education Act of 1965, much of the focus of school reform was on the desegregation of public schools. Depending on the administration in Washington, the public school reform agenda tended to shift. The Carter Administration created the cabinet-level Department of Education in 1980. The Reagan Administration attempted to eliminate the Department and promoted "cultural literacy" as the primary reform agenda for public education. During the Clinton Administration the Department of Education gained momentum. The promising reform idea known as outcome-based education became the target of the fundamentalist far right and never became a nationally implemented model, although, as is true generally in education reform, it did influence some of the comprehensive school reform models that came later. Under attack was the constructivist (humans generate knowledge and meaning from their experiences) view of education underlying the movement. During the ensuing years, school reform focused on interventions that targeted specific groups of students who needed extra help. Hence the designation "at risk" emerged in the literature. Many of these programs survived and have been incorporated into the regular fabric of the schools adopting them.

In the past 20 years, the federal government's piecemeal, targeted approach to reform gave way to reforms that could demonstrate high-quality evidence of effectiveness. Comprehensive school reform (CSR) models were developed, implemented, and studied.

These models attempt to address every aspect of a school's operations. Thousands of research studies have been done focusing on every aspect of school reform and improvement, including the CSR models. The studies vary widely in scope and purpose. The federal government devotes significant resources and attention analyzing these studies and formulating proposals for public policy.

At this juncture, there has yet to be a unifying and comprehensive theory of change that provides a framework for predicting what will work and what will not in educational reform proposals. In 2007, the federal government abandoned CSR. With a new administration in Washington, it is unclear where and how the federal government will focus its energies. Scientific research in education has become an underlying theme and focus in the government's effort to improve schools. "Evidence-based" is the new buzz word in education. The opportunity for PCT to emerge as a promising framework for school reform could not be better.

Perceptual Control Theory challenges, among other things, the instructionist perspective in education which still has an important, if not dominant, influence in public schools today. However, the idea that students are active creators of their own knowledge (the constructivist perspective) is becoming more and more accepted by psychologists and educators (Cziko, 1995). A science that demonstrates that change is an internal, individualized process leads to principles that reject authoritarian approaches to schooling, and suggests a constructivist approach.

The alternative school and holistic education movements which emerged in the 1960s were constructivist in their outlook. Calling for smaller, more community-based schools which are student centered, these movements have influenced how CSR models and other reform initiatives are designed and implemented, particularly as relates to classroom management and instructional practices. Most recently, a model known as Transformative Classroom Management recognizes two key elements which are clearly congruent with PCT principles (Shindler, 2000). These two elements are (1) that schools will not change until teachers change; and (2) that the role of the teacher is "to create a psychology of success" within students. While the architects of this model do not mention PCT, phrases such as "locus of control" and "internal motivation" appear in the underlying research and literature supporting this initiative.

Any consideration of public school reform would be incomplete without a mention of charter schools. These are usually smaller schools, started by an individual or a group, which apply for a charter from their state to operate public schools. These schools vary widely in their outlook and practices. They are sometimes, although not overtly, religion-based. They can be highly authoritarian in their perspective, or they can model constructivist principles (e.g., Montessori, Waldorf, and Paideia). They have been embraced by a wide range of ideological perspectives.

II. PURPOSE AND SCOPE

The purpose of this paper is to provide a rationale for introducing Perceptual Control Theory to public school educators, to describe the context in which these efforts are being initiated, and to consider some of the

challenges that these efforts currently face and will continue to face. While the paper discusses ways in which studying PCT can be useful for educators, it does not explain or redefine education in terms of PCT. For an explanation of education from a PCT perspective, see *Without Miracles* by Gary Cziko (details listed in the references following this paper).

This paper suggests that research literature devoted to school reform in the United States over the past two decades arrives at conclusions that align with PCT. In addition, the paper will demonstrate how and why, according to the theory's underlying principles, certain school reform approaches are more effective than others.

Teaching PCT in schools is currently being delivered through a program called *A Connected School*. Created by E. Perry Good and colleagues associated with the faculty-run non-profit organization known as the International Association for Applied Control Theory (IAACT), *A Connected School* has been delivered to nearly 10,000 school administrators, teachers, and support personnel over the past decade.

IAACT has recently (fiscal year 2009-10) obtained a small grant through the United States Department of Health and Human Services' Substance Abuse and Mental Health Services Administration (SAMHSA) to "develop an evaluation capacity." This is the first step in having programs based on Perceptual Control Theory registered in the National Registry of Evidence-based Pro-

grams and Practices (NREPP) as promising interventions. Though there have been a number of limited studies of the effects of teaching PCT to school administrators, teachers, and support personnel in K-12 public schools and on variables such as discipline referrals and school climate, there have yet to be more substantive studies such as randomized control trials conducted on a larger scale and aimed at assessing the effects of teaching PCT in K-12 schools.

Extensive anecdotal evidence, data from schools involved in *A Connected School* training, and third party pre- and post-training evaluations, combined with more rigorous research studies undertaken in England and Australia in the field of psychology, led to the current SAMHSA mini-grant. Additional research is underway in cooperation with Evansville Vanderburgh School Corporation, Indiana, and Randolph County Schools, North Carolina, where large, multi-year Safe Schools/Healthy Students projects support *A Connected School* staff development initiatives. Michigan State University Community Evaluation and Research Center recently submitted a proposal to the United States Department of Education for a grant to conduct a randomized control trial using *A Connected School*.

This paper also includes a brief discussion of the current state of affairs in education research from the perspective of the National Research Council. The National Research Council is part of the National Academies (the National Academy of Sciences, the National Academy of Engineering, the In-

stitute of Medicine, and the National Research Council, which all operate under a charter granted by the US Congress). It is mostly here that federal policies in education are created and proposed for consideration by Congress.

The research on education is abundant. This report focuses on public school reform, concentrating on research conducted in the past 20 years. In addition to reviewing the literature on the topic in general, this paper specifically reviews what have come to be known as "evidence-based" comprehensive school reform models (CSR). The reason for the focus on these models is because A Connected School tends to be compared to them by decision makers who determine how staff development dollars are spent. Increasingly, staff development money must be spent on programs which are considered evidence-based. *A Connected School* is not yet considered evidence-based. Rather, it is grounded in scientific knowledge. This is an important distinction which has equally important implications for school reform.

The CSR models referenced in this paper are listed at the Educational Resources Information Center (ERIC), an on-line digital library of education research and information. They have a considerable amount of research behind them. These models are usually developed at universities or by large non-profit research institutions. They are funded through government and foundation grants, implemented in schools, and followed by research studies to evaluate their effectiveness. These models seek to change the "whole school." They vary in their strategies and approaches to instruction (teaching practices), curriculum, school and classroom organization and decision making. Parental involvement is a component of many of them.

The federal government has spent several billion dollars in the past ten years studying these models with mixed results. The methods used by the studies to evaluate CSR models are based on research designs which are common in the social sciences. Case studies that focus on measuring the effectiveness of particular programs and interventions are followed by meta-analyses that attempt to measure the overall effectiveness of these models and programs across the country. CSR models have been implemented in some 8,000 schools across the country over the past 20 years.

The paper concludes by reviewing the limited research around *A Connected School*, a program of study designed for counselors, teachers, and principals aimed at teaching PCT and some very practical applications for self, working with others and, at the institutional level, using interpersonal skills and practices that are principles-based and grounded in appropriate research.

As previously stated, *A Connected School* has often been compared to the much larger and amply funded CSR models. This comparison is misleading. Teaching PCT is no different than teaching any other theory emerging in other fields of study. *A Connected School* is not a form of packaging edu-

cational strategies into a program designed to improve schools in the same way that the CSR models are.

III. DESCRIPTION OF *A CONNECTED SCHOOL* AND THE COURSE IN APPLIED CONTROL THEORY

A Connected School is a staff development program derived from PCT and based on competencies developed by faculty of the International Association for Applied Control Theory (IAACT). The non-profit, faculty-run organization, which is dedicated to teaching and learning Perceptual Control Theory and its applications in education and other helping professions, periodically reviews competencies for certification in Control Theory, monitors a diverse faculty, and conducts research to evaluate the efficacy of programs created by its faculty.

In *A Connected School*, participants acquire general knowledge of PCT and learn practical skills derived from that knowledge or that are congruent with it. This is accomplished through small group (10-18 participants) seminars led by IAACT faculty. These seminars offer didactic and experiential activities in individual and group settings. The program is specific about its goal to teach the basic concepts of PCT, characterizing PCT as a new scientific theory of behavior that is a paradigm shift from commonly held notions of how people learn and acquire the knowledge and skills to survive in a constantly changing and complex environment. Faculty do not claim to be experts in the science of PCT; theory originator William T. Powers has explicitly said that it is not necessary to be a scientist in order to practice principles derived from the theory.

From the outset, *A Connected School* participants are urged to focus on themselves and on their own behavior. During the workshops participants learn (1) connecting activities designed to get people interacting with one another; and (2) the skills of self-evaluation designed to help them improve how they communicate and interact with others. Activities that build trust among students and between students, teachers and administrators are modeled. The primary message is that we can change only our own behavior. Change begins within oneself rather than through trying to change the behavior of others.

A Connected School consists of three four-day workshops (identified as ACT I, ACT II, and ACT III) and a 30-hour, supervised practicum between ACT I and ACT II as well as between ACT II and ACT III.

Competencies for ACT I include the following:

- To know the definition of Perceptual Control Theory (PCT) and be able to explain how it is different from other theories of behavior.

- To be familiar with PCT, the feedback loop, and its components.

- To know the principles:

  - Make the connection;

  - Seek the reference;

  - Ask, don't tell;

  - Bump it up!

  - Pull, don't push.

- To know and practice these strategies:

  - Core questions for self-evaluation;

  - Overall direction;

  - "Attack" or "Name That Behavior";

  - Discipline within.

Competencies for ACT II include the following:

- To know the core concepts of Perceptual Control Theory (PCT), such as:

  - The feedback loop;

  - The levels of perception;

  - Living systems constantly seek to reduce error.

- To understand the connection between PCT and helping practices for oneself and others.

After completing ACT II, participants will be able to:

- Demonstrate through presentation a personal or professional application of PCT and a gain in understanding of the core concepts of PCT;

- Demonstrate through role playing/interactive dialogue an understanding of the feedback loop as it relates to practice;

- Demonstrate the ability to self-evaluate based on the core concepts of PCT.

Participants in ACT II learn the following principles of PCT:

- Affect error: reduce, increase, recognize.

- Make the shift;

- Follow awareness;

- When all else fails, shift to the program level.

In ACT III, participants develop a presentation for their group based on what they have learned and to demonstrate proficiency in role play. Upon completion of ACT

III, participants are considered "certified" in Applied Control Theory.

Advanced participants can continue their learning in ACT IV, which offers an opportunity to join the IAACT faculty.

Given that PCT is science, terms describing the model are precise and technical. These terms are maintained in the IAACT competencies and are taught in *A Connected School*. Without an understanding of some of the concepts on which this model is built, the benefit of the program cannot be fully appreciated. Some of the key ideas and terms which are reviewed with participants are listed below with some brief comments about why they are considered.

- What is the scientific method? What do we mean when we refer to a scientific theory? Many teachers are unfamiliar with the methods of science and are therefore unprepared to consider the premise on which the knowledge and skills taught in *A Connected School* are based. A theory is functional (can be applied to all organisms) and simple (subject to refutation).

- What do we mean when we talk about control? What is a control process? In the helping professions, the word "control" raises a red flag. It is helpful to clarify the meaning of control as it relates to the science and to emphasize that what we learn from the model is that we

are self-regulating organisms.

- What is feedback? Instructors discuss examples from daily life such as a heating system.

- What do we mean when we use the term "system"? How does this term apply to living organisms? The idea that a group of cells forms the heart, which interacts with other parts in the body to form a whole, is a simple example. Thus, we refer to the "nervous" system or the "blood" system. In PCT we refer to living organisms as "living systems."

- What is psychology? Instructors offer a brief historical perspective, and introduce William James's emphasis on "purpose."

- What is behaviorism? Pavlov and Skinner are briefly discussed, and the difference between stimulus-response and feedback control are introduced.

- What are the cognitive sciences?

- What is the relationship between the physical sciences and the living sciences? How are their research methodologies different?

- What is a systems diagram versus a flow chart? The terms and symbols used in a systems diagram are specific so that concepts can be

communicated in as clear a way as possible.

The feedback loop is presented using a marker and constructing the loop, starting with a horizontal dotted line across the middle of the page and designating the top half as internal to a control system and below as what is external to the control system. It is made clear that PCT is a theory that attempts to describe the relationship between an organism and its environment. The elements of the diagram are explained as they are written down on the page (P for perception, and so forth).

Inevitably, there are questions. Teachers are not used to workshops where a scientific theory is explained and offered as the basis for what they are going to be learning. Most teacher workshops tend to be prescriptive. They are rarely interactive. They do not model the content they present and rarely ask participants to actually practice the skills they are learning.

The primary means of learning applications of PCT are through involvement activities and role play. Structured involvement activities are used to promote discussion and to help participants get to know one another. These activities help create an atmosphere or "climate" that enhances learning and sets the stage for risk taking. Most participants are reluctant in the beginning to engage in role playing.

Involvement activities, which are derived from a variety of different sources, allow participants to experience them directly as if they were students in a classroom. These activities are designed to help people get to know one another better, to share and discuss values and attitudes, and to learn how to work in groups to create agreements such as a social contract and classroom expectations. Emphasis is on helping participants learn to use and model self-evaluation and interviewing skills. These skills are rooted in understanding that behavior is not just what you observe a person doing, but a process of perceiving, comparing, and acting.

Role play is the primary learning tool for helping people learn to interact with others in ways that are not coercive and which avoid telling or giving advice. The principles described in the method of levels (Carey, 2005) are offered as a guide for interacting with others. These skills are demonstrated by instructors and practiced by participants in small groups as well as in the larger group.

Because the level of education and backgrounds of participants in *A Connected School* varies so dramatically from one group to another and within groups, some latitude is left to individual IAACT instructors to decide how thoroughly to cover different aspects of the content. It should be noted that some teachers fail to see the importance of trying to learn the science behind *A Connected School*.

IV. SCIENTIFIC RESEARCH IN EDUCATION

Education research is a relatively new field of study. While it is outside of the scope of this paper to examine the field in depth, it is germane to the discussion because increasingly public school staff development programs and improvement efforts are required to be "evidence based."

Education research began as a branch of psychology at a time when psychology was still a part of philosophy. The growth of the field has been sporadic and contested (Lagemann, 1996, 2000). The emergence of computer technology and the invention of new research methods have significantly enhanced the field in recent years (National Research Council, 2002).

There has been a sharp divide between education research and scholarship and the practice of education in schools and other settings. Researchers and practitioners have typically worked in different settings; most researchers have been men, while most teachers have been women; and teacher education has typically relied on practical experience rather than on research (National Research Council, 2002).

While pointing out the particular complexities education research faces given the social, economic, and political context in which the field finds itself, the National Research Council (2002) affirmed certain principles which are common in all the sciences. These principles are:

- Pose significant questions that can be investigated empirically.

- Link research to relevant theory.

- Use methods that permit direct investigation of the question.

- Provide a coherent and explicit chain of reasoning.

- Replicate and generalize across studies.

- Disclose research to encourage professional scrutiny and critique.

Education is complex, constantly shifting, and occurs within an interaction among institutions, communities, and families. Education philosophies are rooted in social, religious, and political views of the world. The research around K-12 public education is conducted primarily by education departments at the university level, where science is not viewed with suspicion, as it often is in the field, by school boards, administrators, and teachers. Furthermore, education research depends on long term relationships between social science and practice. Finally, studying humans involves taking into account ethical issues which do not exist in many other fields of research.

Among significant issues education research must overcome is the fact that technical achievements are often ignored, and research findings tend to be dismissed as irrelevant or even discredited by the public

for ideological and social reasons (National Research Council, 2002).

V. SURVEY OF SCHOOL REFORM RESEARCH AND COMPREHENSIVE SCHOOL REFORM (CSR) MODELS

Some trends seem to be emerging as the country struggles with how to improve low achieving K-12 schools. These trends are suggested below with brief descriptions of some of the research that supports the observation.

A. Increased emphasis on research and improving the field of education research

The first trend has to do with improving the field of educational research in general. One of the findings in a meta-analysis by the RAND Corporation was that as much as 40 percent of the research conducted to evaluate the effectiveness of CSR models was not entirely objective. The model developers were often involved in doing the research behind the models they developed.

The National Research Council has been involved in studying the field and is promoting "a scientific culture" within the Department of Education's research arm (Office of Educational Research and Improvement). Recent application guidelines from the federal government for grants to schools and school districts require that programs be evidence based.

A number of mega-analyses of the studies on the implementation of these models in schools around the country have been done in addition to thousands of impact studies of the models themselves as they have been adopted in schools nation wide.

Different models work in different places for different reasons. No single solution for school improvement emerges from these studies. What is clear is that without broad support at all levels (school board, district, and school) for any particular model, the outcome is too often minimal and transitory.

Most CSR models can demonstrate some successes with at least some groups of students. Tailoring particular models for particular students or groups of students is important for choosing a model.

In addition to buy-in from all stakeholders, sustainability of a model through continued staff development and funding improves its impact on student achievement. Too often these models are abandoned for the next new innovation. The frustration from teachers is well known.

The CSR program grew out of four decades of school improvement efforts at many levels and offers some insight for future initiatives. As these models were designed based on current research when they were packaged, developers and researchers will be learning and reshaping new proposals based on the CSR experience in the future.

B. Improved school climate leads to increased student achievement

A second trend is the recognition that school climate is a much more important ingredient in school improvement than previously thought. The CSR models don't really address the issue, or if they do, it is viewed as secondary to focusing on achievement. CSR models focus on organization, curriculum, teaching practices, accountability, and other concerns that are distinguished from "school climate." Focusing on how people relate to one another in a school, the primary ingredient in school culture, is too often ignored. Research suggests that this is a mistake.

A special issue of the *Journal of School Health* (September 2004)[1] was devoted to the findings of the Wingspread Group, a group of 23 researchers, educators, and government leaders who convened at the invitation of Dr. Robert Blum at Johns Hopkins Bloomberg School of Public Health in Baltimore. The group concluded that students who felt connected to their school had less behavioral issues and higher achievement scores than did students who did not feel connected to their schools regardless of age ethnicity or socioeconomic status. Strong relationships among all those involved in the school was the most important factor influencing student behavior and achievement.

An article published in *Pediatrics*,[2] the official journal of the American Academy of Pediatrics, defined school connectedness as "an adolescent's experience of caring at school and a sense of closeness to school personnel and environment." The article cited research that showed that school connectedness was the most important factor in assuring the emotional health of students and influencing student achievement (Resnick, et al.).

In summarizing the contents of the September 2003 issue of *Educational Leadership*[3] published by the Association for Supervision and Curriculum Development, Marge Scherer noted: "This issue considers the many approaches to managing classrooms. The continuum ranges from punishment, control, manipulation, and rewards, to respect and relationships. Interestingly, the research (see Marzano, among others)[4] suggests that showing respect and building relationships have far more lasting effectiveness than do the more controlling practices. So the idea is to act with thoughtfulness, kindness, patience, tolerance, and understanding toward students, even when they act thoughtlessly, unkindly, impulsively, intolerantly, and insensitively. Although it works, no one says it's easy. But all of us know that the more coercive ways aren't easy either."

A comprehensive study by educational researchers Foster W. Cline, MD, and Charles Fay, PhD, of the Love and Logic Institute[5] traced the factors that most influenced academic achievement. Six percent was attributed to teaching techniques, 16 percent to factors out of school control, and 78 percent to the quality of human interaction in the

school. The study found overwhelming evidence that achievement is directly related to the extent to which students feel connected to their fellow students, their teachers, and other adults in the school.

Recently the National Association of School Psychologists[6] noted that studies have identified important components of school completion programs (programs designed to keep students in school through senior year graduation). The following critical components were listed:

- Providing opportunities for successful academic experiences and individual assistance.

- Creating a positive interpersonal climate between students and teachers.

- Structuring course work to be relevant to students' lives and future goals.

- Providing help for serious personal problems.

- Intervening early with students' academic and behavioral problems.

The studies cited above are just a sample of the research showing the critical importance of school connectedness in improving student success. They represent the findings of some of the most prestigious educational institutions in America. They all reach the same general conclusion. What then are the critical factors that make for connectedness in schools?

C. Emphasis on changing teacher behavior rather than student behavior

How teachers view their role in managing their classrooms is the most important factor in creating supportive classroom climates, leading to better school climates, ultimately improving achievement (Shindler, 2010). The trend is moving in the direction of helping teachers become transformative facilitators—constructivist, collaborative, and problem based (Shindler, 2010).

Comparing unusually effective teachers with less effective teachers based on student achievement, one study summarizes best what was generally found: effective teachers were more likely to have "planned lessons carefully, selected appropriate materials, made their goals clear to students, maintained a brisk pace in lessons, checked student work regularly, and taught material again when students had trouble learning" (Brophy and Good, 1996).

Most of the research shows that high performing schools had faculty and staff who shared a vision of instructional purpose, who believed that all students could learn, who believed that they were responsible for helping students learn, and who committed themselves to improving students' academic performance (Edmunds, 1984; Stedman, 1985; others).

As educational research gains traction in the

applied social sciences, the trend towards changing systems from within rather than from the outside may become recognized as a principle with some science behind it.

VI. EVIDENCE FOR TEACHING PCT TO SCHOOL ADMINISTRATORS AND TEACHERS

Efforts to teach PCT in schools have been undertaken in the United States, Canada, and Australia. Research into these efforts has been limited by resources available for that purpose. Because of the increasing emphasis by the federal government to support only programs which are deemed evidence-based, IAACT is undertaking the task of developing a research capacity that would specifically focus on developing such a model. Starting with what has already been done in the field by some of its faculty, and consolidating applied PCT research in psychology and sociology, IAACT is partnering with a Local Education Agency and the Pacific Institute for Research and Evaluation to develop such a model and to design an appropriate research design in order to evaluate the efficacy of the model once it is ready to be implemented. A review of the evidence to support developing a school improvement model based on PCT follows.

In the Northwest Territories and Nunavut, Canada, a five-year project funded by Justice Canada to decrease community violence by teaching PCT principles to teachers and administrators focused on schools as being at the center of community life. A third-party evaluation shows that the eight schools across northern Canada which received training dramatically reduced discipline incidents and significantly increased academic performance.[7] Particularly encouraging was the increased involvement of families and community members in the life of the schools and in the character-building process. As teachers and students gained confidence in their newly learned skills, school climate and community culture were seen not only to improve, but the gains achieved were sustained over time.

Research data from Princess Alexandra School, Saskatoon, Saskatchewan, Canada, was released by the Society for the Advancement of Excellence in Education in 2004.[8]

Princess Alexandra School is a pre-K to eighth grade school with 98 percent Aboriginal student population. It is located in the heart of the inner city area of Saskatoon which is designated as one of the poorest urban settings in Canada. After training and implementation of Applied Control Theory, discipline incidents referred to the principal decreased from 35 to one or two per day. Referrals to the counselor dropped from 20 to four per month. Teacher transfer requests and sick days decreased significantly. Before the school started training, an average of 50 percent of the teachers requested transfer out of the school each year. Within two years, this was reduced to zero. A decline in sick leave was also attributed to the improving school climate and dimin-

ished teacher illness related to stress.

The overall attendance of the school increased to 83 percent from 70 percent over a four year period, a 13 percent improvement. Most significant was the improvement in student achievement over this period. The Canadian Advancement Test (CAT) score indicated a 48 percent improvement over a three-year period. In 1998 only 7 percent of Grade 4 students performed at the fiftieth percentile, but by 2002 this had climbed to 55 percent who were above the fiftieth percentile. They observed that the school had moved from survival mode to an academic climate.

The *Take Charge!* curriculum (designed specifically to teach *A Connected School* concepts to teens) was piloted at Beaufort High School in South Carolina. During the summer of 2004, just prior to implementing the curriculum that fall in their new Ninth Grade Academy, the entire staff was involved in a four-day seminar. Compared to the previous year, discipline referrals fell by 58 percent during the first semester, out of school suspension days decreased by 80 percent, and the number of F's decreased by 75 percent.

For the past 10 years, Fayetteville, North Carolina-based Cumberland County Schools (CCS) has offered training in *A Connected School* to over 40 principals and 500 teachers. This effort has enhanced the character education movement in Cumberland County, providing educators with the tools to develop character within students.

Educators have used the new approaches to connect with students and to create environments that promote a positive approach to discipline. Central office personnel evaluating the training wrote the following conclusions: "There are numerous testimonials to the power of this approach, and examples of the tangible benefit that we have seen in CCS are that elementary schools utilizing this approach in 2005 were 27 percent higher than other schools in meeting their annual yearly progress, and minority students and economically disadvantaged students in the schools receiving the training scored higher on standardized tests than those at other schools in the district and in the state. One high school has been using the approach for the past several years, and they have started to use the *Take Charge!* curriculum this year; CCS welcomes the opportunity to expand the use of the *A Connected School* training and the *Take Charge!* curriculum to four new high schools, and the opportunity to thoroughly evaluate this promising approach to character development."

A third party evaluation of *A Connected School* training during the summer of 2009 in Cumberland County was undertaken.[9] Surveys were completed before and after the training program. Sixty-five teachers and 14 other staff members participated in the training and the survey. They represented 15 different K-12 schools. The results were encouraging. For example, 83.3 percent of participants reported a change in their philosophies in dealing with difficult students and 91 percent of participants reported developing new strategies for class-

room management. The majority of participants reported satisfaction with every aspect of the training program, with 96.2 percent reporting overall satisfaction.

In Evansville, Indiana, Cedar Hall Elementary School principal Jackie Kuhn had this to say: "During my first year as principal of a high poverty school, I spent an extraordinary amount of time dealing with discipline problems, averaging about 150 referrals each month. In the summer of 2008, my staff and I participated in the Connected School training, and this year have implemented strategies based on the principles of Perceptual Control Theory. I am amazed at the difference. This year discipline referrals have decreased 90 percent and we have averaged fewer than 12 discipline referrals each month. Students, teachers, and staff now feel connected, safe, and respected. Cedar Hall Elementary has become a great place to work and to learn!"

A third party evaluation of *A Connected School* training during the summer of 2009 in Evansville was undertaken.[10] To quote from this report: "The majority of participants reported satisfaction with every aspect of the training program at post-test, with 97.0 percent reporting overall satisfaction. Specifically, 100 percent of participants were satisfied with the instructors' knowledge and helpfulness as well as with the relevance of the course materials."

At Forest Park Elementary School in Winston-Salem, North Carolina, the student population is 70 percent Hispanic and 27 percent African-American. Nearly half lack proficiency with the English language. Principal Sandra Gilmer and most faculty members have participated in *A Connected School* training. As a result of incorporating the Applied Control Theory ideas into the school culture, out-of-school suspensions have decreased more than 50 percent over two years, from 85 in 2006-07 to 39 in 2008-09. Suspensions with subgroups (males, females, African-Americans, Hispanics) also declined, in some cases as much as 88 percent over two years.

Cobb County School District, located near Atlanta, is Georgia's second largest school system, with enrollment totaling more than 100,000 students. District educators attended *A Connected School* training and *Take Charge!* workshops in June 2006, 2007, and 2008. Assistant superintendent Dr. Philip Lanoue reported significant improvements in meeting state testing standards and meeting Adequate Yearly Progress (AYP) requirements. Across the district, students who met or exceeded academic standards increased by five percent for language arts and math. In addition, all 13 elementary schools and all three middle schools achieved AYP, two for the first time in four years. Both high schools were removed from "needs improvement" status. Dr. Lanoue attributed the district's performance to *A Connected School* training which emphasized the importance of teacher-student connection in improving achievement.

VII. CONCLUSIONS

An underlying assumption of CSR and other federal programs aimed at improving public schools seems to be that changing "low performing schools" can be initiated and directed from the outside. The research shows that CSR models are, in fact, directed from the outside and that usually they meet with resistance from administrators and teachers who are required to implement them. Yet, once they are understood and supported, many of the practices and proposals for improvement packaged by these initiatives yield positive results by most standards of measurement. To give credit to model developers, most models require "buy-in" from teachers. But this requirement is often not followed by school administrators. This is not surprising given the authoritarian and regimented nature of many schools (whether they are public or private), notwithstanding claims to the contrary.

To be fair, public schools are subjected to diverse pressures. It has been shown that achievement in school is directly related to socioeconomic background. Low performing schools are often difficult to turn around given the demographics of the surrounding community. School administrators and teachers are under political pressure to meet national and state standards. In low income, highly transient communities, this is not always possible. Youngsters come to school not speaking English, for example.

As federal policy makers and other stakeholders continue to struggle with how to align actions with stated goals, it seems reasonable to introduce them to PCT as a framework for developing true learning communities within classrooms, schools, and beyond.

ENDNOTES

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4. Dr. Robert J. Marzano, president and founder of Marzano & Associates, Inc.

5. See www.loveandlogic.com.

6. National Association of School Psychologists. Handouts for Families and Educators, S2 65-68: "School Completion and Student Engagement: Information and Strategies for Educators."

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Fred Good's early career was as a community organizer in New York City's Lower East Side where he was instrumental in founding several community organizations, including the Real Great Society, the University of the Streets, and the Lower East Side Community Music Workshop, now known as Tu Casa Studios. He introduced R. Buckminster Fuller to the Lower East Side in 1968, an association which the renowned inventor maintained until his death in 1983. After moving to Chapel Hill, North Carolina, with his wife and daughter in 1981, Fred became a full time artist. In 1987, he founded New View to support the work of his wife and her colleagues who had become interested in Perceptual Control Theory (PCT). In addition to publishing and distributing books related to PCT, New View sponsors seminars and workshops designed to teach the basic principles of the theory to professionals working in the applied social sciences, primarily in the fields of psychology and education.

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