

Knowledge Area Module 6

Institutional Contexts for Special Education:
Leadership,
Learning, and Accommodation

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Knowledge Area Module 6

Institutional Contexts for Special Education: Leadership, Learning, and Accommodation

Breadth Component

EDUC 8611: Special Education: Leading within Learning Organizations

Abstract

The theme for the Breadth of KAM 6, Institutional Contexts for Special Education: Leadership, Learning, and Accommodation, reflects the responsibility of educational institutions to seek the most effective model of leadership for delivering services of learning in schools. The foundation of the Breadth section identifies, defines, and critically discusses traditional and contemporary theories of leadership, focusing on the broad perspective of leadership needs for accommodations that create shared visions. The writing will follow a sequence organized by the theories and how the theory affects the general population of students which includes students with and without special needs.

Knowledge Area Module 6

Institutional Contexts for Special Education: Leadership, Learning, and Accommodation

Depth Component

EDUC 8621: Due Process in Special Education: Legal and Moral Implications

Abstract

How to enhance the roles of the regular education and special education teachers for greater collaboration to recognize strengths and not weaknesses will be the focus of the Depth section of KAM 6. Exploring possibilities through empirically validated alternatives for how to create leadership, learning, and accommodations for all levels of learners enlightens the general education community into the acceptance of the students with learning disabilities, enrolled in every classroom of the 21st century. Innovative methods of classroom leadership based on accommodations for learning styles and nontraditional assessment introduced into inclusive classrooms benefit not only special education students, but the regular education student, as well.

Knowledge Area Module 6

Institutional Contexts for Special Education: Leadership, Learning, and Accommodation

Application Component

EDUC 8631: Practical Issues in Placement and Service Delivery

Abstract

The Application of KAM 6 demonstrates the combination of the Breadth analysis of the broad theoretical description of effective leadership paradigms, combined with the narrower focus in the Depth theme of the need to recognize strengths and not weaknesses of all levels of learners within every classroom of the new millennium. The results produce a faculty resource guide listing suggested methods of communication for collaboration between the regular education and special education community of teachers, administrators, and community personnel.

From: Renee Rau [rrau@waldenu.edu] on behalf of LA Registrar [la@waldenu.edu]
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Marsha Swindler,

I am pleased to inform you that the learning agreement for KAM 6 has been received and approved by the Office of the Registrar. **Please save this email for your records.**

Regards,

Renee

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Student Self-Evaluation: Knowledge Area Modules (KAMs): This area is intended for submitting the final version of your KAM Self-Evaluation form to your assessor(s), faculty mentor, and the Office of Student Records.

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KAM Number	6
KAM Title	Institutional Contexts for Special Education: Leadership, Learning, and Accommodation

1. What knowledge/experience did you bring to this KAM? How did you capitalize/expand on this base?

Life experiences in multiple arenas provided a base of knowledge for KAM 6: Institutional Contexts for Special Education: Leadership, Learning, and Accommodation

- classroom experience of 21 years: middle and secondary students and educators
- Instructional Assistant with special needs high school students
- High school teacher of regular education and special needs students
- 5th grade teacher of inclusion and English as a second language students (ESL)
- Teacher of Confirmation classes for at risk students
- Mentor for two of my four brothers with special needs: inability to learn to read
- Counselor/instructor for religious medals for Boy Scouts of America
- Mother of two sons and a daughter (one diagnosed with ADD; one with ADHD)
- BA in Human Development

- MA in Education
- 38 years of marriage
- raised in a family with four brothers and two sisters

The wealth of knowledge from many years of life experiences coupled with formal education provided ample insight to ask the questions required for the research in the areas of leadership, learning, and accommodation for students in need of special education.

2. Describe the quality of the **Breadth** section in the light of the intellectual and communication skills demonstrated in this KAM.

Based on the characteristics of classical and contemporary theorists in the areas of leadership, learning, and accommodation for students in need of special education, the empirical evidence is powerful as described in the Breadth section. The quality of the synthesized and integrated information provided in the well documented narrative reflects the leadership that is sorely needed for recognizing the intellectual development of human beings at all levels of growth. Human intellectual growth and potential for learning and motivation are captured in the summary, with a description of the leadership needs in learning and accommodation, well communicated for the reader to understand and interpret from the comprehensive quality of the report.

3. In the **Depth** section, what key ideas/concepts most engaged your thinking and imagination relative to your area of study?

Education reform continues to evolve in a state of chaos, challenging leadership in academia. Nearly 3 decades after the A Nation at Risk evaluation of the education system in the United States, conflicting legislative mandates continues to raise controversy. All students can learn, provided that educators are aware of the potential to learn that exists within every individual regardless of learning styles that may differ from the norm. Breaking tradition, especially within school organizations with antiquated traditions of teaching and learning takes courage. Social scientific research indicates that a paradigm shift is on the brink in the education community in regards to the way students learn. Learning styles outside the already accepted logical and linguistic teaching methodology are challenging the mainstream environment. Out of the chaos of educational reform, models of leadership are needed to accept all students regardless of the differences in learning styles.

4. Expound on the most meaningful theoretical construct studied and applied to your professional setting in the **Application** section. What can you do differently/better as a result of this KAM?

Individual potential for learning is not currently recognized outside two areas of intelligence commonly used in educational settings, that of linguistic and logical intelligence. Howard Gardener's (1983, 1993) theory of multiple intelligences recognizes seven areas of intelligences to consider in developing curriculum for all levels of learners, with an additional two intelligences under consideration. Gardner has developed a leadership model for educational settings called teaching for understanding and as a result of the information gathered for KAM 6

Application, the realization that classroom curriculum can be adapted to reach all learners developed into a Faculty Resource Guide. Using the multiple intelligences theory and the teaching for understanding guidelines offers more opportunity for students to reach full learning potential, easily adaptable to current curricular practices. As a result of KAM 6 research I can better communicate that adapting curriculum to all levels of learners is not as difficult as once perceived. I better understand that multiple levels of learning and accommodation exist. Awareness must be elevated to reach all educators in service of multiple levels of student learners by offering suggestions for alternatives to teaching, learning, and accommodations.

5. Briefly describe the most important **Social Issue** covered in this KAM.

A paradigm shift in the special education student rights to a free and appropriate education creates chaos in schools unwilling to accept that changes must be made. A learning disability does not diminish the individuality of a human being capable of growth and potential development for learning and motivation, albeit from an alternate style of learning.

No otherwise qualified handicapped individual in the United States . . . shall, solely by reason of his handicap, be denied the benefits of, or be subjected to discrimination under any program or activity receiving Federal Financial assistance. (Section 504 of The Rehabilitation Act, 1973)

The Individuals with Disabilities Education Act (IDEA) (1965/2004), along with Section 504 of The Rehabilitation Act, 1973 delegates the federal mandates of the placement of special education students in the least restrictive environment, the mainstream classroom across the United States. All students deserve the right to the best education opportunities, despite learning disabilities. The enormous social issue facing educators is adapting curriculum to all students within the mainstream classroom environment. Flexibility in the classrooms to accommodate all levels of learners is no longer an option, so the need to understand that all students can learn leads to more successful teaching and learning environments. The leadership, learning, and accommodation of all levels of students breaks tradition in current academic environments, recognizing an urgent social issue in need of immediate consideration for change.

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Introduction

In the world of special education, the one room fits all disabilities no longer exists. Individuals with Disabilities Education Act (IDEA) and Section 504, two legally mandated policies, offer no choice to classroom educators but to accommodate the special needs population. Turning to leadership in learning for the implementation of the Individualized Education Program (IEP) becomes necessary when moral implications are not enough to motivate accommodations. As power centered leadership became principle centered leadership, restructuring the delivery of services in educational institutions becomes paramount.

In the KAM 6 Breadth component an examination into effective leadership paradigms will be the broad focus, examining the philosophies of Gardner and Senge. Due to the increase of cultural and ethnic diversity in schools across the United States, and the changes in federal legislation, leadership management models have been developing. Federally mandated laws continue to have a profound affect on mainstreaming students with special needs and are available to investigate for the Depth component, looking for variations in accommodation.

Looking beyond delivering special needs services as a legal responsibility, and understanding how to incorporate moral and ethical collaboration challenges special education leadership. When a special education student is mainstreamed into inclusive classrooms the reference *your student*, not *our student*, is used. The Application focus explains that providing learning opportunities for all students is the shared responsibility of the entire faculty, community, and administration, and not the sole responsibility of the special education department.

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Breadth Component

Introduction

Educators must choose the best components of available leadership models that work within present day school systems. Classical and contemporary leadership theories and philosophies have evolved in the organizations and systems of society, not necessarily in balance with the diversity of student learning styles in schools. In the development of Knowledge Area Module (KAM) 6 Breadth component, an analysis and comparison of leadership, learning, and management from Howard Gardner (1999a) and Peter Senge (1990) will transpire. The need to create shared visions for all levels of learners through a focus on the broad perspective of systems thinking in leadership reflects the responsibility for accommodations in school organizations.

Every generation is challenged with a purpose to make sense of the world by making it a better place for human beings to exist in society. In a traditional society individuals as members of families exist because of groups, tribes, or clans which in turn make up nations of people. It is inconceivable not to be a member of a group that develops into a pluralistic society. Following historical accounts in scholarly literature, society is shaped by the theoretical principles of organizations and is in a continuous flexible state. The organization of the school system is reliant upon societal demands that depend upon leadership models for guidance and direction. Individuals within society influence and are influenced by each other indicating that interdependence with one another exists to preserve posterity, as expressed by Gardner (1999a), “And we may discover why we must join forces, in a complementary but synergistic way, to make sure that Nature and Culture survive for future generations” (p. 219).

Society consists of many different types of individuals who must learn to exist together. The school system is a microcosm of society (Kilpatrick, 1992) with demands for a unifying force that must be present to prevent potential chaos that could challenge a symbiotic relationship. Kilpatrick's (1992) reflection of society parallels the needs of school systems, "Like a common stock of knowledge, a common set of ideals seems necessary to any society that hopes to socialize its youth" (p. 118). Viewing chaos or challenges as opportunities to solve problems sheds light into the need for the unifying forces of leadership theories that have evolved through the system thinking philosophy. "Systems thinking does not mean ignoring complexity. Rather, it means organizing complexity into a coherent story that illuminates the causes of problems and how they can be remedied in enduring ways" (Senge, 1990, p.128). Solving problems meets challenges in society, building a better future for humanity through a solid foundation of the school system. Social scientists evoke change to solve problems, and through research meet 21st century demands for a more self managed environment as evidenced in the next section of KAM 6 Breadth.

Implications for Social Change

Change is certain, but progress is not unless the change reflects the common good of organizations and systems within society. The reigning organizational paradigm reflects that of a *parent to child* relationship: the parent tells the child what to do and the child obeys, as McGregor (2000) uses Theory X and Theory Y to describe the differences, "It is worth noting that this difference is the difference between treating people as children and treating them as mature adults" (p. 141). Contrary to the *parent to child* relationship that is currently seen in school organizations, the advancements of the 21st century demand a more self managed

environment. Less directed instruction from managers to workers in organizations requires self starters who think independently (Cheyne, 1999; J. Schiro, personal communication, October 15, 2004). Current practices that dictate social order must be challenged to reflect an *adult to adult* relationship. Without change, the reigning organizational paradigm will not meet the demands of the 21st century. McGregor (2000) reiterates that changes in thought processing require training and practice before mastery is attained, but warns that “we cannot expect to shift to the latter overnight” (p. 141).

Educational organizations need to challenge the present teacher *to* student relationship. The new millennium demands more keenly developed schools that learn, ‘schools that attempt to learn, grow, and reinvent themselves using the principles of *learning organizations*’ (Senge, 2000, p. 5). A paradigm shift suggesting a teacher *with* student relationship needs development to implement less didactical teaching currently utilizing the lecture/take notes format. A more hands-on interactive curriculum will build skills that foster self directed behavior for all levels of student learning, regardless of placement in or out of the special education program. Initiating individuals to take responsibility for actions will affect the common good of organizations in the future. According to Gardner (1991) and Senge (2000) students are not properly prepared to step into a 21st century society of self starters and independent thinkers needed in organizations.

Education is a microcosm of the larger society as a whole (Kilpatrick, 1992). The reality that decisions must be made politically, socially, and economically cannot escape members of organizations in education, or anywhere in society. Strong foundations are needed on which to base decisions. Leadership and learning theories provide guidelines through general observations of human behavior, but theories cannot establish everything beyond all doubts. “There are

probably things that human beings can't know and ways that human beings can't think" (Gardner, 1999, found in Senge, 2000, p. 559). A theory can be modified or disproved by observation, testing, and reflection as social scientists continue to demonstrate through learned experiences. Learning can only take place through reflection on experiences.

Reflection expands knowledge bases that may disprove or modify a theory, and as the need for new theories arise, implications for social change are imminent. Human beings need answers found through reflection. The answers become constructs for new ideas and new ways of thinking about past theories. With social change come new theories creating schema that enables testing and modification of classical theories, building and improving a stronger, healthier society along the way. Society as a whole needs social change for the strength and health of the social systems and organizations within society, as Senge (1990) observes, "It is interesting to note that the words *whole* and *health* come from the same root (as in the Old English *hale and hearty*). So it should come as no surprise that the unhealthiness of our world today is in direct proportion to our inability to see it as a whole" (p.68). Leadership and learning theories aid in the ability to see society as a whole.

The next section of KAM 6 Breadth examines effective leadership and learning paradigms and how theorists approach the changes reflected by society in need of revision. Theoretical choices available for school systems to consider are described through challenges that society faces today or in the past. School systems in need of change are offered theories to consider, but ultimately the school systems must choose what is best for all learners to assimilate into the 21st century of self starters and independent thinkers.

Overview of Theoretical Perspective

A critical analysis of leadership and learning theories is described as it applies to the broad perspective of educational institutions. The organization for KAM 6 Breadth uses the theories of Gardner and Senge as the primary tenets to explain how leadership, learning, and accommodations apply to organizations and school systems. Factors examining the assumptions and broad implications of various other theoretical approaches will be included, specifically the systems thinking philosophy. The broad scope of the Breadth component interpreting leadership and learning theories in societal organizations will be used to develop the groundwork preparing for the narrower approach in the Depth component, that of the subsystems of special education in the school environment.

Each generation is challenged to make sense of the present, questioning whether the current school system is readying students for the challenge. The new millennium generation sees a modern Western society that has significantly influenced the rest of the world, dominating cultures for several hundred years. The view of society at the turn of the 21st century brought with it a significant need for change. Twentieth century assumptions are seen in a new light through 21st century social scientific research and perceived as severely limiting, in need of radical revision to meet new demands. The new millennium generation is challenging the status quo of society with the prospect of adopting contemporary leadership and learning theories to solve societal demands with a systems approach.

When it is critical for all learners to master tasks, the systems approach is utilized in stages with the use of structures such as diagrams, flow charts, and committees. The military, business, and industry are the largest users of systems theory because, “Our nation’s defense or a

company's profits largely depend on people performing their jobs" (Hunkins & Ornstein, 1998, p. 6). It is extremely critical for all learners to master tasks in education, so why systems theory approaches are not commonly practiced in education raises controversy. The systems approach in any organization creates changes in behavior which perhaps leads into why educational organizations resist system theories. School systems commonly reject change (Gardner, 2004; Senge, 2000) despite the urgency for all learners to master tasks.

The term *system* implies an interrelatedness of various components that function independently and contribute to the wholeness of something as defined in the Merriam-Webster 11th Collegiate Dictionary (2003). The universe, the human body, and the American government are three very unique examples of systems that consist of many components dependent upon interactions to regulate the entire operation of the whole organization. If one component of any of the subsystems is off balance because a problem exists, the whole system is affected and in need of a resolution before chaos ensues (Bertalanffy, 1967; Capra, 1996; Gardner, 1991; Senge, 1990). An unexplained asteroid in the solar system, or an abnormal reading of the blood in the circulatory system, or a miscommunication in the judicial system can each create a problem for the system itself, which in turn upsets the whole organization.

Systems thinkers challenge the current social paradigm of organizations, especially the school organization. Due to technological advances over the last few decades, some organizations have adopted systems thinking reflecting that revisions are in progress. Social scientific researchers are challenged with a dilemma to generate the changes necessary to make the world more competitive in the global market. The organizations that have not accepted the

systems thinking approach to problem solving are not accepting that change is necessary to compete in the global market of the 21st century.

School systems question if the adoption of a systems thinking approach is the right solution for revisions needed in leadership and learning for educational organizations. The narrower focus of the Depth section, in relationship to the leadership and learning models from systems of society, will examine the subsystem of the special education community of learners in need of revision. KAM 6 Breadth continues by comparing differing descriptions of the broad theoretical perspectives and assumptions of systems thinking development related to leadership and learning in general for the whole of society. An explanation connecting the needs for leadership and learning of school subsystems in the Depth will follow the story in the Breadth of how a fragmented society found organization, leadership, and uniformity through the systems thinking approach.

Society in Chaos

The range and diversity of systems in society require some type of uniformity and regulation due to the far reaching implications of organizational operations. Social scientists in the 1950s and 1960s recognized that systems were developing simultaneously across many fields, fragmenting society. The nature of social science is to explore and develop new theories that interpret phenomena as it emerges (Reynolds, 1971); therefore numerous theories exist and will continue to develop as needs demand new interpretations. Perceived as a challenge to organizations and social systems, change is resisted, but Gardner (1999a) expresses the necessity for change, “And to remain viable, all organizations will have to continue to learn and to change” (p.202).

Social scientists have been trained to think in regards to the larger picture of life, unlike individuals who are often confused by the holistic concept of life. Confusion causes controversy, but stories often diffuse the controversy (Gardner, 2004). Kilpatrick (1992) relates stories to the relationship between individuals and the larger picture of life, “The narrative thread of our lives is woven in part out of strands that preexist us, and we can never hope to understand ourselves without knowing about the stories we belong to; nor can we ever fully understand why we must sometimes act against our own self-interest for the sake of something larger” (p.205).

The story of the developing fields of study in science fragmenting the human cause relates to the needs for universal leadership models. Disjointed and disorganized, each scientific field operated and developed theories in a piecemeal fashion, often duplicating work with no idea of what another field accomplished. In 1954, at Stanford University, Bertalanffy from the field of biology, Boulding from the field of economics, Gerard from the field of psychology, and Rapaport from the field of mathematics discussed a need to bring the communities of science together (Bertalanffy, 1968).

Realizing that a science of everything would be impossible to achieve, the early systems theory scientists established four major functions to be applied to the theoretical research: “(1) investigate the isomorphy of concepts, laws, and models in various fields, and to help in useful transfers from one field to another, (2) encourage the development of adequate theoretical models in the fields which lack them, (3) minimize the duplication of theoretical effort in different fields, and (4) promote the unity of science through improving communication among specialists” (Bertalanffy, 1968, p.15). Rather than the robotic view of scientists collecting facts

and reporting data in a commercialistic world, Bertalanffy (1967) wished to present the human side of science creating a deeper respect for humanity.

The basic fragmentation of the scientific community was widespread, and can be detected through historical accounts, demonstrating that more than a band aid approach was needed for society to develop and operate as a whole system. The whole of science needed repair, according to Bertalanffy (1968), not simply the parts. He used his studies of humanity from a biological point of view to explain why changes were needed to repair a fragmented society. The concept of the mechanistic robotic model of humanity gave rise to an opposing view of “man as an active personality system” (p. 18); a holistic model interrelated in a close relationship to the all encompassing environment in which humans exist.

Bertalanffy outlined a new theoretical vision for humankind. The behavior of human beings contributes to the whole of the systems thinking philosophy as Bertalanffy (1968) intended, but to fully understand a new theory, an explanation of the interacting parts is necessary. “A system is more than the sum of its parts; it is the product of their interactions” (Ackoff, 1999, p. 117). The developing behavior of human beings as part of the whole world of systems reflects an interdependence of systems. The new way of human thinking gradually developed through the philosophies of social scientists starting with Bertalanffy in the 1950s and 1960s to present day systems thinkers. Understanding systems thinking leads to a better understanding of the leadership needs in the school system.

Senge’s (1990) vision for society echoed Bertalanffy as observations indicated that a single system view connected problems and revealed solutions, “Systems thinking shows us that there is no outside; that you and the cause of your problems are part of a single system. The cure

lies in your relationship with your ‘enemy’” (p. 67). Ackoff (1999) recognized the shift in human beings and coined the term *animated* systems for humans. An animated system is described by Ackoff as the whole human person having purpose but the parts have no purpose except to help self-maintain the whole organism for survival (p. 24). Bertalanffy (1967) coined another term for humankind in regards to how choices are made. The term is referred to as *freely chosen*. Gardner (2004) refers to the phenomenon as “knowing one’s own mind” (p. 148), supporting Bertalanffy’s theory of *freely chosen* which states, “The will is free and individuals can make a difference” (p. 211).

The system of human communication changed before systems thinking evolved. The transference of knowledge using symbols occurring through learned experiences *freely chosen* (Bertalanffy, 1967) by humankind, was born through language development. Humankind advanced from individualism into a new *freely chosen* responsibility. Bertalanffy (1967) sensed that the shifting focus of communication from outside of the individual person added responsibility, confusion, and potential chaos to the world.

Chaos Theory (Lorenz, 1963), a non linear systems theory that takes the patterns of complexity and irregularity into consideration (found in Rae, 1999), had not yet been uncovered from the journals of meteorology and was not yet applied to problems facing humanity in 1956. Chaos Theory indicates that randomness, “blind laws of nature,” (Bertalanffy, 1967, p. 56) may actually lead to uniformity, as Gardner (1999a) interprets, “The human brain seems to have evolved to process certain kinds of symbols efficiently” (p. 38).

No longer perceived as an individualistic system, mankind was held to a larger task of attending to the whole of the universe as Einstein (found in Eves, 1977) envisioned:

A human being is a part of the whole, called by us "Universe," a part limited in time and space. He experiences himself, his thoughts and feelings as something separated from the rest . . . kind of optical delusion of his consciousness. This delusion is a kind of prison for us, restricting us to our personal desires and to affection for a few persons nearest to us. Our task must be to free ourselves from this prison by widening our circle of compassion to embrace all living creatures and the whole of nature in its beauty. Nobody is able to achieve this completely, but the striving for such achievement is in itself a part of the liberation and a foundation for inner security. (Einstein, found in Eves, 1977)

A transformation was taking place and a shift in the model of the mechanistic robotic behavior of humans as individualistic to the holistic model of “man as an active personality system” (Bertalanffy, 1967, p. 18) created tension. Capra (1996) describes the building tension that gradually transformed humanity and the world surroundings to a new way of thinking:

The basic tension is one between the parts and the whole. The emphasis on the parts has been called mechanistic, reductionistic, or atomistic; the emphasis on the whole holistic, organismic, or ecological. In twentieth-century science the holistic perspective has become known as “systemic” and the way of thinking it implies as systems thinking. (p. 17)

The systemic way of thinking, first introduced by Bertalanffy (1967) gradually shifted the way humankind was perceived in relationship to the rest of the world. The holistic concept grew through the human development behavior of a symbols system. The idea of an interrelated universe was creating an impact, as shaping forces changed behavior. Systems thinking became a changing force, too new and uncomfortable for some to accept. New forces reshaped old visions, and more changes transpired. An exploration through world, business, and school systems in the following sections of KAM 6 Breadth introduces Peter Senge’s (1990) systems thinking theory as a leadership model, a shaping force in support of Bertalanffy’s systems thinking (1968).

Shaping Forces for Shared Visions

The holistic and ecological terminology used to describe systems thinking produced an understanding of patterns that began to shape modern science. Senge (1990) observed that

“systems thinking is a discipline for seeing wholes. It is a framework for seeing interrelationships rather than things, for seeing patterns of change rather than static ‘snapshots’” (p. 68).

A self proclaimed systems thinker, Peter Senge (1990) began graduate work at Massachusetts Institute of Technology (MIT) in 1970 with little interest in business and leadership management. Senge’s vision was that the world needed a basic understanding of the complex systems within it. The vision developed into Innovation Associates (IA) Leadership and Mastery for anyone in organizations interested in learning. What started out to be workshops for business organizations in need of training for systems thinking leadership, soon became “relevant for teachers, public administrators, and elected officials, students, and parents” (Senge, 1990, p. 16). Senge openly admits that public education was not mentioned in any of his systems thinking literature on *learning organizations*, much like how Gardner’s Multiple Intelligences (MI) (1983) developed without education in mind. The theories developed by Senge (1990) and Gardner (1983) have become instrumental in systems thinking protocol, considered for educational reform for 21st century leadership, learning, and accommodation needs.

The *learning organization* first conceptualized as a management fad by Senge in 1987 has become the “prominent fad of the first half of the 1990s” (p. xi). Realizing “that the world we live in presents unprecedented challenges for which our institutions are ill-prepared” (p. xii), Senge’s (1990) vision included “destroying the illusion that the world is created of separate unrelated forces” (p. 3), much like Bertalanffy’s (1967) vision of the world as a fragmented robotic mechanistic society in need of a more holistic vision.

In the *learning organization*, according to Senge (1990), inventions turn into innovations only when a new industry is created, or an existing industry is transformed. Bertalanffy (1967) saw the transformation of an invention to an innovation when systems thinking shifted the paradigm from a mechanistic view of humankind to a holistic view. In comparison, “learning organizations have been invented, but they have not yet been innovated” (Senge, 1990, p. 6). Just as systems thinking has been in an incubation period from the 1950s, so *learning organizations* are continuing to develop and improve in an incubation period. Time will tell of the lasting effects of systems thinking and *learning organizations* as forces that shape school systems.

Systems thinking, personal mastery, mental models, building shared visions, and team learning are the five components of Senge’s *learning organizations*, each developed separately, converging into a holistic focus. Senge (1990) defines the components as disciplines, meaning “a body of theory and technique that must be studied and mastered to be put into practice” (p. 10). Some will master the disciplines through innate gifts, but others will need practice. Lifelong learning involves practice, never fully achieved, but always leading to “a new wave of experimentation and advancement” (Senge, 1990, p. 11). Worldviews are questioned and begin to change as new systems thinking philosophies emerge as evidenced throughout history.

Gradual emerging patterns of change are difficult to interpret within developing systems of society, creating problems with how to adapt to the changes of the shaping forces. Similarly, bridging the mysteries of metaphysics with science altered worldviews in the thirteenth century when Thomas Aquinas (1273) wrote of the nature of humankind in terms of a holistic universe (O’Donnell, 1995, p. 93). Another example of altering worldviews came when Bertalanffy

(1967) generated the idea for a need to change the perception of the individualistic nature of humankind to a broader interpretation where each human being is perceived as a shaping force in a systemic process. Capra (1996) captured the essence of the difficult transformation from individualism to holism with the statement, “Identity, individuality, and autonomy do not imply separateness and independence” (p. 296).

Social scientists develop new visions from the shaping forces within the environment, forming new theories to address emerging problems. Gradual independence between the systems used to develop the emerging theories brought separateness to the way humankind viewed the environment (Capra, 1996). Abstract concepts as well as the concrete physical components of the environment are applicable to the way problems are viewed by human beings. Social systems and organizations are comprised of problems, in Ackoff’s (1999) view of systems thinking:

Problems are to reality what atoms are to tables. We experience tables, not atoms. Problems are abstracted from experience by analysis. We do not experience individual problems but complex systems of those that are strongly interacting. I call them *messes*. Because *messes* are *systems* of problems, they lose their essential properties when they are taken apart. Therefore, if a mess is disassembled, it loses its essential properties. Furthermore, as in any new system, if each part taken separately is treated as well as possible, the whole is *not* treated as well as possible. (p. 117)

Taking problems apart allows the exploitation of a system or organization by special interest groups that promote a negative shaping force, weakening the organization as a whole. Independence to think using abstracts, according to Ackoff (1999), was a monumental accomplishment for human beings, but at a huge cost to humankind. Human beings became diminished and alienated from each other, and the negative shaping force was in need of reckoning. A reminder that “independence is a political, not scientific term” (Margulis and Sagan, 1995, found in Capra, 1996, p. 296) indicates that escape from social, political, and

economic decisions in any system or organization is unavoidable. Details of political influence in school systems that affect leadership, learning, and accommodations for the special education subsystem will be explained further in the Depth section.

When research incorporating a systemic vision began to develop within social systems and organizations, a harmonious whole evolved (Bertalanffy, 1967, p. 71). Organizational visions were reshaped, altered from individualistic thinking patterns to systemic thinking patterns. Systemic thinking reveals that a system as a whole works differently than the parts of the system. The parts alone cannot do what the whole system can. The term *general* in general systems theory is an important concept to consider as it refers to the generalizability of theories about social systems (Bertalanffy, 1967).

Theories develop to address the problems within systems according to what has been characterized as the general systems paradigm: the skeleton of science, where there would be “a science in which material and mental, unconscious and conscious, physiology and psychology could be encompassed by similar, highly abstract constructs or models. Whatever else these constructs may be, the concepts of system and organization will have a central role” (Bertalanffy, 1967, p. 101).

The systems thinking framework developed because of the significant differences between systems and organizations and served as a central role for the skeleton of science. For example, differences between a solar system, an ecosystem, and a school system, require differing theories, to solve different kinds of problems. Systems thinking centralized society from fragmentation as new theories emerged. New theories cross boundaries and form patterns, uniting systems together strengthening the whole of humanity into a shared vision. The

mechanistic worldview gradually shifts, and continues to shift, as organizational systems change to a holistic vision. When Bertalanffy (1968) contemplated how to unite many educated people within the systems of hard scientific inventions regarding the theory of relativity and quantum physics, the Copernican model of the universe, and the functions of the human body, the idea for a general systems theory was revealed. Science became a science of systems and Bertalanffy's (1968) premise of systems thinking still holds as a solid shaping force in organizations of how to view the environment through emerging patterns.

Patterns of Change Emerge

Recognizing how patterns in nature are seen as part of systems throughout history relates systems thinking to a global vision needed for 21st century leadership in teaching and learning organizations. A new emphasis from individual *things* to how *patterns* emerge affects the whole of anything, as Capra (1996) observes, "The universe is no longer seen as a machine, made up of a multitude of objects, but has to be pictured as one indivisible dynamic whole whose parts are essentially interrelated and can be understood only as patterns of a cosmic process." (p. 6). The recognition of patterns in systems throughout history is not a new one, although Bertalanffy (1968) and Capra (1996) saw it as an important concept to grasp in the understanding of how systems theory behavior in organizations changed visions, "The understanding of patterns is crucial to understand the living world around us" (Capra, 1996, p.153).

Culturally and spiritually, evidence can be found that systems thinking is a shaping force on the essence of humankind. Dating back to the early Greeks, science and philosophy evolved into separate belief systems. When the noted philosopher and scholar Thomas Aquinas, student of Plato and Aristotle, merged scientific beliefs with church doctrine controversy in both worlds

erupted (O'Donnell, 1995). Plato suggested that leadership in organizations may arise within enlightened philosophers, kings, and queens who understand the mystical principles of systems. Church doctrine espoused leadership from a superior being, "The entire human race has always and everywhere believed that a superior being (or beings) exists upon whom the material world and everything in it depend" (O'Donnell, 1995, p. 27). Conflict arose between the opposing worldviews of science and philosophy in how to view leadership, raising tension in society.

The thought of the natural progression of growth for humanity leading to the merging relationship between science and philosophy was met in ancient times with controversy. The same fury of controversy is seen with the emergence of a systems thinking theory that suggested a shift in worldviews from a mechanistic to holistic belief. Human beings have choices, *freely chosen* according to Bertalanffy (1968), to believe in whatever assumption or system creates harmony for the betterment of society. Changes in the systems of the school community are met with as much controversy when the leaders seek harmony in the learning process for all learners.

Laszlo (1996) states that obligations to the whole of humankind come with the freedom of choice, "this freedom is bounded by the limits of compatibility with the dynamic structure of the whole in which one finds oneself" (p. 58). According to Laszlo (1996), "The supreme challenge of our age is to specify, and learn to respect, the objective norms of existence within the complex and delicately balanced holarchic order that is both in us and around us. There is no other way to make sure that we achieve a culture that is both viable and humanistic" (p. 92).

Another example of ancient shaping forces of systems thinking comes from Confucianism and Taoism which guides the conduct of people in relationships to society and nature (Laszlo, 1977). Similar to the earliest system found five thousand years ago, the essence

of the Chinese Yin/Yang system is about movement or flow. Systems in history reflect the shaping forces of movement or flow according the behavior of societal demands, and are reflected in the subsystems that surround human beings on a daily basis (Capra, 1996; Laszlo, 1977; McGregor, 2000; Senge, 1990).

The movement and flow of society is interrelated to business and social organizations that are an integral part of the subsystem structure that Senge (1990) referred to as “also systems. They, too, are bound by invisible fabrics of interrelated actions, which often take years to fully play out their effects on each others” (p. 7). Given time, organizations that trust in natural self organizing will thrive when the effects of the relationships, patterns, and merging beliefs are allowed to play out. Unfortunately, due to fast paced 21st century demands, humanity may miss the perspective of the integration within the surrounding systems that play a part of the larger social and ecological systems. Since the biological nature of humanity depends upon systems that maintain life within individuals, “we tend to focus on snapshots of isolated parts of the system, and wonder why our deepest problems never seem to get solved” (p. 7). When focusing on parts of the system, so much is missed, weakening the movement and flow of society as a whole. The subsystem of special education relates to the movement and flow of school environments, viewed as snapshots of isolated parts, in desperate need of problem solving.

Remembering that everyday decisions and events are shaped by forces within systems and subsystems surrounding individuals, leads to what Bertalanffy (1968) questioned: whether human beings *define the system*, or whether the *system defines us*. “Events seem to involve more than just individual decisions and actions and to be determined more by socio-cultural ‘systems,’ be these prejudices, ideologies, pressure groups, social trends, growth and decay of civilizations,

or what not” (p. 8). The essence of mastering systems thinking lies in seeing patterns where others see only events and reacting forces that demand change.

Events in society have created actions in education demanding change, but often emerging patterns have been ignored. Self organization can arise spontaneously if given time through pattern recognition. The KAM 6 Depth component will further explore the defining nature and effects of systems thinking in the examination of the subsystems of educational organizations. The KAM 6 Depth will follow a narrower focus examining the current predicament in the educational system with leadership, learning, and motivation within the subsystems of education. The emerging patterns will be explored in detail in the Depth component.

In the next section of KAM 6 Breadth, Howard Gardner’s (1990) systems theory approach to educational and business systems will be introduced. Comparisons of Gardner’s theory with Senge’s (1990) *learning organizations* will follow. Comparisons of the systems theories of Gardner and Senge in relationship to educational organizations indicate that society demands change. An exploration into whether a shift to systems thinking applies to the demands of society regarding issues in education ensues. Descriptions of Gardner’s (1993) and Senge’s (1990) leadership theories demonstrate how more specific goals offer suggestions to meet the societal demands for change in educational organizations.

Societal Demands Foster Change

Civilizations are ultimately seeking a balance in life throughout the world. Scientific concepts and theories within organizations that have developed over time possess limitations and approximations, some lasting centuries, others only decades, but always causing controversy.

The concept of a general system with one theory that fits all systems continues to evolve and change as societal demands change within organizations, as Bertalanffy (1968) intended with the introduction of general systems theory in 1956. A new systems theory approach that life and cognition are inseparable fits the behavior of the 21st century demands for unification of knowledge and action (Laszlo, 1977, p. 397).

Howard Gardner's (1993) theory on multiple intelligences (MI) was a contribution to psychology in 1983, however education, and teaching and training communities in industry soon embraced it as a unifying force of knowledge and action. It took on unexpected implications in the education community, as Gardner (1999a) suggested "the use of MI theory to enhance student understanding" (p. 164). Simply stated, Gardner's Theory of Multiple Intelligences (MI) claims that "seven 'core' forms of intelligences are an effort to lay out seven intellectual regions in which most human beings have the potential for solid advancement" (Gardner, 1993, p. 372). Society hungered for changes in educational reform, and MI theory opened the eyes of educators as a possible solution for a new model in leadership and learning.

Defining *intelligence* became the initial criteria for the development of the theory. According to Gardner (1993), previous to MI theory, intelligence focused on what works best for a law professor, using a combination of only two intellectual strengths. A working definition of *intelligence* developed as Gardner incorporates a more holistic approach, "the ability to solve problems, or create products, that are valued within one or more cultural settings-a definition that says nothing about either the sources of these abilities or the proper means of 'testing' them" (Introduction: 10th anniversary edition, p. x).

Considering the intellectual strengths in more human beings than just the law professor types that use linguistic and logical intelligence answered a cry from the community of special education, a subsystem of educational institutions. More and more students are identified with difficulties in the learning process leading Gardner (1993) to add to the linguistic and logical intelligence. The formulation of MI as linguistic, logical, spatial, bodily kinesthetic, musical, interpersonal, and intrapersonal strengths presents a more balanced holistic view of human characteristics. "Human beings have evolved to exhibit several intelligences and not to draw variously on one flexible intelligence" (Gardner, 1993, p. xii).

The *Teaching for Understanding* systemic framework was developed by Gardner (1999a) from the vantage point of MI to connect knowledge with action. Beginning with an observational phase that includes "stressing of generative topics that are both central to the discipline and attractive to students" (p. 165), the framework systematically leads into a hypothetical phase of "how to go from an observation to a hypothesis and back again to fresh observations that will ultimately yield further hypotheses" (p. 165). Gardner (1999a) recognized that the individuality of learning comes through the uniqueness of each human being.

The special education community of educators saw a chance to meet the needs for changes from societal demands for all learners with Gardner's (1999a) *Teaching for Understanding* theory. Incorporating the MI theory through the use of *Teaching for Understanding* would benefit not only a specific group of students with identified disabilities, but the entire system of education could benefit. *Teaching for Understanding* effects are felt from sources outside and inside the educational system. A multiplicity of contributions results from the sharing of cultural experiences, an integral part of Gardner's theory. Families

throughout the cultures of the world are parts of groups, tribes, or clans and by sharing cultural experiences humankind is tied together into a more holistic worldview. Societal demands were beginning to elicit results as the MI theory and *Teaching for Understanding* concepts met the needs for reform in educational systems and organizations.

Similarities to Gardner's MI (1993) and *Teaching for Understanding* (1999a) are found in the circular patterns of Senge's (1990) *learning organizations* theory. The need for change, according to Senge (1990), that meets societal demands for growth can be experienced through circular patterns of reinforcing and balancing feedback, "Reinforcing (or amplifying) feedback processes are the engines of growth" (Senge, 1990, p. 79). Feedback from within the organizational systems, not just trickled down from higher authorities fostered a much needed change in business organizations.

Gardner's (1999a) research in educational systems uses the term *understanding* and Senge's (1990) research in business systems uses the term *growth*, supporting what Bertalanffy (1967) envisioned for general systems theory as one of the four major functions to be applied to theoretical research, "encourage the development of adequate theoretical models in the fields which lack them" (p. 15). Each developed models with factors necessary to adapt to the systems and organizations in need of revision of the transference of knowledge for learning. Gardner's (1999a) and Senge's (1990) systems thinking models in leadership (see Table 1, p. 26) met the four general guidelines developed by Bertalanffy in 1956 for general systems theory, listed on page 11 in the Breadth.

How knowledge is related to learning, and who is ultimately responsible for learning leads many scholarly discussions. If action is unified with knowledge as Laszlo (1977) suggests,

does system thinking affect knowledge, action, and learning? Senge (1990) describes a pattern of action for *learning organizations* that assigns responsibility for learning, “In a learning organization, leaders are designers, stewards, and teachers. They are responsible for building organizations where people continually expand their capabilities to understand complexity, clarify vision, and improve shared mental models—that is, they are responsible for learning” (p. 340). Leaders then, according to Senge (1990), are indirectly responsible to the organization for learning, relating action and learning, but leaving out knowledge in relation to action and learning.

Gardner (1999)		Senge (1990)	
Teaching for Understanding		Learning Organizations	
Initial focus:	Educational systems	Initial focus:	Business systems
Parallel terms:	Understanding	Parallel terms:	Growth
Fundamental concerns: Learning		Fundamental concerns: Learning	

Table 1. Models of leadership, learning, and accommodations for quality learning in educational organizations are available for administrators, principals, supervisors, and managers interested in improving the learning process for all levels of learners in any organization.

Another factor that influences systems thinking from Senge (1990) includes the variables of focus and energy along with a sharing of knowledge. A connected vision tied together by a common aspiration must be present, “a vision truly shared when you and I have a similar picture and are committed to one another having it . . . Shared vision is vital for the learning organization because it provides the focus and energy for learning” (p. 206). The connectedness

of systems theory that life and cognition are inseparable takes shape through a unification of many theories, past and present. As long as the vision is shared and the openness to change is not resisted, the focus and energy to meet the demands by society for change will transpire.

The final section before the conclusion of KAM 6 Breadth will focus on the broad perspective of educational systems and organizations, leading into the discussion for KAM 6 Depth. The conflicts that block needs in education contrast the current beliefs in systems thinking theories. Factors that influence decisions in school systems and subsystems for leadership, learning, and accommodations will be compared to the theories of Gardner (1999a) and Senge (1990).

Leadership Needs in Teaching and Learning

Education in school systems currently operates under a linear system of human action and functions within a bilateral relationship between the larger society and the school system. The terms linear, meaning one dimensional, and bilateral, meaning having two sides (Merriam-Webster, 2003) are in a constant struggle with one another, weakening the goal of school systems: education for all learning levels. Mark Twain in 1907 may have been more serious than humorous when he said, "Never let schooling get in the way of a good education." Is it asking too much of future leadership in schools to have both Tom Sawyer and Huck Finn wake up in the morning and exclaim, "It's a great day, and I'm not going fishin', I'm going to school!"? Obvious humor exaggeration exists in Mark Twain's comparison of school and fishing at the turn of the previous century. A current dilemma that beckons educators in leadership for better learning is to examine whether schools are getting in the way of education, as Twain's humor eluded.

The current school system continues to operate under a mechanistic worldview driven by the Industrial Age (Senge, 2000) when all of the rest of America has moved out of the Industrial Age into an age driven by technological advances. “Our large social institutions, subscribe to the concepts of an outdated world view” (Capra, 1996, p. 4). Researchers are developing a new vision of reality with the notion of learning as an essential condition of growth, espoused by Senge’s (1990) *learning organizations* and Gardner’s (1999a) *Teaching for Understanding*. An outdated worldview does not mesh with the new visions for reality, so it seems that schools are getting in the way of education. Changes are needed in the education system. Often times learning is blocked due to a strong unified resistance to change.

Survival, gaining, and retaining competitiveness are obvious urgencies felt in the business environment more than in the traditional closed school environment and its supporting institutions. Most schools are not learning communities (Gardner, 1999a; Senge, 1990). They are simply closed organized structures designed to turn uneducated individuals into educated ones. There is a tremendous capacity to often totally ignore and resist change (United Nations Educational, Scientific and Cultural Organization (UNESCO) (1996), leading to a conclusion that would justify that schools have been designed *not* to learn.

Facilitating learning through schools that support organizational learning as profit making institutions challenges educators to the task of how to best teach under an antiquated system. Developing *learning communities* (Senge, 1990), rather than just learning individuals, is a crucial element of change needed in education to adapt to the changing worldview. Complex adaptive systems are currently best exemplified by the *learning organizations* (Senge, 1990) seen in business environments. Most schools remain closed systems resistant to change.

School systems are over-stressed with under-paid educators working in over-crowded classrooms that reflect dynamic, nonlinear systems (Gardner, 1999). The following hypothetical example demonstrates an every day occurrence in school systems that has lasting effects. For example, if a linear decision, “a means-end view . . . whereby a means is determined to achieve a desired end” (Hunkins & Ornstein, 1998), is made to add one new student to an already over crowded classroom then what appears at first to be a small change, in reality has large effects. To further explain, a relatively small change by adding one new student can largely impact the dynamics of a 5th grade class of 35 students that has been in session for four months. Not only do changes in the classroom occur, but changes on the school playground impact the entire school system. The entire 5th grade population of the school is largely impacted with the addition of one new student where 120 5th grade students from three other 5th grade classes socialize.

In the overstressed classroom when one new student is added late in the school year changes occur that affect the teacher and the 35 students. Along with the changing behavior patterns on the playground, one student who is adjusting to a new system in a new school causes, and is affected by, the change. “Every influence is both *cause* and *effect*. Nothing is ever influenced in just one direction” (Senge, 1990, p. 75). Cause and effect is multidimensional, showing the interrelatedness of the systems of education through the example of the impact caused from adding one new student.

When the principal and the parents ask for *feedback* from the teacher regarding the new students’ progress, another dimension to the *cause* and *effect* aspect of the system is added. Feedback or iterations in any system makes exact precision impossible (Gardner, 1990; Senge, 1990), yet, systems are based on feedback. Feedback is “a reciprocal flow of influence” (Senge,

1990, p. 75) in systems thinking terminology. Feedback comes from inside and outside the immediate environment of the new student. Further examination into the decision to place the student in a new school requires feedback to other subsystem in the systems of the school organization. The interrelatedness of the school systems comes into play through outside sources, with influential effects on the school system as a whole.

A counselor, parent, or school psychologist requires feedback to support the decision for transfer of the individual student, affecting the cause and effect of the new school placement. Political, social, and economical forces drive bilateral decisions to be made, not always in the best interests of the students, the clients in the school system. The end result from a linear decision leaves a chaotic situation to the already overstressed classroom teachers, operating under the outdated non linear system. The liner decision makers are often politicians driven by monetary values. Chaos results, unbeknownst to the political decision makers because politicians are often out of touch with the effects of the non linear school system. Political aspirations can foster negative change (Gardner, 1999a; Senge, 1990).

Decisions that must be made politically, socially, and economically sometimes force educators to work backwards out of a chaotic system created by politicians uncommitted to the heart of the problems in teaching and learning. When budgets are cut and programs eliminated educators take what is offered by politically driven revenue to make the subsystems work, often counter productive to the whole school system, “The better before worse response to many management interventions is what makes political decision making so counterproductive” (Senge, 1990, p. 60). Individual educational organizations struggle to find cohesive holistic solutions within the subsystems, eventually gaining momentum by working together, but not

always in a positive direction. Strength gained through the struggles that educators endure has produced an educational monopoly within the school systems formed as “an impressive institutional infrastructure that links to a firmly established network of interests. Teachers constitute the ‘largest single group of trained professionals in the world’” (UNESCO, 1996, p. 1).

Educators forced to fend off crisis after crisis within the existing chaotic system of educational reform have become a major facilitating factor (Hunkins & Ornstein, 1998), often producing a positive outcome from a negative situation. Unfortunately, a negative outcome has surfaced out of the chaos of reform and is leading a force of educators against change. Any alternative to the mainstream delivery of educational practices, the teacher-lecture-textbook-standardized test modality, has to “fight a hard battle to achieve even a minimum of recognition” (UNESCO, 1996, p. 1). Loyalties lie within the subsystems, so change is avoided, and resistance to change generates negativity in organizations (Capra, 1996; Gardner, 1990; Senge, 1990). Resistance to change, when there is not a shared vision for reform is described by Senge (1990) as a “response by the system trying to maintain” (p. 88).

Problems are taken apart in education allowing the exploitation of the subsystems by special interest groups, *an implicit system goal* (Senge, 1990), specifically seen in the special education community of teaching and learning. The passage of special education laws mandating a *Free and Appropriate Education* through national legislation, along with The Americans with Disabilities Act (ADA), Section 504, and Individuals with Disabilities Education Act (IDEA), makes demands of the systems and subsystems. Perceived as a threat to the whole school system, some teachers and educators see the special education subsystem decisions to mainstream students with disabilities as an *irregularity* to the mainstream classroom

environment. The negative feedback and iterations from educators outside the subsystem of special education in regards to the mainstreaming of special education students produces more *irregularity* to the whole system of the school environment (Gardner, 1999a; Senge, 1990).

Details in the Depth component will discuss where in the systems approach design consideration for accommodations for the students with learning disabilities is or is not incorporated.

Close examination of the *irregularities* in the school system or in any other system, reveals patterns that can be detected as complex or sometimes easily arranged into themes.

Complexity need not be feared or ignored, as noted by Senge (1990), “Systems thinking does not mean ignoring complexity. Rather, it means organizing complexity into a coherent story that illuminates the causes of problems and how they can be remedied in enduring ways” (p.128).

The problem with the patterns of complexity and irregularity are considered in Chaos Theory (Lorenz, 1963). Chaos Theory attempts to explain the fact that complex and unpredictable results can and will occur in systems that are sensitive to their initial conditions. It is a non linear systems theory that states “small changes can result in large differences and that there is an underlying order in all that surrounds us” (Lorenz, 1963; found in Rae, 1999). The possibility of applying Chaos Theory to school systems indicates that there is a message of hope for better leadership, learning, and accommodations for over-stressed school systems.

The subsystem of special education in a school organization is sensitive to learning needs which differ from the mainstream teaching style, setting off a chain of events that fit Ackoff’s (1999) definition of a system in operation:

A system is a set of two or more elements that satisfies the following three conditions: 1. The behavior of each element has an effect on the behavior of the whole. ... 2. The behavior of the elements and their effects on the whole are interdependent. ...3. However subgroups of the elements are formed, each has an

affect on the behavior of the whole and none has an independent effect on it. (pp. 15-16)

The affects from mainstreaming special education students changes the whole system of the school. Changing the behavior of the leadership of the whole school will affect the behavior of the subsystem of the special education community of teachers and learners, according to the definition used by Ackoff (1999).

A common example used to explain sensitivity in a system is known as the Butterfly Effect (Lorenz, 1963). In theory it states that the flutter of a butterfly's wings in China could, in fact, actually affect weather patterns in New York City, thousands of miles away. In other words, it is possible that a very small occurrence can produce unpredictable and sometimes drastic results by triggering a series of increasingly significant events. This phenomenon, common to chaos theory (Lorenz, 1963), is also known as sensitive dependence on initial conditions (found in Rae, 1999). A small change in initial conditions can drastically change the long-term behavior of a system, indicating that small changes in leadership to promote quality in learning for all levels of learners can positively change the educational outcomes for special education students.

Following the line of thinking from the Butterfly Effect (Lorenz, 1963), Gardner (1993) describes a connection to Chaos Theory from Isaac Newton's desire to describe the world, "At the height of his powers there was in him a compelling desire to find order and design in what appeared to be chaos" (p. 151). The conditions under which Newton worked were often chaotic, but patterns emerged initiating the idea that an order must be hidden somewhere if sensitivity to initial conditions are realized. Chaos Theory in relationship to school systems means developing sensitivity to initial conditions politically, socially, and economically with a willingness to make changes in leadership, learning, and accommodations to produce positive outcomes.

Resistance to change in any system or organization exists, and is an extremely sensitive issue in education due partly to “the ranks of the faculty . . . loaded with tenured individuals who have scant incentive to change their attitudes or behaviors” (Gardner, 2004, p. 94). Without change, school systems will continue to get in the way of education. The process of the system in education reflects the “kind of society into which we evolve” (Hunkins & Orenstein, 1998). Conflicts exist between the processes of systems in education and an evolving society in need of strong leadership.

A sound system to improve the educational organizations trains and develops strong leadership for a future on which society can depend. “When dealing with problems of dynamic complexity” (Senge, 1990, p. 79), as seen in the current educational organizations, a simple linear view focuses on a locus of responsibility that *he, she or it* is to blame. If a systems thinking philosophy is considered using a feedback approach to problems, then the responsibility for problems is shared by the system. Sharing the responsibility for problems may entice educators towards a new systemic approach, as “Scholars place great value on consistency and continuity” (Gardner, 2004, p. 190) and “new evidence alters beliefs” (p. 190).

A shift in the basic philosophy of school systems from the rote memorization of individual fragmented facts of knowledge to a system that views knowledge with a broad scope of *Teaching for Understanding* is needed. The systemic approach to a new leadership in learning developed by Gardner, in collaboration with educational researchers (Gardner, 1999a, p. 165), uses a generic baseline for the problems that students have with understanding fundamental concepts. The Multiple Intelligence (MI) theory developed by Gardner in 1983 was not designed to be to used solely on its own merit and principles, but “it is better thought of as a handmaiden

to good education” (Gardner, 1999a, p. 166). Keeping in mind, according to the MI guidelines, that human minds have strengths and weaknesses in at least seven cognitive areas, teaching and learning should reflect diversity. The current one size fits all approach in education has not successfully established a system that gains optimal potential for all learners (Gardner, 1999a; Senge, 1990).

The term *unschooled*, coined by Gardner (1999a), refers to students who cannot demonstrate abstract thinking when asked questions regarding the currently adopted curriculum under which teaching was designed. The past decade reflects educators and social scientists formulating questions through studies, and when asked outside of the classrooms “most students in most schools—indeed, many of the best students in the best schools—cannot exhibit appreciable understandings of important ideas” (Gardner, 1999a, p. 162). Businesses and schools are both dramatically affected by the results because both organizations are fundamentally concerned with learning. The Depth component will explore alternatives in the broad implications of systems thinking that further explain the need to develop independent thinkers for the new millennium through leadership, learning, and accommodations in school organizations to include all levels of learners.

Conclusion

Systems thinking ties individuals together within society indicating that interdependence with one another exists. The 21st century demands an interrelatedness of knowledge and action in larger and smaller social organizations. What is presently found in schools systems is inconsistent with what society demands. Unfortunately, some larger social institutions such as school systems subscribe to the old objectives and visions of analytical strategies dissecting and

fragmenting humanity. The outdated worldview disassociates humankind from understanding the need for operating through wholeness:

Our conventional model of knowledge is a part of the process of life, of a dialogue between subject and object. I believe that the worldview implied by modern physics is inconsistent with our present society, which does not reflect the interrelatedness we observe in nature. To achieve such a state of dynamic balance, a radically different social and economic structure will be needed; a cultural revolution in the true sense of the word. The survival of our whole civilization may depend on whether we can bring about such a change. It will depend ultimately, on our ability to...experience the wholeness of nature and the art of living with it in harmony. (Capra, 1996, p. 7)

Understanding the character of teachers, workers, colleagues, and students is especially important for organizational leaders in today's school systems. The current mechanistic, detail oriented non systems approach is not successful in teaching all levels of learners (Gardner, 1991). Human beings are complex, and not easily manipulated. Research by Ackoff (1999), Bertalanffy (1967, 1968), Capra (1996), Gardner (1983, 1991, 1993, 1999, 1999a, 2004, 2006), Laszlo (1977, 1997), and Senge (1990, 2000) indicates that learning is possible for all levels of learners if changes are made.

“School are incredible complex institutions, located in incredible complex environments” (Gardner, 1999a, p. 112) with systems and subsystems influenced and affected politically, socially and economically. In 1956 Bertalanffy (1968) saw the influences as shaping forces, “Events seem to involve more than just individual decisions and actions and to be determined more by socio-cultural ‘systems,’ be these prejudices, ideologies, pressure groups, social trends, growth and decay of civilizations, or what not” (p. 8). Uniting the fragmented shaping forces of the world in 1956 with a general theory was a vision realized when general systems theory was introduced. General systems theory continues to guide the quest of systems theorists to unite the subsystems of the world through better leadership, learning, and accommodations.

The KAM 6 Depth component will further address the complexity of the school system as it relates to the subsystem of the special education community of learners. The fragmentation of schools often results in failure to relate to students who learn outside the realm of logical and linguistic teaching (Gardner, 1993). Needs for increased attention, self-direction, and increased visual and verbal skills require changes to be made in leadership to promote better a quality of learning through accommodations for all learners.

Change is certain, but progress is not, from Gardner's (1999a) perspective, "The recesses of the mind remain private, and no one can tell the mind exactly what to do. The challenge to the mind is to make sense of experience, whether on the street or in the classroom" (p. 112). The decision makers must face the challenge to make the changes to adopt the most effective models of leadership for delivering services of learning in schools to meet the demands of the 21st century, regardless of how learning transpires.

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Knowledge Area Module 6

Institutional Contexts for Special Education:
Leadership,
Learning, and Accommodation

Depth Component

EDUC 8621: Due Process in Special Education: Legal and Moral Implications

drswindler.com

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Annotated References

Anderson, E. (2005). Strengths-based education: A concrete way to bring out the best in students-and yourself. *Educational Horizons*, 83 (3), 180-189.

The author co-authors a program, StrengthsQuest, examining the positive side of teaching and learning through student strengths, asking all educators to do the same. The deficit-remediation educational model, predominant in educational institutions for years, looks at *fixing* what is wrong with students, rather than examining what it is that students do right. Instead of studying dropouts, the author switches to books and articles, attending workshops, and consulting scholars in the area of excellence and how it should be achieved. The positive outlook produces students who excel using talents that naturally exist within, where talents are repeated in patterns to achieve optimal successes. Success comes from strengths that start out as talents.

The article provides ample citations to support the empirical evidence that finds student strengths as an area worthy of further study. The explicit bias is obvious in that the author of the article is also the author of a program that supports student strengths. Despite the bias, the information presented in the article raises critical evidence to support a new model in the way education views student needs.

Through an examination of what students can accomplish when areas of talent are embellished, rather than blocking an area of talent until another area is mastered, academia can build on student strengths. Parents, teachers, counselors, curriculum specialists, and administrators can all benefit from the article. Using a positive approach through student talents to reach and teach, rather than the previous negative approach denying what the students do best, gives school a new meaning to students outside the linguistic and logical style of learning.

Armaline, W., Farber, K. & Kretovics, J. (2004). It ain't brain surgery: Restructuring schools to improve the education of children placed at risk. *Educational Horizons*, 82 (3), 213-225.

Public school reform was thrust into the spotlight with A Nation at Risk reporting in 1983 that the schools in the United States were in a dismal state on a downward spiral. Certain groups were especially doomed to failure unless a major school restructuring design was elicited, as reported by the authors. Two decades later, the prospect of what has been done is not promising success for minority groups threatened in the original report. Two nationally supported projects are the focus of the article, outlining what has worked through the reform policies of the Midwest Educational Reform Consortium (MERC) which developed the Accelerated Learning, Culturally Responsive Teaching (ALeRT) program. Uniquely adapting the program to each individual school and community is the key to success.

An extensive reference list gives credence to the empirical evidence presented in support of ALeRT, which utilizes the strengths that the culturally diverse students bring into the classroom. The authors are all university professors, and the funding for the research came from a grant for readiness for undergraduate programs, so a hidden bias in support of undergraduate programs emerges. Despite the hidden bias, the ALeRT program outlines the steps for a successful program to reach and teach at risk students in low income areas of United States schools.

At risk student leaders, schools, and communities in collaborative efforts can raise awareness through the authors report of the success through the ALeRT steps of reform: small teams in common planning time, *looping*: students and teachers together from one grade level to another, professional development, and community engagement with schools and families.

Barbetti, V., Barriga, A., Doran, J., Newell, S., Morrison, E. & Robbins, B. (2002). Relationships between problem behaviors and academic achievement in adolescents: The unique role of attention problems. *Journal of Emotional and Behavioral Disorders, 10*, 233-240.

Reported from a systemic point of reference, the relationship between attention problems and academic performance from the 2002 study found that a reciprocal influence exists.

Problem behaviors and academic achievement were compared using extensive statistical analyses, including MANOVA, ANOVA, multiple regression analyses, and post hoc analyses. Standardized test scores from 58 students ages 11-19, attending an alternative school in an urban area of large eastern city, were collected and compared with Teacher Report Forms (TRF) for ages 5-18. The TRF is a multidimensional behavior rating scale used by teachers to report behavior problems. The inverse relationship between problem behaviors and academic achievement often reported in other studies was not found in the Barbetti et al. study.

The alternative school setting reveals that an explicit bias exists due to the unbalanced numbers of male and female students. Only 17 out of 58 of the participants in the study were female, far fewer than in a normal school setting.

Many problem behaviors are not related directly to underachievement, but are associated with attention problems. The attention problems have a negative effect on academic achievement. The results indicate that a clear understanding between problem behaviors and academic achievement will help generate appropriate assessment, prevention, and intervention strategies for at-risk or troubled youth.

Barth, R. (2006). Improving relationships within the schoolhouse. *Educational Leadership*, 63 (6), 8-13.

Adult relationships within a school environment are the focus of the article where the author offers insights for success and ways to avoid failure. The author, a school principal, collected years of leadership skills through observations of colleagues and classroom teachers, noting specific examples that can be utilized on any campus, large or small. Leading by example, the author suggested methods of improvement to the faculty and staff only after trying out the methods first hand, indicating that leadership is a shared vision.

The lack of citations is evidence that an explicit bias exists, but the practicality of the information balances the minimal reference list. Listing what school leaders can do and providing practical examples justifies the wealth of information. Various suggestions for leadership were explained, such as state expectations explicitly, model collegiality, reward adult behavior with release time, recognition, materials or funds, and protect collegial behavior with verbal interference for educators.

Leadership within academia comes from the practical as much from the formal training as seen in the every day examples listed in the article. The value of the information is evident in the active participation of all stakeholders in an environment where teaching and learning is absorbed through adult examples to each other. Principals, teachers, administrators, and leaders of adults in general in need of easy to follow steps to collectively engage a group into a central focus will find the article useful. Promoting success and feelings of satisfaction at the worksite for all workers are not easy accomplishments for school leaders to achieve, but necessary for an optimal learning environment for the students left in the care of the school community.

Bennett, W. (1998). A nation still at risk. *Policy Issues*, 170-180, found in Noll, J. (2001). *Taking sides: clashing views on controversial educational issues* (11th ed.). University of Maryland: McGraw-Hill.

Two decades after the National Commission on Excellence in Education declared that the United States students were at risk for academic decline, the author, former secretary of education, examines the recommendations finding that not enough has been done to remedy the situation. Gaps continue to exist between the advantaged and disadvantaged and without policy changes equity in education will not be achieved for all levels of learners. The commission offered alternatives to academia by suggesting that the delivery of education can be as diverse and the population of students that it serves, but the education system has not fully addressed the recommendations.

The article calls attention to the power issues that drive the education system, not in a positive way, despite the fact that American democracy has always prided itself with available public education for all. In text citations are scattered generously throughout the article lending credence to the material presented. Scholars and leaders in education worked collaboratively to evaluate *A Nation at Risk* presenting a new manifesto to support more reform needs. The hidden bias lies in the one sided report where no mention of positive outcomes are reported. Readers are left to wonder what is being left out of the report, raising doubts as to why more is not included.

Consumers of education, including parents, teachers, administrators, and students will find value in the report. The status of education can only improve if all sides are informed of the progress or lack thereof of current and past policies. *A Nation at Risk* received a report card, and the results indicate that more work needs to be done to accommodate all levels of learners through a power shift away from not only big government, but the big monopoly in education.

Bolland, J. (2001). In search of a few hundred good kids: Three months in the life of a community-based survey research study. *Families in Society: The Journal of Contemporary Human Services*, 82, 79-109.

The author reports of the serendipitous results of a five year project to develop, implement, and evaluate an intervention designed to reduce risky behavior in adolescents that live in public housing in Huntsville, Alabama. The study initially began as a collection of information for a survey, but soon developed into an ethnographic research study. The community based survey had to be read to the participants because most were school drop outs without the ability to read. A variety of topics from the survey included experience in school, self esteem, expectations about the future, and feeling about the neighborhood. The conclusions produced alarming results that American society had not improved living conditions for members of the public housing system.

The survey was conducted from within the community of youth living in the area, with parental permission granted. The first hand observations of the author created biases due to the stressful conditions that took place in regards to the collection of survey participants. Personal interviews from door to door interviews threatened the well being and safety of the author.

The article reveals valuable information to future researchers in need of information that must be obtained in ways not taught within the textbooks. Real life situations became the education from which the author learned, indicating that the connections outside of the classrooms are necessary to expand the learning process. The contextual environment provided the basis of the evaluation necessary to develop and implement the suggested interventions.

Bradley, R. (2005). Response to intervention. *Journal of Learning Disabilities*, 38 (6), 485-486.

The author examines the only disability category for which eligibility is required in the Individuals with Disabilities Education Act (IDEA), and seeks to find options suitable to recommend change. Also known as P.L. 94-142, IDEA has been criticized for the lack of explicit eligibility requirements, leaving individual states to set their own criteria. The ambiguity leaves the national special education program in a state of confusion, in need of more concrete guidelines for eligibility asking the question: are the right students declared eligible for special education support in a timely fashion? The current answer is no, the students are not properly being identified.

The article clearly states the problem, and recommends an alternate plan for identifying students for eligibility outside the present use of the comparison between IQ test scores and academic discrepancies. The response to intervention (RTI) program examines changes in the regular education curriculum environment for a student, followed by an evaluation, before special education services are considered. The explicit bias is evident as the author is a research analyst at the Office of Special Education Programs. Despite the bias, the author presents the critical need for universal changes in the identification of students for the special education program. In text citations are used to substantiate the opinions of the author, adding credibility and reliability to the information presented. A reference list is included to easily check the sources.

The article presents critical information to the special education program placement of students in need of services nationwide. Special educators, counselors, parents, regular and special education teachers will benefit from the possibility of new eligibility criterion.

Brooks, J. & Brooks, M.(1999). The courage to be constructivist. *Educational Leadership*, 157-165, found in Noll, J. (2001). *Taking sides: clashing views on controversial educational issues* (11th ed.). University of Maryland: McGraw-Hill.

The focus on school reform is a controversial issue as reported by the authors, and has shifted the importance of student learning. Memorizing bits and pieces of facts to pass standardized tests has replaced intellectual curiosity and seeking concepts of the big picture. Interviews, observations, and examining assessment results produce empirical evidence that the nature of learning is difficult to assess and measure. Standardized testing with multiple choice questions do not provide a true picture of learning, as learning is controlled by the learners, not the teachers. Learning, a complex process where teachers have control over what is taught, but not as much control over what is learned. Students must construct deeper meanings of *what* is presented in order to learn, so school reform must address *how* students learn.

The perception of school reform has been skewed to a numerical calculation produced through standards and testing results, a true indication that a bias exists in the article. The authors are constructivists which supports higher order thinking skills, not evident with paper and pencil test results. The explicit bias does not minimize the importance of the article; in fact, it supports the constructivist movement in school reform. The reference list supports the evidence.

Administrators, teachers, parents, school boards, and students will find value with the constructivist point of view when discussions regarding school reform, assessment, and accountability are the focus topic. Students need to have freedom to think outside of the dictated standards, and teachers need to have freedom as well to teach to the needs of all of the students entrusted to their care. Constructing meaning from answers that are perceived as wrong allows student reflection, thus constructing meaning to a deeper understanding of concepts—learning.

Bui, Y., Deshler, D., Schumaker, J. & Vernon, D. (2000). Promoting success in the general education curriculum for high school students with disabilities: The context as a whole. *Research Synthesis Series: Institute for Academic Success*, 1-24.

Despite myriad laws to support special education, factors within the school environment prevent learning from taking place. Standards based education was enacted at the same time special education students were mainstreamed into the regular education classrooms. Confusion as to the role of the special educators has devalued, creating a new role as a paper pusher support person who sits in the back of a general education classroom as an Instructional Assistant. General education course requirements have become more stringent to meet standards based testing, with text book levels up to 17th grade reading in some government courses required for graduation. Students with disabilities can learn, but the training for teachers is non existent to meet the needs of the learners, so inadequate teaching strategies are still being used.

The authors cross reference from an extensive five page list of references, validating that the report represents accurate and current information. The reliability of the data can be checked and researched further through the citations. The format is an analytical reporting of the status of the high school general education classroom and how students with disabilities struggle within the confines of the current environment.

The value of the report is immeasurable. The picture of the current status of high school education is dismal and unreachable for the students with disabilities due to legislation outside of special education. The legislation in favor of students with disabilities is in place, but due to mandates for more testing, state standards, and more rigorous goals for regular education, unrealistic expectations for special education students exist. The mainstream environment is where the students with disabilities are programmed to study, but the teachers are not trained.

Celletti, J. (1999). General education teacher' perceptions of their preparation to work with special education. (Doctoral dissertation, University of Sarasota, 1999). ProQuest Information and Learning Company, (UMI No. 9936691)

The quantitative doctoral dissertation study conducted by Celletti in 1999 examines the views of teachers in the mainstream environment to work with students outside of regular education. The intention of the researcher was to determine through the literature and the study if a relationship exists between the teachers' perception of their own teaching abilities and teacher training. A 5-point Likert scale was used in the survey, and the results indicate that teachers are willing to work with special education students, adding that teacher training is one major criterion that needs support.

Regular education mainstream classes are identified as the least restrictive environment according to Public Law 94-142 (Individuals with Disabilities Act) and IDEA 97, the amendments to 94-142, projecting a hidden bias to the research. The federal mandates do not offer regular education teachers any choices, thus the perception of willingness to teach special education inclusion students may be clouded by legalities.

Educators resistant to the newly acquired student learning styles find that current pedagogical trends are in transition and school districts need to incorporate workshops, seminars, and in-service training sessions to ease the transition process. Teacher awareness of individual differences needs to be met with training to ease the feelings of inadequacy often experienced with the inclusion enrollment. Recognizing the need to incorporate teacher training to better understand and accommodate individual differences is in need of the immediate attention of the leadership in academia. The study adds credence to the impact of the academic success of the special education mainstreamed students and the teachers lack of confidence to teach them.

Hoerr, T. (2003). It's no fad: Fifteen years of implementing multiple intelligences. *Educational Horizons*, 81 (2), 92-94.

Standardized testing results within the Multiple Intelligences (MI) environment of the New City school of St. Louis support the MI philosophy of non traditional teaching techniques, according to the author's reports. MI (Gardner, 1983) implemented across curriculums in the early 1990s stands as the baseline of teacher reports for the success of teaching and learning. The development of student strengths indicates that the schools believe the importance does not lie in what you know but who you are. Helping more students to learn by using all of the intellectual domains of the MI theory helped the students to learn more, demonstrated through high standardized test scores over a 15 year period.

Core differences between traditional classrooms and MI classrooms are listed on a chart in the report, and the MI theory is charted as well, with examples of well known persons as evidence of each intelligence. The biases are both explicit and hidden as only the positive aspects of the MI theory are outlined and reviewed by a single school district. Alternative theories, and negative aspects are missing, leaving the reader unanswered questions regarding what might be missing from the report.

Educators interested in extrapolating the highest possible outcomes from students will value the information offered as empirical evidence in the report. Parents, teachers, counselors, and administrators will find alternatives to traditional classroom curriculum listed in the article, which can easily be adapted to a variety of grade levels and environments. All levels of learner needs can be found in both charts, supported by a reference section for further investigation.

Kelley, T., & Stack, S. (2000). Thought recognition, locus of control, and adolescent well-being. *Adolescence*, 35, 531-550.

A well known psychological construct, locus of control (LOC), is examined in this article from the point of view of a newly designed psychological paradigm, Psychology of Mind/Health Recognition (POM/HR) focusing on thought recognition. The authors hypothesize that adolescent perceptions of happiness and success, contingent upon LOC, a way of perceiving the world, are often clouded with such superficial emotions as excitement and security. Data collection by the World Value Study Group (1991), an international association of social scientists, compiled information from 17 nations that distributed surveys to 1,892 at risk youths from the ages of 14-20. The findings were reported using statistical analysis, specifically ordinary least square regression on two variables: global happiness and global life satisfaction.

Multiple references, in text citations, limitations, and controls, all with copious examples included, give credibility and reliability to the data collections. Worldwide impact of the results for the adolescent population also lends authenticity to the research, as contemporary and classical theorists are quoted for reference.

The research indicates the belief exists that not only at risk adolescents falter, but sometime in life, all human beings are tempted and may cave into negative pressure from outside sources, or from within their own personal individual thought processes. Three distinct areas give value to the article for use with work in adolescent studies : (1) recognition of the intrinsic value of humanity born good and wholesome with the capacity to attain psychological health, (2) that two processes of thinking exist: process thinking (acquired ability) and free flowing thinking (innate source of profound human intelligence), and (3) stress and distress are functions of the abuse of process thinking, causing the innate thought processes to drift into an unhealthy pattern.

Marston, D. (2005). Tiers of intervention in responsiveness to intervention: Prevention outcomes and learning disabilities identification patterns. *Journal of Learning Disabilities*, 38 (6), 539-544.

The author examines a previous article that studied the only disability category for which eligibility is required in the Individuals with Disabilities Education Act (IDEA) seeking to find options suitable to recommend change. The Response to Intervention (RTI) models are incorporated into the general education curriculum and evaluated as to student performance and success. This article critically analyzes determining the number of tiers of intervention before special education is considered. Three studies of RTI were examined over a 10 year period in some cases, leading to the conclusion that (a) eligibility criteria for special education services should be multidimensional, (b) 40% of the students receiving tier 3 interventions maintained average performances without additional assistance, and (c) placements in special education decreased at all grade levels.

The author uses charts to add clarification to the statistical results, and adds reliability and credibility to the citations with an extensive reference list. The hidden bias lies in the credentials of the author as having written several articles in regards to special education, curriculum based management, and problem solving models. Despite the hidden biases, the article adds credence to the need for intervention models to aid in the identification of students for support services from the special education programs. Currently, the special education programs are impacted, in need of change so that students are properly placed in a timely fashion.

The article presents invaluable information as to a new focus in special education eligibility requirements that looks at regular education placement with modifications.

Reilly, D. (1999). Diplomates in school psychology: Architects of effective learning. *Education: Project Innovation, Summer 1999*, 1-9.

The primary role of schools is to promote learning of all students. Key factors presented by the author are flexibility, training, internal and external demands, increased testing, effective learning, and learning organizations all of which fall under the expertise of the trained diplomate school psychologist. Schools are based in linear curriculum presentation, but students are in need of flexible non linear teaching styles. Effective student learning is blocked because teachers and policy makers do not understand how learning occurs. Research about learning has emerged in cognitive science (Gardner, 1985), but schools have not translated the information to teacher training programs or curricula.

The author promotes the role of the school psychologist as the catalyst to change the school environment to a learning organization, as the school psychologist has the precise training in how students learn. The explicit bias is that the author is a school psychologist, but the information presented in the report is cited extensively throughout, and the reference list is three pages long. The reference list validates the report, and the facts are reliable based on reputable citations.

Interested parties in educational reform will find the report interesting, with substantiated facts and challenging ideas. Thus far, education reform has not succeeded. Fresh ideas such as the author presents, although egocentric on the part of the author, are thought provoking. Chaos theory is introduced as a basis for student learning, linking much of the research from social scientific theories to the current state of schools pressured to improve student achievement through increased testing. Learner centered programs are the focus with the school psychologist playing the leading role in assisting schools with the transformation into learning organizations.

Reschly, D. (2005). Learning disabilities identification: Primary intervention, secondary intervention, and then what? *Journal of Learning Disabilities*, 38, (6), 510-515.

The author examines the status of student identification for a specific learning disability as described in the Individuals with Disabilities Education Act (IDEA) 2004. It is currently unclear with IDEA 2004 of what to do for struggling students after the first steps of eligibility determination are complete. If a specific learning disability is not properly addressed after the first two tiers of intervention, the author suggests an intervention that includes behavioral issues related to attention deficits. The alternatives of how to proceed after Tiers 1 and 2 are varied leaving the state of the student identification process in disarray. The author uses ample in text citations to support the prognosis of the process.

Charts used in the article aid in the discussion of the need to reach a consensus in the identification of specific learning disabilities, depicting how the process of the tiers of intervention is currently used. The author's credentials present a hidden bias, but the extensive reference list counterbalances the bias with credible sources. Suggestions for alternatives for the *what next* dilemma are not limited to just the opinions of the author, adding reliability and validity to the information presented.

A hot topic in education today involves the issue of how to reach and teach students identified with a specific learning disability. The article addresses the issue with the preclusion: how to properly identify a specific learning disability and what can be done before admission into the special education program. Invaluable information to educators, parents, counselors, psychologists, and behavior management program specialists is offered as alternative suggestions for interventions. Specifically behavior management in relation to attention and learning is an issue that has been neglected in the past.

Rozycki, E. (2004). Mission and vision in education. *Educational Horizons*, 82 (2), 94-98.

The author offers insight into the mission and vision statements that schools adopt, often used as a platform to keep critical questions from challenging top down management. Politically influenced, school leaders are given an agenda under the guise of a mission statement or school vision. Whoa be to the innovative teacher to challenge the staff development agenda with a critical question. The powerful group-think policies are created to stifle critical abilities, with an insinuation that critical thinking is out of place and not professional.

The explicit bias of the author against mission and vision statements in education sends a message to the readers that the statements are used to discourage any open mindedness from the stakeholders in a school environment. The staff development agenda makers quiet the outspoken critical thinkers in open forums, and the hidden bias of the mission statement surfaces: Only the chosen few are allowed input.

Computer programming has given us an acronym appropriate to the circumstances used within the article: garbage in, garbage out (GIGO). If a vision and mission statement stands strong enough to allow critical thinkers to challenge through research and empirical evidence, then discussion and intellectual rhetoric can strengthen the mission and vision of the institution. If critical questions are not allowed, then the mission and vision statements are nothing more than weak thinking from the top down managers; a waste of time and effort that could be better used for potential benefits to other areas of education. The information presented is of particular value to critical thinkers ready to offer questions that challenge, with critics ready to quash new ideas that may oppose long standing traditions. Assertiveness may be discouraged, but without it innovations cannot become inventions, necessary to the growth of every system in education.

Schlozmans, S. (2003). The shrink in the classroom. *Educational Leadership*, 60, 91-94.

The author conducted a study to support the Health in Education Initiative by collecting information to keep teachers apprised of current practices with psychosocial difficulties concerning school age children and adolescents. The practice regarding the use medications to control behavior and attention gives rise to question whether schools should have input into the treatment of the child. Schlozmans (2003), a clinical instructor in psychiatry, interviewed a learning specialist regarding when to treat a child with learning problems from the point of view of the teacher. The results stress that careful communication between the parents, school, teacher, clinician, and the student be continually monitored for maximum benefit of any prescribed medications.

Two rules of when to treat should be considered, as the article states medication is not the end all to address student problems in school and a careful balanced approach to each individual child's situation must be considered. First, careful assessment to psychiatric treatment is serious; some may require only monitoring while others may need medical intervention. Second, parent, educator, and student input are important, and follow up from school counseling or psychotherapy best supports medical interventions.

The author reveals only minimal sources for classroom behavior feedback leaving room for doubt and hidden bias. There is no listed source for the descriptions of medication, and the author openly admits that the United States Federal Drug Administration does not approve all medications currently prescribed for school age children and adolescents.

The list of medications and related side effects that may surface in classroom situations provided in the article is invaluable to anyone in education looking for interventions or solutions.

Schubert, W. (2006). Seeking educational insights from autobiographical and artistic sources: reflecting on *Speak, Hands* as educational text. *Educational Horizons*, 84 (3), 130-135.

Looking to sources outside of education for insight into enhancing curriculum and teaching in education is the focus of the article. Literature, art, prose, and poetry unexpectedly serve as a hidden wealth of information to educators. Research in education is the focus of the article as the author explores *Speak, Hands* by Lillian Moats (2006) to offer educational insights. The pressure of test based curriculum distracts teachers from the real focus of what it means to teach. A discovery of self understanding with purpose and direction in life should be taught to all students, regardless of mandated testing. The autobiographical narrative reveals a self understanding, as the author relates to Dewey's (1915) view of education as a coordinated effort of manual activities. Mind body dualism, a Dewey concept, is stressed as a fact to be taught along with teaching that the individual is part of a larger system of the whole of humanity.

The author has a hidden agenda as he has written books that are quoted. Regardless of a hidden bias, the purpose of the article is well supported with a list of references and citations throughout the text. Finding insight into teaching from unnatural sources usually unrelated to education opens broader horizons to educational research. The article is valid and reliable to the field of education.

Educational researchers, curriculum specialists, teachers, and district level policy makers will find the information interesting and useful. Connecting art, literature, music, and other forms of artistic expression to educational systems bridges gaps for educators from school to real word experiences. Searchers for alternative forms of assessment to counterbalance the mandated standardized tests will find the article a useful source on which to base student performance.

Stroufe, J. & Wurtz, S. (2003). The institute of education sciences: What is different? What differences does it make? *American Educational Research Association-Organization of Institutional Affiliates, RPN, 1-13.*

The very lengthy and wordy report was filled with rhetorical information outlining the organizational structure of the new legislation compared with the old, but had very little with systems in educations. Educators are not listed anywhere in the report as members of any of the committees or subcommittees in which the members are all appointed, directly relating back to the White House. The comparison of the new Institute for Education Sciences (IES), signed into law by President Bush in 2002, replaces the old Office of Educational Research and Improvement (OERI), an eight year old organization. Changes in leadership were established to initiate a six year appointed term to the directorship, replacing shorter terms that crippled long term research goals from being established. Field initiated research is eliminated (p. 5).

A brief list of references was included that leads the reader to other scientific based information regarding research. More directly, it was cited by the director of the newly established IES that the bill is relatively modest in its expectations for school reform. The Panel on Improving Education Research (PIER) recommended a peer reviewed process to assure the quality of the research, but the legislated requirements only call for a narrow band of methodologies. Thus, the reliability and validity of the research will be compromised.

The usefulness of the article is limited to gaining an insight into the basic organizational and systems structure of governmental legislation. Government appointed positions are created to support interests directly related to the White House agenda. Rhetoric and sophistry cloud the issue of the need for research in education, revealing that expectations for its work seem unrealistic and designed to result in disappointment.

Walker, C. (1999). Prevalence of adult ADHD symptoms in parents of ADHD children. (Doctoral Dissertation, California School of Professional Psychology, 1999). ProQuest Information and Learning Company, (UMI No. 9960989)

The doctoral dissertation study conducted by Walker in 1999 examines the special education community of learners and the parents through a quantitative study. The intention of the researcher was to compare the propensity of Attention Deficit Hyperactive Disorder (ADHD) parents to have children with the disorder, and the treatment of the disorder. Questionnaires were used, seeking similarities and patterns in the results between the collected data for the DMS-IV and the ADQ-R information. Participation was voluntary, with a hypothesis that biological parents will have a high rate of reporting children with the same diagnosis.

Biases were explicit in the criterion against the adults asked to participate in the survey. Parents whose primary role is parenting tend to have a high compensatory ability, and divorced parents have a predisposition to children with symptoms of ADHD that may have led to marital distress. The sample size was an unbalanced number of more male than female parents reporting the symptoms, skewing the results in a negative pattern.

The data results agree with the hypothesis, that parents with a tendency towards ADHD symptoms will produce children with the same diagnosis. The value of the study was serendipitous in that the methods of treatments revealed were unusual. The initial diagnostic clinician did not treat or recommend treatment, but a physician was referred for a complete medical evaluation. The predominant treatment for the children was medication, even if the initial findings indicate that family counseling may benefit both the adults and the children. Both the control and treatment groups will benefit from the research, supporting a better understanding that medical intervention is the norm for ADHD symptoms, in spite of evidence to the contrary.

Wenning, R. (2005). A look at growth models. *Northwest Evaluation Association, 4, 1-4.*

Assessment and accountability in conjunction with fairness is the central issue presented by the author. While No Child Left Behind (NCLB) brought federal expectations of universal proficiency, the fairness of NCLB is a hot debate in and out of the courtrooms. Educators cannot control that snapshot test scores are used annually to measure the effectiveness of schools under NCLB legislation. Students come and go within districts and NCLB provides nothing for the flux. Teachers want and need a measure of productivity that is fair, that follows individual student progress, and can be used for accountability. The measurement of proficiency for growth set to standards can be evaluated with longitudinal growth models.

There are no references listed with the information provided in regards to growth models, but what is mentioned within the article can lead to additional cross referencing to validate the claims made. Pro and con information is stated so that a balanced view can be gleaned from the report. The need for expert scrutiny is also suggested to meet the needs of what proficiency really means from the vastly different bars states have set.

The report addresses an urgent need in education regarding the practice of using an annual test score that is not a fair measure of school effectiveness. The suggestion for using growth models to track the individual progress of students regardless of the very different starting point levels can be invaluable to teachers, parents, and administrators. Where students need to improve can easily be addressed and what resources are needed to meet the needs can generate from a growth model report. Measuring growth against goals for proficiency for each individual student provides a picture for everyone involved with the student within the many systems of the school: teachers, counselors, coaches, special educators, or administrators can all benefit.

Depth Component

Introduction

Contemporary research conducted by social scientists examines where in the systems thinking design consideration for the students with learning disabilities is or is not incorporated. Factors including social, legal, political, and economic aspects play a critical role in the organizational process of education (Reilly, 1999), and will be considered in the Depth analysis. The KAM 6 Depth component will consider the leadership models of Gardner (1983, 1993) and Senge (2000), outlined in the Breadth component from the systems thinking philosophy of Bertalanffy (1968). The focus will center on how to enhance the roles of the regular education and special education teachers for greater collaboration to recognize strengths and not weaknesses of all levels of learners in the inclusive environment. The misidentification of students in the special education program from top down management and leadership infects systems throughout educational institutions.

Restructuring the delivery of services in educational institutions is an urgent need for the special education community of teachers and learners. Looking beyond delivering special needs services as a legal responsibility, and understanding how to incorporate moral and ethical collaboration challenges special education leadership. When a special education student is mainstreamed into inclusive classrooms the implication of *your student*, not *our student*, translates as a lack of understanding that exists of how to reach and teach students with alternate learning styles.

Legal mandates such as the Individuals with Disabilities Education Act (IDEA) and Section 504 of the Rehabilitation Act demand accommodations, but student needs should not be

viewed as simply compliance with law issues. Special education leaders continually seek to humanize the legal mandates so that sensitivity to the initial conditions of the students in need of accommodations is realized. Greater support through teacher training and resources from top down management in the school organizations will generate a more positive attitude toward inclusion. Strong leadership based on sound theories can ensure that a humane aspect is added to the inclusion process of special education students in the mainstream environment, shifting the focus beyond the forced political or lawful perspective.

Overview of Early Educational Reform

A student identified with a learning disability in the early 1980s sat in the same classroom all day under the one-room-fits-all approach to special education. Peers identified with learning disabilities felt the sting of the visual identifying factor of one classroom designated for all the students in need of support outside of the mainstream environment. Embarrassed and humiliated, the students with disabilities tried to remain anonymous to protect self-esteem as the school system failed to attend to the social needs of individuals as human beings. School systems attend to the mechanics of education, but often ignore the social needs of the individual. There was a constant struggle to conceal individual identity, in hopes that no one would recognize the needs for special education accommodations (Gutsky, 1996; Senge et al., 2000).

In stark contrast, a student with a learning disability in the 1990s was somewhere on a high school or middle school campus attending mainstream classes, not easily identifiable by the general population. Special education, a subsystem in the educational organization of multiple systems and subsystems in flux, is in the process of a shifting paradigm (Bui, Deshler, Schumaker & Vernon, 2000; Gardner, 1999a) in need of educational reform. A study conducted

in 2003 by school psychologist Schlozmans found that “a careful balanced approach to each individual child’s situation must be considered” (p. 93).

A movement for educational reform in school communities began with legal mandates challenging schools with the belief that all students, with or without disabilities, can learn. According to the Education for All Handicapped Children Act of 1975 (PL 94-142), (changing the code to Individuals with Disabilities Education Act [IDEA] of 1990, revised in 1997 and 2004) eligible students with special needs must be provided with services at the site they would attend if they did not have identified special needs (Bradley, 2005; California Education Code, 2006; Marston, 2005; Reschly, 2005). The suggested accommodations must take place in the *least restrictive environment*, currently called the *mainstream* environment, replacing the one-room-fits-all-disabilities design. A need to reform schools to accommodate the legal mandates created chaos for school leaders, teachers, parents, and for the students. The refocusing of programs to include all student learners was not readily accepted by all stakeholders in academia.

A change in the terminology introduced a new term called *inclusion* replacing terms like *mainstreaming* and *least restrictive environment* (LRE) that were common phrases prior to the reform movement. Researchers Bradley (2005), Marston (2005), and Reschly (2005) conducted studies regarding *inclusion* programs and identified proper placement criteria. The Education for the Handicapped Children Act (EHA) passed in 1975 used LRE as the language referring to all children with disabilities who should be educated to the maximum extent possible with peers that are nondisabled. The term *mainstreaming* evolved with a focus on placement of students with disabilities in general education classrooms. The Americans with Disabilities Act mandated in 1990 focused attention on the *inclusion* of children, and adults with disabilities, in schools, in the

work force, and in the private and public sector. The term *inclusion* seems to replace the term *mainstreaming*, but educators outside of the community of special education are confused as to what term to use, so both are used simultaneously, and interchanged frequently.

Studies conducted by Brooks (1999), Celetti (1999), and Hoerr (2003) examined *inclusion* programs and made suggestions of what would be needed in a setting to meet the needs of students with special needs. Provisions for training of the staff, teachers, and families, an atmosphere for change, provisions of appropriate resources, along with careful monitoring, and continuous documentation of progress were listed as basic components of an *inclusive* program. Appropriate support services were recommended through the studies of Armaline (2004) and Reschly (2005), and an appropriate identification process should include a pre-referral utilized to reduce the number of inappropriate referrals to special education (Bradley, 2005).

Inclusion means providing a full service delivery of options to all students with special needs. Everyone, including the parents, teachers, administrators, and other related service staff must support the concept of full inclusion (Reilly, 1999) in order to operate a successful program. Inclusion as it has been defined by the special education community appears to have many meanings. Students in an inclusive setting within regular school environments work in flexible learning atmospheres with the implementation of alternate teaching strategies. Cooperative learning, peer learning, collaborative and team teaching are included in the research reported by Anderson (2005) which demonstrates that students with special needs improve their social interaction in inclusive settings. Barth (2006) reports that students with identified disabilities in the regular education settings require collaboration on the part of all persons who serve the students, commonly referred to as shared visions, or team learning. Bennett (1998)

reported that if inclusion is to be successfully implemented, the gaps between the advantaged and the disadvantaged must be closed through an integration of the entire education system to meet the diverse needs of all student levels of learning.

The change of terminology in academia added confusion to the implementation of legal mandates to include students with identified disabilities in the mainstream environment. Leadership models were sorely needed as no mental models were available for educators to better understand what the political mandates required of individual teachers within the walls of the individual classrooms. Chaos and confusion existed not only in the special education environment. The regular education environment needed guidance and leadership to better understand how to reach and teach students with alternate learning styles.

Patterns Will Emerge from Chaos

Gardner (1999a) and Senge (1990) recognized that the general systems thinking philosophy developed by Bertalanffy in 1968 that linked organizations and systems together in society is the shaping force of the future in the educational system. Chaos in society can be viewed as a model to better understand the present chaos in the system of education that will play out with time through natural progression into an organization where patterns will emerge (Senge, 1990). Societal demands for more independent thinkers motivated the development of two theories that apply to teaching and learning: *teaching for understanding* (Gardner, 1999a) and *learning organizations* (Senge, 1990). Unfortunately, the holistic view of the systems thinking theory (Bertalanffy, 1968) has not reached fruition in the organization of education as a whole, leaving gaps in a system that does not include all levels of learners. The gaps have a

profound effect on the success of the whole system as a negative shaping force in the physical environment (Slowik, 2006) of the organization.

The behavior of the school system is affected by interactions of the surrounding systems within the social and physical environment of the school. Often the physical environmental gap that exists is ignored, “few reviews have focused on the environmental or contextual factors . . . and how those factors interact” (Bui, Deshler, Schumaker & Vernon, 2000). In a study conducted by Brooks, J. and Brooks, M. (1999), conditions of the environment are both affected by and affect the behavior of the systems it contains. “The efficacy of the school environment is a function of many factors . . .” (p. 159). Outside of the classroom, decisions to expand the learning process are made on paper, driven by policy makers, but regardless of how good a decision may look on paper, what really matters is the real life application. If papers pushing political mandates in the guise of vision and mission statements do not connect to real life improvement in the educational environment then a positive impact on the systems will not be reflected according to a study conducted by Rozycki (2004).

The social environment of the educational system, controlled by the political paper pushers that shape educational reform, is in a state of chaos, just as society was in a state of chaos before a general system was developed by Bertalanffy (1968). Real life applications of revenue driven political agendas continue to create confusion and do not support teaching and learning organizations, “with all the swings of the pendulum, there is no forward motion, only a further retreat; education will continue to go nowhere unless it can turn off its limited track and move toward a wholly different mode of understanding human action” (Kilpatrick, 1992, p. 111).

The need to understand human action was described by Dewey (1915) to recognize that education is a necessity of life through the socialization of individuals:

Individuals should be educated as social beings, capable of participating in and directing their own social affairs. This means a freer interaction among social groups, as well as attention given to developing all the potentialities an individual may have for future growth. He looked on education as a way to free the individual to engage in continuous growth directed toward appropriate individual and social aims. (Dewey, 1915, found in Craver & Ozmon, 1999, pp. 150-151)

An exploration into whether a shift to the systems thinking theories of Gardner (1999a) and Senge (1990) applies to the chaos in educational reform will follow. An examination of the current predicament in educational institutions, a lack of understanding for the importance to build shared visions to recognize student strengths before weaknesses, will be the focus. Exploring political, social, and economical developments in the systems and subsystems of an educational system in flux will reflect where breakdowns may occur that thwart the efforts of educators to meet the need of all levels of learners. The need to develop mental models about the special education community of learners will be discussed.

Paradigm Shifts in Educational Institutions

America has moved out of the mechanistic system of the Industrial Age and so has the business world (Bertalanffy, 1968; Gardner, 1993; Senge, 1990). The current shifting paradigm is moving into what Bertalanffy (1968), a biologist, recognized as a general theory of an interrelatedness of all of the systems of the world, calling it General Systems Theory (GST). The universe is viewed as a holistic whole where human beings and the environment interact with each other, in a continuous cycle of feedback (Senge, 1990). Unfortunately, however, our educational system has not moved into the holistic worldview way of thinking and continues to operate from a linear teaching style (Reilly, 1999), creating chaos within the subsystems of

educational institutions. Studies conducted inside and outside of educational organizations (Kelley & Stack, 2000; Walker, 1999) reflect the need for school systems to shift the focus to a non linear thinking design where consideration for all levels of learners is incorporated.

Senge argues persuasively with his theory of *learning organizations* that we must abandon Industrial Age assumptions about schools (Senge, 1990; Senge et al., 2000), backed by Gardner's (1999a) *teaching for understanding* theory. Centering learning on the student strengths meets the needs of what appears to be the beginning stages of a shifting paradigm, from a linear thinking design to the need for a non linear thinking design. Curriculum revisions will address current societal demands on educational institutions to seek student strengths in all levels of learners, with and without identified disabilities. A study conducted by Anderson (2005) indicates that "the deficit remediation educational model, which has been predominate in education for years" (p. 181) interferes with students becoming top achievers.

Treating schools like living systems instead of machines (Bertalanffy, 1968), discouraging homogenizing student learning (Senge, 1990), and getting away from rote memorization (Gardner, 1999a) are three suggestions of how to introduce a new thinking process to address the flaws in educational institutions in urgent need of change. Challenges of 21st century systems thinkers focus on meeting the current school crises by examining the political mandates from government systems, as explained by Senge (1990), ". . . the crisis in American schools and 'gridlock' in Washington—a wake up call that the world we live in presents unprecedented challenges for which our institutions are ill prepared" (p. xii).

Political, social, and economic decisions shape organizations within the environment of the school systems reflecting a system in need of reform. Societal systems are interrelated. To

succeed in understanding any part of society surrounding the school system, it is necessary to develop an understanding of the interactions of individuals within the systems of education, politics, and the economy (Bertalanffy, 1968; Capra, 1996; Gardner, 1993; Laszlo, 1996; Maslow, 1998; McGregor, 1985; Senge, 1990). As changes emerge within a developing society, various contemporary social scientists conduct studies and formulate approaches ranging from philosophical hypotheses to mathematical formulas.

When paradigm shifts emerged in the evolution of a society, at the time America began a gradual shift from the Industrial Age to the Information Age around the 1950s, worldviews changed and problems emerged. Not all systems are as readily open to change as others, as seen in the confusion of activity within the social systems of educational reform that continue to operate by the design of a bygone era (Bennett, 1998; Gardner, 1999a; Senge, 1990). Schools operate in a continual crisis mode, as a study conducted by Bui, Deshler, Schumaker, and Vernon (2000) reveals numerous pieces of legislation that negate each other, “These initiatives can be used to create a potentially positive climate for students with disabilities in high school; however, some of the other trends and factors may create barriers that will prevent a positive climate from becoming a reality” (p.5).

The recognition of the need for reform in education is not a new concept (Bennett, 1998). During the past four decades educational reform efforts have been a hallmark of American educational organizations, “As long as society is dynamic and composed of a conglomeration of cultural and social groups, the debate over the aims of education will stir up controversy and change. Perhaps this is good; perhaps this is what makes a society viable and able to resist decay” (Hunkins & Ornstein, 1998, p. 167). The shift from the Information Age of the 1950s to

the shift of the new millennium, the Technological Age, resonates with problems and changes that Americans experienced when the Industrial Age was challenged with change.

The acceptance or resistance to change rests in the hands of whoever has the controlling power of feedback. Power controls whether potential chaos or steady state reigns in an organizational or social system (Cronin, Houser, Houser, Kingsbury & Olson, 2003).

Established norms may not always reflect what is best for social systems and organizations. If the power lies with the wrong authority to control decisions, resistance to change generates negativity in organizations (Bertalanffy, 1967; Capra, 1996; Gardner, 1991 & Senge, 1990).

Resistance to change, when there is not a shared vision for reform is described by Senge (1990) as a “response by the system trying to maintain an implicit system goal” (p. 88):

Resistance to change is neither capricious nor mysterious. It almost always arises from threats to traditional norms and ways of doing things. Often these norms are woven into the fabric of established power relationships. The norm is entrenched because the distribution of authority and control is entrenched. Rather than pushing harder to overcome resistance to change, artful leaders discern the source of resistance. They focus directly on the implicit norms and power relationships within which the norms are embedded. (Senge, 1990, p. 88)

The subsystems of an organization may have ingrained and interdependent goals previously established in the organizational structure, and the loyalty from the supporting subsystems, often the controlling power forces, create resistance to change (Cronin et al., 2003).

“Don’t push growth; remove the factors limiting growth,” (Senge, 1990, p. 95) may be easier said than done in the current school system. The school calendar operates under a design formulated at the turn of the last century to help farmers harvest crops by allowing time for children to work in the fields and attend school (Gutsky, 1996). Gardner (1999a) “suggests that any uniform educational approach is likely to serve only a small percentage of children

optimally” (p. 91). Rather, Gardner espouses an idea for the complex system of education that will take hard work if long term success is to reflect growth, “But instituting a new practice in any domain is hard work, and the process of bringing about fundamental changes in educational practice takes years” (p. 142).

In Western society, politicians have the power to dictate what types of teaching and learning occur in school systems (Hunkins & Ornstein, 1998; United Nations Educational, Scientific and Cultural Organization [UNESCO], 1996). The shaping forces of schools and educational organizations are controlled by political prowess driven by societal demands. Sroufe and Wurtz conducted a comparison study in 2003 on old and new legislation and found that “governments appointed positions are created to support interest directly related to the White House” (p.2). Unfortunately, politicians are not educators, more directly: politicians are well trained, but not necessarily well educated, leaving the fate of the social system of education in the wrong hands (Gardner, 1991; Kilpatrick, 1992).

When politicians make decisions in education the premise is not necessarily based on how students will benefit, but instead based on the amount of revenue a decision will generate for the political agenda (Cronin et al., 2003). Society makes demands for educational reform and politicians generate reports on education in hopes of securing votes with politically based promises that respond to the demands. Instead, if real world connections experienced within the community were considered in political reports, then an understanding of student needs would reflect legislation that “provided a profound understanding of the contextual environment that is being studied” (Bolland, 2001, p. 29).

In the study, Bolland (2001) lived in the community and interviewed students in real life situations showing that contextual education came from outside the system of school. The systems of the environment interrelated with the school systems indicate that the connections outside of the classrooms are necessary to expand the learning process (Bertalanffy, 1968; Gardner, 1999a; Senge, 1990). The contextual environment provided the basis of the evaluations necessary in Bolland's (2001) study to develop and implement the suggested interventions. The results indicate that at risk students are "in need of flexible non linear teaching styles" (p. 82). Bolland describes at risk students in need of interventions to transfer knowledge in a manner that "must be obtained in ways not taught within the textbooks" (84).

Teaching styles that reflect flexibility when schools systems are based on linear curriculum presentations introduce change into an already established pattern. Change often generates chaos, but a study by Bui, Deshler, Schumaker, and Vernon (2000) on the context of schools as a whole explains, "a dramatically new approach to educating students with disabilities in high school is going to be necessary" (p. 2). Classroom environments are highly variable aspects of dynamic, nonlinear systems which mean that linear curriculum is a mismatch for what is needed in the teaching and learning system for all students to succeed.

A breakdown in the educational system may be found in the conflict between the already established curriculum procedures verses the needs for a new approach, as the Bui, Deshler, Schumaker, and Vernon. (2000) study reveals, "American schools have not prepared students with disabilities to succeed in high school" (p. 1). Another recent study by Reilly (1999) found similar results about research that reveals learning has emerged in cognitive science (Gardner, 1993), "but schools have not translated the information to teacher training programs or curricula"

(Reilly, 1999, p. 3). Another systems breakdown may be the need for teacher training to accommodate the “students who have disabilities and who have the capacity to learn and function successfully with the rigorous general education curriculum when they receive supportive instruction” (Bui, Deshler, Schumaker, & Vernon., 2000, p. 1). Currently, minimal supportive instruction is in a chaotic state between the regular education teachers and the special education teachers.

Chaos Theory (Lorenz, 1963, found in Rae, 1995) explains that small changes can have large effects. If leadership changes are made with the training of teachers, then the effects could essentially fill in the gaps in educational institutions for the changes needed to reduce the tension between regular education and special education. A look into leadership theories follows connecting a lack of teacher training to the breakdown of communication between regular education and special education teachers to accommodate students with disabilities.

Leadership in Education

New thinking, knowing, and doing within educational organizations, based on a new worldview, reflects a new era of the millennium in need of new kinds of leadership (Gardner, 1997). The influence of one person upon another is risky according to Gardner, who espouses a rather broad view of leadership without a specified need to attain goals or contemplate challenges. The influence of behaviors from Gardner’s view of effective leadership relies on attributes and characteristics of the leader, not on empowerment, as a successful leader is the one who “most keenly senses the wishes of a potential audience” (Gardner, 1997, p. 17).

Applying the leadership attributes from Gardner’s (1997) view to classroom teachers

supports the notion that the leader (teacher) must have an ongoing, active relationship with the follower (student). Indeed, ongoing conversation between the leader and the follower is essential to the teaching and learning process. Ancient Chinese literature (Gardner, 1997) reveals a proverb in regards to leadership that would serve as an example for teachers to follow:

A good leader is one whom the people respect, the poor leader is the one whom people hate; but the great leader is one who, when the people have finished, they say 'we have done it ourselves.' Therefore, a great leader may be seen as one who leads in such a way that people are empowered. (found in Gardner, 1997)

Flexibility in teacher leadership affords the students a chance to think independently, a quality needed to meet the demands of the new millennium. According to Gardner (1997), there needs to be a dynamic exchange where participants listen occasionally, interact frequently and spend a significant portion of time applying concepts to real challenges. This is called *action-oriented learning* and has a real-world connection, rather than just a theory without connections to the environment. A similarity was found in the Bui, Deshler, Schumaker, and Vernon study (2000) that indicates students "need to be independent learners who are able to recruit the help they need" (p. 8).

The effects of too few special education teachers, and the mainstreaming of the students with disabilities, places more responsibility onto the learners to elicit the help necessary to succeed. Effective teacher leadership is needed through training programs to provide students with role models to prevent breakdowns in the systems of education (Barth, 2006). High school students with disabilities are educated within the context of regular education, with a deluge of government initiatives to ensure that an adequate education is provided. Unfortunately, the national, state, and local policies do not always operate using a systems approach to interrelate with each others decisions and mandates, leaving the system of education in a state of chaos.

The multiple mandates of legislation often conflict with each other, causing an overload and breakdown in the systems of education. As a result of the failure of schools to properly identify students with legitimate disabilities, students are misplaced and programmed into special education (Bradley, 2005; Marston, 2005; Reschly, 2005). A discussion of some of the policies of legislation at national, state, and local levels is included in the next section. The most influential factors of the process to meet the needs of students with disabilities are often lost within the multiple systems of educational reform due to the failure to communicate with each other.

Impacts from Mandated Legislation

The full gambit of legislation and litigation concerning individuals with disabilities to assist in the learning process often collide with each other rather than accomplish what the intentions of the mandates require (Armaline, 2004; Bennett, 1998). The Sroufe and Wurtz study (2003) found that often when a bill is passed “the bill is relatively modest in its expectations for school reform” (p. 3). The focus of many education bills is disguised with political rhetoric which meets the needs of the political agenda, but often ignores the needs of the students.

In 1975, the legislation Education for All Handicapped Children Act (EHA) as well as the Title VI of The Civil Rights Act of 1964, and Title IX of the Education Amendments in 1972 was adopted to assist children with special needs. In 1964 government interventions examined students with special needs in the one-room-fits-all-disabilities environment ensuring that a Free and Appropriate Education (FAPE) was being provided in the least restrictive environment (LRE). A greater impact was felt for every classroom teacher in the mid 1980s when the LRE was amended to include provisions for assistive technology, only available in the mainstream

classrooms. The first Individuals with Disabilities Education Act (IDEA) was adopted in 1990 when PL 94-142 EHA coding was changed to address the *individual* first with the description to follow, replacing the word *handicapped* with *disability*, thus PL 94-142 formerly EHA became IDEA. IDEA has been amended several times as new demands from society are imposed and the special education community of learners requires accommodations (California Education Code, 2006).

Serving the needs of the diverse population of students in the new millennium presents a challenge to everyone involved in education. Parents, teachers, administrators and the community are all faced with the question of how to best educate the future leaders of tomorrow. Public education had been the answer up until A Nation at Risk slammed the system of education with reports of failure in 1983. Comparing the results globally showed that the students from the United States placed “dead last in most areas” (Craver & Ozmon, 1999). In a scramble to come up with solutions to the negative findings, organizations began an all out effort to replace rather than repair the flaws in the established system (Hunkins & Ornstein, 1998).

A Nation at Risk (1983) revealed a deficit in student achievement in the United States sending politicians into action with political platforms regarding education that have played an integral part in every presidential election since. A Nation at Risk made such an impact that it became necessary to teach with dynamic practices. Attempts to produce more acceptable learning outcomes and assessments are evidenced by a succession of new legislatures, for example, National Goals for Education (1990), The Americans with Disabilities Act (ADA), Section 504, and amendments to the Individuals with Disabilities Education Act (IDEA) (1997,

2004). These efforts have not been entirely successful (Bui, Deshler, Schumaker & Vernon, 2000).

The dynamic system of education in America operates through a process that is governmentally subsidized and controlled through systems at the national, state, and local levels (Hunkins & Ornstein, 1998). Mandated as a right and enforced as a legal requirement for every individual (through grade 12), the system of education is currently under fire from almost every corner of the country. The state of chaos in the dynamic system of educational organizations is real, in need of urgent answers. Children, families, and schools are facing painful cutbacks in light of growing enrollments, outdated facilities, and the escalating costs of complying with No Child Left Behind (NCLB).

The No Child Left Behind Act of 2001 (NCLB) retained the idea of supplemental educational services as one of the school improvement alternatives available to students in low performing schools. The idea was not based on previous experience or research but represented a political compromise between supporters and opponents of vouchers. “Some lawmakers took advantage of the disaster caused by the hurricanes to push their own political agenda. The federal voucher program offered aid to students with one hand, and took money from under funded public schools with the other” (Weaver, 2006, found in National Education Association [NEA], 2006).

The problems lie in the hands of the trained politicians, the shapers of the educational system, who are not educated, but simply trained to find pencil and paper solutions to fit the political agenda. Senge (1990) comments on the counter productivity of the political process that is driven by power, “By ‘political decision making,’ I mean situations where factors other

than the intrinsic merits of alternative courses of action weigh in making decisions, factors such as building one's own power base, or 'looking good' or 'pleasing the boss'" (p. 60).

The process of teaching and learning is often misplaced in the political arena where it is not necessary to apply educational reform on which political platforms are based. Educational platforms were typically developed by non-teachers, largely unaware of factors that would limit successful integration into the curriculum (Sroufe & Wurtz, 2003).

In politics it is only necessary to process the paperwork that reads well enough to push through blanket statements of change until the next election requires a review of the previous legislation, evidenced by the myriad of reports on education. Thirteen such reports were developed between 1983 and 1991 (Hunkins & Ornstein, 1998, p.166). Reaching conclusions for reform in educational systems and organizations should mirror how Socrates scrutinized processes looking for the right answers, "Truthfulness, goodness and rightness need to characterize not only our conclusions but also the means by which we get to our conclusions" (Wilkins, 1995, p. 196). A study conducted in 1999 by Reilly reflects the opposite of what guided Socrates, "Effective student learning is blocked because teacher and policy makers do not understand how learning occurs" (p. 5).

By looking at a time line of educational reform through presidential efforts over the last 5 decades, we see Johnson's Great Society from the 1960s, to Clinton's Build a Bridge to the 21st Century in the late 1990s, into the new millennium reform movement of the Bush administration No Child Left Behind. The 1980s and 1990s included programs called Project Head Start, Talent Search, Magnet Schools, Upward Bound with key terms *mainstreaming*, *bussing*, and

bilingual programs. Unfortunately, what happened as a result of the inclusion efforts of the 1960s and 1970s was a leveling effect on overall achievement (Craven & Ozmon, 1999).

Back to the Basics (1995) refers to the report that United States students graduating from high school and college do not know the basics of reading, writing, and basic math (California Education Code, 2006). The bill was introduced to strengthen parental, local, and state control of education in the United States by eliminating the Department of Education and redefining the federal role in education. The report found that parental involvement has been victimized since the 1980s. More single parents due to divorce, more working moms, and parents too tired to teach basics at home are three defining factors found in the report.

The theme for education reform in the 1980s and 1990s was Search for Excellence. Adding to the three basics of reading, writing, and arithmetic is now technology training due to the technological explosion in the 1990s. Other attempts of equality of education for all learners included such dynamic practices as bussing and portfolio assessment. Left out of previously addressed student needs in educational reform was areas of bilingual education, special needs, and socioeconomic conditions, which was the basis for the creation of Search for Excellence. Unfortunately, a fallacy exists that the federal government is in full financial support of all school reform programs. The federal government often inflicts a mandate in education, leaving the interpretation and funding up to the individual states to generate the needed revenue.

Social values have changed, the economy has changed, the world has changed, knowledge of learning has changed, children have changed, but schools remain the same. Pressure is on the school system to change, and the necessity is urgent as students continue to be placed in an environment where educators do not fully understand the learning needs of all

students. “Educational improvement,” according to a study by Anderson (2005), “is not accomplished through administrative or legislative mandate. It is accomplished . . . through the difficult to measure nature of learning” (p.158). Another study by Brooks, J. and Brooks, M. (1999) found that school reform must address how students learn if successful programs of reform are the goal. If political agendas are the goal, then learning will continue to be ignored.

It has been repeatedly observed that every system we study is part of a larger system (Bertalanffy, 1968; Gardner, 1999a; Senge, 1990). The interconnectedness in the systems thinking approach to educational organizations outlines a foundation for better methods to prepare students for state mandated policies. The knowledge of what students need to know to be successful and how educators can best facilitate the teaching and learning process is described in the next section.

Student Needs Clash within School Environments

Recognizing the level of cognitive skills of students is an invaluable tool in teaching all students, especially students with disabilities (Anderson, 2005; Celetti, 1999; Hoerr, 2003). Learning to help students use strengths rather than concentrating on weaknesses enables teachers to reach all levels of learners. The transference of knowledge relates to systems in education through theories from systems thinkers and social scientific research, recognizing that the systems thinking philosophy is the shaping force of the future in the educational system (Gardner, 1999a; Senge, 1990). Unfortunately, the holistic view of the systems thinking theory has not reached fruition in the whole organization of education adding pressure to educators to meet the needs of the students who struggle. Students with disabilities are affected by the

pressures of not meeting the requirement for high school graduation, a loophole in the educational system design.

Dewey's (1915) view of education is a coordinated effort of manual activities. The educative value of manual activities "depends upon the extent in which they aid in bringing about a sensing of meaning. In effect . . . they are dramatizations" (Dewey, 1915, p. 237). Mind body dualism, a Dewey concept, is stressed as a fact to be taught along with the concept of the individual as part of a larger system of the whole of humanity (Gardner, 1999a; Senge, 1990). A more hands-on interactive curriculum will build skills that foster self directed behavior (Gardner, 1999a).

In relationship to the mind body dualism that Dewey espouses, the author Lillian Moats (2006, found in Schubert, 2006) suggests an especially creative image of "an entity of self understanding" (p. 119) that she calls a Hidden Chronicler. Used as a literary device to express personal growth, Moats (2006) writes of the Hidden Chronicler as an extension of self. Another example of a literary extension of self is called the Mystic Traveler, "First you learn who you are. And when you learn who the real self is, the false images fall away rapidly light" (John-Roger, 1970). Finding insight into teaching from unnatural sources usually unrelated to education opens broader horizons for educational institutions. Broadening the scope of learning through contemporary leadership models offers consideration for the students with disabilities for better preparation to succeed in the 21st century.

Students with disabilities continue to experience positive self-esteem and improved social skills with the inclusion process of mainstreaming into a regular education schedule, but lack of full support from the entire faculty is evident from studies conducted by Barth (2006), Celetti

(1999), and Wenning (2005). Mainstream education is didactical, thus only high achieving logical and linguistic learners can succeed unless accommodations become part of the regular curriculum.

Literature, art, prose, and poetry unexpectedly serve as a hidden wealth of information to educators, if the pressure of test based curriculum does not distract teachers from the real focus of what it means to teach. “A discovery of self understanding with purpose and direction in life should be taught to all students, regardless of mandated testing” (Schubert, 2006). If teachers do not incorporate self understanding then learners who struggle find it more difficult to grasp concepts. A breakdown in the system of education occurs without consideration for all learners. Beyond the legal responsibility of providing a free and appropriate education for all, educators must consider the moral and ethical component in academia to meet the needs of every learner.

All learners deserve equity in education, not simply equality. The claim for meeting the goal of the least restrictive environment is met when a student is mainstreamed into a regular education classroom. Equal educational access for all is not met without providing accommodations for the variety of learners in classrooms today (Reilly, 1999). Another study by Bui, Deshler, Schumaker & Vernon (2000) found that in the general education environment, the teachers focus on the high achieving learners, leaving the slower students without enough time to process the information into knowledge for long term memory recall (Dembo, 1994). Without schema on which to attach information, the result is possible failure of mandated state testing.

Misconceptions of how students with disabilities should be taught, and how learning transpires have generated a dangerous negative trend in educational environments. A fallacy that prescription drugs are the end all to address student problems is on the rise. “Prescribing

psychiatric medications to children may ignore possible social and environmental causes of childhood problems” (Schlozmans, 2003, p. 1). The results produced from the Schlozmans (2003) study reveal “careful communication between parents, school, teacher, clinician, and the student is continually monitored for maximum benefit of any prescribed medications” (p. 93). A careful balanced approach to each individual child’s situation must be considered. First, careful assessment to psychiatric treatment is serious; some may require only monitoring while others may need medical intervention. Second, parent, educator, and student input are important, and follow up from school counseling or psychotherapy best supports medical interventions (Schlozmans, 2003). Behavior problems do not necessarily constitute the need for special services from the special education department.

Many problem behaviors are not related directly to underachievement, but are associated with attention problems. Attention problems have a negative effect on academic achievement. The results indicate that a “clear understanding between problem behaviors and academic achievement will help generate appropriate assessment, prevention, and intervention strategies for at-risk or troubled youth. The inattentive subscale was a significant predictor of academic performance, whereas the hyperactive-impulsive subscale was not” (Barbetti et al., 2002, p. 236). By addressing attention problems, students receive needed assistance in learning how to learn, thus avoiding the misidentification and admission into the over crowded and under funded special education program (Bradley, 2005; Marston, 2005; Reschly, 2005). Attention problems that surface when language differences between cultures are misinterpreted can be considered an asset to classroom curriculum adding a deeper understanding of the cultural differences.

In California an influx of language learners provide the richness of the cultures that

individual bring, describing what Gardner (1999a) stresses in the *teaching for understanding* sharing of cultures. It is the responsibility of educators to teach all students regardless of levels or languages. Using multiculturalism as strengths offers all learners a bridge in the gaps in the misinformation and stereotyping between cultures that exists today.

Incorporated into the curriculum, when a family custom is explained in a report on ethnicity, all learners within the class have a deeper connection to the presenter. As the web of understanding is spun throughout each cultural sharing, students appreciate more about peer relationships substantiating the interconnectedness of systems thinking (Gardner, 1999a; Senge, 1990). A debate exists that there is no time for cultural education due to the rigidity of standardized test preparation (Hoerr, 2003; Rozycki, 2004). Building a respect for the heritage of each student does not take away from the existing curriculum; it enhances it (Gardner, 1999a; Schubert, 2006). Each classroom can become a microcosm of the world and respect for all learners sets up a moral and ethical guideline for global diversity, learning differences, and diversity among personalities, cultures, and beliefs.

Teachers becoming mediators, coaches, and facilitators rather than dictators allows students to feel that what they say matters, building on student strengths (Anderson, 2005). Asking for opinions, seeking prior knowledge on which to base future lessons, and allowing group discussions along with working with peers all build self confidence in students without acknowledging weaknesses. Armed with adequate self-esteem, students feel comfortable to forge ahead with questions, knowing that it is safe to yearn for answers to whatever questions arise (Kelley & Stack, 2000; Levine & Swartz, 1995), regardless of placement in or out of the special education program.

Alternative Assessment and Accommodation

An interesting phenomenon has taken place on high school campuses that builds the self understanding of the students with disabilities as regular education students are begging to get into the special education study skills classes (personal observation, 1994-2003). The students in regular education classes observe the encouragement and support that the resource inclusion students receive, and observe how a single class period of study skills improves mainstream classmates grades. The regular education students see no difference between themselves and the students with disabilities, thanks to the mainstreaming mandated legislation of IDEA with the least restrictive environment clause (California Education Code, 2006). A reciprocal effect occurred from what previously transpired 15 years ago when special education students were embarrassed to enter a resource room for additional assistance.

The rapid changes in education to improve learning for English Language Learners (ELL) is a bonus for special needs students, adding to the interesting changes on the high school campus. Specially Designed Academic Instruction in English (SDAIE) lessons are now being taught in the mainstream environment. The basis concepts of SDAIE are exactly what the special day classroom teachers and resource teachers have been using every day for decades. Example of SDAIE lessons and planning instruction will be included in the KAM 6 Application section in the faculty resource guide.

SDAIE incorporates hands-on lessons with visual aids that can stimulate students of all levels by reaching their optimal level of learning. Vygotsky (1978, found in Cheyne, 1999) espouses that the Zone of Proximal Development philosophy begins with some degree of confusion on the part of all learners. The secret to the success of teaching not just the ELL

students, but all students, is to keep the balance between the confusion stage and the comfort zone.

The challenge to assess in a non-judgmental way is one that effective teachers must meet. Learning to balance and use a variety of assessment in order to reach all levels of learners can be a key to successful teaching, learning, and grading. By dividing the grading process into two categories: formative and summative (Hunkins & Ornstein, 1998), more effective teaching transpires. Formative work done by students should be recognized as completed, but not necessarily graded. The students are in the process of learning, so grading formative work is more time consuming than productive. Summative work such as quizzes, tests, and portfolios are measures of what is needed for assessment to meet legislative mandates. Oral presentations, plays, skits, and art projects can be used for measures of knowledge. Incorporating new measures of assessment keeps all levels of students interested and involved, as Bradley (2005), Marston (2005), and Reschly (2005) discovered in the exploration of performance based testing and portfolio presentations as opposed to multiple choice standardized tests.

A portfolio is a file or folder containing a variety of information that documents student experiences and accomplishments. Portfolios are used to involve students in self evaluation and to promote independent thinking. An alternative measure of student achievement, students monitor their own progress as they complete long term assignments. The portfolio method of self evaluation changes the traditional passive role of the student to the role of a more active participant (Gardner, 1999a; Hoerr, 2003). Portfolios can be used for evaluations in all subjects and reflect consideration for learners with or without disabilities.

The current trends in assessment are being debated by educators as indicated in recent

studies (Armaline, 2004; Bui, Deshler, Schumaker & Vernon, 2000; Reilly, 1999). Performance assessment, otherwise known as authentic assessment, uses strategies for assessment based on individual accomplishments geared to real life circumstances that concentrate on students strengths rather than weaknesses (Anderson, 2005; Dembo, 1994; Gardner, 1999a; Senge, 1990). How a student applies the academic knowledge acquired in a classroom to real life experiences is performance assessment. It can be used in standardized testing and teacher-made tests, but can be difficult to evaluate (Hunkins & Ornstein, 1998). Strengths in favor of performance based assessment are reported as the development of higher level thinking skills of analyzation; synthesizing and evaluating are developed as more analyzing is incorporated into practice. Reported weaknesses regarding performance assessment come as complaints that it lowers SAT scores due to a reduction in basic skills drill and practice common in didactical teaching (Hunkins & Ornstein, 1998). There is a gradual decline for SAT scores as the end all in assessment, with an increase for knowledge based assessment (Personal communication, 2006).

The term *tacit* knowledge is one of many terms used to discuss the type of knowledge that is best acquired in context and through learning experiences such as apprenticeships, cases, mentoring, anchored instruction, and other forms of authentic learning. It is involved in Sternberg's distinction between *practical intelligence* which emphasizes tacit knowledge and *academic intelligence*. Sternberg's (1985, found in Santrock, 1999) *triarchic theory of intelligence* has three basic components: conceptual, creative, and contextual. Contextual aspects of intelligences can be thought of as practical intelligence or common sense. Practical intelligence is based on tacit knowledge, “the informal knowledge one needs to get ahead in specific situations but that rarely is taught explicitly” (Santrock, 1999, p. 526). Tacit knowledge

is also part of Gardner's (1993) concept of multiple intelligences. The notion of *learning communities* is closely related tacit knowledge, recognizing that all learning involves socially organized activity (Gardner, 1999a; Senge, 1990).

Incorporating social learning, tacit knowledge, and the idea for *learning communities* (Senge, 1990) and *teaching for understanding* (Gardner, 1999a) involves changes, not easily accepted in the educational system. A key factor to change lies in the element of time, a scarcity in the new millennium of teaching where federal and local legislation is mandated to teach rigid standards based curriculum. A discussion of curriculum reform will follow indicting the need to make changes to accommodate the mainstreaming of special education students in the regular education environment.

Curriculum Reform

Curriculum planning, sometimes referred to as curriculum engineering (Hunkins & Ornstein, 1998), is coordinated in educational institutions in the same manner as planning used by business organizations (Senge, 1990). Entire school districts take the macro approach to curriculum revision. Planning is not done by particular grades or subjects but by long term planning fused with short range goals. Centralized curriculum is planned through the school board; decentralized planning bypasses the school board and goes straight to the school. Exploring ideas for more hands on interactive curriculum that can be evaluated through performance based assessment is needed to adequately assess all levels of learners within the regular education environment. Diversity in student levels of learning demand a more diverse curriculum.

Three different approaches to curriculum planning involve humanistic, behavioral, and managerial styles (Hunkins & Ornstein, 1998). The humanistic approach focuses on the individual versus the actual curriculum. The individual, hands on, student centered approach is difficult to assess and to quantify, but is a necessary part of curriculum revision to counterbalance the overuse of standardized testing (Anderson, 2005; Brooks, J. & Brooks, M., 1999; Bui, Deshler, Schumaker & Vernon, 2000). An examination of state standards (Cronin et al., 2003) across state lines discovered an increase in multiple choice standardized testing to accommodate NCLB demands, decreasing the humanistic approach in current curriculum.

The state standards do not support individualized program adoption, but see curriculum as a one-size-fits-all plan. Alternative assessment through portfolios demonstrates higher level thinking skills as students demonstrate analyses of completed work, synthesized by the process of putting a portfolio together. After an evaluation of the portfolio the curriculum can be adjusted accordingly to fill in any gaps in learning that may exist (Brooks, J. & Brooks, M., 1999). Curriculum planning that incorporates portfolio assessment concentrates on students strengths as educators evaluate what the students do best from the portfolio, rather than a snapshot view of assessment from a standards based test. Students in and out of the special education program benefit from curriculum planned around strengths and not weaknesses.

The behavioral approach to curriculum is technical, based on the teacher as the expert dictating terms and text. The students are considered robotic, passive, and should be ready to spit out rote memorization of facts, much like the mechanistic robotic society that Bertalanffy recognized in 1967. No interaction with other students is considered, and certainly no active role from the students is considered in the behavioral approach to curriculum. Trends in curriculum

planning due to state standards, high school exit exams, and NCLB demands lean towards the behavioral approach as time constraints pressure educators to fill students with memorized sets of facts to meet testing goals (Cronin et al., 2003).

The most common approach to curriculum is the managerial approach. It is based on the organizational aspects of didactical teaching and not the content of the curriculum. Students and teachers are interactive, and a *success for all* interpretation means success across grade levels, not success for individual learning styles. Gardner's *success for all* interpretation projects exactly the opposite approach of managerial curriculum. The individual learner is the focus for curriculum planning in Gardner's *success for all*, as the Anderson (2005) study reports.

The successful use of a more intensive systemic curriculum, reported in the Anderson study (2005), supports educators in a quest to reevaluate current practices for a more aggressive approach to students with learning difficulties. Students were studied comparing the amount of remedial instruction time to the improvement made in fluency. A group of 37 received a more aggressive treatment for two hours a week using systemic curriculum. A comparison group of 12 students received the normal remedial help provided by the school: about one hour a week. Published information supports that the intense teaching group made up half the gap, where the other students fell further behind, indicating a need for a more intensive systemic curriculum.

A systems approach to creativity, a requirement for what Gardner (1993) calls *fruitful asynchrony*, is a condition quashed by the academic conditions of standards based education. An analysis of education's purpose across time, distance, and discipline was developed by Gardner. "When it comes to learning, less is more" (Gardner, 1993, p. xi). Gardner, the Harvard psychologist who pioneered the theory of multiple intelligences, gathered evidence from a wide

range of fields, including anthropology, psychology, history, and economics, to argue that education's ultimate goal should be to pass on a culture's beliefs about three essential subjects, truth, beauty, and morality, to its children. Gardner claims convincingly “that any curriculum that races from Plato to NATO merely stuffs students with facts they will rapidly forget” (Gardner, 1999).

What is needed in the age of the Internet, Gardner says, is *teaching for understanding*, one that not only encourages students to determine what is worth knowing amidst the unlimited amount of information now available at the click of a mouse, but also enables students to apply their understanding to new situations (Gardner, 1999). In an effort to reconcile conflicting educational viewpoints, Gardner proposes the creation of six different educational pathways that, when taken together, could satisfy people's concern for student learning and their widely divergent views of what knowledge and understanding should be, indicating that an interrelatedness exists between the educational pathways (Gardner, 1999; Senge, 1990).

Gardner (1999a) has created a leadership model for what he considers the best method for teaching students, an idea he calls *teaching for understanding*. He believes that each culture needs to identify the truths, beauties, and virtues that it values and then transmit the values to students, who can then understand and master them. He recognizes the difficulty in attaining complete understanding in any area and points out some of the obstacles students would face. Different people learn best in different ways but also an individual can learn in multiple ways. Gardner (1993) has previously posited that humans have at least seven separate forms of intelligence, and after 10 years added two more to the original seven from the 1983 study.

Gardner (1999) outlines different approaches to understanding and shares how his theory on multiple intelligences can enhance understanding. It would take a major overhaul to the current American education system to turn Gardner's theory into practice, and educators will have to decide whether the changes are worth the efforts. Considering the failure rate of students with disabilities to pass the high school exit exams, Gardner's *teaching for understanding* leadership model for learning and accommodations deserves consideration (Hoerr, 2003).

A claim that precious curriculum time is taken from regular education students when extra time is needed for students with disabilities is disproved with the results from the Schubert study (2006). The exact opposite was discovered with "the pressures of test based curriculum distracting teachers from the real focus of what it means to teach" (p. 132). Using the innate creativity and talents to be great educators, teachers can and will figure out ways to use interruptions in favor of teaching opportunities. Students learn from everything in the environment, not just from textbooks and rigid curriculum from standards (Brooks, J. & Brooks, M., 1999; Kelley, 2000).

An anonymous Internet magazine designer and a consultant for Fortune 500 clients states, "to communicate effectively across markets, not only a site's language but it's cultural and brand connotations must be translated as well" (Anonymous, 2006). If leadership in education does not see to it that teachers prepare students for what they will be facing when they leave school, then an injustice is the result. The world market demands a multicultural education, one that speaks from the diverse backgrounds that surround humanity.

It has been proven time and time again that human beings learn more by doing an activity, as opposed to just hearing, writing, or speaking it (Gardner, 1999a). If educators

introduce more *doing* activities into teaching, then more effective teachers emerge. “I hear, I forget; I see, I remember; I do, I understand” became the motto of a pilot program in San Jose CA (J. Hetzel, personal communication, September 2001). The students became involved in a hands-on program based on the California Standards of Education. The program which was originally designed to promote self-esteem became much more academic than it was originally designed to do. As the program evolved, each year it became stronger and more popular with the students and their parents. The students were learning in a very unorthodox fashion, but they were learning by *doing* through the leadership of educators willing to take risks in the teaching and learning environment.

All students are capable of learning at a level that engages, challenges, and stimulates learning. Only by including all students in accountability measures will certain unintended negative consequences be avoided. For example, it is known from research that when students with disabilities are allowed to be excluded from school accountability measures, the rates of referral of students for special education increase dramatically (National Center for Educational Outcomes, 2006). In addition, students with disabilities accrue positive benefits when they are included in school accountability systems. Educators need to realize that all students, with or without identified learning disabilities, count. Just like regular education students, students within the special education program understand that they need high levels to learn. When students with disabilities are part of the accountability system, educators' expectations for these students are more likely to increase (Bui, Deshler, Schumaker & Vernon, 2000).

Conclusion

Historically, decisions in education pass through multiple systems, eventually reaching the subsystems that directly affect the clients, students with and without learning disabilities. Broader congressional legislation adopted through the political system neglects to consider the individual needs of all of the students in the school system. The results indicate a breakdown in leadership, learning, and accommodations of students with special needs where an absence of a shared vision is readily apparent. Without mental models regarding the students in the special education program, professional educators continue to seek guidance and advice about inclusion students mainstreamed into regular education classes.

The fragmentation of the school system fails to relate to students who learn outside the realm of logical and linguistic teaching. Needs for increased attention, self-direction, and increased visual and verbal skills require changes to be made, but school systems are reluctant to accept change. The subsystems of the educational organization do not operate systemically, thus creating chaos in the national mandated legislation of accountability. Breakdowns result in the failure of students and failure of the school system to provide an education to all levels of learners.

Teachers are frustrated, students are frustrated, and the system of education is in chaos. Consideration for students with disabilities exist in some subsystems, but not in others reflecting an urgent need for uniformity. Interrelatedness of the systems thinking approach holds promise for the school system, if consideration for *learning organizations* (Senge, 1990) and *teaching for understanding* (Gardner, 1999a) are given a chance. It is time to unify principles in the true Bertalanffy tradition of general systems theory, not as disjointed and competitive systems, but as systems united to provide an adequate education for all levels of learners, for the future of

America. Gardner summarizes the current status in urgent need of change, "intelligence, the scholastic mind" becomes the heart and soul of education, and other aspects of multiple intelligence become shadows too difficult to diagnose, treat, and assess" (Gardner, 1993).

Regardless of race, gender, disability, or class, all learners deserve equity in education, not simply equality. Educational leaders can claim to have equal educational access for all, but if the classroom teachers are not providing accommodations for the diversity of learners that are currently programmed into regular education classrooms, then school systems are not meeting the needs of all learners. Increasing the identification, or the more frequent misidentification, of students with learning disabilities is not the solution to providing a free and appropriate education to all (FAPE).

Overstretched school systems are in chaos when teachers are asked to teach students that learn in a style that may be foreign to professional educators. Teachers are aware that patterns can emerge out of chaos. An exploration of the patterns will be discussed in the KAM 6 Application component which includes the broad theoretical descriptions of leadership models from the KAM 6 Breadth, combined with the narrower focus in the Depth component that examines strengths and weakness of all students, in and out of special education programs. Beyond the legal responsibility lies a lack of leadership models that create awareness for a more moral and ethical code of conduct of teaching for all levels of students. The intellectual and emotional ability to learn lies within every child, dependent upon educators to discover.

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Knowledge Area Module 6

Institutional Contexts for Special Education:
Leadership,
Learning, and Accommodation

Application Component

EDUC 8631: Practical Issues in Placement and Service Delivery

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Introduction

The Application of KAM 6 will identify, synthesize, and analyze a variety of methods and strategies available to assist all faculty members in the teaching and learning environments of students with alternate styles of learning. A major challenge faces leaders in the special education community: how to incorporate moral and ethical collaboration between educators faced with the responsibility of teaching students with learning styles that unsuccessfully match the current didactical teaching methodology. When a special education student is mainstreamed into inclusive classrooms the reference *your student*, not *our student*, is commonly expressed.

Providing learning opportunities by delivering services to all students is the shared responsibility of the entire faculty, community, and administration, and not the sole responsibility of the special education department. School leadership should be stressing that the students, in or out of special education programs, are *just kids* who want to learn, but do not always know how. Many students identified with a learning disability are not recognized as gifted and multi-talented in the areas of art, design, drafting, and poetry writing, just to mention a few. Their learning does not fit into a linear teaching mode, as teaching and learning communities ardently search for leadership to discover the learning modes of the students programmed into the special education support system.

The teaching and learning theoretical leadership models from Gardner (1999) and Senge (1990) outlined in the Breadth, and explained further in the Depth, lead into the development of the faculty resource guide that follows in the Application Appendix A. Leadership, learning, and accommodation of all levels of learners, with or without identified learning disabilities, will benefit from the methods and strategies listed in the faculty resource guide.

Leadership Needs in Teacher Education Programs

Future teachers are currently provided a one course preparation to teach all levels of learners outside what is considered the *normal* range, lumped together as special students in the general education classrooms. Gifted and talented student needs are taught separately from special education student needs (Doorlag & Lewis, 1999), ignoring the fact that students with an identified disability are often multitalented and gifted in areas that utilize hands-on manipulation. Art, design, and drafting, areas of strength for many students identified with a learning disability, require skills that are not currently incorporated into the daily teaching and learning process. Instead, student weaknesses are the central focus (Marino, Miller, & Monahan, 1996).

Leadership in teacher education programs is sorely needed to include a balance of information about all student strengths across the curriculum. Opportunities for future teachers to work with a full range of students with various capabilities should be offered (Chamot & O'Malley, 1994). A paramount focus for teacher training programs should include team teaching and cooperative learning to promote a shared vision of responsibility to teach all levels of learners, in or out of special education programs. Translating theory into practice requires schema, and teachers need schema as much as students to acquire higher order thinking skills about the teaching and learning process (Gardner, 1999; Senge et al., 2000).

There should be continuous pre-service and inservice education and training, encouraged through educational leadership, where “the student must be active in their environment. Having students negotiate the curriculum enables them to gain ownership of their knowledge. It empowers them” (Hunkins & Ornstein, 1998, p. 252-253). The chart in Figure 1 is an example of two available models for leadership, learning, and accommodations.

Models of Leadership, Learning, and Accommodations
for
Quality Learning in Educational Organizations

Gardner (1999)		Senge (1990)	
Teaching for Understanding		Learning Organizations	
Initial focus:	Educational systems	Initial focus:	Business systems
Parallel terms:	Understanding	Parallel terms:	Growth
Fundamental concerns: Learning		Fundamental terms: Learning	

Figure 1. Models of leadership, learning, and accommodations for quality learning in educational organizations are available for administrators, principals, supervisors, and managers interested in improving the learning process for all levels of learners in any organization.

Teacher training programs should also include planning, implementation, and evaluation opportunities, with models of a positive attitude toward inclusion students, and respect for all professional opinions within the subsystems of education. The special educators are often treated as if the students they teach have contagious diseases, and avoidance of the teachers and students at all costs is necessary to keep from spreading the infection (Alternative Treatment Approaches for ADHD, 2001). Students are often considered difficult to teach because they learn in a variety of ways, which is not accomplished in the lecture and take notes methodology, referred to as logical and linguistic (Gardner, 1989) thinking. Dealing with the diverse needs of students with alternate styles of learning, currently considered disabilities, does not constitute an alienation from the regular education community.

Raising awareness in the teacher preparation programs that teaching involves collaborative efforts between all the subsystems in education, including the special education community, begins to bridge the gaps between special education and regular education. Parents, teachers, students and the community leaders need to forge partnerships that promote a clearer understanding of how the special education system works.

Students observed with areas of difficulty in learning assimilated into the systems of the schools, currently considered the best service delivery model, is a hodgepodge of acronyms governed by legal mandates. Some students may be identified with a disability in learning and placed under the watchful eye of the special education department through an Individual Educational Program (IEP). Other students not identified as learning disabled may have a variety of reasons that cause traditional methods of learning too difficult, and are monitored through a written document called a 504 Plan. The school counselors or the district psychologist may be in charge of monitoring the 504 Plan student progress. Some students may have fallen behind due to long term illnesses, drug rehabilitation programs, suspensions, or expulsions and have learning gaps with a variety of academic needs. Other students may have been kept out of school for reasons such as caring for siblings due to deaths, divorces, etc. School systems often labels students with a variety of acronyms, such as ADD, LD, ELD, ESL, or ADHD (Schlaht, 2006) but sometimes fail to recognize that each student is an individual human being.

Empirically validated evidence of current trends in educational institutions blocks the progress of students to be prepared to face the challenges of the 21st century. The next section will list some of the current trends, with suggestions for alternatives that will be carefully outlined in the teacher resource guide found in Appendix A of the Application of KAM 6.

Current Trends: The Drugging of Our Children

Unfortunately, the prescription drug industry has permeated the walls of school organizations with the big business of pharmaceuticals. Political, social, and economic decisions cannot be avoided in education as education is a business, and businesses are supported through funding. The generating of funds comes from inside and outside the systems of the school, therefore all of the decisions dealing with the use of prescriptions are not always in the best interests of the children (Schlozmans, 2003). The pharmaceutical industry generates revenue, and students are caught in the crossfire between the patterns that the revenue and the school set.

Schlozmans (2003) conducted a study to support the Health in Education Initiative by collecting information to keep teachers apprised of current practices with psychosocial difficulties concerning school age children and adolescents. The practice regarding the use of medications to control behavior and attention gives rise to question whether schools should have input into the treatment of the child. Schlozmans, a clinical instructor in psychiatry, interviewed a learning specialist regarding when to treat a child with learning problems from the point of view of the teacher. The results stress that careful communication between the parents, school, teacher, clinician, and the student be continually monitored for maximum benefit of any prescribed medications, which is currently not the case.

Medication is not the end all to address student problems in school and a carefully balanced approach to each individual child's situation must be considered. Two rules of when to treat children with prescription medication should be considered. First, careful assessment to psychiatric treatment is serious; some may require only monitoring while others may need medical intervention. Second, parent, educator, and student input are important, and follow up from school counseling or psychotherapy best supports medical interventions. Schlozmans

(2003) openly admits that the United States Food and Drug Administration (FDA) does not approve all medications currently prescribed for school age children and adolescents.

The list of medications and related side effects that may surface in classroom situations is invaluable, but teachers are often left out of the loop when it comes to students taking prescription medication. The initial diagnostic clinician does not always treat or recommend treatment, but a physician is referred for a complete medical evaluation. The predominant treatment for the children was medication, even if the initial findings indicate that family counseling may benefit both the adults and the children (Walker, 1999). Interventions or solutions that examine the process of identifying and treating such common disorders as Attention Deficit Disorder (ADD) and Attention Deficit Hyperactivity Disorder (ADHD) with alternatives to prescription drugs is imperative to break the established pattern that drugs are the only solution to learning and behavior interventions.

The Faculty Resource Guide (Appendix A) will include alternatives and intervention strategies to the prescription drug phenomenon that has infected our school systems. Drugging students into pacificity is not the only solution to control classroom behavior, and it is time to break the negative pattern of overuse of prescription medication for school age children.

Conclusion

As demands for more effective education rise, teachers rise to the challenge. Relying on effective leadership models, educators follow what leaders emulate, but leaders do not always have the best interests of the students, the clients of the school system, in mind. Leadership in education is too often governed by political platforms from revenue generated agendas. Lost in the shuffle of the political mandates, the students who do not learn with the tradition methods are often pigeonholed into a program that looks good on paper. Teachers are in need of leadership

models that offer a better delivery of services within a school system that currently programs all levels of learners into the regular mainstream classrooms. Leadership accentuating the positive accomplishments of the students may change the negative patterns that dominate school policy.

One of the first policies taught to all staff and faculty on any campus is the discipline policy. If the discipline policy changes, then the new procedure gains first priority to ensure that the changes are understood. Learning the steps in the discipline plan is crucial to the success of the students, teachers, and to the school system. Why is it not as important for teachers to understand the learning styles of all of the learners in the classrooms, when the discipline policy of the school can often be recited verbatim? School systems do not ignore behavior problems when students require guidance with poor decision making skills due to impulsivity. Discipline procedures are carefully thought out policies that incorporate criteria from stakeholders throughout all areas of any educational facility. Administrators, clerical staff, credentialed and non credentialed personnel, custodial staff, and cafeteria staff receive the discipline policy and respect the importance of understanding the policy.

If as much priority was given to teaching teachers that the levels of learning in the classroom are as important to learn as the discipline policy, how would the scenario change regarding students academic success in the mainstream classrooms? Discoveries in learning styles have changed by leaps and bounds, but schools are stuck in a linear teaching and learning approach, when students require a non linear approach. School systems continue to send students out into the world ill-prepared because teachers are ill-prepared to understand all levels of learning. Teaching the teachers to understand that students process information in different ways is crucial in preparing the students of today so that the world leaders of tomorrow are ready to face the challenges of the 21st century.

Development of a Faculty Resource Guide is a step in the right direction to assist educators with bridging the gap between special education and regular education in delivering services to all of the students within the educational system. The Faculty Resource Guide will include the theoretical philosophies of Gardner's (1989) multiple intelligences theory, and the teaching for understanding model (1999) for school leaders, and Senge's (1990) learning organizations model for leadership in schools, introduced in the Breadth, explained in the Depth, and found in Appendix A in the Application of KAM 6.

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Appendix A

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Introduction

The Faculty Resource Guide provides support to ensure that quality services are delivered to students with learning disabilities, and is designed to maximize cooperation between the special education staff and the regular education staff. The positive effects on the quality of services provided as a result of having a resource guide should: improve behavior and attendance, reduce the labeling of students and the stigma attached to special education, and increase the rate of academic success for all levels of learners.

Incorporating Multiple Intelligence Learning Styles

The incorporation of Multiple Intelligence Theory (Gardner, 1983, 1993, found in McKenzie, 1999) is viewed as a new approach to teaching and learning in academia. Click on the link mrsswindler.com to take the Multiple Intelligences inventory to understand that

IT'S NOT HOW SMART YOU ARE – IT'S HOW YOU ARE SMART!

According to empirical evidence:

Teachers are now working on assimilating this knowledge into their strategies for helping children learn. While it is too early to tell all the ramifications for this research, it is clear that the day is past where educators teach the text book and it is the dawn of educators teaching each child according to their orientation to the world. (McKenzie, 1999, p. 1)

VISUAL/SPATIAL - learning visually and organizing ideas spatially. Seeing concepts in action in order to understand them. The ability to *see* things in one's mind in planning to create a product or solve a problem.

VERBAL/LINGUISTIC - learning through the spoken and written word. This intelligence was always valued in the traditional classroom and in traditional assessments of intelligence and achievement.

MATHEMATICAL/LOGICAL - learning through reasoning and problem solving. Also highly valued in the traditional classroom, where students were asked to adapt to logically sequenced delivery of instruction.

BODILY/KINESTHETIC - learning through interaction with one's environment. This intelligence is not the domain of *overly active* learners. It promotes understanding through concrete experience.

MUSICAL/RHYTHMIC - learning through patterns, rhythms and music. This includes not only auditory learning, but the identification of patterns through all the senses.

INTRAPERSONAL - learning through feelings, values and attitudes. This is a decidedly affective component of learning through which students place value on what they learn and take ownership for their learning.

INTERPERSONAL - learning through interaction with others. Not the domain of children who are simply *talkative* or *overly social*. This intelligence promotes collaboration and working cooperatively with others.

NATURALIST - learning through classification, categories and hierarchies. The naturalist intelligence picks up on subtle differences in meaning. It is not simply the study of nature; it can be used in all areas of study.

EXISTENTIAL - learning by seeing the *big picture*: Why are we here? What is my role in the world? What is my place in my family, school and community? This intelligence seeks connections to real world questions, understandings, and applications of new learning.

Learning Disabilities and Internet Links

A learning disability is a generic term referring to a heterogeneous group of disorders. The difficulties may manifest as slight or significant in the acquisition and use of skills in listening, speaking, reading, writing, reasoning in general, or more specifically in mathematical reasoning. Central nervous system dysfunction is presumed to be the focus of the studies examining the disorders. Students with disabilities range in levels of intelligence from average to above average, often with talents listed in the gifted range.

Services to students with learning disabilities are provided as stated in federal mandates:

No otherwise qualified handicapped individual in the United States . . . shall, solely by reason of his handicap, be denied the benefits of, or be subjected to discrimination under any program or activity receiving Federal Financial assistance. (Section 504 of The Rehabilitation Act, 1973)

More details regarding decisions in academia, and how federal mandates apply to educators delivering services to students with disabilities are found with Internet links, and/or references:

California Education Code. (2006). Retrieved from caselaw.lp.findlaw.com/cacodes/edc.html

Individuals with Disabilities in Education Act of 2004 (IDEA). (2004). Retrieved from <http://www.ed.gov/policy/speced/guid/idea/idea2004.html>

Lavoie, R. (1989). *Understanding learning disabilities: How difficult can this be?* Washington, DC: PBS Video.

Levine, M. & Swartz, C. (1995). The unsuccessful adolescent. *Secondary Education and Beyond: Providing Opportunities for Students with Learning Disabilities*. Retrieved from <http://www.allkindsofminds.org/caseStudies.aspx>

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United Nations Educational, Scientific and Cultural Organization (UNESCO) (1996). *Strengthening the role of teachers in a changing world: Issues, prospects and priorities*. (Working paper prepared for the 45th session of the International Conference on Education, Geneva, Switzerland.) Paris, France.

Weaver, S. (2006). National Education Association (NEA). Retrieved from <http://www.nea.org/index.html>

The Student and the Classroom Teacher

All disabilities are not obvious especially in the areas of a learning disability. Educators may not see any visible manifestation of a disability upon initial contact with the student. The front line of the Varsity football team, the homecoming court, and the student council president may all be identified as having a learning disability. Until actual curriculum is presented, the disability may not surface. Some students with disabilities may identify themselves to teachers immediately, and some may not. Some students may ask for assistance from classroom teachers, and some may not.

The responsibility to communicate with the teacher with any questions regarding the course expectations in order to complete the coursework to fulfill the course requirements is up to the students with disabilities, just as it is up to the regular education student to do the same. Learning to advocate for oneself is not always easy, and in the learning process a special education staff member may initiate communication on behalf of the student to model how the process begins. If a student makes a request for services, or if a teacher has any questions or concerns, the special education faculty and staff are ready to assist. Supporting student and teacher needs are the goals of the faculty resource guide, created to bridge the gap between teacher and student needs in the regular education environment, when students with disabilities are included in mainstream classrooms.

Students may make special requests of the teacher for consideration to accommodate areas of a disability. For example, a student may ask to use a tape recorder, calculator, or a Franklin speller in class, and on homework assignments. Special test arrangements (details in the More about Testing section), asking for a note taker, or asking for extra time on assignments may be requested. Teachers may receive requests that seem too out of the ordinary and difficult to adhere to, considering the large class sizes that teachers must accommodate. If you have any such requests or concerns, please contact any of the special education staff members for assistance.

Support Services

The following examples are services that are provided under a body of federal and state mandates to students with disabilities (Curriculum Guide, 2006) mainstreamed into the regular education environment:

- Note taking and reading

- Tape recording and tapes on loan
- Books on tape
- Proctoring of exams under supervised conditions
- Academic tutoring
- Adaptive technology and equipment: calculator, Franklin speller, word processor, screen reader with voice activator
- Books, videotapes, DVDs, CDs, reference materials to support academic work
- Resource Specialist classes in content area courses, including Study Skills
- Counseling and advisement with a focus on disability management
- Transition Partnership Program (TPP)
- Consultation with faculty and staff relating to any matters of a disability or of a student with disabilities
- Peer tutoring
- Consultation and/or team teaching with general education staff members
- Psychological or Speech/Language services
- Pre-registration and programming assistance
- Assistance to teachers in classrooms, as needed
- Diagnostic and academic testing
- Coordination of Individual Education Planning (IEP) team

Howard Gardener's theory of Multiple Intelligences (1983, 1993, found in McKenzie, 1999) recognizes seven original areas of intelligence, with an additional two, to consider in developing curriculum for all levels of learners. The realization that current classroom curricular practices can be easily adapted to reach all learners by using classical and contemporary theory guidelines

offers more opportunities for all learners to reach full learning potential. The hidden advantage to any changes in current curriculum to accommodate students with learning styles outside the accepted norm supports the regular student population by providing more enriched environmental experiences. The following is a list of twelve suggestions for daily practices.

Intervention and Strategy List (Winebrenner, 1996)

- Never do for students what they can do for themselves
- Talk slowly
- Allow students to take tests in untimed situations
- Give hyperactive students opportunities to move: pass out papers, take messages to office
- Make learning concrete with hands-on artifacts
- Find alternatives to large group work
- Never assume that students who struggle are not working hard
- Incorporate music wherever possible
- Do not be afraid to move outside the classroom to teach a lesson or two
- Use humor frequently
- Deal effectively with behavior
- Do not excuse students with disabilities from participation

More about Testing

Concentrating on student strengths rather than magnifying weaknesses can be accomplished in the area of test taking. Demonstrating abilities rather than disabilities shifts the focus from a negative experience for the student, with consideration covered in the government mandate The Rehabilitation Act of 1973, found through Access to Education for the Disabled: A Guide to

Compliance with Section 504 of the Rehabilitation Act of 1973. The Internet link provides details necessary to meet the legal regulations.

http://eric.ed.gov/ERICWebPortal/Home.portal?_nfpb=true&_pageLabel=RecordDetails&ERICExtSearch_SearchValue_0=ED352783&ERICExtSearch_SearchType_0=eric_accno&objectId=0900000b801311b8

Students may request any number of the following list of typical accommodations (Curriculum Guide, 2006), depending upon the student and the exam:

- Additional time
- A proctor to read exam questions and read back students' answers
- Permission to use calculators
- Permission to take exams via computers
- A testing room separate from the class exam
- A transcriber
- Oral exam/answers

Exam Preferences

Teachers may prefer to administer and supervise an exam within their own environment, and will find the following suggestions helpful:

- Allow the student, or the student and proctor, to work in an area or a room where they will not be disturbed by others.
- Regarding extra time allowances, the teacher and the student should reach an agreement mutually satisfactory to both prior to the test. Oral testing is more time consuming than written test administration.
- Examination readers may need the following instructions: (a) Questions may be repeated as many times as the student requests; (b) The reader can repeat completed answers as often as student requests; (c) Long questions and answers on multiple choice tests may be

especially confusing. The reader can *pair* the question with each choice to help reduce confusion.

- The student may need to hear a proctor dictate back to the student during an exam what is written from an oral answer. If a proctor is to write, then preparation to read back as many times as requested by the student is necessary.

Request for Test Proctoring

Test accommodations must be mutually satisfactory to the student and the teacher. The following four step procedure *must* be completed by the student (Curriculum Guide, 2006):

- Inform the teacher of the need for special testing accommodations due to a specific disability, *before the day of the test*. If there is a question regarding the request from the student, contact the Education Support Center.
- The student must pick up a Request for Proctoring Service form from the Education Support Center, and speak with a Resource Specialist to review recommended testing accommodations and obtain a signature.
- The student must submit the Request for Proctoring Service form to the teacher so that the teacher can review the requested accommodations, specify test conditions and test delivery information, and indicate approval by signature.
- The completed request form must be returned to the Education Support Center by the student before any test accommodations can commence.

Understanding ADD/ADHD

Assigning an acronym frequently associated with special education individuals: Attention Deficit Disorder (ADD), Attention Deficit with Hyperactivity Disorder (ADHD), or Learning Disabled (LD) is a quick fix method to label children with symptoms, but often fails to recognize the

student as an individual human being. Stories of how drug abuse often begins include a common denominator: drugs were prescribed for hyperactivity or learning disabilities at some time during childhood. A feeling that a pill will fix everything is instilled at an early age, and thoughts often lead to "if I took pills to learn, then I can take pills to cure whatever I want them to cure."

Making responsible decisions on the way to adulthood is often confusing and even painful at times. When normal decision-making became confusing or difficult, students often turn to drugs because when school was too confusing, drugs were available.

Understanding Attention Deficit Disorder (ADD) or Attention Deficit Hyperactivity Disorder (ADHD) is easier with the use of an analogy (Alternative Treatment Approaches for ADHD, 2001). If ADD or ADHD is diagnosed, then an under activation of the brain is the result. To understand the under activation, compare the brain to a car that is stuck in first gear. No matter how much the driver steps on the gas pedal the car will never be able to go beyond a certain speed-no matter how capable or powerful the engine. One way that the under activation can be identified is through electroencephalographic (EEG) analysis. EEG technology records and understands brainwaves.

A crucial effect of ADD/ADHD is an inability to concentrate and process information normally regardless of intelligence level. The IQ of persons with ADD/ADHD is often above average, but an under activation in the brain blocks the potential. The gap between potential and actual performance throughout the lives of ADD/ADHD sufferers often leads to low self-esteem, psychological/emotional problems, and underachievement at school and work.

Doctors prescribe drugs for ADD/ADHD because they are presumed to stimulate the brain; in essence, they temporarily *rev up* brain functioning. On such stimulants, patients are temporarily able to focus, stay on task and filter out distractions. Unfortunately, once the medicine leaves the

system, so do the positive effects. A patient does not usually outgrow ADD/ADHD, so drug dependency for improved functioning is indefinite. Some of the drugs which doctors prescribe for ADD/ADHD have not been adequately studied; the safety and long-term effects of some of these drugs are unknown.

An estimated 10% of the population is afflicted with ADD/ADHD. If undiagnosed and untreated, people with ADD/ADHD are at much higher risk for developing substance abuse disorders, psychiatric dysfunction, and antisocial behavior. The most common, identifiable causes include heredity, fetal distress with lack of oxygen to the fetus during childbirth, premature birth, prenatal exposure to alcohol and/or drugs, head injuries, high fevers (over 105 degrees) for longer than 24 hours, brain infections, and possibly chronic/severe ear infections at early ages.

Alternatives to Prescription Drugs

Society is inundated with a pill for this and a pill for that when simple nutritional practices that have been around for many years will accomplish the intended goal, the calming of our children. According to Dr. Ben Feingold (1975), who served as Chief of Pediatrics at Cedars of Lebanon Hospital and Children's Hospital, there is a solution to the prescription drug abuse problems. As a Kaiser Permanente pediatrician, specializing in childhood allergies, Dr. Feingold became the Director of The Institute of Medical Entomology in 1951. He began a study on the correlation between allergy relief and subsequent calming affects of his elimination diet. A more recent study by Harding, Judah, and Gant (2003) studying the effect of Ritalin compared to food supplements in the treatment of ADHD and discovered that "food supplement treatment of ADHD may be of equal efficacy to Ritalin treatment" (abstract). More information about the food supplements can be found at <http://www.thorne.com/altmedrev/.fulltext/8/3/319.pdf>

Dr. Feingold's elimination diet "provides the opportunity for your child's true self to emerge and develop without the use of drugs" (Feingold, 1975, p.2). There is a national organization that promotes The Feingold Nutrition Program which "has helped thousands of children to control their activity level, adjust to school situations, and become cooperating members of the family without the use of medication" (FAUS, 2006). Today we know that not only do children benefit from the program, but adults with ADD/ADHD benefit, as well.

Feingold Nutrition Program Information:

The child growing up in the U.S. in the 1940's got:	The child growing up in the U.S. today gets:
White toothpaste	Multi-colored toothpaste, perhaps with sparkles
Oatmeal	Sea Treasures Instant Oatmeal (turns milk blue)
Corn flakes	Fruity Pebbles
Toast & butter, jam	Pop Tarts
Cocoa made with natural ingredients	Cocoa made with artificial flavoring, & some with dyes.
Whipped cream	Cool Whip
No vitamins (or perhaps cod liver oil)	Flintstone vitamins
White powder or bad-tasting liquid medicine	Bright pink, bubble-gum flavored chewable or liquid medicine
Sample school lunch: Meat loaf, freshly made mashed potatoes, vegetable. Milk, cupcake made from scratch.	Sample school lunch: Highly processed foods loaded with synthetic additives, no vegetable. Chocolate milk with artificial flavor.
Sample school beverage: Water from the drinking fountain	Sample school beverage: Soft drink with artificial color, flavor, caffeine, aspartame, etc.
Candy in the classroom a few times a year at class parties.	Candy (with synthetic additives) given frequently.

The FAUS link: <http://www.feingold.org/> provides the following list, developed by Dr. Feingold to assist parents and professionals in identifying possible symptoms of hyperactivity:

Marked Hyperactivity
Constant motion Running instead of walking Inability to sit still Inappropriate wiggling of legs/hands
Impulsive Actions
Disruptive behavior/disturbs others Unresponsiveness to discipline Unkindness to pets Poor self-control Destructive behaviors: throws, breaks things Little or no recognition of danger to self Inappropriate noises Excessive talking Loud talking Interrupts often Abusive behavior Unpredictable behavior
Emotional Concerns
Low frustration tolerance Depression Frequent crying Demands immediate attention Irritability Overreaction to touch, pain, sound, lights
Panics easily Nervousness Low self-esteem Mood swings Suicidal thoughts
Compulsive Actions
Aggression Perseveration/repeating of an activity Touching things or people excessively Workaholic habits Chewing on clothing, other objects Scratching, biting, or picking at skin

Patterns in Assessment

Current trends in assessment are being debated by educators (Dembo, 1994). Examples of assessment patterns are listed with the characteristics, strengths, and weaknesses of each:

Performance Assessment

Otherwise known as *authentic assessment*, uses strategies for assessment based on individual accomplishments geared to real life circumstances. How a student applies the academic knowledge acquired in a classroom to his or her own life is performance assessment. It can be used in standardized testing and teacher made tests, but can be difficult to evaluate.

Strengths: higher level thinking skills of analyzing, synthesizing, and evaluating are developed.

Weaknesses: complaints that it lowers SAT scores due to basic skills not being taught.

Minimum Competency

Testing is used to test basic skills before diplomas are awarded, but has been criticized as to what basic skills should be measured: life skills, survival skills, or standards-based criteria. Should there be a cutoff level in 6th, 7th or 8th grade?

Strengths: addresses problems of complaints from business/military that basic skills are lacking

Weaknesses: standards set too low; does not address real problems; SAT scores may be lower because higher level skills are not taught due to basic skills being taught; encourages dropouts due to continual remediation.

Portfolio Assessment

A portfolio is a file or folder containing a variety of information that documents student experiences and accomplishments. Portfolios are used to involve students in self-evaluation.

Provided as an alternative measure of student achievement, students monitor their own progress as long-term assignments are completed. The portfolio assessment method of self-evaluation

changes the traditional role of the student who used to wait for the teacher to do the grading.

Portfolios can be used in all subjects, but are traditionally used for reading and writing (Dembo, 1994, p. 550).

Characteristics:

- cover letter checklist for organizational purposes
- collection of work chosen by student's strengths, interests, effort
- kept in large folder to easily collect and store work

Strengths:

- easy access of student work for parent conferences
- develops higher level thinking skills of self-analyzing, synthesizing, and evaluating
- aids in organizational skills

Weaknesses:

- difficult to evaluate; whether to score in part or whole
- validity and/or reliability questioned

Specially Designed Academic Instruction in English (SDAIE)

The rapid changes in education to improve learning for English Language Learners (ELL) are a bonus for special needs students. Specially Designed Academic Instruction in English (SDAIE) lessons are now being taught in the mainstream environment (Curriculum Guide, 2006). The basis concepts of SDAIE are exactly what the special day classroom teachers and resource teachers have been using every day for decades. SDAIE incorporates hands-on lessons with visual aids that can stimulate students of all levels by reaching their optimal level of learning. SDAIE methodology emphasizes the concept of comprehensible input: making concepts understood by the learner. This is accomplished through the use of:

- realia (real objects and materials)
- manipulatives (drawings, posters, brainstorming-clusters, graphs, tables, maps, props, multimedia presentations, storyboards, story maps)
- visuals (study-prints, text book-illustrations, overhead-projected prints, reproductions of paintings, and documents)

- graphic organizers (matrices, Venn diagrams, and webs)
- planned opportunities for interaction between all individuals in the classroom (creating a skit and acting it out, co-operative learning, collaborative learning, and student-generated stories based on personal experiences)

The use of SDAIE (Specially Designed Academic Instruction in English) is of primary importance due to the comprehensive needs of the Limited English Proficient (LEP), Non English Proficient (NEP), Resource Student Program (RSP), and speech/language students. All levels of learners labeled with the variety of acronyms used in academia today, such as LEP, NEP, RSP, ESL, ADD, ADHD, and GATE have similar traits which can be adapted to a regular education curriculum. The following example is a 5th grade reading lesson based on Open Court methodology, designed with SDAIE, and used in an immersion classroom with eight LEP students, four NEP students, three RSP students, two speech/language students, five GATE students, and the remaining seven students that are considered regular education students.

How and Why To Make Reading Easier to Learn and Understand Using Open Court's Concept of Clues, Problems and Wonderings

1. Set: Sparking Student's Interest

The reading lesson today begins with asking the students to have ready their 5th grade reading books, reading spiral and a pencil ready to take notes. Using *kinesthetic* and *visual skills*, the students will take a gallery walk to view, touch, and examine the books on display in the front of the room, seeing familiar and unfamiliar books from their past and present reading experiences. Music will be playing in the background while the students examine the books on display.

2. Directed Teaching: Using Prior Knowledge

Using *auditory skills*, a verbal discussion ensues, calling on students to share individual experiences, reviewing what the students already know about reading and how and why it is important to learn to read, referring to the books on display. The discussion explains that many

of their grandparents and maybe their parents learned to read with the Dick and Jane series, then along came the Dr. Seuss series and now it seems that the Harry Potter series has encouraged more students to become readers again. “Has the Harry Potter series helped you to want to learn to read?”

3. Checking for Understanding: Open Court: Clues, Problems and Wonderings

Ask: “Remember last week we wrote down our clues, problems and wonderings? Why did we do that?” The lesson will continue with a discussion regarding the importance of reading in reference to their reading books. On a slip of colored paper, the students will *write* down a question that they are wondering about (*intrapersonal*) after having examined the story *Seventh Grade* last week. They will then share their question with a partner (*interpersonal*) and save it to pin up on the question board. Partners will report back to the class what questions were raised.

4. Corrective Teaching: Circulate and Listen to the Partner Discussions

After a short period of time, as students write down their questions, teachers will circulate and make suggestions to keep partners working together and discussing.

5. Guided Practice: Students Begin to Read the Story Aloud

Modeling of how to read, but raise questions about the story at the same time, will begin with the teacher reading a sentence or two. “I need clarification. What does that mean?” How to ask when extra explanation is needed will be discussed, and then the students will take turns reading and asking for clarification when needed.

6. Closure: Students Share What They Learned

With raised hands, students will respond to non-teacher questions: “What did we learn today? Why is what we learned important?”

7. Independent Practice: Homework--Try It at Home

For reading homework, read your library book for 15 to 30 minutes, then write a journal entry in your reading spiral about any questions that you needed clarification for in regards to your library book. Ask someone at home: mom, dad, grandma, grandpa, aunt, uncle, babysitter, big brother or big sister, etc for clarification. Bring your spiral back tomorrow and we will discuss how you learned to get clarification. Keep this question in mind: Did you or any of your helpers need to use a dictionary?

Cognitive Academic Language Learning Approach (CALLA)

The Cognitive Academic Language Learning Approach (CALLA) is a model for instruction based on cognitive theory and research, originally developed for second and foreign language

learners (Chamot & O'Malley, 1994). CALLA integrates instruction through learning strategies for academic tasks, priority topics from the curriculum content, and the development of language skills needed for learning in school. CALLA can be used in bilingual and foreign language learning programs, and has been found to easily adapt to general education classrooms.

CALLA's principal objectives (Chamot & O'Malley, 1994) are to assist students in:

- Valuing their own prior knowledge and cultural experiences, as Gardner (1999) espouses with his teaching for understanding theory, and relating this knowledge to academic learning in a new language and culture
- Learning the content knowledge and the language skills that are most important for their future academic success
- Developing language awareness and critical literacy
- Selecting and using appropriate learning strategies and study skills that will develop academic knowledge and processes
- Developing abilities to work successfully with others in a social context
- Learning through hands-on, inquiry-based, and cooperative learning tasks
- Increasing motivation for academic learning and confidence in the ability to be successful in school
- Evaluating their own learning and planning how to become more effective and independent learners

An example of a CALLA adapted regular education science lesson of Newton's Laws of Motion follows. The science demonstration indicates that with the creativity and imagination used by

professional educators every day, any lesson plan in any subject area can be adapted to meet the needs of all levels of learners within a regular education classroom.

Project Skate

Subject: The Science Behind Skateboarding: Project Skate

ESL Level: Beginning to intermediate

Topic: Newton's Laws of Motion and Scientific Method

Grades: adaptable for 4th through high school

State Standards: 8th grade--physical science--motion, forces, density

9th through high school--physics: motion and forces

Content Objective: Students will learn Laws of Motion and Scientific Method

Language Objective: Listening--students will understand Laws of Motion and Scientific Method

Reading--students will connect skateboarding to science concepts

Speaking--students will ask/answer questions and share with partners

Writing--students will do worksheets re: laws of motion, scientific method

Learning Strategies: Cognitive, metacognitive, and social/affective strategies will be incorporated in the following manner, through the preparation, presentation, practice, evaluation, and expansion procedure

PRIOR KNOWLEDGE: QUESTIONS FOR QUALITY THINKING:

Why does the skateboard stick to the skaters' feet?

How do the skaters stay in the air so long when they do tricks with their boards?

Where does the power come from to jump so high?

The CALLA extended lesson is a science project involving the science behind skateboarding, designed to teach high school resource students with reading levels from 4th through 9th grade. Auditory as well as visual aids will be incorporated to enhance the lesson due to student disabilities. Hands-on materials will also be included because many students learn through the sense of touch. The median of skateboards was chosen to teach the lesson because the students walk into class carrying skateboards, so a vested interest in the project exists. Motivation is the key to learning.

VOCABULARY DEVELOPMENT

After interviewing several pro skateboarders, learning the vocabulary of skating was stressed, so proper terminology to relate the science concepts to the students will be taught.

PROPERTIES TO BE INTRODUCED THROUGH VOCABULARY DEVELOPMENT:

Newton's Laws of Motion--First Law: moving objects will move at a constant speed in a straight line--inertia to be introduced--skateboard pushed across room. Still objects stay at rest.

Second Law--Acceleration--directly proportional to force--light skaters vs. heavier skaters -- inversely proportional to mass--skaters pushing ramps in position

Third Law of Motion--for every action there is an equal and opposite reaction--motion on the half pipe ramp, rolling up u-shape of ramp with different levels of force

Multiple Intelligences Lesson Plan for Science through Skateboarding

Howard Gardner's Theory of Multiple Intelligences (1983, 1993) identifies seven categories of intelligences that will be included in the project. Linguistic, logical, spatial, bodily kinesthetic, musical, interpersonal, and intrapersonal strengths present a more balanced approach to reach all levels of learners.

VISUAL AIDS: skateboards, ramps, tri-fold poster with science vocabulary and formulas, and demonstration of science in action by skaters

AUDITORY AIDS: video of skating, demonstrating tricks with verbal explanation of the scientific property behind the trick as it is being performed

TACTUAL AIDS: when explaining the property of strength, have old broken boards to pass around to demonstrate the layering effect of the sheets of maple wood which constitutes the flexibility of the board. Friction will also be *felt* and explained when they feel the grip tape on the top of the board.

Conclude the lesson with the safety features necessary to be a safe skater by displaying impact and force on video, incorporating the importance of helmets and pads. If the interest level remains high, incorporate centripetal force and discuss the science behind the different wheels, trucks and bearings on different surfaces: street, ramps, and sidewalks.

EXPANSION

Through Internet research, students will access websites that expand on the skateboarders from their country. Japan and China are especially rich in skateboarding activity.

Faculty Resource Guide Conclusion

As demands for more effective education rise, teachers rise to the challenge. High school is the last stage of formal education before the experiences of the real world challenge many students. Not all students attend college. What students face in the real world, outside the sheltered walls of school life does not appear on an IQ test. Educators rise to the challenge of preparing for the

21st century by bridging the gap between school, the community, and the real world outside of school by abandoning past practices for new innovative teaching.

Adapting to the new realities empowers youth to educate themselves beyond what is offered in classrooms. Teachers, parents, and educators must teach that learning and motivation is within the normal realm of human development and that it can be managed with a deeper understanding of individual strengths. “It is only by knowing our individual nature with its limitations as well as its resources that we grow capable of coming out of ourselves and collaborating with other individual natures” (Piaget, 1965, p. 394).

Abandoning past practices for new innovative teaching broadens the understanding of the range of *normal* conducive to the different learning styles, thus allowing teachers not just to tolerate, but to celebrate the uniqueness of individuals. “If they can’t learn the way we teach them, then let’s teach them the way they learn,” (Dr, Kenneth Dunn, found in Winebrenner, 1996, p. iii).

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