

A CASE STUDY OF AN URBAN ELEMENTARY SCHOOL PRINCIPAL DEALING
WITH UNANTICIPATED SITUATIONS: APPLICATION OF CHAOS THEORY

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ABSTRACT

This qualitative case study addresses the question: How does an urban elementary school principal perceive and respond towards unanticipated situations? Chaos theory used as a frame of reference for analyzing and discussing the collected data.

One female urban elementary school principal was the participant in this study. She was described as the brave captain who takes her ship from a stormy environment to the harbor safely. Data were collected by interviewing the participant and other key informants, conducting field observations, and examining documents and archival data. Data were coded and analyzed by content analysis. Metaphors were then used to structure and describe the data. Triangulation was supported through using method and source data. Thick description and many of the participant's own words present a picture for the reader of how this urban school principal deals with unanticipated situations.

It was found that the school principal faced many unanticipated situations that can be categorized under three subtopics: program changes, death of students, and administrative changes. When the school principal dealt with those unanticipated situations, she developed some behavior patterns and strategies, such as taking administrative classes, learning from practice, networking, understanding culture and chaos, being aware of what job expects from principals, and having a flexible personality.

Although the school principal suggests all these strategies to other school principals, she especially stresses the importance of teaching chaos theory to the prospective principals, as well as having them learn from real situations. Moreover, the existence of unanticipated situations, uncertainty, and constant changes throughout the

history of the school can be indicators of chaos theory. In addition, feedback mechanism, turbulence, the butterfly effect, self-similarity, self-organizations and pattern have been observed from the data as tenets of chaos theory.

It was also observed that there was a pattern in terms of changes occurred and having reorder at this school. These cyclical steps are positive feedback, instability, chaos, self-organization, and order.

The school principal claimed that her understanding of chaos theory helped her deal with unanticipated situations effectively, as well as other situations.

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DEDICATION

This dissertation is dedicated to my parents Safiye and Zühtü Akbaba.

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CHAPTER I

Introduction

The differences within the American education system are enormous. Education takes place in three different geographical settings differentiated by the descriptors urban, suburban, and rural. Each setting has specific characteristics that appear either to facilitate or impede the mission of public school systems (Beaumont, 1997). Out of these three settings, the urban schools are the most troubled part of the American educational enterprise. With the constant reports of gunfire in schools, staggering dropout rates, violence, demoralized teaching staffs, and declining academic achievement, many observers are convinced that urban public schools are the most problematic in the nation (Mirel, 1993; Stone, 1998).

Common complaints include that urban schools are too big and too impersonal. Their curriculum is riddled with linguistic and cultural biases and their teaching methods are archaic, by any standards. Moreover, the funding base of urban schools is woefully inadequate when compared with that of middle- and upper-middle suburban schools. Classrooms are usually characterized by the continuously talking teacher with silent uninvolved children. In the urban classroom, the idea of stuffing children full of facts persists, even though the research indicates that such "facts" are obsolete before students can get through the system (Beckman, 1993; Rosthstein, 1993). Urban schools are mostly segregated, with the majority of the students are black and Hispanic. Finally, urban schools have more students, a larger bureaucracy, and less money than the suburb schools (Glazer, 1992).

Situated in the urban school problems is the school principal. Hoyer & Scorr (1983) categorized the elementary school principals' duties as administrative operations, school curriculum development, community relations, student services, and evaluation. Starratt (1990) summarized school principal routine as "reacting to one crises after another." Slattery (1995) gives examples from his personal experience. He says that:

I remember that no matter how well a school was organized, the unexpected or unpredictable were the daily norm: bomb threats on exam days, parents and board members bursting into the office with a new idea or complaint; malfunctioning telephones, heaters, air conditioners, and toilets, emerging discipline meetings; crying secretaries, teachers, students; head lice outbreaks in first grade; early dismissals for inclement weather on football playoff games; outstanding teachers who are transferred in the middle of the year; food fights in the lunchroom.

(p.228)

Slattery (1995) also mentions that although school administrators know the randomness and chaos more accurately define their lives than predictability and stability, modern bureaucrats continue to frustrate educators by organizing schools around the modern conception of time as controllable and manageable. Heorne (1991) claims that the school leader should be ready for surprises in their daily activities. In Cooper's (1989) research, successful principals defined themselves as problem finders as well as problem solvers. According to Cooper, 72% of school principals emphasized that they deal with problem solving.

Discussing urban school principals in particular, Beckman (1993) describes the good urban school principal as the most potent force in building a quality school.

Beckman notes that schools are mostly judged by their principals; that either their philosophy, insights, interests, and actions could either modify, create growth, and promote change, or delay, inhibit, and confine the school's mission. As a result, urban schools are endeavoring to adapt their programs to meet seemingly overwhelming problems. The principal is in a particularly strategic role to lead in these efforts to improve urban schools.

Beckman's (1993) main claim is that principals are central for the success of any urban school. Urban principals have to deal with complex problems that test their mettle and allow them to become successful in school. He also reports that:

The role of principal is far greater than the administration of the routine tasks of the school. Far more important is the role of leading the school toward the attainment of the goals for which it exists. Thus every face of the program and activities of the school should be motivated by, and coordinated through, the educational leadership of the principal working in cooperation with the school staff and the community. (p, 396)

In the literature, there is an ongoing discussion indicating that many aspects of administrative responsibilities cannot be described, explained, or predicted by current management theory, leadership models, or organizational frameworks (Hunter, 1996). As a result, it has been suggested that chaos theory be applied to education to better understand the situation (Blair, 1997; Garmston & Wellman, 1995).

According to Butz (1995), chaos is an ancient philosophical concept, that in the past 200 years has often been neglected by scientists as they seek a logical positivistic answer to a world that is largely nonlinear. Lindsay (1989) defined chaos as "the

tendency of dynamical, nonlinear systems toward irregular, sometimes unpredictable, yet deterministic behavior" (p.4). What makes this theory interesting to people in education is that it has the potential for informing administrators about utilizing holistic approaches to administration. According to Blair (1993), the theory "suggests that all events deserve attention and monitoring; no growing effect should be ignored. If we do not think holistically, we may not account for relationships among elements" (Griffiths et al., 1991, p. 440; Blair, 1993, p. 581).

Shipengrover & Conway (1996) claim that "as the pace and intensity of educational change continues to create conditions where traditional coping mechanisms do not work, the language of chaos takes an increased importance" (p.185). In addition, they assume that when the cause and effect relation is subtle and the same actions have different consequences in different situations, the knowledge of chaos theory can help administrators for practical problems and core dilemmas. Also after five year of study, Blair (1997) believes that "if preparation programs include study of the theory of organizational complexity, one can reliably expect to see demonstration of better practice" (p. 201).

Statement of the Problem

Until recently, mostly traditional and modernist theories were taught in the field of education. It may be time to shift the paradigm from a modernist to a postmodernist view (Maxcy, 1995; Doll, 1993; Slattery, 1995). The first discussion in the literature is that since social sciences and education borrowed theories from the natural sciences as they moved from Newtonian to Quantum Physics, it is time for the social sciences and

education to move to a quantum world (Wheatley, 1994) and to apply chaos theory to education (Blair, 1997, Griffiths et al., 1993). Another understanding is using metaphors from different fields within the social sciences to explain complex systems (Macpearson, 1995; Benson & Hunter, 1992; Macpearson, 1997).

“Chaos theory” was first discovered and studied by natural scientist; but recently social scientists have began to study the subject. Inevitably, there are now articles and research on chaos theory in educational journals. In these journals, it is mentioned how some scholars apply chaos theory to their fields such as educational administration (Blair, 1993; Blair, 1997; Hunter, 1996; Beavis, 1995); transforming schools (Garmston & Wellman, 1995; Fleener, 1995); research methods (Pace, 1992; Lindsay, 1989); leadership and change (Wheatley, 1992: Wheatley, 1994; Marshal, 1995; Hargreaves & Fullan, 1997; McCarty, 1998); composition studies (Hesse, 1991); decision-making (Keaten, 1995); and developmental plans (Hargreaves, 1995); and curriculum development and design (Doll 1993; Slattery 1995; and Maxcy, 1995). Some of these educators are making great strides to apply chaos theory or complexity theory (Garmston & Wellman, 1995; Blair, 1993; Blair 1997; Marshal, 1995).

Although there are supportive views about the application of chaos theory into education, there are also critiques and questions about chaos theory or applying the topic to education. Morcöl (1996) reviewed some books about chaos theory and fuzzy logic. He poses a key question: “Are these theories novelties that may be heralding a revolution in social and natural sciences, or are they old wines in new bottles?” (p. 215). In essence, Morcöl questions the possible contribution of chaos theory to the field. Sensing the problematic nature of chaos theory as it is applied to education, Maxcy (1995) raises a

number of pragmatic questions. Among these questions are "Who propounded this theory?," "Which groups support this theory and which do not?," "What power is at work in the advocacy of this view?," and "What does theory mean for school reform?" (p. 33)

Maxcy (1995) also discusses the politics of chaos. He cited Hayles, (1990) claims that "the essentiality contested issues in chaos theory versus other framework is the status of local knowledge over global knowledge" (p. 44). Maxcy (1995) examines whether or not chaos theory may be a political theory and, or even more importantly, an ideological position involving a "metanarrative that resists critique and reconstruction" (p. 44). Maxcy's own conclusion is chaos theory is a global theory and distinct ideology. He claims that "caution is needed. We must guard against the move toward global theories and ideologies (such as chaos theory) in the face of what are actual practical problems" (p.44).

Most of these discussions are at the theoretical level and do not offer a means of applying chaos theory into a school principal's everyday practices. In order to see the reflection of chaos theory in practice, the best way of seeing the reflections of chaos theory could be analyzing unanticipated situations.

So, the main purpose of this study is to find out unanticipated events that an urban elementary school principal faces at her school. Another aim of this study is to find out the reactions and responses of an urban elementary school principal towards unanticipated events at her school. The final aim is to cover what kind of training models an urban elementary school principal suggests handling those unanticipated situations.

Research Question

The main research question is how does an urban elementary school principal deal with unanticipated situations? The following research questions on how an urban elementary school principal deals with unanticipated situations can generate better understanding of elementary school principal's reactions toward these types of situations.

- 1) What are the responsibilities, daily activities, and problems of an urban elementary school principal?
- 2) What kind of unanticipated situations does an urban elementary school principal face?
- 3) How does an urban elementary school principal perceive and react towards unanticipated situations?
- 4) What strategies does an urban elementary school principal apply while she faces unanticipated situations?
- 5) What training does an urban elementary school principal suggest for future school principals to deal with these unanticipated situations?
- 6) Do tenets of chaos theory or chaos theory itself fit with unanticipated situations?
- 7) How does chaos theory describe the approach used by a principal when she addresses specific problems?

CHAPTER II

Review of Literature

This review of literature consists of two parts. The first part will report on the urban education context, history of urban education, the current situations of urban education in the site, urban education leadership and change. The second part will present chaos theory and its tenets, chaos theory, change and leadership, and critics and questions on chaos theory.

Urban Education Context

The term “urban” has many meanings. Stone (1998) defines urban areas as a "jurisdiction that are large and old enough to include socially and economically diverse populations" (p. 3). Stone (1998) claims that under the auspices of the term urban, there are typically central cities and mature suburbs. Although urban communities are not identical, within the broad category of urban communities, recent trends show a greater concentration of poverty and people of color. American cities have always attracted recent migrants, minorities, and poor people; however, the patterns of metropolitan growth now assign their urban center with a greater concentration of such residents than in the past. Stone (1998) reports that this trend gives contemporary urban politics, and contemporary urban education in particular, a different dynamic from that of earlier times.

The researchers involved in urban studies find it difficult to define the term urban education, urban context, and urban community (Bogotch, Miron, & Murry, 1998; Rothstein, 1993; Miron 1996). Urban schools usually serve the

ethnic majorities such as African American, Hispanic, and Asian (Bogotch, Miron, & Murry, 1998). Rothstein (1993) claims that all of the characteristics of urban schools can be found in suburb schools as well. Sanders (1999) agrees with Rothstein in that:

The urban school picture often portrays only students of color. In fact, not only are students of color impacted by urban policies, but a substantial number of white students live in and are served by urban organizations. The common thread that ties all of these students together is their socioeconomic level. Regardless of race, socioeconomic challenges are consistent across all levels of involvement in urban schools. (p.1)

To arrive at some consensus on the term, urban education has been defined from different perspectives, such as environmental, social, historical, modern, and postmodern. According to Rothstein (1993), a group of people define and describe urban education according to environment. He claims that:

A survey of the vast literature on schooling in urban America reveals recurring themes connecting the cramped, congested environments of urban centers with technological innovations, world trade, and commerce of industrial society. In this view, the deleterious effects of urban life are a natural consequence of advanced society and should be viewed as an unfortunate imbalance. Further, urban educational systems have been developing for several centuries; they are related to spatial conditions in inner-city schools and the populations concentrating there. (p. 1)

According to this ideological view, urban education is "the socialization process where children find their places and know precisely how they must behave in an impersonal and mechanistic world" (Rothstein, 1993, p. xi). In this view, the problems of inner-city schools are related to spatial conditions; space has the power to cause all social and economic problems.

Miron (1996) cited Popkewitz (1991) & Apple (1993) who claim that the meaning of urban education is derived from its social context and is inextricably bound to the dominant social and power relations to the political uses of knowledge. Miron (1996) examines urban schools from the postmodern method of social analysis and practical practices. For Miron, "the postmodern tenets of uncertainty, decentered power, practical intersubjectivity, and opposition to essentialism lay bare the mythology of the crisis in urban schooling" (p. vii-viii).

The literature on schools in big cities indicates both a negative and positive side. On the negative side, city schools are perceived as having difficult problems to solve. Students achieve at lower levels than non-urban students (Wolf, 1978; Englert, 1993). Urban schools are too large, extremely impersonal, and unconnected to the outside environment. They have poorly motivated students, low expectations, terrible attendance patterns, and an unsupportive environment. Moreover, teachers are not adequately prepared for the urban context. After working for urban schools, most teachers move to suburb schools (Maeroff, 1988; Englert, 1993; Berlowitz, 1994).

Englert (1993) cites Edmonds (1982) who claims that there is the positive side to city schools. These schools have lead the way in pioneering educational reforms and have implemented numerous models of successful programs. In addition, they also can draw

on a multiplicity of resources from their environment to implement those plans. Englert (1993) also mentions the silent features of the urban context that serve positive ends. These characteristics include high population density, the greatest diversity and heterogeneity within any grouping of people, high mobility, high incidence of anonymity, conflicting lives, cultural richness, and economical mobility. According to Fantini & Weinstein (1968), it is these features can cause individuals to feel powerless, lonely, and unconnected. On the other hand, these features also have a positive side. Population size, density, and diversity also mean that there is a greater tolerance for atypical behavior, a greater richness of different cultures, and a greater opportunity to build powerful coalitions of people with like-minded interests. Similarly, bureaucratization and specialization imply the existence of a rule-driven system. If one knows the appropriate codes, one can unlock and access the behavior of others in predictable ways. Other silent context variables include political jurisdiction, broad economic mobility, a historical base, and demographic factors.

Rothstein (1993) claims that "inculcation is the primary task of state schools" (p. xii). He also reports that the urban school is not only the product of environment, but also the economic and historical determinants that cause these particular social formations to take hold. To flesh out the existence of the urban schools' contextual features, the next section will provide a history of urban education. Understanding this history will allow for a better understanding of how and why those schools emerged, as well as how much these schools have improved throughout their history.

History of Urban Education

Urban education can be analyzed either under certain eras, such as pre-industrial revolution, industrial revolution and pre-electric, or it can be analyzed emphasizing certain remarkable people along with these eras. The following review examines urban education according to different time periods and their emphasis on remarkable people in that era on urban education.

In the pre-industrial era, urban education can be traced to the desire of religious and political leaders to propagate ideas and beliefs that would benefit the prevailing social order (Cubberly, 1920). According to Rothstein (1993), "historical evidence for urban schooling before the Protestant Revolution is largely confined to the clergy and nobility in most European nations" (p. 3). Rothstein also claims that urban schooling first was approved as a series of the state programs. It began with certain German duchies and Frederic the Great in Central Europe and was made popular by its success in binding youth to nationalistic and religious aims of the monarchical governments. In this era, the state dictated that such schooling should occur as regularly as possible, but less often during the planting and harvesting seasons, and that schooling should be paid for by the towns people.

According to Cubberly (1920), there is evidence that in 17th and 18th centuries, urban schooling was more widely accepted in Europe and less so in the English colonies. During this time, there were charity and Lancastrian schools, which will be explained following paragraphs, strung out in the cities and towns of America as well as some "public" schools in New England. When schools first appeared in colonial New England, there were no professionally trained teachers or administrators and no lay school boards.

Schools were established and maintained by local communities to meet local needs. This tradition of local control continued when the U.S. Constitution gave the responsibility for education to the states (Campell, Fleming, Newell, & Bennion, 1987).

In Lanchaterian schools, older students were used as unpaid volunteers. Urban classroom space was arranged with military precision to increase schooling efficiency. Rothstein (1993) describes these schools by saying that:

Hierarchy was strictly observed: the teacher sat high above the students on a platform. Teachers could see at a glance what was happening in the lines of pauper boys, giving them instructions and maintaining order and control. Students were punished when they talked, when they were inattentive, when they were out of their seats, and so on. If they were saucy to monitors or snatched slates or books from one another, their names were reported to the teacher for further disciplinary action. (p. 4)

Rothstein claims that the excuse for these schools being charity schools was poverty. Their students were also extremely poor. After 1830, because of common free school movement in the northern part of the United States, the charity schools began to lose their popularity.

The common schools were an extension of the old charity schools. The difference was that they sought to provide common training for all students, regardless of their financial status, were supported by local businesses. The founder of these schools was Horace Mann, who assured businessmen that they would extend the wealth and security of their property and lives by educating future workers. According to Nassaw (1979), the business-oriented ideologies that dominated the economy and cultural life of the nation

triumphed also in its schools. There was a consolidation of some of the military structures and practices that had characterized the pauper schools and their Lancasterian variants.

After 1830, free schools were founded throughout the cities and urban communities of the United States. Horace Mann had a great influence on education. He accepted the post of Secretary of the State Board of Education in 1834. At that time, education was not valued and his position had low status and pay (Nassaw, 1979).

Rothstein (1993) reports that:

Mann had an unshakable faith in the improverability of the race; he believed that the schools needed to be reformed and democratized, educating all classes of American Society. ..He realized that the schools needed to expand the range of instruction they offered: schools and their practices were not in harmony with the new conditions created by industrialism and urbanization. (p. 5)

The new conditions of industrialism and urbanism gave Mann a new aspiration for free secular schools. However, there was then a conflict between the state and the church because of secular schools. Rothstein (1993) claims that:

With the rise of state-supported common schools, these church and private schools were taken over, and funding was provided on the same basis as the new state schools. The urban schools of this period were obviously moral and religious institutions and part of the churches' training program. The first industrial revolution began to make Americans aware of new secular needs created by more urban environments and greater pockets of poverty and crime. (p. 5)

Compulsory education was approved in most of the states during the 1840s and 1850s, possibly showing that common schools were approved of by most Americans. Rothstein

(1993) cites Cubberly who states that "every state, every country, every city eventually accepted schooling as a bastion against the pressing problems of crime, poverty, and rising immigration that were now so widespread in urban centers" (p. 5). In 1880, there arose criticism of the free common schools that argued along predictable lines of thought.

The first criticism of common schools was made by Charles Francis Adams, who in 1880 called educators "drill sergeants," saying their schools resembled cotton mills and prisons more than institutions of learning (Shultz, 1973). Two years later, a similar critical reaction came from Dr. Josef Rice. Another critic, Charles W. Elliot from Harvard, complained of the military and mechanical methods used in public schools, as well as their uninteresting lessons (Rothstein, 1993).

Rothstein (1993) claims that "these urban schools were regimented, poorly lit, poorly staffed, and poorly heated buildings where the children of the poor and immigrant families learned the language and American customs of America in the most stressful of circumstances" (p. 6). He poses the questions that if the free schools were characterized by so much social and educational rejection, why did they persist and flourish? Why does the figure of the pompous, self-righteous school-master remain with us a century later? Why from the practices of the charity common schools, did this militaristic form of discipline prevail?

Rothstein's (1993) answer to those questions is the influence of European schooling on American education. First, all of those applications were done in Europe and people from America adapted those methods here. He also believes that another effect is the influence of William Torrey Harris on the administration of schools. In 1890, Harris was commissioner of education. He developed the practice of graded schools,

schedules, supervision, and selection based on examinations that characterize today's urban schools. According to Katz (1973), schools were prescribed institutions rather than places where youngsters or teachers could chose their activities and curricula. Schools were agencies where routine and regularity were prized and demanded, where silence and industry were needed to preserve and maintain order and instruction.

According to Hummell & Nagle (1973), under the influence of Harris's precepts, ungraded schools almost disappeared. The concern for individual preferences and needs vanished. A corrective-dominated, punishment-oriented ethos, with its roots firmly embedded in the free school movement of the past, remained. Whipping posts were abandoned and schoolmasters no longer carried bundles of switches. But the excess of drill and military command remained, along with corporal punishments and various forms of paddling. Blows with rods, rulers, and the hand were frequently used to impose order and maintain control. Moreover, students were bombarded with commands through the use of voice, bells, whistles, and gestures during school day. Rothstein (1993) interprets all of these methods as features of penal, religious, and military communities in the pre-capitalist period. He also claims that "the most difficult problem regarding urban education concerned its relationship to the poor, the immigrant, and the minorities. Since these groups were without sufficient property and power, their schooling was less concern to politicians and educators alike" (p. 9).

Stone (1998) claims that around the mid-1900's, several big-city school systems were regarded as among the best in the nation because of substantial support they received. Urban schools had a solid tax base, top officials who operated under an aura of professional authority, and a diverse student body with a heavy representation from the

middle classes although the political climate was not really as tolerant as today, at that time urban school superintendents typically had long tenure and substantial resources with which to work (Bidwell, 1991). According to Stone (1998), "teachers' organizations had yet to make themselves a major political presence, a norm of professional autonomy provided school administrators with considerable latitude in making decision" (p. 4).

Mirel (1993) reports that from a nonrevisionist scholars' perspective, "despite the elite takeover of the schools and the racial, ethnic, and class bias of many of the Progressive era reforms, urban systems still provide an avenue for upward mobility and integration into the American mainstream for large numbers of poor, immigrant children" (p. ix). This success is explained through school curricula, the shifting function and purpose of the high school, and a growing dependence on schools to solve major problems. Mirel (1993) claims that in the 1920s and 1930s, it is argued that "urban schools had a straightforward mission, namely to transform the diverse ethnic population of our cities into American citizens" (p. x).

Toward mid-century, new schools were located to the inner suburbs. Even with this move, urban schools were far from problem-free. Class and segregation were rampant. Teacher pay was often shockingly low and expenditures tended to lag behind school needs. Moreover, it is far from clear that these new schools' overall academic standards were rigorous (Mirel, 1993). Stone (1998) reports that in this earlier period academic success may have come more from the middle-class aspirations of their students than from the instructional skills of the schools themselves. The urban schools' political and demographic context was different and the challenges they faced were less difficult.

Stone (1998) describes the period from the 1960s to 1970s as years of great turmoil. To Stone, these years:

Set in motion changes that are very much part of the contemporary situation.

Battles over desegregation and teacher unionization left their mark and put claims for professional autonomy in a different light from that of mid-century. With great political turbulence, the tenure of school superintendents shortened and a concern grew that administrators be able to "obtain the respect of the community," that they have "a record of involvement with minorities," and in short that they bring to the position something more than a technical aptitude for school management (Mccorry, 1978).

During this period, insincere phrases soon gave way to direct claims about the need for racial succession in many cities, especially for black administrators to run preponderantly black schools (Stone, 1998). In the meantime, collective bargaining provided an alternative voice in determining working conditions and in setting resource priorities (Grimshow, 1979).

In the 1980s and 1990s, the concentration of lower socioeconomic (SES) students in urban school districts grew. And at the same time, the expectation that all students learn and achieve at an academically higher level has become explicit. For urban schools, this is an unsettling combination. Lower SES students, despite many significant expectations, have generally been low academic achievers (Stone, 1998).

Although today's urban schools face many problems, they are different than they were in the past. Science and industry require educated managers and workers. This need has led to mass urban schools where millions of youngsters are processed in order to

provide some with the credentials needed to succeed in these better occupations.

According to Rothstein (1993), urban schooling acts as a screen or sorting mechanism for American youth. It is the means of terminating ambition and desire in poorer classes, while validating the worth and privileges of the richer ones. The consequences for all were a sort of acceptance of the status quo that strengthened the social order and made most people feel that those in positions of power and control had gotten there fairly and by their merits. Rothstein (1993) cites Greer's observation that urban schooling in the nineteenth century acted as an ideological social glue, helping the poorer families to accept their condition as a reasonably fair one.

The Situations of Urban Education in the Site

The study in which the study conducted has one of the largest urban school systems in the United States. According to a Bill Moyers documentary "Children in all America's schools," urban schools are still the most problematic. In this documentary, a team visited urban, rural, and suburban schools in the State and talked to superintendents, principals, teachers, students, and community members. This tape, which is based on the book of Jonathon Kozol's "Savage Inequalities," reflects the scenes from those schools. They have very big financial gaps from rural and suburban districts. Urban schools have a lot of problems: overcrowded classrooms, inefficient heating, torn-up and out dated text books with missing pages, condemned buildings, leaking roofs, sweep walls, lack of materials, still drills and memorization, high pregnancy, high drop-out rates, and attendance problem, etc.

Most of those urban schools buildings were established during the 1940's so their heating systems are based on coal burning that creates problems for many students who have asthma, allergies, or other illnesses. In addition, these heating systems pollute the environment. Kozol (1996) says in the documentary that those physical structure of the school "tells a child what think she is worth. The child comes into ugly, filthy buildings. It gives the child the sense that we don't give the value her very much." One of the teachers also in the documentary said that such school buildings also send the message that education is not important. Kozol (1996) says that "it is deeply demoralizing for teachers to have to work under these conditions. We are asking them to work day after day an entire lifetime in buildings in which no business C.E.O would agree to work even for one hour."

There are major differences among urban, rural, suburban school buildings. By contrast, suburban schools have their own educational campus equipped like universities. They have almost every facility possible, a full staff, and much equipment to help suburb students to grow academically and personally. Moreover, students are offered variety of courses. The students attending these schools have future plans, hope, as well as full-support from their school and parents. Suburban school students say things like "I like this school because..." On the other hand, students from urban schools begin speaking about their school by saying "I hate this school because..." They have lists of negative items that reflect their inadequate situation.

The urban school building reflects its surrounding environment. In the urban environment, there is high unemployment, a large number of single parents, two-thirds of the population living under poverty line, and many instances of drug traffic, and unsafe

environment. Because of all these disadvantages, all of the participants in the documentary say that schools should give students a sense of being safe. Since education expenditures are based on the local property taxes, education is reliant upon the local community wealth. When the wealth is lacking, the quality of education diminishes. Teachers and administrators from these schools argue that if you don't meet the basic needs of the student (i.e., a safe and comfortable environment that promotes their well being) then the test scores will not increase. Having crowded classrooms cause more behavior problems and classroom management problems.

Kozol (1996) says that "in earlier decades, the people who we chose not to educate or not educate well could still get job, there were plenty of jobs around those people simply were willing to use their arms and their back, and their physical strengths. Those jobs don't exist anymore." In suburb schools, students are prepared to compete for high paying jobs in the global economy. By contrast, urban school students do not have many materials or updated equipment to learn. Because of this environment, students lack hope and drop from the school. Urban school students feel that they don't have reason to come to the school. So they don't have the chance to compete in the work force after the graduation.

The end result of school failure is another form of institutionalization--prison. Kozol (1996) says that prison construction is number one industry in New York City. In 1985, 23 000 black men graduated from college. While, 2.3 million black men pass through correctional centers. In considering this disparity, Kozol asks why we spend \$60,000 per year to keep a person in prison, but not paying \$6000 for their education.

Urban education has many problems that should be solved not only for equity reasons, but also for the moral reasons. One of the teachers in the Moyers' documentary said that "these students are a bunch of flowers growing in a garbage can." They deserve to be on the winning side rather than on the losing side.

Urban Educational Leadership and Change

A typical urban school system is hierarchical and bureaucratic. Superintendents get reports from deputy superintendents. Associate and assistant superintendents are informed by department directors and report to the deputies. Supervisors, curriculum associates, consultants, and others then report to the department directors. Building principals and members of school faculties are at the bottom of the structure (Stoops, Rafferty, & Johnson, 1975). According to Stoops, Rafferty, & Jonson (1975), the following figure contains the basic hierarchical structure of an urban school.

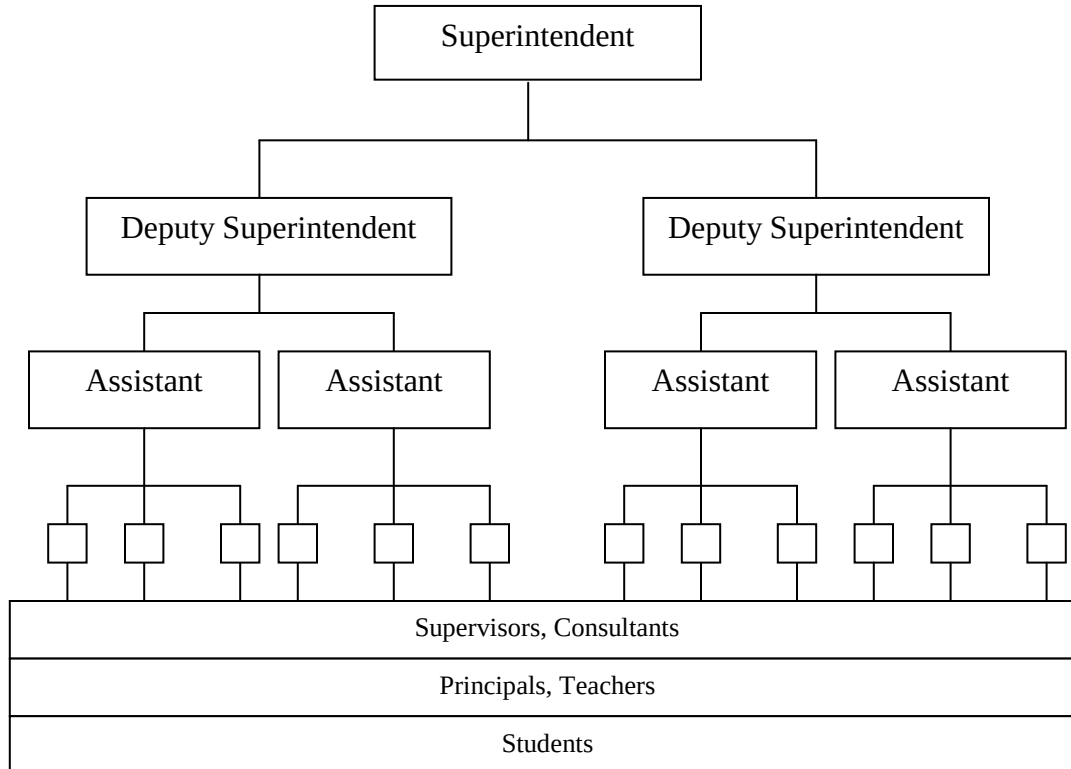


Figure 1. Typical structure of an urban school system

According to Rothstein (1993), there are two activities that never vary in urban education; “an overly corrective pedagogy of inculcation and a bureaucratic impersonality that often deadens the curiosities of inquiring minds” (pp. xii-xiii). Beckman claims that “the success or failure of the urban school depends largely on the leadership of the school principal. The importance of the principalship has often been underestimated by educators and by the greater society” (p. 398). Beaumont (1997) asserts that there are three levels of leadership: the principal, the central office administration, and the school system superintendent. For Beaumont:

These levels of leadership are often viewed hierarchically rather than as a leadership triad working together for the effective delivery of educational services to students. This leadership triad interacts through a series of relationships--political and professional--that facilitate or hinder the creation and/or support of the educational reform policies necessary for teaching and learning to take place (p. 565)

Beaumont (1997) claims that "a common belief is that technical know-how embodied in a set of how-to skills are the critical elements for success" (p. 566). She suggests a paradigm shift to embrace the common belief that "knowledge of self, the adoption of strategies based on reflective practice, and an acknowledgement of the political terrain are necessary ingredients for successful school leadership in urban settings" (p. 556). For Beaumont, all leadership takes place within policy environments determined by context and process factors. Policy initiation, development, implementation, and evaluation are shaped by the political and professional relationships between and among the stakeholders.

According to Beaumont (1997, pp. 570-572), the determinant factors in creating and sustaining educational reform are sociological, political, philosophy of education and organization and governance of the building. Each of these is discussed below:

1. Sociological factors. The urban, especially in reference to schools, is used as a euphemism for African-American, low income, underachieving, and problematic student descriptors. Beaumont (1997) cites Yeakley's claims that school leaders in urban settings have to develop the understanding of the close links between community success and examine the efforts and ability to support the school's goals and activities.

2. *Political factors.* Among the many characteristics of urban centers is the heterogeneity of race, ethnicity, education, and economics. This characteristic produces political factions, as each group has specified and often competing needs for the school system. School leaders need to be political strategists, building coalitions within and across groups. The heterogeneous characteristics create differences in each group's access to and use of resources. This differential access can promote changes in non-school sectors that have strong implications for schools.

3. *Philosophical factors.* The primary goal of most principals, central office administrators, superintendents, and board of education members is to improve students' academic performance.

4. *Organizational and governance factors.* A major difference between school systems in urban settings and those in rural and suburban settings is size. The number of central office administrators, schools, teachers, non-instructional employees, students, and special interest groups is much greater than in rural or suburban settings. Handling the greater size results in a highly bureaucratized structure.

Beaumont (1997) cites Englert's belief that "organizational and governance factors are presented both as possible roadblocks for school leaders and as the locus of policy making" (p. 573). They believe that this triad of relationships can aid in the dissolution of roadblocks for school leaders and as the locus of policy making. Another important point is the effects of informal structures on formal structures. The triad of relationships and their influence on the educational reform process are weighty examples of the way that informal structures can circumvent the formal organizational patterns. Beaumont (1997) summarizes these findings by stating that:

Using the interaction of principal, central office administrator, and superintendent in triads emphasizes the importance of the relationships' communication.

Educational reform does not occur in a vacuum; all policies emerge from negotiated compromises. Successful school leaders are those who negotiate appropriate reform issues that demonstrate intimate knowledge of the influences of the sociological, organizational, governance, political, and philosophical factors on the learning, teaching, and administrative process in urban schools.
(p. 580)

Osterman, Crow, & Rosen (1997) conducted a study in New York City to examine role conceptions of newly appointed urban principals with the context of their schools and districts as a means of identifying personal and organizational forces that influence the emergence of transformational leadership. They worked with 216 newly appointed school principals in New York City. They found that principal role expectations are related to their job--what things are most important and what others are expecting from them. It is also found that newly appointed principals have traditional role conceptions. These include leadership (33%), management functions (33%), human relations (19%), and personal characteristics (14%). Another finding related to expectations comes from the expectations of others. Responses indicated that personal leadership conceptions are both reinforced and constrained by the perceived expectations of others. By others, they include such people as the superintendent and school board, parents and community, teachers and professional staff, school-based management teams, teachers' union, and students. From these groups, teachers and professionals (27%) and parents and community (26 %) are the most frequently mentioned groups needed in order

for a principal to work effectively. By contrast, the district superintendent received a rating of 18 % importance. Findings related to the sources of obstacles and supports for principals. The district superintendent and parents were the most important sources of support. At the same time, they see the district office as a major obstacle to their success.

The important findings of Osterman, Crow, & Rosen (1997) include the following:

1. The first few years of the new principalship are extremely demanding, personally difficult, and important in determining the principal's future success as an educational leader in the particular school and community.
2. Principals recognize the influential role that teachers and parents play and the need to develop a positive working relationships with them.
3. It appears that new principals have retained a view of the principal as an instructional leader within the school and have ignored the implications of the bureaucracy of which they are part.
4. New principals are familiar with and advocate the concept of transformational leadership, but the majority of the responses reflect more traditional images of the principal as a manager and instructional leader.
5. New principals describe themselves as leaders within the boundaries of the school. But within the district framework, they view themselves as subordinates in a system that gives little autonomy and places a greater value on compliance than innovation. They were confronted by serious problems--some of which they attributed directly to the bureaucracy--and obstacles whose resolution is, in many cases, outside their direct control as school leaders. Yet their role conceptions were characterized by an

absence of strategies directed at organizational conditions that directly affect their performance. Political strategies received almost no attention; symbolic strategies drew only occasional vague references.

There are many suggestions for improving urban schooling. These suggestions include improving or establishing school university-partnership (Beaumont, 1998; Hall-Mark, 1998), improving the school community or school-parent relationship, redesigning the school, improving the parental improvement, or having good relationship in building level. Ravitch & Viteritti (1996) claim that there is hope for urban education. They mention different programs that are not effective in altering the basic character of public schooling. They believe that public school programming should move away from a bureaucratic system that celebrates compliance to a deregulated system that focuses on student performance. Their agenda for change includes: (1) setting standards, (2) school closings, (3) school autonomy, (4) new schools, (5) central administration, and (6) real choices for the poor. They believe that a school should be dynamic, diverse, performance-based, and accountable instead of imposing uniform rules and regulations.

Bryant (1998) conducted a study with two African-American school principals to observe their efforts while being involved in a school restructuring program. One school principal was successful, the other was not. The findings were presented within a sociological framework as the principals attempted to reduce the relational distance between home and school. Although it is argued that this distance is countered by matching actors on racial characteristics, these results indicate that the problem is somewhat more complex. Rather one principal's ability to read the surrounding

community correctly and his relationship to it emerged as the most important factor in determining his success in minimizing the home/school gap.

Reitzug & Patterson (1998) conducted a study to see how a school principal communicated with students. They claim that:

Urban educators interact with students in a variety of ways. Frequently, practices are grounded in assumptions about the necessity of control, whereas in some instances, practices reflect assumptions about the necessity of empowerment and control reflects choice that confronts urban educators as they interact with students. (p. 150)

They found empowerment through caring, as exemplified school principal's interactions with students, contains five components: (1) establishing/developing personal connection; (2) honoring voice; (3) showing concern for the individual well-being of students via her expectations of them; (4) connecting individuals to their communities, and (5) seeing alternative possibilities. Reitzug & Patterson cite Dillard's observations that a principal's caring practices serve as an example for students in the way to care for each other. Dillard also mentions that in urban settings the principal's caring serves to "create a more student-oriented culture" (p. 557) that provides for African-American children the type of nurturing and caring environment they experienced in Black schools prior to school desegregation, but that all too often is missing from today's urban schools. In addition, Dillard (1995) mentions that the implication for principals is that developing an ethic of care is "an integral task of school leadership" (p. 557).

Another study was done by Hampton, Mumford, & Bond (1998) to examine parental involvement in urban schools and their effect of students' achievement. The

FAST (Families Are Students and Teachers) program was applied in Cleveland urban schools for three years. It was found that the "teachers ability alone is not sufficient to explain the success of Project FAST" (p. 416). They claim that the Project FAST model is only one of several innovations currently being implemented by East Cleveland City Schools. No single model or improvement strategy is best for every student, teacher, or parent. However, it has been clear that solutions to many of the challenges that students face require a concerted effort by educators, parents, and the larger community. The teacher, students, and parents who participated in Project FAST have demonstrated that when time and commitment are devoted to strengthening the relationship between home and school, positive results occur. Programs become meaningful to parents when they can see a direct benefit to their children, a commitment from teachers and administrators that parents are important, and evidence that what they are doing as parents makes a difference.

Bogotch, Miron, & Murry (1998) conducted a study to discover constraints on moral practices within urban contexts and to identify real possibilities for moral practices to emerge within these contexts. They found a deep concern with the relating to others at every level of the urban school system, whether this extended to the need for good relationship, the need to be in control, the need to get job done successfully, or the need to do what is best for children. In the majority of urban participants' lives, however, these needs and wants were constantly threatened by interpersonal dynamics (e.g., teachers and students), the lack of resources (e.g., central office and schools), and structural, hierarchical constraints. Bogotch, Miron, & Murry (1998) have come up with a four

category conception of moral practices derived from the data. These moral practices include:

1. *The individual expression of moralistic principles.* The individual working and learning in this urban school system held on to an array of moralistic principles pertaining to the teaching of values, feelings that comes from the heart (Miron, 1997), and a vision that includes the concepts of success, community, respect, family, and aesthetics.

2. *Student-centered educational practices.* Many urban school adults have continued to maintain their faith in urban students and in student-centered teaching and learning. Students believe that their school and teachers were there for them.

3. *New relational norms.* Participants saw themselves in relation to other people who could be defined as villains, colleagues, school friends, and neighborhood friends. In independent relationships, the others have power and control over one's own capacities to be successful.

4. *Pragmatic leadership.* Participants expressed that they were aware that school life meant living with misgivings, a lack of financial resources, and even a lack of control. Many administrative and teacher leaders expressed their willingness either to: (a) compromise when necessary, (b) accept the responsibilities that come with the job, (c) lead by example, or (d) put forth enormous effort.

The researchers claim that their findings suggest that these pragmatic actions should be viewed as compatible with moralistic principles, student-centered schooling, and new relational norms. Expressing this view, Bogotch, Miron, & Murry (1998) state that:

Urban leaders need to capture the positive images, values, discourse, and actions associated with teaching and learning from inside the day-to-day situations of urban participants. It has always been, but has not always been noticed or appreciated. Moral leadership discourse needs to be extended outwardly so that it is perceived as being possible for all urban participants. (p. 314)

They also suggest that urban participants as leaders must acknowledge the spectrum of differences, building pragmatically and optimistically on small efforts to create honest, democratic participation. Yet urban participants must also be ever mindful of--but not defeated by--ensuing conflict and struggles.

Forsyth & Tallerico (1993) edited a book intended to be useful to both current and prospective principals of urban schools, as well as to professors of educational administrators. Data were collected from successful city principals, metropolitan youth-serving professionals, and urban university professors. Nine problems of practice were determined by the nominal group techniques emerged from this study. They include: (1) Understanding the urban context and conditions of practice; (2) Motivating urban children to learn; (3) Managing instructional diversity; (4) Building open climates in urban schools; (5) Collecting and using information for problem-solving and decision-making; (6) Acquiring and using urban resources; (7) Governing urban schools; (8) Effecting change in urban schools, and (9) Establishing the school's mission, vision, and goals.

Sanders (1999, pp. 199-200) recommends the following seven points for urban school leaders:

1. Urban school leaders must become reflective about their occupations.

2. Urban school leaders must understand the importance of political interactions and hold politicians accountable for their role and involvement in helping urban schools become successful.
3. Urban school leaders should avoid all political interactions that harm urban children.
4. Urban school leaders must be open to new ways of looking for organizational effectiveness.
5. Urban leaders must reestablish their commitment to urban communities.
6. Urban schools should create "vision teams."
7. Effective community coalitions should be established to ensure that school officials are consistently meeting the expectations of the urban community.

Beckman (1993) claims that an urban principal should understand the philosophy of the schools so as to involve the various goals and objectives that have been developed for the school. Urban principals were aware of the expectations of the urban stakeholders, the basic elements of the administrative process and they had a thorough understanding of appropriate application of those elements. Beckman (1993) also mentions the six most frequently discussed roles of an urban principal:

1. The role of organizational leader or manager: The organizational leader initiates, coordinates, and implements activities, procedures, and policies to the school.
2. The role of the authority figure: The principal is the backer of the discipline rules of the school, albeit at times through various teachers, vice principals, or other staff members.

3. The role of instructional leader: The principal is an instructional leader, even though it may be more myth than reality in practice.
4. The role of an assessor or evaluator: In this role, the principal evaluates people, situations, progress, programs, and ideas.
5. The role of facilitator: The principal facilitates situations where the satisfaction and the climate of the organization are positive.
6. The role of mediator: The principal assumes this role in many different forms, such as ombudsman, dissuader, conflict mediator, and persuader.

Quality Preparation Programs

Beckman (1993) claims that the real world of the urban principal is often quite different from the environments described in the literature. As a result, the preparation of an urban school principal should be different or so descriptive and broad that principals in training should select their coursework according to their needs. There are efforts from different organizations and universities either to prepare effective principal training that covers urban principalship or urban educational leadership programs. According to Beckman (1993), the NASSP (National Association of the Secondary School Principals) program identified twelve generic skill areas that can be assessed and that have been found to be necessary for principalship. These skills, which are usually faced by principals in their daily activities, includes problem analysis, judgment, organizational ability, decisiveness, leadership, sensitivity, stress tolerance, oral communication, written communication, range of interests, personal motivation, and educational values.

Beckman (1993) also reports the domains that are identified by the National Commission for the Principalship. These domains are grouped into four areas:

1. Organizational process and techniques domains: Leadership, information collection, problem analysis, judgment, organizational oversight, implementation, and delegation.
2. Programmatic domains: Instructional program, curriculum, design, student guidance and development, staff development, measurement and evaluation, and resource allocation.
3. Interpersonal domains: Sensitivity, oral expression, and written expression.
4. Contextual domain: Intellectual, ethical, cultural, economic, and political and governmental influences upon schools, including traditional and emerging perspectives.

The daily practice of principals can reflect their tasks. A systematic understanding of the nature of principals' task may be necessary to understand the roles, focus, and operations of that position (Beckman, 1993). Beckam (1993) cites Peterson, who looked at three central features of the work of principals as they went about their daily work: brevity, variety, and fragment. Brevity of tasks characterizes the work of principals. Most activities were short and quick, with the activity level ranging in the hundreds during a given day. The brevity of the job says a lot about selection, training, and organizing of the principal.

A second property of the work of principals was variety. Variety ran from evaluating teachers to supervising custodians, to say nothing of working with parents and children. Not only was there a great variety of tasks, but many of them used a wide

variety of technologies, such as budgeting and public relations. Beckman found that principals need a wide repertoire of cognitive skills to handle the vast array of tasks. Third, the work of principals was very fragmented. It is not unusual for one activity to interrupt another. In fact, it was rare to have one activity completed without interruption. A competent principal must be able to cope with task fragmentation (Peterson, 1981).

The urban school principal must not only be able to cope with brevity, variety, and fragmentation, but must also be able to organize their school so that the longer-range tasks of planning, implementation, and goal assessment can be accomplished. This is not easy to do, but knowing the nature of the job helps in the training, development, and restructuring of the principalship (Beckman, 1993).

Another redesigning leadership program is the ISLLC (Interstate School Leadership Licensure Consortium) standards for school leadership. According to Shipman & Murphy (1996), the changing needs of the society and education have lead the profession to redefine the 21st century education leaders. In order to meet these needs, the National Policy Board for Educational Administration (NPBEA) was created in an effort to generate better and more coordinated work on the task. The ISLLC began in August 1994 with 24 state members participating in this effort. In addition, some professional associations are affiliated with ISLLC, such as the American Association of Colleges for Teacher Education, the American Association of School Administrators, the Association for Supervision and Curriculum Development, the Association of Teacher Educators, the National Association of Elementary School Principals, the National Association of Secondary School Principals, the National Association of State Boards of Education, the National Council of Professors of Educational Administration, the

National Policy Board of Educational Administration, the National School Boards Association, and the University Council for Educational Administration.

Shipman & Murphy (1999) describe the purpose of ISLLC as the development of “an array of standards-based strategies that help strengthen the quality of educational leadership in schools and school districts throughout the nation” (p. 13). The prepared standards for school leaders are as follows:

1. A school administrator is an educational leader who promotes the success of all students by facilitating the development, articulation, implementation, and stewardship of a vision of learning that is shared by the school community.
2. A school administrator is an educational leader who promotes the success of all students by advocating, nurturing, and sustaining a school culture and instructional program conducive to student learning and staff professional growth.
3. A school administrator is an educational leader who promotes the success of all students by ensuring management of the organization, operations, and resources for a safe, efficient, and effective learning environment.
4. A school administrator is an educational leader who promotes the success of all students by collaborating with families and community members, responding to diverse community interest and needs, and mobilizing community resources.
5. A school administrator is an educational leader who promotes the success of all students by acting with integrity, fairness, and in ethical manner.

6. A school administrator is an educational leader who promotes the success of all students by understanding, responding to, and influencing the larger political, social, economic, legal, and cultural contexts.

Shipment & Murphy (1999) report that these standards are updated by the partnership with the National Policy Board for Educational Administration (NPBEA), the Interstate School Leadership Licensure Consortium (ISLLC) of the Council of Chief State School Officers (CCSSO). They have been working for two years on a project to link the ISLCC Standards for School Leaders to professional development for school administrators.

Using these standards as an overall framework, the 30 states and 11 national educational association members first crafted the following propositions for quality professional development for school leaders to guide their work. Shipment & Murphy (1999, p. 15) state that quality professional development:

1. validates teaching and learning as the central activities of the school;
2. engages all school leaders in planful, integrated, career-long learning to improve student achievement;
3. promotes collaboration to achieve organizational goals while meeting individual needs;
4. models effective learning processes;
5. incorporates measures of accountability that direct attention to valued learning outcomes.

Beckman (1993) claims that “the principalship is in need of radical change, emphasizing behaviors that influence instructional practice, new curriculum, and school

development. Unfortunately, practices within school districts and university training programs still largely reflect an outdated orientation” (p. 404). Similar complaints were offered by Beaumont (1997), who feels that current and prospective educational leaders pursuing graduate degrees in educational administration programs are not always encouraged to understand the characteristics of urban, suburban, and rural setting, nor to develop or adopt reflective and problem-solving paradigms specific to the geographical contexts. Instead, Beaumont states that “school leadership programs present schooling practice in suburban setting as the normative standard, and the practices in the other settings as deviations from that norm” (p. 564-565).

Leak, Peterson, & Patzkowasky (1997) claim that “the role of urban school leaders is rapidly changing due, in large part, to reform efforts designed to give individual schools responsibility for key decisions that impact their educational programs” (p. 510). They introduced The Academy For Educational Leadership, a long-term professional development program designed to enhance the skills of educators working in the Baltimore City Public Schools by drawing on the leadership training expertise of local corporations, nonprofit business, and institutions of higher education. The Academy of Educational Leadership emphasizes the following professional activities for leaders: (a) communication; (b) curriculum, instruction, and the learning environment; (c) setting direction, implementation, and measurement; (d) organization and management; (e) individual and organizational growth and development; and (f) problem-solving and decision-making (Baltimore City Public Schools, 1996c). Each of these activities is discussed in detail below (pp. 519-520):

1. *Communication.* Successful urban school leaders must possess accurate knowledge of themselves, others, and their pertinent internal and external environments.
2. *Curriculum, instruction, and the learning environment.* Successful urban instructional leaders are knowledgeable about quality instructional practices, student learning outcomes, optimal learning environments, and possess a belief that all students can learn.
3. *Setting direction, implementation, and measurement.* Successful urban school leaders who are actively engaged in the continuous improvement process are also mindful of milestones and make efficient use of formative assessment data and appropriate benchmarks to measure progress toward desired results.
4. *Organization and management.* Outstanding urban school leaders are able to manage their organizations in ways that allow their colleagues to achieve milestones and benchmark effectively and efficiently.
5. *Individual and organizational growth and development.* Successful urban school leaders are personally committed to lifelong learning for themselves and for their colleagues. It embodies the full meaning of continuous improvement.
6. *Problem solving and decision making.* Urban school leaders face an endless supply of opportunities and challenges that test and stretch their problem-solving and decision-making skills.

Another suggestion was offered for urban education leadership by the University of Cincinnati's College of Education. According to Evers & et al., (1997), through the

Urban Educational Leadership (UEL) interdisciplinary Ed. D program, students will develop advanced knowledge, skills, and values in the five areas of (1) leadership for improving urban education, (2) educational program planning, implementing, and evaluation for students in urban schools, (3) context of urban education and conditions of practice, (4) fostering interpersonal relations for collaboration in serving the needs of urban learners, and (5) generating inquiry for solving the problems of urban education.

Specifically, graduates of the UEL Program will be able to:

1. Provide leadership for meaningful change or improvement in urban education;
2. Change or improve the nature of urban education;
3. Provide leadership for educational program planning, implementation, and evaluation in urban schools;
4. Provide leadership for acquiring and using resources in urban schools;
5. Provide leadership for organizing and managing urban schools;
6. Provide leadership for the use of information systems and technology in urban schools;
7. Provide for student personnel services in urban schools;
8. Provide leadership for professional development in urban schools;
9. Provide leadership for public policy regarding urban schools;
10. Demonstrate sensitivity to and understanding of the urban context and condition of practice;
11. Demonstrate interpersonal competence in relating with children and adults in urban schools;

12. Demonstrate knowledge, skill, and appreciation of inquiry by focusing on the problems of urban schools.

Beaumont (1997) contends that “educational leaders in urban school districts need a deep understanding of not only the technical skills and the community characteristics but, equally important, an intimate awareness of the political and professional dynamics of the urban school bureaucracy" (p. 565). She suggests that professional development endeavors must stress that successful school leadership catalyzes improvements in the learning, teaching, and administrative processes. In so doing, these leaders have added the role of political player to their repertoires.

If school principals understand the urban politics and are politically correct, they may stay as long as they want to in their job. It can bring the continuity. On the other hand, within these urban situations, gatekeepers select people whom they can control easily. Urban leadership should be based on moral leadership and an ethics of care because most students come from disadvantaged families and environments. In order to be politically correct, playing with politics should be questioned rather than prized.

Summary

Urban schools emerged from the needs of the society. At the beginning, urban education served the poor people. Throughout its history, urban education has had problems and critics, with many changes overcoming those problems. Changes are part of this school system.

Today, urban education has its own form and structure, as well as having population density and bureaucratic structures that is the thought to come from its history.

Urban educators have a disproportionately large share of lower socioeconomic status students. They are asked to bring these students to higher levels of academic achievement at a time when the tax base is diminishing and federal funds have become scarce. Furthermore, the deference accorded professional educators is perhaps more limited today than at any other time in the past century (Stone, 1998). Beckman (1993) believes that “urban schools do not appear to be teaching the immigrant and urban poor children of America what they know to escape their poverty, and they do not seem to be institutions of equity and social justice” (p. 395).

Urban schools deserve excellent leaders who are prepared well to lead ahead them.

Chaos Theory

The dictionary definition of chaos is “a state of disorder or confusion” Rockler (1990-1991, p. 60) summarized chaos theory into five propositions:

1. Chaos theory helps us to explain the nonlinear aspects of the universe.
2. Chaos theory bridges the determinism of the Newtonian model with the randomness of quantum physics. It does so in part through the concept of the "strange attractor."
3. Chaos theory demonstrates that small changes at the beginning of a system can lead to major differences at the end.
4. An understanding of chaos results in the perspective that the universe is an open system.

5. Significant human systems can best be explained by chaos theory. The nature of the human body and weather forecasting are two recent examples.

The current interest in chaos theory can be credited to Edward Lorenz, a meteorologist at the Massachusetts Institute of Technology. He used a computer program to simulate the complex behavior of weather. As Garmston & Wellman (1995) tell the story, in 1961 that:

Lorenz did something that changed forever our understanding of the use of energy and data in dynamic systems. He discovered that he needed to extend his forecast, he rounded off one number by 2/100 of a percent. He then went out for coffee.

When he returned, he found a set of numbers that looked nothing like his original forecast. (p.9)

According to Garmston & Wellman (1995), this indicated two important concerns:

1. Those minor changes in initial conditions can produce major changes in dynamic systems.
2. More data will not permit more accurate predictions in such systems.

Glieck (1987) had also claimed that twentieth century would be remembered for three revolutionary changes: relativity, quantum mechanics, and chaos. Gleick further reports that of the three, the revolution in chaos applies to the universe we see and touch, to objects on a human scale. With the field of chaos, daily experiences and real pictures of the world have become legitimate targets for inquiry. Although this belief is not expressed openly, there has been a feeling that theoretical physics has strayed from human intuition about the world. Gleick (1987) sees chaos theory as the new hope, new

style, and new way of seeing and making sense of the world that will connect theoretical physics with human intuition.

Historical and Philosophical Roots of Chaos

Chaos theory as a concept has a long history, dating back to ancient civilizations. Bütz (1995) discussed chaos theory in terms of science and philosophy to explain the historical roots in ancient times. To him, "chaos is an ancient philosophical concept, which in the past 200 years has often been overlooked by scientist as they seek a logical positivistic answer to a world that is largely non-linear" (p.85). Bütz emphasized in his article that the concept of chaos had been embedded in some civilizations' mythologies including Chinese (2598-2698 BC during Yellow emperor), Egyptian (2500 BC), Babylonian (1300 BC), Native American, and Greek (700 BC) civilizations, as well as within Christian cosmology. Bütz (1995) considered Pioncare, who is known as modern time father of dynamical system as one of the precursors to chaos theory.

According to Bütz (1995), chaos theory, like many other theories in the physical sciences, was derived from a Western or Euro-American viewpoint. The emphasis on "science" during the past century has largely been made to explain complex systems in the simplest manner possible through linear models. In the past, non-linear "chaotic" types of equations or systems were mostly avoided. With the popularization of chaos theory, Western scientists have been forced to come to grips with the non-linear and chaotic aspects of their existence. Other cultures outside of the European tradition of the West have historically valued the non-linear and chaotic realms of existence that lie

beyond the control of science and culture. Although these ideas may seem to be new scientific traditions, they are, in fact, not new at all.

Another remarkable point is that chaos and components of chaos theory were already the concern of Russian scientists' before Western scientists started to explore them. Soviet mathematicians and physicists had a strong tradition in chaos research, dating back to the work of A. N. Kolmogorov in the fifties. Furthermore, they had a tradition of working together that survived the western scientific divergence of mathematics and physics. As a result, Western scientists have often repeated work that has already existed in the Soviet literature. Yet, one can speculate that this repetition may be due to language-related issues (i.e., lack of translated works, or the restricted travel to Russia) (Gleick, 1987).

Tenets of Chaos Theory

Chaos theory has its own key features and terminology which were intertwined so closely that it is not possible to interpret chaos theory without using these terms. Relevant terms are nonlinearity, feedback, bifurcations and phase changes, strange attractors, scale, fractals and correspondence, self-organization and self-renewal (Murphy, 1996), sensitive dependence on initial condition, the chaos pattern, universality, recursive symmetries, random shocks, the butterfly effect, onset of turbulence, dissipative structures (Lindsay, 1989; Griffiths, Hart, Blair, 1991).

Hesse (1991) explains some tenets of chaos theory as:

1. Chaotic systems are nonlinear. As a result they cannot be solved analytically.

Magnitudes of cause and effect are not preserved.

2. Chaotic systems have complex forms. Each finer unit of analysis reveals more dimensions and irregularities, so that measurements do not converge to a limit, but increase with ease finer scale.
3. Chaotic systems manifest "recursive symmetries between scale levels." A turbulent river, for example, has eddies within eddies, and so on.
4. Complex systems have feedback mechanisms, by which "output feeds back into the system as input".
5. Chaotic systems are extremely sensitive to initial conditions. Slight differences in initial values can be magnified though recursive self-similarities within the system, to produce macroscopic effects (p.2).

In addition to Hesse's (1991) explanations about tenets of chaos theory, Peca (1992) adds more assumptions of chaos theory for complex chaotic systems in the following manner:

1. Prediction can be made only on a short-term not long-term basis.
2. Complex systems display a bounded pattern of behavior.
3. The strange attractor causes this bounded pattern and negates random behavior.
4. Iteration causes magnification of system dissimilarities and forms the pattern.
5. There can be no valid generalization in the long-term that complex systems are to be viewed as wholes not as isolated parts (p.11).

The tenets of chaos theory will be discussed in the next session. Those tenets will be the ones that are commonly mentioned ones in the literature, and/or the ones, which are applied in social sciences.

1. Sensitive Dependence to Initial Condition. According to Wheeler (1989), one of the properties of chaotic systems is their sensitivity to initial conditions, which is also known as "Butterfly Effect". According to him, "the minute changes caused by a butterfly stirring up the air in Peking can effect the weather in New York a month later" (p.245).

The butterfly effect was not a new idea. It was first discovered by Edward Lorenz in 1960 (Glieck, 1987) but it also had its place in folklore:

For want of a nail, the shoe was lost;

For want of a shoe, the horse was lost;

For want of a horse, the rider was lost;

For want of a rider; the battle was lost;

For want of a battle; the kingdom was lost!". (p.23)

According to Wilbur, Kulikowich, Roberts-Wilbur, Torres-Rivera (1995), sensitive dependence on initial conditions is related to the mathematical basis of chaos in differential calculus. They claim that:

The initial conditions would represent seeds, or the initial starting values, of variables depicted in a series of nonlinear equations. These seeds, used as the first input in the differential equations, would yield some new output, and this output would provide feedback to be iteratively in the mathematical function. (p.132)

Wilbur et al. (1995) and Stickel (1992) support the idea of application of this condition to the counseling and therapeutic process. Wilbur et al. (1995) go further to suggest that:

Such initial conditions, seeds, or starting values in the context of counseling might involve consideration of the client's expectations for counseling (Wilbur, Roberts-Wilbur, & Betz, 1981); his or her life history and experiences; past and current relationships; the social structures with which the client is, or has been, in interaction; and past and present emotional states, behaviors, and thinking. (p.133)

Peca (1992) reports that the concept of sensitivity to initial conditions presents an argument against and a solution to the problem of quantification necessary for empirical research. Empiricism assumes that all human behavior can be approximately quantified and eventually predicted. According to Peca, chaos theory's discovery was that when initial conditions are changed by even a slightest degree, differences increase over and over again with each moment and eventually create different pictures of the same process (Taubes, 1984). Peca (1992) finishes her argument by saying that:

We often observe only a single realization of the dynamical process evolving from a specific initial condition. Thus, chaos theory does not posit reality as chaotic and unpredictable, but as unpredictable due to scientist' inability to precisely measure all initial conditions due to reality being inherently ordered despite appearances to the contrary. (p.8)

We can see the application of chaos theory and, more specifically, the tenets of chaos theory into education. Most education scholars discuss theoretical issues related to

chaos theory. However, there are a few researches who have done work on the butterfly effect in education. For instance, Blair (1993) mentions that much of the administrative experiences can be explained in terms of butterfly effect. Griffiths et al. (1991) claim that:

Administrators have often commented that major problems do not often arrive neatly packaged, ready to be solved. Rather, there are little inklings, hints, and clues, which appear at unlikely times and in unlikely places. The butterfly effects signals to administrators that seemingly innocuous occurrences may develop into major events. (p.439)

Griffiths et al. (1991) analyzed a case study in retrospect by applying concepts of chaotic system models to a situation in which rapid growth and changed occurred in a school district. In applying chaos theory to educational administration in this school district, the authors conceded that their effort was "quick and dirty" because of their post hoc analysis and limited data. They said that:

The data being qualitative in nature make patterning difficult and were not collected with an eye toward a chaotic framework. The central concepts hold certain appeal and explanatory value, yet the challenges of data form and precision remain. Perhaps the greatest lesson we learned from this explanatory venture was that much more careful planning would be required in studies attempting to trace in social systems than might otherwise have been thought. (pp. 447-448)

Their findings are also given according to the tenets of chaos theory. Summarizing their findings of relating to sensitive dependence condition, Griffiths et.al. stated:

The appeal of the Southwest as a place to live and work could be construed as the small stimulus (the flap of the butterfly's wings in the Industrial Northeast) leading to a large effects (e.g., population and enrollment growth and tax base development) in the case of Centerville. Other events may have led to a financial and policy crisis (e.g., the failure to consult community agencies such as the municipal water company when planning for the site of the new high school). Turmoil grew over issues of mounting costs, eroding confidence in district administrators, discontent over double sessions, and conflict over K-8, junior high, and high school structures. (p. 445)

Another examination of chaos theory, especially the butterfly effect, was done by Baker (1995). The main purpose of Baker's study was to investigate the characteristics of chaos theory with respect to sensitivity dependence on initial conditions (i.e., the butterfly effect) in school systems. It was also aimed at developing insight into school systems by determining if categories of behaviors or decisions have been observed in school systems which were very sensitive to initial conditions and were therefore likely to produce exponential effects. It was found that:

1. Schools and school systems exhibit the nonlinear nature of complex systems.

The characteristics of chaos theory known as sensitive dependence on initial conditions or the butterfly effect was apparent in schools and school systems.

2. Principals' decision-making is influenced by their experience with the butterfly effect, or the potential of relatively small decisions to generate major consequences.
3. Incidents produce ripple effects, which may extend to the external environment of schools and school system.
4. Most of the incidents related by principals precipitated negative reverberations on schools and school systems. However, some incidents yielded both positive and negative effects.
5. Butterfly effect incidents were precipitated from many aspects of school system operation.
6. Principals who are flexible and adaptable may be better able to anticipate and manipulate the ripple effects of incidents.
7. Butterfly effect incidents tended to originate at the school level of school systems.

According to Garmston & Wellman (1995), the butterfly effect works for schools. They gave an example of the middle school and say that "a small group of teachers decided to reverse the norm of negative and put-down humor in the hallways by modeling positive comments to one another and to students. They achieved major changes in this aspect of the school culture within three months" (p.10). The effects were larger than their expectations. The rumor ended with a big change. As it is seen in the literature, the butterfly effect can be seen in education, specifically in educational administration.

2. Nonlinearity. According to Lindsay (1989), nonlinearity is the second noteworthy attribute of chaos theory. Scientists knew nonlinearity existed; however, they were used to thinking of nonlinearity in dynamic system as an exception (Gleick, 1987; Lindsay, 1989). According to Gleick (1987), nonlinearity means that "the act of playing the game has a way of changing the rules. You cannot assign a constant importance to friction, because its importance depends on speed" (p. 24). As in the pendulum example, scientists were used to disregarding friction and air resistance when studying the dynamics of pendulums (Lindsay, 1989). However, a few scientists were becoming aware that it is impossible to disregard those factors that produce nonlinearity. It was found that those solvable linear systems were the exception and that disorderly nonlinear systems were the rule. These findings created a real problem that nonlinearity expresses relationships that were not strictly proportional. Lindsay (1991) later clarified that "linear models work well when the goal is to study a system's behavior under controlled conditions. However, when the goal is to describe a system's behavior in its natural environment, the outcome is much less satisfactory" (p.1).

3. Chaos Pattern. After discovery of nonlinearity, scientists began to study on these nonlinear systems to smooth those disorganized worlds to comprehend. They began to experiment with simple equations, understanding better and better the nonlinear behavior of dynamical systems (Lindsay, 1989). They found that there were patterns in nature. Gleick (1987) claims that "nature forms patterns. Some are orderly in space but disorderly in time space. Some patterns are fractals, exhibiting structures self-similar in scale. Others give rise to steady state or oscillating ones" (pp.308-309). Gleick also said

that the first chaos theorist had "an eye for pattern, especially patterns that appear of different scales at the same time" (p. 5).

The concept of pattern is not only mentioned by chaos theorists, but also mentioned by Gregory Bateson (1977). For Bateson, we are all connected. In explaining his theory, Bateson states that "my central thesis can now be approached in words: patterns of patterns. It is that metapattern. It is a pattern of patterns. It is that metapattern which defines that vast generalization that, indeed, it is patterns which connect" (p.12). Lorenz first discovered pattern while he was observing weather conditions. He realized that there is a pattern on the atmosphere, families of eddies, cyclones, always obeying mathematical rules, but never repeating themselves, repetition never quite exact. There was pattern, with disturbances, an orderly disorder (Gleick, 1987).

4. Turbulence. Gleick (1987) defines turbulence as a mess of disorder at all scales, small eddies within large ones. It is unstable, highly dissipative, draining energy and creating drag. Turbulence is motion turned random. According to Stickel (1992), examples of turbulence can be seen frequently in nature. A plume of smoke rising from an extinguished candle flame accelerates to a critical velocity and splinters into wild eddies. A stream of water flows smoothly around a large rock. Rains come and the stream flows faster until the smooth flow unravels into regions of choppy swirls.

Stickel (1992) citing Cronbach (1988) agrees that turbulence has analogies in human affairs, such as the escalating tensions which drain a marriage or the breakdown of discipline in a school. Like many other areas, turbulence has implications for the conditions that bring clients to therapy (Stickel, 1992; Wilbur et al., 1995). Stickel (1992)

gave different examples on how it could be seen in different therapeutic cases. She cites Prochaska & DiClemente (1982) that people seek help when they reach a state of existential-developmental crisis. She also cites from Ivey (1986) that perhaps most clients come to therapy and counseling with lives that are messy and disorganized. Their development has been stymied. It is as if the developmental path (not unlike the smooth water or plume of smoke) has broken into swirling eddies.

Griffiths et al. (1991) claims that all educational administrators would like to know more about the onset of turbulence. They all have had the experience of working in an apparently stable situation when suddenly the student body erupts, the community rises up in arms, the teachers pull a wildcat strike, or the school board splits wide open. Order disintegrates into disturbance, disorderlines, and unruliness. Blair (1993) summarizes Griffiths et al.'s explanations of the onset of turbulence by stating that "seemingly stable situations give way rapidly to great eruptions as a result of the butterfly effect, often leaving the major participants without clues as to the onset of turbulence" (p. 583).

Griffiths et al. (1991) explained their findings related to the onset of turbulence by stating that:

Turbulence and complexity [were] mounted simultaneously in Centerville. One event that exemplified this growing turmoil was the choice of a high school site on top of municipal well. People interpreted the tremendously high new costs as poor planning and administrative incompetence. This swirl of conflict became self-reinforcing (also functioning as feedback into the system). (p. 445)

5. Dissipative Structures. All turbulent systems are considered dissipative systems in that they degrade energy from more usable forms (like electricity) to less usable forms of energy (like heat). The relationship between energy forms mostly depends on friction, but this relationship cannot be considered constant. It also depends on the speed of particles or objects (Wilbur et al., 1995).

According to Wheatley (1994), "in a dissipative structure, things in the environment that disturb the system's equilibrium play a crucial role in creating new forms of order. As the environment becomes more complex, generating new and different information, it provokes the system into a response" (p.19). Wheatley also reports that dissipative structures demonstrate that disorder can be a source of order, and that growth is found in disequilibrium, not in balance. Fluctuations, disturbances, and imbalances scare us; in fact, we should perceive them as indicators of creativity.

Dissipative structures are also used in the social sciences. Wilbur et al. (1995) use them as analogues to describe human interaction and counselor-client relations. They assume that for any kind of human interaction, such as communication, one party begins one source of energy that is responded to by another source of energy. For example, communication (energy)→ conflict (friction) → breakdown in communication (dissipation). Thus from a chaos perspective, conflict turbulence, and movement from stabilization to destabilization (dissipation) between counselor and client

Wilbur et al. (1995) discusses that these dissipative structures can be used as beneficial during the sessions. For example, conflict between a counselor and client may be inevitable because of their different expectations about the way the counseling session should proceed, their different life expectations as well as different point of view and

values. The resolution of conflict or reduction of conflict may depend on how quickly a counselor can acquire meaningful information to understand the client's situation, or perhaps, how adaptable a client may be in accepting the counselor's recommendations or interventions.

On the other hand, Griffiths et al. (1993) claims that we should be careful when applying physical systems to social systems. Although it seems that school systems exhibit many of the characteristics of the dissipative structures such as entropy, much more careful study is needed in this field to make sure the application is appropriate. They also examined dissipative structure in the Centerville school district and their findings are as follows:

Centerville experienced a series of events that, taken alone, would seem unimportant. Nonlinear relationships appear to have developed. For example, rapid growth, conflict over unclear teacher contracts (a decision to range on agreements to honor past experience in salary schedule placements), and conflicting commercial interests (represented by demands for different financing and free arrangements) appeared to garner more attention collectively than they might warrant if taken alone. These relationships might be interpreted as random in the conventional sense, yet they illustrate both the impact of random shocks and the dissipative structures--with small causes giving rise to large effects--within a chaotic model. (p. 440)

Dissipative structures can be used as metaphors for conflict resolutions, change, and decision making. Mediators and decision-makers can use this process in their work.

6. Random Shock. Blair (1993) claims that random shocks and dissipative structures are linked to the notion that educational systems are nonlinear in structure. Dissipative structures can be instituted as structures characterized not by stasis, but by radical change. Random shocks in these structures, often in the form of small shocks, grow great, support dissipation, and change by preventing the system from returning to its original condition. Griffiths et al. (1991) mention that it seems that all chaotic systems are subject to random shocks. The impact of the shock depends on the state of the system. If the system is stable, the impact of the shock will be slight and the system will regain its equilibrium quickly. If the system is nonlinear, the impact of even a small shock could be great causing the system not to return to its original condition (Kelsey, 1988, p. 21). Griffiths et al. (1991) also report that because of their nature, social complex systems, like schools, involve so many variables that they are nonlinear. If this is the case, then all random shocks will be important and deserve the attention from thoughtful administrators. They also found out that the random shock apparent in the Centerville case pose a challenge to analysis. These shocks were less random than other chaotic systems models in other fields because they were, to some extent, controllable.

The impact of volcanic eruptions on the world weather patterns is an uncontrollable random shock: A drought in Africa affecting world grain prices might be another uncontrollable random shock. Nothing can be done by scientists or public officials to prevent an eruption or drought; however, the shock in Centerville emerged out of choices that could have been altered by the participants.

7. Strange Attractors. An attractor is simply something that attracts (Bütz, 1997). An attractor is any point within an orbit of a system that seems to attract the rest of the system toward itself (Hayles, 1990). According to Bütz (1997), there are three kinds of attractors frequently mentioned in the literature: a fixed-point attractor, a limited cycle attractor, and a strange attractor. Bütz claims that "all three attractors describe the motion of a system over time, some more simple as in a fixed-point attractor and some more complex as in a strange attractor" (p. 12).

Strange attractors describe the tendency of systems to revolve around a fixed orbit (Lindsay, 1989). The term strange is utilized because within the course of strange attractor, no maps are ever exactly alike. Points that are foci are the attraction, which can be analogous to stones rolling down hills which collect in the various basins and valleys on their way down. Identifications of these attractors and their basins would seem to describe environments needing change. The strange attractor underlies seemingly random and chaotic behavior (Stickel, 1992, p. 4). Griffiths et al. (1991) explains that strange attractors are common elements or forces that emerge over and over as a central component around which events revolve. Patterns hidden within chaotic systems develop around the strange attractors. The most frequently example given is the swing of a pendulum. An observer can trace the swinging pendulum, creating a picture of the pattern within its movements. Griffiths et al. (1991) note that:

If more than one force (e.g., gravity and magnetic attraction) functions within the system, the pattern becomes more complex. Changes in an attractor can be graphed as changes in the system's behavior, yet knowledge of an initial position will not help predict where the system will be at a future point in time. (p.441)

They also mention that administrators observe the points where the system appears to change direction and then come together around reoccurring issues.

Strange attractors are used as metaphors in social sciences research, such as counseling, public relations, and education. Benson & Hunter (1992) wrote an article titled as "Chaos theory: No strange attractor in teacher education" in which they deconstructed Rockler's (1990-91) ideas about the application of chaos theory to teacher education. They stated that Rockler provides too simple a version of behaviorism and at worst he misleads his readers about the philosophy of science if they accept his account uncritically. Furthermore, his argument requires that readers make large inferential leaps with either erroneous or misleading background information. They also go further to explain the impossibility of applying strange attractors to the teacher education by restating:

To use this concept in the context of teaching, one might imagine that an unruly child may function 'like a strange attractor' in that the child may demand much of the teacher's attention, be the focus of much of the teacher's behavior, even govern the teacher's movement around the room in a way very similar to the pendulum gravitates towards its resting point. But such an analysis fails to account for the teacher's own active decision-making. (p.64)

Benson & Hunter (1992) say that even in the above example, using chaos theory for the explanation of event is oversimplification. They state that:

For some social scientists, it seems that the idea of borrowing the methods and theories of physical sciences is in itself is a strange attractor. Humans have the

capacity, once the boundaries of strange attractor are established, to deliberately treat learning and/or knowledge in ways that place it outside the boundary. (p. 66)

Finally they summarize what they believe is knowledge and teaching needs the creative and spontaneous nature of the human mind.

8. Feedback Mechanism. According to Murphy (1995), the Newtonian view of modern science posits a machine-like universe that regulates itself according to unchangeable laws. Under this paradigm, systems maintain their stability by means of negative feedback so as to take corrective action to discourage deviation and preserve a steady state. Indeed, such views assume that stability is a "normal" state and that apparent instability comes either from faulty observation or a temporary derangement of normal continuity. In contrast, Murphy (1995) discusses chaotic systems that evolve by means of positive feedback. This process is analogous to placing a loud speaker next to a microphone so that sound distortions become amplified as they replay through the system. As each output from the loud speaker becomes the input into the microphone, more and more noise enters into the system. Similarly as a chaotic system evolves, the output emerging from each step provides material for a new formulation and outcome. Initial uncertainties become so magnified as iteration proceeds that the system eventually cascades into disorder. Thus, while negative feedback regulates deviation, positive feedback amplifies those deviations, working to destabilize existing states and introduce new patterns (Murphy, 1995). Griffiths et al. (1991) agree with Murphy's analysis by stating that one of the characteristics of chaotic systems is that output feedback into the system as input. In a school district, for instance, measurements of student achievement (output) are fed back into the district (input).

9. Iteration. Iteration is the simple repeating of a certain function using the previous output as input for the next operation. Basically, iteration can be thought of as a feedback loop. (Stickel, 1992). An example of iteration is as follows: A behaviorally handicapped child who spends the school day in suspension misses reading instruction time. The child then reads poorly, becomes more disruptive, and is sent again to suspension, thus falling further behind in reading. Stickel (1992) explains how iteration is given in mathematics. It is basically multiplying a term by itself (suspension by suspension) producing nonlinearity and thus creating an opportunity for rich chaotic behavior (Briggs & Peat, 1989). As in the above example, it is difficult to predict the child's ultimate outcome (Stickel, 1992). The chaotic nature of the situation offers a range of possible behaviors.

This tenet was used by Stickel (1992) and Wilbur et al. (1995) for discussing the ideas related to therapy. According to Stickel (1992), change is integral to the process of therapy. She cited Talmon's (1990) observation that the natural process of change and the fact that change is inevitable is already well underway when therapists first meet with their clients. This is opposite to the notion of the client being in a steady state or stuck at the same spot.

10. Fractals and Self-Similarity. Fractals were discovered by the mathematician, Benoit Mandelbrot, who worked for IBM for several years. He decided to give a name to those shapes that he found. He used adjective fractus, from the Latin verb *fringere*, i.e., to break. Mandelbrot created the word (noun and adjective, English and French) "fractal" (Gleick, 1987). Fractals are used as a language for describing geometrical shapes found within nature. Euclidean geometry is a description of lines, circles, ellipses

and so on. The irregular geometry is not the sort described by Euclid, because it depicts shapes, such as the leaves of trees or clouds that cannot be fully appreciated in either two or three dimensions (Gleick, 1987). Rather such geometry actually represents fractional or fractal dimensions, such as the dimensions between two or three dimensions. (Wilbur et al, 1995). Fractal geometry is described in algorithms--a set of instructions on how to create the fractal when these algorithms are set into motion, they generate fractal images of the process of a mathematical exploration of the space in which they are plotted. The amazing thing about fractals is that even though the formulae used to generate them are often extremely simple, the result can generate to complex images that are sensitive to initial conditions.

Self-similarity is also an important characteristic of the fractal. Self-similarity is just as the term implies (Bütz, 1997). According to Bütz (1997), Mandelbrot found that objects and organisms grow in a self-similar scheme. He describes fractal self-similarity with examples from the nature, like self-similar geometric structure of threes, lungs and vascular systems in the human body with their branching and bifurcation shape. Their structure is similar to the previous structures.

Gleick (1987) claims that "self similarity is symmetry across scale. It implies recursion, a pattern inside of a pattern" (103). For Gleick:

The self-similarity is built into the techniques of constructing the curves--the same transformation is repeated at smaller and smaller scales. Self-similarity is an easily recognizable quality. Its images are everywhere in the culture: in the infinitely deep reflection of a person standing between two mirrors, or in the cartoon notion of a fish eating a small fish etc. (p.103)

What does fractals and self-similarity bring? Bütz (1997) answers this question by saying that:

There is a similarity between the change processes that have occurred in the metaphorical water molecule, butterfly, other organisms, and dimension of nature. Self-similarity adds understanding to this type of change process, which moves from stable to bifurcation to chaos, or complexity and onto a new, more complex and adaptive order. These changes become a universal process as systems become unstable. This process can be applied to an individual, a family, a community, and so on in a self-similar manner. Self-similarity provides an awe-inspiring scope for these concept's application. (p.18)

11. Bifurcation. Another concept that needs to be explained is bifurcation. It was first noticed by biologist Robert May. He decided to see what would happen to the equation as the growth rate value changes. When May measured the growth rate of animal populations he saw that the growth rate would split into two points. This split corresponds to whether a population goes from one-year to a two-year cycle. As this parameter goes further, the number of points doubled again. The doubling themselves were bifurcations, and each bifurcation meant that the pattern of repetition was breaking down a step further. A population that had been stable would alternate between different levels every other year. A population that had been altering on a two-year cycle would now vary on the third and forth years, thus switching to period four. Gleick (1987) explained the situation as:

These bifurcations would come faster and faster--4, 8, 16, 32...-- and suddenly break off. Beyond a certain point, the "point of accumulation" periodicity gives

way to chaos, fluctuation never down et all. Whole regions of the graph are completely blacked in...yet the middle of this complexity, stable cycles suddenly return. Even though the parameter is rising, meaning that the nonlinearity is driving the system harder and harder, a window will suddenly appear with a regularity period: an odd period, like 3 or 7. The pattern of changing population repeats itself on a three-year or seven-year cycle. Then the period-doubling bifurcation begins all over at a faster rate, rapidly passing through cycles of 3, 6, 12... or 7, 14, 28..., and then breaking off once again to renewed chaos. (p. 73)

Application or observation of bifurcation in education can be difficult; however, it is important to see the total picture and understand the chaos theory.

12. Self-Organization and Self-Renewal. Wheatley (1994) cited Jantsch (1980) who describes self-organization "as the characteristic of living systems to continuously renew themselves and to regulate this process in such a way that the integrity of their structure is maintained" (p.7). Wheatley (1994) also says that "every living thing expends energy and will do whatever is needed to preserve itself, including changing" (p. 18).

Shipengrover & Conway (1996) mention that "in the world of self-organizing structures, change is not random or incoherent. Instead, systems evolve to greater independence and resiliency because they are free to adapt and because, through self-similarity, they maintain a coherent identity throughout their history" (p. 177). They also mention that in the theory of self-similarity, other tenets of chaos theory, such as nonlinearity, sensitive dependence, strange attractors, and fractals, are all applicable to new ways of understanding change.

Shipengrover & Conway (1996) also mention the way that change occurs in the self-organization process. To them, change does not follow fixed and linear steps; it is a nonlinear ongoing spiraling process. Four characteristics of process of self-organization include: (1) trigger points; (2) norm-breaking strategies; (3) experimentation; and (4) resynthesis or reformulation (Gemmil & Smith, 1985; Leifer, 1989 cited in Shiengrover & Conway, 1996).

According to Murphy (1995), some theorists believe the sensitivity of a chaotic system to its own history helps pull it out of disarray, as well as impelling it toward chaos. This process can be seen in the dual nature of iteration. On the one hand, iteration positive feedback working to destabilize a system. On the other hand, iteration also implies that systems have continuity. They carry elements of their original order with them as they become increasingly complex. This can be seen in the shapes of strange attractors or fractals. Those correspondences, or couplings among various stages in the system, mean that a change in one area rapidly communicates itself around the entire entity, so that separate parts bear the stamp of the same pattern. In this way, chaotic systems generate their new forms from outside (Loye & Eisler, 1987).

The ability to reorganize is inherent in the chaotic system itself and does not require external intervention. This self-referentiality has presented problems in social applications, with some theorists concluding that change by external agents is virtually impossible (Svyantek & Deshon, 1993) or if change agents can be introduced into the system to perturb its embedded patterns (Loye & Eisler, 1987). Wheatley (1994) claims that self-reference, and freedom and order are two important concepts for self-organizations.

Macpherson (1995) discussed the use of chaos theory as a metaphor to explain complex social systems. He suggests using "chaotic systems," "attractors" and "fractals" as metaphors. On the other hand, Hunter & Benson (1997) criticized what Macpherson (1995) assumed about the application of tenets of chaos theory. They say that Macpherson takes trouble to identify a set of educational ideas that he thinks might usefully be regarded as "attractors" in a chaotic model, but he fails to define an attractor in a way that would allow others to pose alternate sets of additional ones. According to Hunter & Benson (1997), "education is not a deterministic and reversible process as the mechanistic argument would have it; neither it is totally non-deterministic and chaotic as Macpherson would have it" (p.99).

As it is seen in the literature, there are different views about the use of chaos theory, either as metaphors or as a direct application to education. In order to see how they are seen in practice, new studies are needed.

Change, Leadership, and Chaos Theory

There is an ongoing discussion in the literature indicating that many aspects of administrative responsibilities cannot be described, explained, or predicted by current management theory, leadership models, or organizational frameworks (Hunter, 1996). It has been suggested that chaos theory could be applied to education in order to understand the situation better (Blair, 1997; Garmston & Wellman, 1995).

In the literature, there are two views about the application of chaos theory to education. First, since the social sciences and education have borrowed theories from the natural sciences when the natural sciences move from Newtonian to Quantum Physics, it

is time for social sciences and education to move to a quantum world and to better apply the chaos theory to education (Wheatley, 1994; Marshall, 1995; Maxcy, 1995). Another discussion is the appropriateness of using the metaphors from different scientific fields to explain the complex systems explored within the social sciences. Marshall (1995) claims that:

Discoveries in modern physics, in fact, have caused the scientists' description of the universe to change from the metaphor of a clock to the metaphor of a kaleidoscope, and this metaphor and all that it suggest holds great promise for transforming our schools into authentic learning communities. (p. 9)

Gardner (1993) reports that "Newtonian physics describes a mechanical world. But, quantum physics describes the universe as a living, self-organizing system" (p.32).

Building on this observation, Marshall (1995) asks why we need to change the paradigm and concludes that:

The unexamined application of Newtonian laws to social systems caused us to design a linear system, based upon predictive models of change and a belief that reality was objective and knowable--when, in fact, human systems are complex, dynamic, and organic; change is unpredictable; and reality is what one evokes and experiences. Our system was injurious to our health; it was making us sick. (p.11)

After this discussion, we can ask what does chaos theory bring to change and leadership? There are mainly two discussions to this issue. First, the current educational organizations and leadership should change according to what chaos theory offers. Second, chaos theory can be used as an alternative theory for change and leadership. Not only chaos theory, but each tenet can also be offered for change separately, as well.

Change and Chaos Theory

Change is a very complex issue involving many variables. According to Fullan & Miles (1992), "change is learning--loaded with uncertainty" (p.749) and can also be considered as a journey. Like a journey, change is difficult to predict what will exactly happen at the end. According to Kanter (1983), change involves:

The crystallization of new action of possibilities (new policies, new behaviors, new patterns, new methodologies, new products, or new market ideas) based on the reconceptualization patterns in the organization. The architecture of change involves the design and construction of new patterns, or the reconceptualization of old ones, to make new, and hopefully more productive, actions possible. (p. 279)

Fullan (1994) sees the process of change as "non-linear, loaded with uncertainty, and sometimes perverse" (p. 24). To Fullan, the change process is exceedingly complex because it combines individuals and societal agencies that make a difference. Fullan claims that "the more complex the change, the less you can force it" (p. 22).

Gardner (1993) also mentions that the complexity of changes "in society cannot be understood by the intellect alone. They must be felt in the heart" (p. 32). Zimmerman (1996) agrees with Gardner by saying that "chaos theory has jolted the scientific community into re-examining its fundamental assumptions about change, stability, and natural processes. The science of chaos and complexity is now having a similar impact on our understanding of organization, innovation, leadership, and strategy" (p. 1).

Chaos theory takes a different perception of change, stability, and instability. According to Bütz (1997), "the consideration of stability lies at the core of the process of

change. Instability means that change is either imminent or is actually occurring, whereas stability indicates that change has either just occurred or is somewhere off in the future" (p. 8). Many times systems theory is used to understand change and mention the stability of the organization. But chaos theory appreciates both order and disorder (Bütz, 1997; Wheatley, 1994). Wheatley also says that "our experience with children's development, adult development, and organizational development is that there are periods of calm and turbulence... Why do we strive for tightly controlled organizations rather than creative, chaotic, turbulent ones?" (Steinberger, 1995, p. 19).

Bütz (1997) claims that in chaotic systems change mostly occurs according to following pattern. First, the system goes from a state of stability to instability. Then the system moves towards bifurcation. Following bifurcation, the system moves toward chaos. Finally, the system reaches order. Actually, equilibrium or order is not seen as ultimate targets in chaos. Gardner (1993) says similar things about the presence of equilibrium in the system. She said that "while equilibrium is part of the process experienced by system, it is only one part. A system must also go through turbulence, change and chaos because these stages are necessary parts of the growth process" (p. 33). In a self-organizing system, the system must experience turbulence, change, and chaos in order to be a newborn system. These are all part of the change process. However, each system has its own different process in order to move to the other stage.

Each tenet of chaos theory can also be used separately as a model for change. In an interview, Wheatley gives the following explanation to Steinberger (1995) about the way that change can happen during dissipative structure. She says that school administrators should realize that:

Living systems try to resist change at the beginning in that they tune out information about the necessity to change. After that information gets inside the system and people start playing with it, expanding it, and deciding that something here is very important, then the system has to be itself. It must dissolve to recreate itself so that it fits in the environment that required it to change. (p. 20)

Wheatley also answered the question about the way that the scientific concept of dissipative structures pertains to schools in the midst of change. She states that “we, as living organisms and as part of the living system, will make profound changes if we feel they are needed”(p. 19). Shipengrover & Conway (1996) also mention how change occurs in the self-organization process. For them, change does not follow a fixed and linear arrangement; it is a nonlinear ongoing spiraling process. The four stages of this ongoing spiraling process of self-organization include: (1) trigger points; (2) norm-breaking strategies; (3) experimentation; and (4) resynthesis or reformulation (Gemmil & Smith, 1985; Leifer, 1989 cited in Shiengrover & Conway, 1996).

According to Dobuzinskis (1992), chaos theory thus follows an orderly inner logic, but its type of order is quite opposed to a mechanistic representation of the universe. It breaks away from the assumption of viewing phenomenon as nothing more than passive matter following unchangeable laws, which can be understood by objective research. Rather, a chaotic universe is an unstable combination randomness and planning, broken by flash points of change. Change agents need to be open to chance factors and surprises.

Leadership and Chaos Theory

In the literature, traditional leadership definitions are seen as inadequate. There appears to be an ongoing struggle continually to define and re-define the meaning of leadership (Shantz & Preiuer, 1996). Marshall (1995) supports the idea of changing educational organizations and leadership according to what chaos theory offers. Marshall claims that "educational leaders for the 21st century must reinvent two things: our institutions and ourselves "(p. 8). Yukl (1994) claims that most leadership studies can be categorized under four approaches: (1) trait approach, (2) behavior approach, (3) power-influence approach, and (4) situational approach. Yukl also mentions other leadership approaches, which do not fit only one approach, but combine elements from different approaches. These approaches include participative leadership, charismatic leadership, transformational leadership, and leadership in group. Finally, there is adaptive leadership, mentioned by scholars who see the organization as an organic system.

Marshall (1995) suggests using adaptive leadership for the future because she believes that schools must be seen as dynamic, adaptive, self-organizing systems, not only capable, but inherently designed to renew themselves and to grow and change--not by rules established from the top, but by relationships created from within. According to Marshall (1995, p. 15), leaders must act on the following imperatives: (1) explores the paradoxes that continuously confront our systems; (2) provide opportunities to inject energy into the system; (3) promote diversity of all kinds; (4) allow for creative tension; (5) bombard the system with information; (5) establish communal relationships of meaning, and (7) create trusting, responsible, and lovable communities. Heifetz & Laurie (1997) mention that "getting people to the adaptive work is the mark of leadership in a

competitive world" (p. 124). According to them, in order to make change happen, first, executives have to break their long-standing behavior patterns of providing leadership in the form of solutions. Second, since adaptive change is crucial for the people undergoing such change, they need to take new roles, new relationships, new values, new behaviors, and new approaches to work.

In the area of educational administration, chaos theory is sometimes touted as the answer to making a new science of leadership (Sungalia, 1990; Wheatley, 1992 & 1994; Maxcy, 1995). Shipengrover & Conway (1996) claim that in many situations where cause and effect were subtle, the effects of interventions overtime are not obvious, so that the same action can have different consequences at different schools. They discuss that at those points, a knowledge of chaos theory would help administrators become more successful in these complex systems. Shipengrover & Conway (1996) assume that such knowledge provides insight into some of the practical problems and core dilemmas, such as:

1. how we maneuver in an environment of uncertainty;
2. how we learn from experience when often the consequences of our most important decisions are in the future or in a remote part of the system;
3. how we know what is important to focus on and what needs less attention;
4. how a district can distribute decision-making responsibility widely and still retain coordination and control; and
5. the nature of the commitment and competencies improving education systems. (p. 185)

In a chaotic system, effective leadership guides the vision of the organization. Under this form of leadership, there are a few rules for employees to shape their own behavior. Wheatley (1994) states that "the leader's task is to communicate them, to keep them ever-present and clear, and then allow individuals in the system their random sometimes chaotic-looking meandering" (p. 133). Of course, it is not easy to accept or realize this kind of leadership immediately. Wheatley (1994) mentions that when we see systems in apparent chaos, because of our training we possess the urge to interfere, stabilize, and shore things up. But if we can trust the working of chaos, we will see that the dominant shape of our organizations can be maintained if we keep in mind clarity about the purpose and direction of the organization. If we succeed in maintaining focus, rather than hands-on control, we also create the flexibility and responsiveness that every organization craves. What leaders are called upon to do in a chaotic world is to shape their organizations through concepts, not through elaborate rules or structures.

Morgan (1998) mentions that leadership behavior is often much more random, contingent, and unplanned. Today typical managerial situations are affected by all kinds of unexpected influences that upset the best of plans. Effective leaders have to learn to cope with flux. They have to create ways of going with the flow. They have to help coherent, relevant initiatives to emerge from the dynamic and unpredictable events, which surround them. They have to be skilled in managing disorder and in helping their organizations self-organize and evolve in a relevant, open-ended way.

According to Holayter & Sheldon (1994) and Marshall (1995), leaders can feel more comfortable and liberated in the new sciences, provided that these leaders use the new science to discover ways to cope with the many paradoxes and swirling changes in

schools. Such changes seem to make the usual leadership tools useless because of the natural phenomena for the new tools to be needed. Holayter & Sheldon's (1994) advice in these situations that:

Studying the patterns of thinking in a quantum age of scientific theories and high-speed technology gives us a new way to contemplate the complexities of organizations. As we move away from scientific management theories to more natural empowerment theories, we see an opportunity for new patterns to be created out of chaos. (p. 25)

Marshall (1995) says "our job as leaders is not to re-engineer a new education structure, but to enable the creation of mutable architectures--kaleidoscopic enterprises if you will--that adapt to the dance of life" (p.14). For Marshall, externally imposed models, rules, guidelines, or formula cannot create the preferred future. We can create our own reality through our relationships, engagement, and dialogue with others in our neighborhood. Marshall suggests that leaders should move away from the following:

1. hierarchy and fragmentation toward connection and integration;
 2. the isolation of schooling toward the idea of a true community of leaders;
 3. the confrontation of divisive structures toward the collaboration of partnership;
 4. a linear system with little focus and clarity of purpose toward an organic system drawn into the future by a compelling vision of what we can become.
- (p.14)

Educational leadership is different than leadership in business, the military, and hospitals because of its mission. In education, intellectual, humanistic, adaptive and

moral leadership is more important than the cost-benefit table. Educational leadership should deal with many people, such as children, parents, youth, politicians, and, in general the community. Schools are getting complex with their multiple objectives and differing priorities that can be not as obvious as others. Using chaos theory, an adaptive leader can handle all these complex issues with a new perspective.

In sum, one should be aware that chaos theory only offers a new way of looking at events. It can be either applied to change and leadership or used as a metaphor to explain leadership style or the change process. It doesn't possess any magic to solve all problems confronting educators. Jones (1994) reports that the theory might suggest new/old ways of looking at an educational administrator's role in solving these problems. Specifically, Jones cautions that:

1. you can't control random happenings;
2. your toughest problems--caused by events out of your control--have no solutions;
3. you can't impose your own vision on those around you;
4. trust others to develop their own moral purpose and exercise their own good judgment;
5. try to find comfort in the knowledge that a pattern and a purpose is developing;
6. keep on eyes on those fractals;
7. be ready for change, but take your hand off the joystick. (p. 23)

The use of chaos theory metaphors can change the way leaders think about the problems they face. It is known that chaos theory metaphors are not panaceas, but can

make a contribution to leaders' understanding of the world in different types of organizations. In a nutshell, chaos theory metaphors add value by allowing leaders new ways of thinking and use a different language (Lissack, 1996). A transforming educational system needs a new kind of policy, structure, and leadership. Marshall (1995) supports the idea of using metaphors for leadership that are taken not from the machine, but from the ways that living systems organize, adapt, and change within their environment.

Organizations are seen as more organic than mechanic because in organic systems, the participative decision making process works well. People work in the groups collaboratively and there is consensus in organization. The climate is open and the mood or nature of the organization is flexible. In order to lead these kinds of organizations, one of the leadership types can be adaptive leadership.

Questions and Criticisms of Chaos Theory

In contrast with those supportive views about the application of chaos theory to the education, Dr. Glascock from Ohio University says that "Chaos theory and administration, isn't that redundant". She is not suggesting applying chaos theory to education. Similarly, Dr. Fazzaro from the University of Missouri claims that "the attempt to use "Chaos Theory" in education is another symptom of the 'Physics envy' virus that first infected the psyche of the social sciences in the 18 and 19th centuries and education in the early 20th century." According to Dr. Fazzaro, "the field of educational administration must mature beyond positivist and recognize that education is one of the humanities and not a social 'science.' The physical and social sciences should, when

appropriate, be used to inform education policy, but never to justify it" (E-mail correspondences with Dr. Glascock and Dr. Fazzaro).

Morçöl's (1996) review of chaos theory and fuzzy logic poses the key question "are these theories novelties that may be heralding a revolution in social and natural sciences, or are they old wines in new bottles?" (p. 215). Some pragmatic questions raised by Maxcy (1995) related to chaos theory include: "Who propounded this theory? (historical question); which group supports this theory and which do not? (sociological query); what power is at work in the advocacy of this views (political question); and what does the theory mean for school reform? (philosophical question)" (p. 33).

Maxcy (1995) also discusses the politics of chaos. He cites Hayles' (1990) claim that "the essentiality contested issues in chaos theory versus other frameworks is the status of local knowledge over global knowledge" (p. 44). Maxcy (1995) examines whether or not chaos theory may be a political theory and, more than this, an ideological position, which involves a meta narrative that resists critique and reconstruction. Maxcy later reported that he sees chaos theory as a global theory and ideology. He claims that "caution is needed. We must guard against the move toward global theories and ideologies (such as chaos theory) in the face of what are actual practical problems" (p. 44). Maxcy (1995) mentions the politics of life. Since schools are human associations constructed for social purposes, they have political side as well.

Summary

As Bütz notes (1997), chaos as a concept is very old; yet as a scientific theory it is in its nascence. As educators, we should be open to other areas, such as fields of physical

sciences or social sciences, to borrow concepts or theories; but on the other hand, we should also be very cautious when it comes to their immediate application in education. Educators need to be critical, since oversimplification might destroy the concept of chaos; therefore, chaos theory may mislead the researchers in the coming years, and their concepts.

In the literature, many papers depend on ideas rather than observing how chaos theory works in practice. One of the aims of the proposed study is to examine how an urban elementary school principal deals with unanticipated situations. Observing how a leader adapts to those unanticipated situations contribute to understand educational change through chaos theory.

CHAPTER III

Methodology

In order to study chaos theory and leadership within urban education, this investigation used a qualitative case study to answer the research question. A qualitative case study allowed for deep-insights of how an urban elementary school principal deals with unanticipated situations. Berg (1998) claims that “case study methods involve systematically gathering enough information about a particular person, social settings, event, or group to permit the researcher to effectively understand how it operate or function” (p, 212). Yin (1994) reports that case studies are preferable when:

1. “how” and “why” questions are being posed;
2. the investigators have little control over events; and
3. focus is on a contemporary phenomenon within some real-life context (p, 1).

Case study was an appropriate method for this study because it answers why and how questions. In addition, it was focused on a real-life situation, and the researcher had no control over the events.

Research Paradigm, Chaos Theory and Urban Education

It is obvious that in the last decade a tremendous amount of qualitative research has been conducted in the field of education. Maxcy (1995) explains this situation as a movement from positivistic mind-sets to more open naturalistic and qualitative research methods. Qualitative research findings are arrived at not by means of statistical procedures or other means of quantification (Strauss & Corbin, 1990), but to "the meanings, concepts, definitions, characteristics, metaphors, symbols, and descriptions of

things" (Berg, 1998, p. 3). According to Miles & Huberman (1994) the role of the qualitative researcher is to gain a holistic overview of the context under study: its logic, its arrangements, as well as its explicit and implicit rules. Bogdan & Biklen (1992, pp. 29-30) describe characteristics of qualitative research as:

1. Qualitative research has the natural setting as the direct source of data and the researcher is the key instrument.
2. Qualitative research is descriptive.
3. Qualitative researchers are concerned with process rather than simply with outcomes or products.
4. Qualitative researchers tend to analyze their data inductively.
5. "Meaning" is of essential concern to the qualitative approach.

Rothstein (1993) claims that most studies of urban education problems have only provided a quantitative basis for describing and analyzing urban education and urbanism phenomenon itself; the real problems of qualitative changes and deteriorating lifestyles have been ignored or left to the media.

In the literature, it is suggested that qualitative research is more appropriate than quantitative research for examining chaos, especially if the aim of the study is to understand the whole system rather than to predict and control movement within the system (Pace, 1992; Murphy, 1996; Lindsay, 1989). Blair (1997) claims that "qualitative work seeks to observe and chronicle as much information as possible in relation to chaotic events" (p. 191).

Patton (1990) explains what chaos researchers do and search for. The chaos researcher asks: "What is the underlying order, if any, of disorderly phenomena? And

what are disorderly phenomena? The water, waterfalls, fluids in motion, volcanoes, galaxies--and human beings, human groups, programs” (p. 82).

Since the first chaos theorists and researchers were primarily theoretical physicists, meteorologists, biologists, and other natural scientists, chaos researches are highly quantitative, requiring supercomputer calculations. But the assumptions that undergird chaos theory pose challenges to social science research at the most fundamental levels of basic conceptualization (Patton, 1990). Chaos theory is already viewed as the new paradigm of the natural science (Gleick, 1987). Eventually, Patton believes that “chaos theory may become the new paradigm for approaching human complexities” (p. 82).

According to Patton (1990) chaos theory offers a new set of metaphors for thinking about what we observe, how we observe, and what we know as a result of our observations. Patton writes that:

Chaos theory challenges our need for order and prediction, even as it offers new ways of fulfill those needs. While much chaos research is highly mathematical, making sense of results seems to depend heavily on metaphors. Here is an intersection with qualitative inquiry that holds particular promise because much qualitative analysis includes resort to metaphor. (p. 82)

Patton (1990) also mentions the difficulty of applying chaos theory to the real world. To him:

This metaphor fits a great deal of fieldwork in real-world settings, but the implications can be so threatening to our need for order that we ignore the rearranging walls and describe the maze with a single static diagram. If nothing

else, the history and emerging ideas of chaos theory may give us the comfort and courage to describe non linear dynamics (chaos) when we find it without imposing false order to fulfill to presumed traditional purpose of analysis.

(pp. 83-84)

In short, chaos theory challenges us to deal with unpredictability and indeterminism in human behavior (Czico, 1989).

Griffiths et al. (1991) suggest that "educational researchers should continue to view chaotic models as ad hoc methods for examining critical questions in theory and research unless they can develop quantitative measures possessing the necessary precision to examine chaotic systems" (p. 450). It is assumed that qualitative study will give more understanding about the urban education environment, unanticipated situations, handling them, and indicators of chaos theory.

The Site

The site was an urban K-8 elementary school. The pseudonym "Kars Elementary School" is used in the research report. Kars Elementary School is a city school located in a big urban school district not far from downtown. Although the school is located right off of the street, there is also a city street between the two buildings. The primary building (K-3) is located in a large area, and mainly one floor, built in 1950. On the other hand, the intermediate building (4-8th grade) is a three-story building that is across the street and is almost 92 years. The playground of the intermediate building is not as large as the primary building. The principal's office is on the ground floor on the left side located in the old building. When you walk in the corridors during class hours, the

climate of the corridors and classrooms is quite, reminding you that there is instruction going on in this building. Staff and students are pleased to be in these buildings. There is a philosophical statement for the school posted district's Internet site. It reads as:

We believe in excellence in setting high academic standard at Kars Elementary School. Our focus is threefold. First, we establish a learning environment that is safe and orderly. Second, we educate students to meet or exceed our academic standards. Third, we believe in the critical role that parents and community members play in making decisions that affect our students' education. Kars school staff is dedicated to meeting the needs of all our constituents to ensure high levels of performance from both students and our staff.

There are different organizations operating within Kars Elementary School, such as the Local School Decision-Making Council (LSDMC), Instructional Leaders Team (ILT), Budgeting Team etc. Each team has different tasks to be achieved.

Kars Elementary School belongs to a large urban school district. At the beginning of the year, the district decided that this school would target for change, which is called 'redesign' to improve student test results. Redesign is a top-down program change in which teachers, principal, and staff would be surplus.

The School's Students, Teachers, and Staff

The Students. The school principal, whose pseudonym is Dr. Tugba, described the student body as not being very diverse in terms of ethnicity; it was definitely an urban neighborhood school. The ethnic composition of students was 1.18 % Asian, 87.45% African American, 0.59 % Hispanic, 2.55 % Multi-racial, being of 2 different races, and

8.24 % white (1998 statistics). A high percentage of the students had free reduced lunch program (79.05 %). They have a diverse student group in terms of the programs offered. They offer a hearing impaired unit--that is an oral unit. People send their children from all over the district to Kars because it is the only school in the city and even the surrounding area that offers hearing impaired classes for children whose parents want them to have oral skills instead of signing skills.

There were 352 students at Kars Elementary school during the period of research. The population of students according to their grades in the primary building was 41 Kindergarten students, 30 first graders, 39 second graders, 50 third graders, and 14 hearing impaired students. The population of students, according to grade, in the intermediate building was 33 fourth graders, 36 fifth graders, 34 sixth graders, 18 seventh grader, 17 eight graders, 28 hearing handicapped, and 12 developmentally handicapped.

The Teachers. There were a total of 29 teachers in the school. Of these 22 classroom teachers, six were content teachers in various fields including art, music, and physical education. The other was Title I teacher. The demographic description of the teachers displayed 5% male and 95 % female in gender; 27.5 % African-American, 62.5% white, 10% Hispanic in their ethnicity; and 44.4% Master and above, 35.6 % Master equivalent, and 20.0 % bachelor's in their educational background.

Other Staff at School. Two school secretaries (one for intermediate, one for primary building), two visitor teachers (one for the intermediate and one for the primary buildings), one nurse, one psychologist, one counselor, one audiologist also served the school on different days of the week.

Participants

The data were collected from an urban public elementary school in a large Midwest city. Participants included one female principal, one female and one male teacher and two secretaries as key informants. The selection of the school principal and other key informants was based on purposeful sampling. According to Patton (1990) "nothing better captures the differences between quantitative and qualitative methods than the different logic that undergrid sampling approaching" (p. 169). Qualitative research focuses in depth on relatively small samples, which are selected purposefully.

The logic and power of purposeful sampling lies in selecting information-rich cases for studying in depth. People can learn a great deal about the issues of central importance to the purpose of the research with purposeful sampling (Patton, 1990). Kars Elementary School was chosen because it is an urban school and the principal has the experience and understanding about the urban system and the schools within the system.

The school principal and other key informants were asked individually to participate in this study. They were also asked to sign a consent form, which described the purpose of the research in detail. They were reminded that they could refuse to participate or discontinue at any time without any further questions. In addition, they were also assured that their confidentiality would be kept and no real names would be used.

Profile of the School Principal

The school principal is a white woman who has a doctoral degree in Educational Administration. Dr. Tugba has been working as a principal for one year and four months

at Kars Elementary School. She has been working as an administrator in the district for 5 years. She started teaching at a high school in a suburban district where she taught for ten years. After that she moved to this urban school district as a high school teacher. She taught one year there and was moved to another high school in this particular district. She started her administrative career during her second year in this district. Now she is at this building serving as a principal.

When the researcher met the school principal, her first impression was that she is talkative, open to communication, and very genuine. After shadowing her for almost three months, the researcher can also describe her as very dynamic, tidy, honest, and calm.

As a knowledgeable school principal in the field of education, she can be described as a person who acknowledges “care of ethics” proposed by Noddings (1988). Foremost, she primarily cares about her staff and students by responding to their needs promptly. She also communicates well with them, and she is consistent in her behavior. She is like a mediator, counselor, and mom as needed when communicating with students. Third, she is very clear about rules, and tells students explicitly what the rules and results are. Moreover, she understands and listens to parents.

Key informants describe Dr. Tugba in relationship to either her job or to her personality. Mr. Ahmet describes her as “task oriented as well as people oriented person” (IN: 78). Ms. Ayse first mentions her honesty, saying that “to me, looking back at principals, I think, she is strong to be as open and honest about what is to be expected” (IN: 84).

Other Key Informants

One female teacher (Ms. Ayse), one male teacher (Mr. Ahmet), and two female school secretaries (Ms. Gulistan and Ms. Maya) participated in this study. In order to protect the informants' identity, all these names are pseudonyms.

Mr. Ahmet. His role is to teach 7th and 8th grade reading and English. He also teaches one class of 7th grade social studies and helps Dr. Tugba when needed. He also acted as coordinator for the testing program. He also does the career education program here with Dr. Tugba, and any thing that she assigns him. He is a former principal, and he just came back to the classroom this year. He has a Bachelor's degree in English, Journalism, and Drama, and a Master's degree in Educational Administration. He also has a bachelor's degree in elementary education. He has completed graduate course work toward a doctoral degree in Educational Administration. His dissertation is still pending. He was a principal for 8 years and an assistant principal for 2 years. He taught mainly high school English for about 7 years.

Ms. Ayse. Ms. Ayse is a teacher for the hearing impaired students. She has a Bachelor's degree in regular education and Elementary Education from the near by State University. She is trained in teaching hearing impaired students, and deaf education. She has a Master's in Special Education from a major research university in Eastern city. She has also done doctoral work; her dissertation is in Special Education with an emphasis on communication. This is her thirty-fifth year teaching. Thirty-four of them have been teaching, but not continually at the same school. She taught here, then in New York, then here again. She has been in this particular school district, although not always in this

specific school. In this school, she has been working a combined time of almost twenty-five years.

Ms. Maya. She has been working as a secretary since 1971. She has been here for four and half years in the intermediate building. She graduated from high school.

Ms. Gulistan. Ms. Gulistan is a secretary at the primary unit of Kars Elementary school. She graduated from a private high school Academy in Kentucky. She worked at the downtown headquarters of Proctor and Gamble for fifteen years. And she worked for a life insurance company for two and half year prior to that. Then, she stayed home for twelve years with her son when he was born. And when she returned to the workforce, she worked at school. Now she has been at Kars Elementary School for fifteen years.

The Researcher

The researcher is an Educational Administration professor from Turkey. Her research interests are diverse. They include supervision, organizational behavior, organizational health of the schools, chaos theory, leadership, change, and peace education. In this research, her position is as a foreign woman in the urban setting who is trying to find out how a typical urban school principal would handle unanticipated situations. The researcher is currently a student in the doctoral program in Curriculum and Instruction at the near by State University.

Data Collection

The data were collected at the end of autumn and at the beginning of winter of 1999. The primary sources of data were semi-structured interviews, structured interviews, archival records, documentation, and participant observation.

Observation

The school principal was observed over three months on different days of the week. During these observations, the researcher observed the principal's responses towards various unanticipated situations, which took priority, specifically, redesign issue. Equally, the researcher observed the principal's whole activities and responses that were written as field notes. In order to validate and understand the situations deeply, two school secretaries and two teachers were interviewed as key informants to discover how the school principal responds to unanticipated situations. The interviews with key informants were in the form of structured interviews.

Interviews

The interviews with the school principal were semi-structured interviews. This interview technique is also called a standardized open-ended interview by Patton (1990). The basic characteristics of the semi-structured interview questions were prepared beforehand (Berg, 1998).

The researcher interviewed the principal at her office. The first interview took 55 minutes, with the second interview taking 35 minutes. The first interview was done before any observation. Here are the questions that were asked by the researcher:

1. How many years have you been working as a school principal?
2. What is your professional background?
3. Could you please explain what kinds of activities you do everyday?
4. Could you please explain more about your responsibilities?
5. What kinds of unanticipated situations do you face and have you faced in your school?
6. What do you think about these unanticipated events?
7. Are there positive effects as a result of the incidents?
8. What kind of principal training is needed for these kinds of events?

Do you have any suggestions?

Towards the end of the observation period, the second interview was conducted. A summary of the questions asked is as follows:

1. What kind of administrative problems did you experience after losing your assistant principal?
2. This school has frequently changed principals in the last decade. How does this change affect the school, teachers, students, parents and community?
3. How does each change (positive or negative) affect the school, teachers, principal, parents and community?
4. Has there been any news recently about the redesign issue?
5. Are you familiar with Chaos theory?
6. How do you find chaos theory applicable to your practice? Can you give me any examples?

After interviewing the school principal, I then interviewed teachers. Dr. Tugba suggested that I interview with Mr. Ahmet in the counselor's room. There were many interruptions--a fire drill and then the return of the counselor-- so we had to change our meeting room. We moved to the parent resource room, where I could complete my interviews with the teachers without interruption.

With those interviews completed, I proceeded to the intermediate building for more interviews. First, I asked the secretary who said that she already wrote up the answers to my questions. I took the answer sheet, but felt dissatisfied. I asked a couple of questions again, like how many years has she worked as a school secretary and what is her professional background, etc. When I review her answers again, I felt that I needed to talk with her some more, so I asked her to interview again. She was very cooperative. One day, when I was observing Dr. Tugba, the secretary said OK, let's do the interview. I asked detailed questions, but she really didn't want to talk, and there were interruptions. I didn't push her to talk, but I thanked her and left her office.

I also interviewed with the primary building secretary and asked the same questions. Although she is away from the principal office, she tried to give me much detailed information as possible. I asked the same questions to all key informants. These questions are as follows:

1. What is your role at this school?
2. What is your professional background?
3. What kinds of unanticipated situations happen at this school?
4. How does the principal perceive and respond to these events?

Each interview was regularly transcribed, typed, and indexed.

Documentation

Bogdan & Biklen (1992) describe documents as personal (intimate diaries, personal letters, and autobiographies), and official (internal documents, external communication, students records and personal files). According to Yin (1994), documentation sources can also include memoranda, announcements and minutes of meetings, proposals, progress reports, internal documents, newspaper clips and articles.

I attended the Kars Town Education meetings twice, as well as a budget meeting, and award meetings. At the first town meeting, participants included parents, community members, teachers, and the assistant superintendent. At the second meeting, in addition to the above mentioned people, the superintendent attended in order to answer redesign questions. I collected documents that were distributed at each of those meetings. In addition to each of my visits, I asked Dr. Tugba for some documentation about the school. I also searched the Internet and found some documentary information about the school.

Archival Records

Archival records were similar to documents, they were mostly related to the school's past history records. Yin (1994, p. 83) describes archival records as either:

1. *Service records*, such as those showing the number of clients served over a given period of time;
2. *Organizational records*, such as organizational charts and budgets over a period of time;

3. *Maps and charts* of the geographical characteristics of a place;
4. *Lists* of names and other relevant commodities;
5. *Survey data*, such as census records or data previously collected about a “site”;
6. *Personal records*, such as diaries, calendars, and telephone listings.

According to Yin (1994), archival records can be used in conjunction with other sources of information in producing a case study. What follows is a list of documentation and archival records that I collected over the course of my observations:

1. a copy of the school budget proposal;
2. Kars community school meeting summaries;
3. a summary of “Successful school restructuring: A report to the Public and educators” by Fred M. Newman and Gary G. Wehlage, distributed at the town education meeting by community leaders;
4. map of school attendance boundaries;
5. list of school attendance boundaries;
6. summary of comparison between expeditionary learning, outward bound, and Montessori prepared by community leaders;
7. list of expectations of community members for future features of Kars Elementary school;
8. average ranking of fourth and sixth graders taking Ohio proficiency test administered in March 1998;
9. letter to Kars community members about the redesign and possible school models;

10. Kars school-redesign survey;
11. survey about town meeting participants' demographic characteristics;
12. vacancy announcements for principals in this district;
13. local school map;
14. Kars school 1996-1997 school performance report. This report covers the philosophy of school, its goals, and demographic information;
15. school assistant and redesign plan (From the Internet);
16. newspaper clippings: "City schools staff: Lower standards" "A new leader in reshaping city's schools," "Reform is challenging to teachers" (The Post);
17. teachers observation criteria;
18. student progress forms;
19. emergency plans and conditions;
20. district public school newsletter about redesign;
21. district discipline code;
22. inter-office correspondence, Department of Quality Improvement;
23. school assistance and redesign plan (both draft and final copies).

Those documents were collected and indexed according to their dates.

Data Analysis

Interviews were audio taped, then transcribed and written down regularly. Data were indexed, labeled, and coded according to the major topics. These Filed notes were written daily and indexed.

Collected data were analyzed by using the technique of content analysis. Berg (1998) claims that "the most obvious way to analyze interview data is content analysis" (p. 9). In order to make data systematically comparable, an objective coding schema will be applied to the notes or data that is at the heart of content analysis (Berg, 1998). Holsti (1968) defines content analysis as "any techniques for making inferences by systematically and objectively special characteristics of messages" (p.608, cited in Berg, 1998). In content analysis, researchers examine the communication in a systematic way based on various coding categories. Two kinds of content analyses mentioned in the literature are: (1) manifest, and (2) latent. In manifest content analysis, researchers try to find out physically presented countable data at surface level. In contrast, in latent analysis, deeper meaning is searched (Berg, 1998). In this research, both manifest and latent content analysis techniques were used.

First, data were read many times to understand and see the pattern. In order to understand the general category, open coding was used. Open coding is the process of breaking down, examining, comparing, conceptualizing, and categorizing data (Strauss & Corbin, 1990). Then, axial coding was used in order to see the subcategories of the data. Straus & Corbin (1990) describe axial coding as a set of procedures that data are put back together in new ways after open coding by making connections between subcategories. This coding system is very similar to what Miles & Humerman (1994) called pattern coding, which is "a device for summarizing segments of data" (p. 69). Miles & Huberman (1994) assert that, pattern coding has four functions for the qualitative analyst.

1. It reduces large amounts of data into a smaller number of analytic units.

2. It gets the researcher into the analysis during data collection, so that later fieldwork can be more focused.
3. It helps the researcher elaborate a cognitive map, an evolving, more integrated schema for understanding local incidents and interactions.
4. For multi-case studies, it lays the groundwork for cross-case analysis by surfing common themes and directional processes. (p. 69)

Finally, theoretical coding was used to see if the data had enough examples to explain the tenets of chaos theory. Some concepts related to chaos theory were then determined and coded.

Using Metaphors to Analyze the Data

In this research, metaphors were used to analyze and present the data. The selected metaphors are attributed to the situations by the researcher after reading the data many times and communicating with researcher's co-advisor. According to Patton (1990), chaos theory presents "a new set of metaphors" for anything about what we observe, how we observe, and what we know as a result of our observation" (p. 82). Metaphors are especially powerful to create conceptual vehicles for understanding and play a central role in the construction of social reality (Lakoff & Johnson, 1980). Patton (1990) claims that "some of the classification systems have relied on metaphors as a way of communicating the connotative meanings of analytic categories" (p. 400). He also reports that:

Metaphors can be powerful and clever ways of communicating findings. A great deal of meaning can be conveyed in a single phrase with a powerful metaphor.

Moreover, developing and using metaphors can be fun, both for the analyst and for the reader. (p. 402)

Sergiovanni (1993) claims that metaphors have a way of creating reality. In addition, metaphors also shape the way we understand schools, leadership, and management within it. In this study, the main metaphor selected to describe the school is that of “life in a hurricane.” The school principal is portrayed as a “brave captain” who runs her school like a ship, which has to reach the harbor safely. Teachers are described as crew, and students are described as passengers.

Triangulation

Yin (1994) discusses that triangulation for case studies is maintained by comparing and contrasting the collected information from different sources that were used during the data collection procedure.

Denzin (1978), and Miles & Huberman (1992) mention that triangulation includes multiple data-collection procedures, multiple theoretical perspectives, and/or multiple analysis techniques. According to Patton (1990, p. 464), there are basically four types of triangulation that contribute to the verification and validation of a qualitative analysis: (1) methods triangulation, which is checking out the consistency of findings generated by different data-collection methods, (2) triangulation of sources, or checking out the consistency of different data sources within the same method; (3) analyst triangulation which is using multiple analysts to review findings; and (4) theory/perspective triangulation, or using multiple perspectives or theories to interpret the data.

In this study, triangulation was accomplished through using source and method triangulation. The data sources collected with different techniques were compared and contrasted. Field notes, interviews transcripts, archival records, and documents were then compared. Although different sources included their own methodological assumptions and provided multiple measures of the same phenomenon, and open the constructing validity issues for discussion (Yin, 1994), using multiple sources in case studies were rated more highly than the ones relied only on single source, in terms of overall quality (see, Yin, Bateman, & Moore, 1983, cited in Yin, 1994). In addition, thick descriptions and the use of examples in the participant's own words helped to communicate the ways that the data indicated this principal perceives and responds to unanticipated situations. Moreover, Dr. Tugba was asked to review the draft copy of this research report so as to validate the accuracy of the data and the analysis before it was turned into its final form.

Ethical standards were assured throughout the process of gaining entrée, collecting and analyzing data, and reporting on the research. This research was descriptive in nature, so there were no experimental aspects and no potential hazards or side effects for the participants. The human subjects committee of the University of Cincinnati (West Campus) institutional review board reviewed and approved the proposal of this study. The main participant was also given a copy of the completed dissertation. Key informants in the study were also given a summary of the research, if requested.

Significance of the Study

The significance of this study is both theoretical and practical. In conducting the literature review, the researcher has discovered that many papers written on chaos theory

are purely theoretical, with little basis in research. In order to criticize such discussions, there needs to be some studies done in the field of education that address whether research supports or rejects the theories being advanced. It is thought that this study can make a contribution to the body of knowledge in this field. This study provides empirical support for many of the theoretical ideas relating to chaos in administration and leadership.

School and schooling is one of the hot topics of the last decade (Short & Greer, 1997). The needs of community and students have changed. Reed & Kochan (1998) mention that "schools are faced with a greater emphasis on accountability and demands for new structural and instructional initiatives" (p. 1). Therefore, educational leaders are operating in increasingly complex and constrained situations (Fullan, 1998). Consequently, the necessary skills of educational leaders are changing (Milstein, 1993). As a result, school principal training organizations need to evaluate their program to prepare future schools' leaders.

Reed & Kochan (1998) claim that "those charged with preparing this new breed of educational leader must adapt their curriculum, their instruction, and their relationship in order to meet the needs of this changing profession"(p.1). Such change can come from different sources; one of them is from the practitioners. It is believed that this study can provide data for principalship trainers. Backman (1993), Beaumont (1997), and Leak, Peterson, & Patzkowasky (1997) claim that the preparation of the urban school principal should be different to meet the need of the urban system. The role of the urban school leader is rapidly changing due to reform efforts. So it is believed that this study can provide data for principalship trainers, as well as practitioners.

Limitations of the Study

Limitations of the study result from the techniques that were selected to collect the data. Each method has its own disadvantages. The researcher, who in this case is also the only interviewer, observer, and gatherer of the documentation and archival records, is the instrument of the qualitative research. As such, the researcher has the potential of greatly influencing the outcome of the study by the way in which the inquiry is structured and conducted. Throughout the process of planing and conducting the research, the researcher decides how to focus the study, what are the priorities of the inquiry, which questions to ask, which activities to observe, and which documents to examine.

A case study with one participant is, by definition a detailed examination of only one single subject in her context. As such, the results of case study research are not generalizable to any other individuals or situations. Rather, this research design assumes that each case is unique.

Being a foreigner in the field and having language difficulties was also a limitation. On the other hand, the researcher's position as a foreigner also brought objectivity to the study. Although factual, the final report of qualitative research cannot be claimed to represent objective truth. By design, the qualitative researcher has a close, personal, face-to-face interaction with the case study participant in her own environment. Indeed, the "researcher's personal experiences and insights are an important part of the inquiry and critical understanding the phenomenon" (Patton, 1990, p. 40).

Finally, studying chaos in one place and at a time, with snap-shut observations is another limitation. It needs more time to see the pattern and observe the adaptation that occurs after the any kind of change is made.

CHAPTER IV

Presentation of the Data

Life in a Hurricane

The story of Kars Elementary is similar in nature to a ship floating on the water in a windy and uncertain environment, almost like in a hurricane. The school principal is like a brave captain who steers her ship safely through this stormy environment to harbor. During this journey, she attempts to keep up the morale of her crew (i.e., teachers and other staff). Her priority is to work as a caregiver, serving her students (i.e., the passengers) the best that she can within this environment. The school principal needs to make certain that each student is kept as safe and well-equipped as possible. At the same time, she also had the unfortunate duty to inform their parents that this ship will be run by a different captain and crew once they reach shore. These changes result from the shipping company (i.e., the district school board) who own the ship and want to serve the passengers best. This transition in leadership was made by the higher authorities within the shipping company where administrators have reviewed this ship's achievement record. Consequently, company officials have decided that this ship has some problems that I call the "unfinished business" of Kars Elementary School. This "unfinished business" ironically seems to be casualties of previous changes in the program. The higher authorities of the shipping company think that this unfinished business can be solved by applying a new map and a new crew so as to benefit their passengers.

In making this decision, the higher authorities in the shipping company did not use historical data or recent data about current improvements of this ship. They didn't even ask people for an evaluation of the current state of their ship. It seems they had good

intentions in making this decision. Unfortunately, the captain, the crew, and passengers don't see things in the same way as the shipping company authorities. This application has been prepared by the crew's union and some higher authorities from this shipping company.

In order to understand the story, the history of the school is necessary so as to give a better understanding of current changes. Since the school is affected and affects the environment of the community and the larger educational system, it is necessary to understand the environment surrounding this school. As a result, I have included a description of the urban school system. After that, I will report on the urban school principal's responsibilities, daily activities, and problems along with several unanticipated situations that have happened at that school and the principal's reactions towards those unanticipated situations. Finally, this section will explore the indicators of chaos theory within Kars Elementary, the principal's background in chaos, and her application of chaos theory into practice.

The History of Kars Elementary School

Kars Elementary School, like other schools, has its own structure, history, and climate. Although the oldest building of this elementary school is 92 years old, I only had access to records dating back twenty-five years ago. Ms. Ayse, one of the experienced teachers, summarized her ten-years at this school in the interview as follows:

This school ten years ago was a multi-age magnet school. Then, they decided that multi-age could not be the basis for the magnet school. At that time, there was an

investigation. . .to determine which kind of magnet school Kars would be, since that whole process started. It has been one unanticipated situation after another.

After being a multi-age magnet school, Kars Elementary became a foreign language magnet school. Then, Kars Elementary became foreign language school. Another unanticipated situation was when Kars Elementary continued to change once again to a neighborhood school. Kars Elementary further changed again this year when it added the 7th and 8th grades to its regular roster of grade K-6 students. The school also changed to a hearing impaired institution by emphasizing oral techniques. Right now, the school is in the process of another change called ‘redesign.’ Redesign is a top-down change process of school improvement aimed at surplus the teachers and the principal and providing a new program with a new staff for the following year.

The changes in the school are not only limited to what has been explained above. Above all, what shocked Ms. Ayse the most was the changeover of five different principals within eight years time. This school is continuously pushed into turbulence and uncertainty by the school district. Decision-makers at the district level have never given the school time to breathe and rest from its turbulence. The story of the school could be entitled “Life in a Hurricane” because what the school has experienced is not really different from living in an protracted hurricane.

The continuous series of changes have also prevented the emergence of a shared culture at the school. The school is not known for any of the above mentioned programs. These changes even cause confusion among the stakeholders as well. Most community members still remember the school by the programs that were applicable to the past, such as it being a foreign language magnet school or a multi-age magnet school.

Urban School System

Since Kars Elementary School is an urban school, it cannot be isolated from its larger system and environment. As a result, it would be helpful to report what the principal said about the urban education system and urban school system. Dr. Tugba describes the urban school system as very large. She said in her first interview that:

This system has approximately 50,000 students in the system. . .in terms of the kind of students that they serve, how they are going to best meet each of children needs. How they are going to communicate each child's need to their field commander which would be the principal and teachers' and district. Consider issues regarding finance, old buildings, low SES students, and single parents. There are issues of typical urban schools. In terms of finances and lack of resources, we have particular problems with facilities, the buildings are falling apart in some of the barrier safety. There are lower socio-economic families. . . Along with that comes all kinds of issues relative to attendance, and discipline, depending on where these children are coming from. . .what kind of morning they have had. That will play out in school all day.

Dr. Tugba describes the teachers, principal, and the district itself as the field commanders of the system. Issues in this district include finances, maintenance of two old buildings, low SES students, single parents, safety of the buildings, lack of resources, lack of communication between schools, district and community, attendance, and discipline problems. The buildings of this district are older and less convenient than those of suburban schools. Moreover, their students are mostly from a lower socio-economic

status. Students are dominantly African-Americans, followed by Hispanic, Asian, and other immigrant groups.

School Principal's Responsibilities

Although Dr. Tugba has eight areas of supervision--budgeting, staff development, student attendance, student's discipline, students achievement, special education, school improvement, and community relations--her responsibilities can be categorized under seven subtitles: curriculum responsibilities, school-parent relationship, hiring, supervision, school-community relations, fiscal responsibilities, and school improvement. These categories are based on information gathered from interviews with Dr. Tugba, the literature itself and district vacancy announcements.

Curriculum Responsibilities. Instructional leadership is a part of Dr. Tugba's area of responsibility. She said "I am supposed to be the instructional leader in the school" (IN: 50). By this remark, she means that she makes sure that every teacher follows what the curriculum guide says so that the students have their needs met as they move from one grade to the next grade. She has to deal with teachers in the classroom everyday in terms of writing specific objectives, evaluating whether or not they are doing what is necessary to reach those objectives, how teachers are being monitored, and how students are adjusting to school, and how teachers work together or not in, as far as teaming third grade, second grade, first grade, kindergarten teacher together into work teams. She observes teachers to see what they are going to do with those instructional issues everyday. In terms of curriculum, she said that she is supposed to be "a watch dog." She

is the one that makes sure that teachers are doing the right thing and moving the kids along.

School-Parent Relations. This responsibility is “a big piece of the puzzle” for Dr. Tugba. She says that until this year, there had not really been an active parent group for a few years at Kars Elementary because of the difficulties that they had with former administrators. However, Kars Elementary now has a core group of parents. This core group plans a newsletter every month and sends copies home with the children. They also have parent-teacher conferences. They have activities for parents when the school invites them to come to such programs as for the Christmas program, clean up day, and preparing school for spring.

They also have activities after school designed to bring the parents’ groups inside of the school. They also have a parent resource center stocked with information regarding the ways that parents can help their children, both in the school and at home. Dr. Tugba also deals with the individual parent issues. There are particular children who are having problems and need to talk to the teachers. Dr. Tugba acts as a facilitator, trying to get parents and teachers working together before the parents call her. She said that she sees herself a lot of times as the last line of the defense. In this regard, she tries to encourage teachers to continue calling and contacting their parents because those are the people that teachers need to be communicating with on a regular basis.

Hiring. Dr. Tugba finds hiring problematic because she said “in this system, sometimes schools have a surplus of teachers because their enrollment goes down. That

means that we added something eight grade, for example last year. So, I have to staff the building” (IN: 52). She is part of a school-based selection panel. When they need to hire teachers, the selection panel calls candidates to interview. Before they call candidates, the panel has a set list Dr. Tugba gives out a set list of the kinds of things that need to be looked at. This panel also has the task of asking all of the teacher applicants the same questions so they can get a comparison among the various candidates. In terms of hiring, Dr. Tugba hires teachers and instructional assistants with the team of teachers from the building. The only people she does not hire are the custodians, secretaries, and lunchroom personnel. They come from civil service.

Supervision Responsibilities. Dr. Tugba’s supervisory responsibilities range from walking past classrooms to teacher evaluations. She said that it is her obligation, as far as that goes, to make sure that teachers’ observations and evaluations are completed by the timeline every year. These observations and evaluations get her inside of the classrooms. She usually supervises students at lunchtime, breakfast time, and dismissal time. When she goes out to the lunchroom, the playground, or across the street, she is in constant motion. Dr. Tugba carries out such a busy and full set of activities because this is the way she claims she knows what is going on. She told me that “if I have to deal with children at that time, I do. If I have to deal with teachers, we would conference, one-on- one or I call or write them notes. Sometimes that varies in terms of supervising what they are doing” (IN: 53).

She also said that it is sometimes difficult to do that. When she is not able to supervise and understand what is going on, teachers come to her. She claims that she

does not really have to go to them a lot. They come to her with issues. In terms of how the building is running, she tries to make sure that the children are in their classes and that teachers are teaching. When anybody comes into the building during the day, they can tell that the process of education is going on and instruction is happening. She told me that in this particular district, each teacher should be observed only once a year. The school principal calls the teacher one-week ahead and tells them that they will be observed sometime that next week. After the observation, within five-working days, they should be informed about their performance. If their work is satisfactory, then there are no problems. But if it is not, then the school principal and teacher have a conference and work out together what should be done in order to make improvements. When the teacher applies the plan, the school principal follows that teacher's progress.

School-Community Relations. Dr. Tugba says that school-community relations are “a big piece for this district. Especially, it is really critical to get the community involved” (IN: 54). She reports that by attending Town Council meetings, she can speak with community members. She tries to get to know them, bringing them news about the school. She complains that within her school district, there is not much input from the community. Dr. Tugba claims that “it hasn't been there so much lately and in order for any organization, the school that works, they are going to have to have community support” (IN: 54). She has to make sure that she can try to bring them all on board and let them know that what they have here. Dr. Tugba claims that what the school need is some input and collaboration from the community in order to move ahead. The school staff wants to know that they are going to be supported by community members.

Fiscal Responsibilities. At the beginning of the year, Dr. Tugba is given a certain amount of money that is allocated for the school. Up until this year, the money had been allocated per budget line by the central office for each budgeting category. This year's budget was shifted to a student-based budget. The school will get money depending on their number of students. There are two pages of budget lines and Dr. Tugba must fill in how much she wants allocated for each budget line of the schools budget. It is the principal's responsibility to make sure that she/he operates all those budget lines in the black. In order to do so, the principal has been given a formula for allocating instructional supply money for teachers, repairs, maintenance, standard equipment, replacement equipment, and DH (Developmentally Handicapped) classes. She has to make sure that those areas do not overspending the money. This budgeting is particularly difficult for Dr. Tugba because she does not know the program or resource needs for next year. In other words, she is being asked by the shipping company to budget for crew and passenger needs without knowing where the ship is headed or what path it will follow.

School Improvement Responsibilities. Dr. Tugba said that part of the evaluation pieces for administrators is something called a "school improvement plan." It is entitled "the one plan" and it takes into consideration every aspect of the building: student achievement, student discipline, special education, parent involvement, and community relations. Faculty and staff work together on targets that they want to meet for the following year. Then they submit this improvement plan to the school district who approve it. For that following year, the school will follow the plan as outlined. The plan brings on board everybody in the school who is committed to that plan. Those are the

folks who address each one of the particular elements of the plan. The committees get together for input from the staff to work out what they think the improvements should be in those areas. Everybody has a stake in the plan and everybody buys into that plan. That plan drives the direction of school improvement for the following year.

Dr. Tugba's responsibilities can be schematized as the follows:

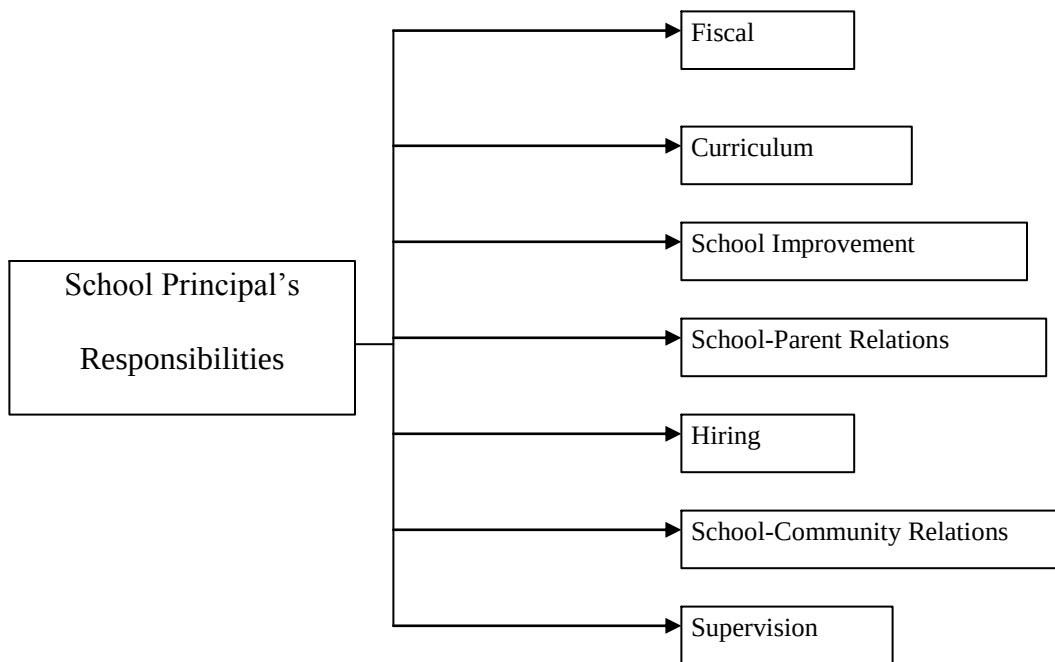


Figure 2. School principal's responsibilities

School principal's responsibilities include the areas fiscal responsibilities, hiring, curriculum, school improvement, school-parent relations, school-community relations, and supervision. Yet, it is not unproblematic for Dr. Tugba to ensure that each responsibility is handled appropriately on a daily basis. In the following section, Dr. Tugba's daily activities and daily problems will be mentioned.

Principal's Daily Activities

Dr. Tugba says that “if you let this job, it consumes you” (FN: 29). She claims that she never writes her schedule with pen; she uses a pencil because her schedule always changes. While her daily routine is never the same, some generalization can be made.

Dr. Tugba comes to the school in the morning before the children arrive. She begins her day by greeting people in the morning. After dropping her bag and coat in her room, she checks her mail, goes to the lunchroom to monitor students while they are having their breakfast, then supervises them until each student goes to his/her classroom. She describes a typical day in the school by saying:

A lot of times, then, we have the kids playing outside. We have buses coming in, so we all like, get out of the office. I will go outside. I'll go out and stand in the lunchroom where kids are having breakfast. Sometimes, I get over to the other building and kind of monitor the situation there, so I do a lot of monitoring.

Throughout the day, she would do teachers' observations and evaluations because she has a lot of those reports to write. She tries to do things that drive the instructional program. She also attends a lot of staff meetings. She regularly meets with her instructional leadership team, which drives the school and makes the policies within the school. She meets with a local-school decision-making committee on a regular basis. Furthermore, she has time set asides to meet with her instructional assistance, plan operator, lunchroom manager, and union representatives. She also schedules time during the day where, she spends a lot of time with discipline issues in referrals. She has team

meetings for intervention assessment teams, for those students who are at risk or have special education needs. In each of these cases, she has to deal with them.

In terms of writing individual education plans (IEP's), Dr. Tugba has meetings to determine whether the child should be tested for special services. In terms of her staff, Dr. Tugba spends a lot of time dealing with substitute teachers in the building. She mentioned in the first interview that "you have to keep your ear to the ground. Those folks, because you need a little bit more help than normal" (IN: 48). She also monitors the lunchroom during lunch. At the end of the day, she can have a lot of meetings. She is sometimes outside when the buses leave at the end of the day to supervise the children. Finally, Dr. Tugba deals with financing and budgeting issues, such as purchasing orders.

In sum, Dr. Tugba comes to school before the students, supervises them when they get off and get on the busses, as well as during the breakfast and lunch times. She attends meetings in or out of school, as well as observing and evaluating teachers. She spends a lot of time talking to parents, students, and teachers for different reasons, dealing with discipline issues at school, and handling all budgetary issues.

While Dr. Tugba carries out all of these activities, she also faces many problems that need to be handled. Those problems were described by Dr. Tugba and they were also observed by the researcher while shadowing her.

Daily Problems

The daily problems Dr. Tugba faces are not just related to the school, but also with a lot of outside issues as well. Some of the daily problems she faces include: children getting to school, behaving in school, and ultimately most important, learning

what they should be learning. Dr. Tugba also has to deal with staff problems or teachers who are not doing very well in the classroom. She also has to deal with the question of implementing developmental activities with students. There are also constant communication problems because of two separate buildings. Dr. Tugba told me during the interviewed that “those folks think that’s their school, these folks think that’s their school. In fact, they are both one school, so their problems are in terms of communicating a vision and cohesiveness in the entire school.” She has to communicate with parents to solve the problems. She also has conflicts with children that need to be resolved.

Dr. Tugba told me that lately her school is going to have to be changed in a lot of ways because of the redesign. So she also has to deal with such issues as staff, teachers, and students’ morale. She says that teachers are in denial and believe that the redesign is not really going to happen. Teachers are also afraid because this school is the only place that they’ve ever been and now they might be forced to go somewhere else. Accompanying this change is a range of emotional issues that have to be explored. At the same time, Dr. Tugba makes sure that teachers continue to teach their children rather than just checking out the system that is not working. Finally, Kars Elementary School has an emergency code that reduces the daily problems. The emergency code is related to discipline code and the way students should behave in the school and bus, as well as what they should do during a fire, tornado, or any kind of toxic situations.

Apparently Dr. Tugba’s daily problems are related to students, teachers, parents, the school’s redesign, curriculum, budgeting, and leadership. She has to deal with the emotional problems of students, teachers, and other staff members. Specifically, she has to contend with discipline problems, problematic parents, and teachers. She also has to

find substitute teachers. She has to deal with bus pick-up problems and communication problems between the two buildings. She has to be sure that instruction is going on, despite the uncertainty of the redesign. She has to deal with the maintenance of all things in the school and prepares the budget for next year, despite the fact that the type of school and the curriculum, number of students, and staff is not definite.

For facing all these things, she should be treated as a hero. For me, she is like a brave captain who steers her ship away from uncertain environmental conditions to the safety of harbor, only to deliver the ship to another captain. During this uncertain and windy voyage, she tries to keep her crews' morale high, caring for them, giving them as much information as she has herself, and trying to get more information to answer their questions. In this journey, the students can be considered passengers who are secure and never panicked because their parents are informed beforehand about what will happen to the ship.

Unanticipated Situations that an Urban Elementary School Principal Faces

Most of the unanticipated situations affecting Kars Elementary happened during this principal's tenure, but the results of the changes still affect the school. The current school principal has to handle each of these situations. Unanticipated situations were described by the principal and other four key informants. First, the school principal was interviewed to describe how she perceives these unanticipated situations. Then other key informants were interviewed. Neither of them asked me to define or describe an unanticipated situation. Only the intermediate building secretary asked me to give example.

Dr. Tugba perceived a lot of unanticipated situations as surprises. She also said that you can call some of these unanticipated situations as chaotic because “changes occur for change sake never works and it seems like this is a building that has gone through lots, lots, lots of change that cannot maintain stability or even get a sense of stability because of these changes” (IN: 57).

They also have some difficulties in carrying out the IEP. Dr. Tugba said that the model is to go to move the school to a more inclusive setting where special needs children spend a lot of time in regular classroom with support for these children coming from the outside. She said that “we have worked through a lot of these issues, thanks goodness, but that’s the very difficult thing. Things are unanticipated because you never know when a child walks into the building who has a special needs, what they will look like” (IN: 57-58).

In terms of other changes, again, she is new to the building. Last year, Kars Elementary had a brand new principal and a brand new assistant principal in the other building. This year, Dr. Tugba no longer has her assistant principal. This was a very difficult change for Dr. Tugba since she has no administrator in the second building across the street. This situation was a big unexpected change because by the end of July, she didn't have an assistant principal.

There were other changes within the school. There used to be a multi-age set-up. But this year is the first year that they are going to use a vertical teaming structure. She met a lot of resistance with that change because they were in a horizontal team structure, with each grade getting together with teachers who taught in the same grade. But now, all K, 1, 2, and 3rd grade teachers have to meet together and hate this change. She said it is

not easy for teachers to adapt changes. That's why she met with a lot of resistance because teachers were working out of their comfort zone.

Another unanticipated situation was the death of two students earlier in the year due to a fire. In that case, the whole school, and community was affected. Dr. Tugba interprets such changes as unanticipated and uncomfortable. She says that:

These changes. . .address what the strategic plan of the district is. So we are changing to get on line, what the district saying we need to do. But, nevertheless, these are still unanticipated changes many times that we faced that are very uncomfortable. (IN: 58-59)

Dr. Tugba also reported that the pattern she sees concerning unanticipated situations is that they create a lot of chaos, are unexpected, and unique. She claimed in the first interview that:

The only pattern that I can see, the only similarity I can see between any situations certainly is the creation of a lot of chaos--for one person or another. It can be different people at different time. Somebody is always going to be involved in an upheaval. And at that particular time, it is really critical for me to make sure that I lead through that process in the same way. The players may change, the situations may change, but the process doesn't change.

The way that Dr. Tugba deals with those unanticipated situations are understanding the pattern and move according to those patterns. She also explained during the first interview how she deals with those unanticipated situations that:

Any kind of unexpected situation, whether it is good or bad. . .is always pattern. I could find patterns regarding what kinds of unexpected situations come up

because [they are] always different when they happen. They happen anytime and anywhere. The only constant thing is that they're different all the time. But most of the time, I can say that those events are unexpected. They are not something that you can see coming sometimes. You can see things coming down road a bit. So when it happens, you are gonna say, 'well, I am not too surprised.' But in a school setting. . .it is definitely unexpected when things happen. They are totally unexpected. So they create a lot of upheaval and create a lot of chaos. Managing all this chaos is key.

When we analyze the history of the school, the unanticipated situations breakdown into three broad categories:

1. Unanticipated situations related to changing the school's program from a multi-age magnet school to a foreign language magnet school to finally foreign magnet to neighborhood. They also related to adding 7th and 8th grades and hearing impaired unit almost within one year and, without waiting for the results of this change, pushing the school into redesign again.
2. Unanticipated situations related to students, like death of the two students.
3. Unanticipated situations related to the turnover of principals and assistant principal.

The death of two students, the loss of the assistant principal, the constant turnover of principals, and other program changes happened in the past. Their effects will be covered, but right now, the school is in redesign process. So, redesign issue will be held in detail and examined as an unanticipated case situation.

Effects of Unanticipated Situations

The effects of unanticipated situations can be either positive or negative. In the following paragraphs, each unanticipated situation's positive and negative sides are mentioned.

Program Changes. After analyzing the history of the school, I concluded that there happened to be six major program changes within ten years. These programs changed covers changing the school into a multi-age magnet school, foreign-language magnet, neighborhood school, adding 7th and 8th grades, adding a hearing impaired unit, and finally the redesign to another program.

Dr. Tugba said that “any change is going to have the same effect on administration and on your staff, whether it is moving from a bilingual school to a neighborhood, or whatever” (IN: 98). When the history of the school is examined, it becomes evident that these unexpected changes affect many aspects of the school, such as the delivery of instruction, teachers morale, establishing relationship with parents, and the community.

Dr. Tugba told me that constant change take away any consistency from the delivery of instruction. And because the changes have been constant, there has been no base established from which to move forward. Each change process takes longer than one year. That leaves the school constantly being in a state of chaos. People don't know the direction of a program and what it is supposed to do in terms of instruction. In essence, they don't know anything. As a result, it has been very difficult for this particular school to maintain its cohesiveness, unity of purpose, mission, and goals because the students and staff come from so many different philosophies into a school that keeps changing.

Some teachers come, some stay, some go--you got a whole big mixture of different ways of looking at things that ultimately is very difficult to move together as one total unified organization.

The problem has been that the programs were changed without a proper historical evaluation. Evaluations are based on test records. Dr. Tugba said that:

The only kind of results that they could actually use would be from year to year.

There is no progression or consistency in long changes because they [District] keep changing the program. So they can't possibly base decision on historical data because there is none. The history changes every year. As far as giving enough time for a change, there is no way. There is no way that they can determine whether or not the change actually worked. They don't enough time because they make a change. (IN: 100)

Dr. Tugba complains that the district does not give a program long enough to see whether it is working or not. What they only count is the accountability. They say they need to make changes in education right now. Dr. Tugba reported in the second interview that she does not support the way the district decides upon change:

If you look at the way the changes come to the Kars, it is merely change for change's sake rather than any real examination of why the changes have been made, whether or not it's been implemented correctly, whether it is effective, you know, looking back and evaluating. It doesn't happen.

The negative side of an inclusion program at this school relates to the students. The children here all live in the neighborhood, except for the hearing impaired students. Those students come to this school from different parts of the city. So students are from

this region and have friends. Although it is not too bad that age group, those who are not from this regions are sometimes are not as friendly as others. Dr. Tugba said that:

Generally speaking, they get along, they get along pretty well. Certainly, there are times for fights. Ok, after all they are an expected thing. All of a sudden something blows up to a big fight. I mean, whether it is a problem on the playground, a problem in the classroom, in the hallway, on the bus, something that works. Those issues have to be dealt with too, which brings me to discipline. (IN: 59)

The negative effect actually depends on the change that's occurring. For example, for the discipline issue, the effects for children are not necessarily damaging. Dr. Tugba claims that:

That's it is only that child's betterment. OK, And I have had lots of children who have come back, they had to be suspended and something had to happen to them. They've come back and said, I am really glad that you did that. (IN: 59)

Difficulty of program changes has primarily a negative effect on the delivery of instruction. It affects the maintenance of cohesiveness, unity of purpose, mission, and goals.

Change is inevitable. The way the change occurs can make difference. At this particular school, changes were imposed from the district. Since it is not from the inside of the school, it creates turbulence and continuous disorder. This is opposite how it is suggested in chaos theory that organizations should be perceived as organic rather than mechanic and change should be self-organized. Organizations should have that freedom.

The Death of Two Students. The death of two hearing-impaired students was one of the unanticipated situations that affected both staff, students, parents, teachers in both buildings, as well as the community and the city. What happened after their death was a form of cohesiveness. It is a kind of positive effect that all key informants said really pulled together the school for the sake of the family. They had several food collections for the remaining members of the family. They also had a fundraiser. Under the supervision of the music teacher, the school took up a collection and even those outside of the community donated money. Primary building secretary Ms. Gulistan claimed during an interview that:

Through all these [things], the city has now started giving the light, of flashing lights for hearing-impaired families. They are free to them for smoke alarms since this tragedy happened. When it happened they had like a big poster in hall way and people signed their names and said what they wanted to say to the family. It was touching. The children would always go by and look at pictures of the boys, article about the fires. Fireman came and talked to the students.

The death of two students is very tragic for other students, teachers, parents, principal and community members. Although it is very disturbing, it has also had some positive effects by increasing unity between buildings, parents, teachers, and students. In addition, the Fire Department has equipped all the hearing-impaired students' homes with free flashing light smoke detectors. This case, in terms of its large effects, is a good example of one of the tenets of chaos theory called butterfly effects.

Effects of Losing an Assistant Principal. Losing an assistant principal caused administrative problem for Dr. Tuba. The first problem in losing the assistant principal

was that the assistant principal worked in a separate building. Logistically, it is a nightmare for Dr. Tugba because every time there is a situation, she had to run to the other building. She said that “I have to get across the street and then down to other building. It also, in my estimation, is an unacceptable situation because there is no administrator in that building” (IN: 93)

In terms of management, not having the assistant principal in another building creates problems in the school on a daily operational basis. Dr. Tugba said that teachers stop here and asks questions. They have problems, not huge problems, but they need answer to things. But it is impossible for the teacher in another building just to pop in for a couple of minutes in between classes, ask a question, get an answer, and go then back to class. They would have to call her on the phone. Because there are no phones in any of their rooms, they have to come to the students’ office and call her or have to come across the street. But the problem is that teachers don't want to do this elaborate procedure.

The other administrative problem resulting from the assistant principal’s loss is that Dr,. Tugba has to assume that person’s responsibilities. Her assistant principal handled discipline in another building, did teacher observations, monitored the playground, buses, took care of all those complaints, dealt with any special education issues in the building, dealt with any problems related to the physical plant, such as getting the custodian to clean up the masses, lock the doors, and put toilet paper in the bathrooms. Just the presence of the assistant principal in that building meant a lot in terms of children knowing that there was an authority figure present. Dr. Tugba said that “behavior was a lot better then, because they know that she was over there. So, the loss of the assistant principal now causes a lot of problems” (IN: 94).

Dr. Tugba's assistant principal also was responsible for helping to get the school's funding. She said that the assistant principal could get "in-kind resources from other folks that I didn't have time to do. She was test coordinator so she dealt with all of the testing, Stanford nine, Ohio proficiency, any testing" (IN: 94). In short, the assistant principal performed a lot of functions that helped make Dr. Tugba's life a little bit easier. Another big problem with this situation was the fact that the assistant principal was new last year. There is a whole business of establishing relationships among staff members them. If a new administrator come, the staff will experience whole relationship process all over again.

Frequently Changing School Principals. Ms. Ayse reported that one of the unexpected events was the change of administrators. Kars Elementary has had 5 principals in 8 years. She also reported during the interview that:

None of the leaders has really been able to work with the people long enough, closely enough to get things done. We have some very strong personalities in the school. So that, we need be lead to unsettle condition in the school. (IN: 83-84)

Dr. Tugba said that this rapid turnover of leaders was a very big change, something that is really frightening for her teaching staff. She said that teachers tend to come to her with many questions. When she came into this position, teachers in her estimation were at an operational doubt level. Either teachers stayed and hated her, or a lot of them have left to somewhere else to teach.

Dr Tugba said that "the biggest problem I had was the morale factor. Big morale factor. It took me probably the whole last year. The whole last year because there is also

a new assistant principle, last year was establishing and building relationships” (IN: 95). She said that she knew there was a problem. When she walked into the classroom to observe any classroom, teachers tend to become get very tense. Dr. Tugba claimed that:

I walked into observation and immediately the teacher would just tightened up and tense up and starts making excuses to me about, well, this was done because of this, this was done because of that (IN: 95)

Dr. Tugba decided that this is not how her relations should be with her staff. So she developed various strategies to establish a new relationship with staff.

In terms of operating the building, each school principal has his/her own style. Dr. Tugba told me that:

It is totally shifted, instead of operating the building on a daily basis. All the stuff, you have to do on a daily basis. It was now focused on how do I tell these people that I am this kind of person and this is how I do things, and have them believe me, and feel comfortable with that. (IN: 96)

How does the constant changing of principals impact the students? Dr. Tugba said that a lot of students know who she was. I was amazed when I and Dr. Tugba were walking to the primary building that the kindergarten students approached us and asked Dr. Tugba how she was. Even though she is not in their building, they still knew who she was. Children are a little more receptive to change than adults. For them, it is just a question of when they care in discipline issue, knowing this is the way she does that, this is the consequences that is going to happen.

In terms of parents, the relationship had to be reestablished because the former principal did things one way and she does things in another way. Parents are also

confused and they sometimes expect similar behavior from the new principal. This expectations causes conflict. So, each new principal each time should explain how she or he thinks, what is her/his philosophy, how things should work.

Dr. Tugba established personal relationship while she worked with parents, assuring them that she was trying to be helpful. She told them that they can always call her and she would do best she can to help them. Dr.Tugba thinks that despite her efforts to develop a strong parent-school relationship, a lot of parents still don't know that she is the principal. She said that:

I see that not as a difficulty in my part because I send them newsletters every month, that all kinds of open houses that for here, things speak, speak parents on the phone all the time, write notes back and forth all the times. (IN: 97)

Changing principal very often times creates stressful situations at school and it takes time to establish rapport. Teachers have low morale and if they think that they can't work with new principal, they leave the school. Since each principal has a different leadership style, it is difficult for both staff and for principal alike. It has also has an affect on parents because they have to build a rapport with new school principal, understanding the principal's philosophy and leading style. It also causes inconsistency in terms of the implication of changed programs.

Although the death of two students has negative effects on students, parents, teachers and community, it has also positive effects on the school, students, community and parents as they pulled together to deal with the crises. Discipline also has positive effects on students, making them understand their faults. On the other hand, losing the

assistant principal and frequently changing school principals often doesn't have any positive sides.

Changes that occurred at this school seems to be unanticipated and constant in the way that chaos theory indicates. But what the theory does not accept is that these change need to come from outside of the organization and not from inside the organization. In this respect, changes are not successful. It keeps the organization in constant turbulence. Another reason for the turbulence is what I call the "unfinished business of the Kars Elementary School." They have changes that, in fact, they really don't solve the problem. When the problem is not solved, it always affects the later life of the school. The third reason for turbulence is using only test results for change, not using historical data and holistic approach for evaluation. The final reason can also be related to the frequently changing school principals. It seems that all these principals did not stay long enough to implement and see the change result.

Redesign Case

When I began my research, I never intended to study the particular redesign issue. However, the force of the issue changed the direction of the research toward the redesign issue because right now the school is in redesign. The questions to consider include: what is redesign? When it started? How does it affect school principal, teachers, other staff, students, parents, and community members?

When I first met Dr. Tugba, she talked about the process of redesigning of the school. She is not happy with the process because she was going to expect that the school

would be improved rather than redesigned. She believes that new change don't bring anything to students. Only systems will change.

The redesign concept, the process and effect of redesign seem different in the mind of district, school, and the community. In the following sections, each of these issues will be presented to understand how and where they don't relate to each other.

What is the Redesign Concept That the District had in Mind?

Data presented related to redesign issue that the district had in mind was mostly based on documents. This particular school district reported that the traditional system of urban public education does not produce significantly better results in terms of test scores. They say that this particular public school district's five-year improvement plan, *Students first*, is based on the recognition that their entire organization must be redesigned if they are to substantial to improve student achievement. They believe that a deep change is necessary to ensure that their students can successfully compete in a global economy. This change is also necessary to their survival as a school district.

The School Assistance and Redesign Plan developed cooperatively by teacher representatives and administrators. This plan will be applied for low-achieving, and non-improving schools. The district believes that this is a greater freedom for improving schools. They claim in their Newsletter that:

We want to emphasize that redesign is not as an indictment of any staff at any school. Rather, it is recognition of the obvious: The status quo, for whatever reason, is not working in some schools, and a fresh start is required to raise student achievement. If we are successful in redesigning our lowest achieving

schools, the district as a whole will also gain, because the fastest way to improve our overall academic results is to move the schools at the bottom into higher performance levels.

In sum the benefit of the Assistance and Redesign Plan are also mentioned at the District Newsletter that:

1. A fresh start for low-achieving, non-improving schools
2. Fair and reasonable criteria for rating school achievement
3. An opportunity to design proactive local solutions for academically struggling schools
4. Assistance and expertise provided to schools to diagnose problems, improve effectiveness, and raise student achievement
5. Ability for high-achieving schools to gain more freedom and autonomy
6. Accountability in a decentralized system of schools.

The District developed criteria and categorized the school according to the test result. Kars Elementary school is one of five to go into redesign. This scenario has developed and asked schools to be ready to change. What I observed in the school is the effects of redesign within the school and some reflection of the redesign by parents and community.

Redesign at Kars Elementary School

At the beginning of the academic year, Kars Elementary School was designated as a redesign school. In this redesign process, teachers will be surplus, a new curriculum

will be determined and applied, a new principal will be hired, and this new principal will hire teachers who will be committed to the selected program.

When the school staff, including principal, heard that their school was entering in redesign, they were shocked. The change was totally unexpected to them. Although one of my key informants, Ms. Ayse, reported that the redesign wasn't totally unexpected to her because she knows the history of the school and there can be anything unexpected. She has the ability to see the pattern because of her past experience about school and unanticipated situations. She said that "it was not unanticipated for me personally because I have been here long enough to see what was happening. There was no way that children could be succeeding with all the changes, changes that personnel, every time" (IN: 82).

This redesign issue certainly created problems at school levels. The biggest problem is low teachers morale. Some of teachers have been here in this school almost 25-27 years. Now they have to find another school. Because of the uncertainty and the program's delay, the teachers didn't get new contract from a different school. They were hurt by such actions and they are still in denial. Students think that they are kicked out from their school. The principal tries to keep teachers morale high and maintain education standard. Dr. Tugba told me that that the district decided this redesign issue according to test scores. "It is not fair. We are trying to meet the basic need of the students here. If you don't meet the basic needs you can expect high scores from those kids" (FN: 23). She also said that when the district decided upon the redesign they didn't look at historical data of the school. They made change without evaluating previous changes.

Expectations of Community Members from the Redesign of the School

The district had several meetings with community members to get their support and input into the school's redesign. Dr. Tugba confesses that, in fact, the district doesn't have a good relation with the community. They didn't ask for their ideas first. Now the district wants their bright children to this school to increase the test result in order to show people the successfulness of the redesign. Secondly, the relationship with the community is hampered by the fact that next year the district will pay per student. The district will apply student-based budget. If the school increases the number of student, the school will get more money. What I noticed during all these meetings is that the administrators from district separate themselves from the community members. In one of the meetings, the Assistant Superintendent was sitting alone. Nobody preferred to sit next to her. At that meeting, one of the community members who sat next to me mentioned toward the Assistant Superintendent and commented "Don't you think that she is hostile." That moment was one of the most difficult times I had as a researcher because I didn't want to contaminate my data by offering my opinion. Although I had the same impression, I preferred not to mention my feelings, and just smiled back at her.

The following section will present the observations from the observation of the two town education meetings. Dr. Tugba didn't attend these two town education meetings concerning the redesign of the school. However, she attended Town Council meetings, gave all kind of information to the community members, answering their questions. Before these two meetings, Dr. Tugba also gave all kinds of information to the community leaders who asked for information. She assured these leaders that she was ready to provide any kind of help when it was needed. She told them that she didn't want

to attend the town education meetings because she didn't want to be seen as if she was lobbying for the next year's principalship. As a result, the community members could freely discuss and decide upon the new program and new principal. Those meetings acted as a kind of brain-storming session for the change.

FIRST MEETING

Kars Town Meeting.

Place: Kars Elementary School.

Participants. Teachers, community members, and Kars Elementary School parents were in attendance. Together, there were almost 50 people. The Assistant Superintendent also attended the meeting to answer the questions about the redesign. Although most of the Kars Elementary School students are African-American, only three African-American members represented that racial group among the various participants. As a result, these attending really did not.

First, the community leaders (one male and one female) passed out three handouts about attendance boundaries, a summary of last week's town meeting, and a brief informational overview about the school redesign. Then community leaders explained the purpose of each handout. The male community leader asked the rest of the audience what else might be added to this list and there were some suggestions. One of those attending suggested that "the school should enhance the community" and added to # 7 item, while another person suggested adding that the "physical environment should be healthy and safe" (FN: 39).

The community leader told those assembled that the Assistant Superintendent was coming to the meeting as an equal partner. We could ask question at the end of the meeting .The community member then asked each group to write down the way each item should be implemented. An hour and 15 minutes was given to complete this task. Before beginning the group work, some suggestions came from various community members. The President of the Kars Fund Foundation said that "we are not active as the

Kars community to buy educational equipment” (FN: 39-49). She said that the Fund had money in the bank, want to support the redesign of the school, and spend money towards its successful completion. Currently, the Kars Fund Foundation has \$15000 in the bank. One proposal related to character education had also been suggested. Still further suggestions were to institute clean up days, raising money, etc.

Although the community leaders told participants to ask questions to the Assistant Superintendent at the end of the meeting, community members asked the questions before. They raised the following issues:

Q. What is the timeline? How is the redesign going to be organized?

A. June close, staff will be removed, students and building remained, looked as broad framework. March 19th select principal and teachers.

Q. What will be the model? How do you find staff? Like in Montessori schools?

A. Overall framework model. Other models don't need specific certifications, only Montessori. So, we can find staff (FN: 40).

When this and other examples of discourse from the meeting were analyzed, the analysis revealed that the common style used by the Assistant Superintendent reflected his perceptions of the redesign and the community members. Answers were very short, direct, and mechanistic. The Assistant Superintendent was so sure that everything would happen on time and she can control everything and everybody. After these questions and answers the groups began to work on their tasks.

Group work. In the groups, we were instructed to talk about what we wanted to achieve through the broad goals of redesign. Do we need an intervention team? What would be

the real features of the redesign? What will a classroom look like where children learn actively? What activities can teachers do? Our group wrote down the following summary:

There should be effective communication among staff, students, teachers-- everybody, even building to building. There should be cooperation with parents. There should be teaming. Self-worth should be provided. Safety and traffic pattern should be kept; older students should help younger students. When the school is redesigned, the structure of the building, maintenance, especially physical structure of the building, should appeal to the people. It is also mentioned that there should be commitment to the program, there should be strong agreement on the program. There should be continuity of the program from pre-school to 8th grade. (FN: 40-41)

When the group discussed these same issues, the assistant superintendent was sitting alone at a table. Nobody chose to sit next to her or join her in a group.

The following suggestions were made by the different groups:

We should advertise the program, create a community involvement service program for older kids, teaching social skills to the kids, program for parents to develop child's self-esteem, create strong parent group requisite parent activities, community days. (FN: 41)

Community members then collected papers from each table. Then people began asking the following questions to the assistant superintendent.

Q. Is it true that you pay for performance and cut budget if student leave?

A. Not correct. Results of proficiency tests is not used for pay. It is hoax.

Q. First round of teacher transformation March 19th What sort of process would there be to get a principal?

A. Daisy White will select the principal with LSDMC. March 22nd is principal selection.

Q. What is LCDMC?

A. Local School Decision-Making Council, which is consisted of a minimum of 12 people--4 parent, 4 community members, 4 teaching staff.

Q. Do you recommend somebody?

A. Nobody.

After those questions, community member suggested that there would be a community survey within two weeks. So, community members will have chance to select the school program.

The Assistant Superintendent reminded the audience that they can select a school model after selecting a school principal. Following the Assistant Superintendent's speech, the following questions were asked by members of the audience:

Q. What are the names of the various school models?

A. Technology model, Expeditionary learning (experiential learning), and Constructivist school.

Q. Are there modelists?

A. Success for all.

The Assistant Superintendent said that the district is trying to select the least expensive model so that they could spend more for staff. The Assistant Superintendent told the

meeting that the timeline is not practical. Their plan is to select a program first, then select a principal and teachers.

One of the community members suggested that it is better to find a principal who has had experience with redesign so that that person can work with the community, apply the program, and attract the community back to the school. They needed to get the best principal. The male community leader told the meeting that they could never get an ideal principal. That would be an impossibility. Then, the following questions were asked by the community member to the assistant superintendent.

Q. Why didn't you choose existing program?

A. Failing own program.

Q. Is there any expert in the district?

A. This question was answered by another representative from the District officer presented the Assistant Superintendent is an expert. Actually in the media the Superintendent is presented as an expert to handle this redesign issue.

Q. How are you going to select the LSDMC?

A. 4 parents, 4 teaching staff, and 4 community members. They will be selected in a couple of weeks. The district will tell how they will be selected.

Communication between the Assistant Superintendent and community members was annoying to watch. She has a bossy attitude towards the community members. The aim of the meeting appeared to be not the brainstorming about the future model, but a short question and short answer session.

The male community leader further reminded people that there will be another meeting next week at 7:30 p.m. He suggested bringing people from another school where

a new plan has been implemented. In addition, the community leaders also asked the audience to e-mail him concerning new models for redesign. One may think that since this is an urban school, there may be few people who are going to have access to e-mail. But the people who attended the meeting were not the parents of the current students. These people in attendance send their children to private schools, such as Montessori, magnets, and Catholic schools. Hence, they had access to e-mail.

One of the teachers told the audience members that Kars Elementary could become a technology-based school because the existing system is suitable for this model. Kars received new computers and students began to learn various software applications as well as general instruction on how to use the computers. Students are getting better in using computer as an instructional tool. The teacher said that "I wanted to share this information with community members" (FN: 43). During the last part of the meeting, further questions were addressed to the Assistant Superintendent:

Q. What is the latest improvement in this school, like in attendance, drop out rates, etc.?

A. The Assistant Superintendent looked at the data and said that there was an improvement in attendance and a decrease in the drop out rates. Actually, there is improvement in stability.

Q. Which model fits this community the best?

A. The constructivist model. Bringing staff to commit to this model is the most important point.

SECOND MEETING

Place: Kars Elementary School

Participants. There were around 70 people in attendance, including the Superintendent, Assistant Superintendent, teachers, parents, and community members.

Like in the first meeting, the community leaders led the discussion. First, they distributed the minutes from the previous meeting, a comparison of the various programs under discussion for redesign, expectations of community members for this school, and a copy of a letter sent to the community members to get their input and ideas concerning the upcoming redesign. One of the community members then presented the test results showing that Kars Elementary is doing fine. The Superintendent said that he didn't have any idea about the existence of those results. Then, the participants asked the Superintendent various questions. The questions were similar to those raised at the first meeting because there had been no progress on the redesign since the first meeting. Those in charge still had not selected a program governing the redesign. As a result, no principal and teachers were as yet selected. At this meeting, the teachers asked questions concerning the redesign process because they wanted to learn if they had a chance to apply to position at Kars Elementary. If the district leaders would not begin redesign, the teachers would apply to other schools so that they would be assured a job for next school year. Everything was uncertain for them.

During this meeting, the school superintendent wanted the Assistant Superintendent to answer those questions. The Superintendent deferred to the Assistant Superintendent, who is the district's redesign expert.

During this meeting, the community leaders distributed a summary of the previous meetings ideas concerning redesign entitled “Future Features of the Kars Elementary School.” This summary was compiled by one of the community leaders. The asterisked points are from the District’s redesign plan. “Kars Elementary wants to be a place which has:

1. Classroom capacity for upto 700 K-8th grade students.
2. Classrooms that are configured to accommodated cluster-style teaching*
3. Classrooms that will serve multi-aged classes*
4. Its funding based on a per pupil costs across the district*
5. The district covering the program costs and training for staff in preparation of selected program before Fall 1999 (Documentation # 6).
6. The district allow the schools to operate for three years before reassessing the school’s performance (achievement scores, etc)”

What I observed from these two meetings is that the district doesn’t have a good working relationship with the community. During these meetings, both the Superintendents and Assistant Superintendents used “technical jargon,” such as LSDMC or experiential learning. Such jargon confused community members who either had to ask for explanations or needed to search the Internet for the term. Basically, this communication strategy echoes the very process of redesign itself. The redesign is a top-down rather than a bottom-up change. They even excluded the school staff and the principal from participating in this redesign.

Based on my observations, the community members wanted to have a Montessori program for their children. Most of the community members reported that they send their

children to Montessori schools. If this school becomes a Montessori, they would begin sending their children to this school. This observation was reinforced by Dr. Tugba, who told me that the community members wanted to have this school as a Montessori, but it was impossible with the current students body. You would have to start the students off from kindergarten in order for them to succeed. Also the school needs to have certified teachers for that program as well. Since the redesign was not intending to surplus the students, it was impossible to adopt this program for the redesign. However, the Superintendent and Assistant Superintendent tried to convince the community members that they should be pleased to send their children to this school. When I left the school, it was mid March, and a redesign program had not yet been selected for the coming year.

Effects of Redesign

The redesign of this school has both negative and positive effects. The reported negative effects relate to teachers, principal, staff, students, parents, and the larger community.

Negative Effects of Redesign

Dr. Tugba told me that this redesign issue brought up a lot of questions that nobody had thought through before. Now the leadership in the school is unclear about the school's future. The redesign wasn't planned well. For example, if the district wants to change this school, what will happen to the special education students? Last year, this school became inclusion school, added a hearing impaired unit. The room for the hearing impaired students has been equipped with flashlights, carpets, and covered doors with

soundproof materials. If they changed this school and send those hearing impaired students to a different school, the new school would have to equip classroom facilities for them. Needless to say, such a transition would cost extra money. Second, Kars Elementary has preschool children. The redesigned school will be a year-round school and at those school, there shouldn't be preschool.

Beside money, hearing impaired students, and preschoolers, teachers were also badly affected by this redesign. After working here for years, they are going to be forced to apply for jobs at different schools. The intermediate building secretary Ms. Gulistan finds this redesign issue disheartening. She said that:

A lot of staff have been here for years. I am not saying there should not be some changes, but I think there are many good things going on, too. These things are not being taken into consideration. These are might have been lower previously... but I don't think that the whole staff needs to suffer for those. (IN: 91)

Dr. Tugba claims that for a principal, school redesign is a nightmare. More specifically, from an administrative standpoint, redesign causes major concerns. In terms of changing programs at this school, it impacts every single thing that goes on in this building. The redesign impacts the preschool, the special education units, the delivery of instruction as well as the organizational structure of the school. In addition, the redesign greatly impacts the school's finances in terms of establishing a budget. Moreover, it impacts discipline because the choice of programs affects the type of discipline given to students. The selected program also impacts on the parents of the community because there are folks within the community that here that still don't know that Kars Elementary

is a neighborhood school. In sum, redesign impacts policy, curriculum, budget, facilities, and students. Dr. Tugba said that:

Every facet of the school is impacted greatly by the constant changes coming down the line. Teacher, staff members, administrators, children, parents, and community members do not have time to adjust to the change, understand the change, and then, kind of modify their behaviors or their way of thinking about a change before another change comes. So things are in a constant flux that leaves no consistency whatsoever. And so, again issues, nowadays is the accountability piece and test scores...we've been unable to do so because decisions have been made apart from the actual organization that impacts all kind of things at the school. Since they are unanticipated, nobody knows, even thought about until the change. (IN: 99)

In terms of the district, Dr.Tugba believes that they really have some big issues they need to consider and one of those issues would certainly be a transition. Totally redesigning a school will probably end up hiring a majority of teachers new to Kars Elementary School. The district has got to work on transitioning teachers, parents, community, and students into handling such a change.

Dr. Tugba feels that unanticipated situations could be very damaging, depending on how they are handled. She said that:

Some of the teachers have been here [since they began teaching]; they haven't taught anywhere else. For [some of them] them, like 25 years. Some of them have been here for 27 years. So, a principal should keep and maintain their morale, and

certainly help them through the change process because it is very painful for teachers. (IN: 64)

Dr. Tugba told me that if something isn't done on her part, some kind of communication, it would be very damaging for teachers. They would leave the school or hate the school, the district, the school principal, and everybody else.

Teachers have been constantly asking questions about the redesign. These questions include: How can teachers apply to other schools or reapply to this school? Are there any redesign sample schools within the city that they could use as a model of what will happen? What does the central office say about redesign and job application? Teachers were worried about their next year's positions. Part of that worry comes from the fact that the central office doesn't have a clue as to what will happen in this school the next year. For next year, they only have offered four lead teachers who will select other teachers, along with a new principal. Dr. Tugba gave as much information as possible to the teachers so as to remove the uncertainty.

Mr. Ahmet said that this is his first year and he was really looking forward to working with Dr. Tugba over the next few years. Unfortunately, the staff surplusing makes this option an impossibility. As a result, he has to start over again next year with a new principal, a new school, and a new staff.

Dr. Tugba told me that the staff still feels resistance to the redesign. Months after the announcement, some of these teachers still cannot handle the fact that the school is faced with a redesign. They are still in denial. They are making efforts to change the minds of the committee because the teachers are deeply convinced that they really are wonderful teachers. The problems of Kars Elementary do not originate with them but

reside with others. Dr. Tugba said that it really bothers her that these teachers don't sleep at night worrying about the redesign. They are upset and cranky. They are not handling the change very well because they don't understand that change is a part of life.

Another affected group for the redesign is the students. Dr. Tugba explained how they were affected. She said that they've attended Kars Elementary from kindergarten. They have seen the same teachers here for five or six years. Now suddenly they have to get used to a whole school of new teachers. Although children adapt easily, having all new teachers can be a shock for them.

The redesign impacts the community as well. Before the redesign decision, the district didn't get any input from the community into what the school should do for the new design of the school and continue not to listen to them. Dr. Tugba said that is:

Going to be probably the most damaging thing, they could ever do because the community would totally check out, and say we are not interested. We gave you our input and you didn't listen to us. So we are not going to have anything to do with you. (IN: 65)

When I left the school, community members still were having meetings to find an appropriate program for that school. They had had a meeting both with the Assistant Superintendent and Superintendent. Community members asked questions of each of these officials, as well as sending each family in that town a questionnaire to determine the needs of a new school program (see page 139, second meeting).

Dr. Tugba and other key informants all reported that the redesign has a series of negative effects on teachers, students, parents, the community, and the principal. Although the extent of the damage depends in part on how it is handled, the damage still

will cause harm. According to Dr. Tugba, the harm is greatest for the teachers. Since the decision, the teachers are sad, hurt, disappointed, cranky, and shocked. They have low morale and some are still in denial over the change. Essentially, they are having a difficult time understanding. Redesign is also a nightmare for the school principal. It affected each unit of the school: the special education unit, the preschool, delivery of instruction, organization of the school structure, school policy, discipline, and curriculum.

Positive Effects of Redesign

It is claimed that redesign can also has some positive effects, like having a new program that everybody is committed toward seeing through. Dr. Tugba said that:

In terms of this redesign, there could be very positive things to come out of this.

In regards to getting the organization together as an organization...everyone has the same focus, the same philosophy, and same way of getting down the road...It has been very difficult for this particular school to maintain cohesiveness, unity of purpose, mission, and goals because they come from so many different philosophies into a school that keeps changing. Some come, some stay, some go--you got a whole big mixture of different ways of looking at things that ultimately makes it very difficult to make them to move together as one total unified organization. (IN: 67-68)

The positive effect of the redesign can be is that it gets the organization together to focus on the committed program. A side benefit could be a cohesiveness among the staff in terms of unity of purposes, mission, and goals for the new program.

Dr. Tugba's Responses Toward Redesign

Key informants claim that before the redesign, there wasn't really cohesiveness between the two buildings. One building seems to be separate, from the other building. This redesign bound everybody together in each building. According to Mr. Ahmet, Dr. Tugba seems very calm about the issue of redesign. She is responding to the staff, parents, and the community in town meeting. She didn't seem to be anxious or turn hysterical when talking to the community. Mr. Ahmet said that they didn't understand the situation and it is nice of her to answer to particular questions. For Mr. Ahmet, Dr. Tugba seems to be holding the staff together at this point, understanding why different incidents happened and what they mean to the school. He thinks that Dr. Tugba was well-organized and kind. Dr. Tugba almost took everybody by the hand and said "Hey, we've got to get through this. We still have the school year to complete, start thinking about kids now." To him, although Dr. Tugba handles this situation very well and makes the change little less painful, it is still very difficult for teachers.

Ms. Gulistan reported that Dr. Tugba was surprisingly liked by the other staff members. She thinks that the redesign severely shocked everybody. None really accepted it fully. Ms. Ayse told me the similar things that the situation is being so difficult since, Kars has been announced as a school that is in redesign. Ms. Ayse saw Dr. Tugba's role as trying to get people to focus on children--their current task--and to do the best job that they can with those children.

Dr. Tugba has a decided attitude towards unanticipated situations. She embraces the idea that anything can happen. Her motto is 'expect the unexpected.' She repeated to me that "anytime something unexpected happens anymore." (IN: 62). First she

determines what the problem is and tries to understand what is going on. It is not a question of that it won't happen, it is a question of what exactly is the nature of the unanticipated situation? Is it a discipline problem? Is it an attendance problem? Is it a police matter? Is it a parent thing? Getting basic information is where she begins. After understanding the situation, she initiates a course of action to solve the problem. In order to solve any problem, she first gives information to the people involved. Then she immediately initiates the problem-solving process because she told me that she knows other problems are waiting to happen.

Dr. Tugba's Ten Commandments

Dr. Tugba has developed a kind of behavior pattern which she employs when dealing with unanticipated situations. Ultimately, she thinks principals really have to have a good sense of humor about themselves. She doesn't get upset. If she gets angry, she deals with her anger after solving the problem.

She said that she always tries to maintain a sense of humor, which she believes is absolutely critical because she believes that "this kind of position drives you absolutely out of your mind" (IN: 62). Additionally, she doesn't ever take things personally because she believes that if you take anything personally, it will lead to insanity.

Dr. Tugba defines herself as a very straightforward person. So she first determines the nature of the problem. Then she determines the people responsible for all these things and asks them why they are acting in a certain way. Dr. Tugba uses the same approach with everyone she meet, whether they are children, teachers, or parents. She said that when she aske these questions, she is never nasty. She is direct person. She says that she

is not one to beat around the bush because she meets problems head on; they will not go away if she does not take this approach. She said that when someone is faced with many problems, they could do three things: ignore the problem, not deal with it, or solve them. She said that:

You can divert attention away from them or you can choose not to deal with them at all. You can choose to say something that is not necessarily the truth. And you can bet if you handle those situations than any of those three previous ways, that is gonna come right back and catch you. You spend more time that way that you ever do starting clean up messes. So you better deal with it right away. The right way or clean up messes for the rest of your career. (IN: 63)

She prefers to solve problems immediately, if possible. When she starts a new day, she says that “you move alone and it is like new day, you start again” (IN: 63). Mr. Ahmet claims that Dr. Tugba:

...doesn't appear to get cloistered or frustrated with situations. She goes head to head with them, goes with what is there and takes care of business. Dr. Tugba seems to be very business-task oriented, but she is also a people person. (IN: 78-79)

Mr. Ahmet thinks that being organized is probably part of Dr. Tugba's personality. She is no nonsense kind of person. She takes on tasks, analyzes them, and determines what needs to happen. Mr. Ahmet reported to me that Dr. Tugba says “we are taking care of this, now the next step is.” He has observed Dr. Tugba's ability to have multiple tasks going on at the same time. She can quickly summarize a situation and get

feedback very quickly, analyzing and synthesizing situations, and moving on with them. Mr. Ahmet thinks that this ability is part of Dr. Tugba's personality.

Ms. Ayse's first impression of Dr. Tugba concerns her honesty and openness. She said that "to me, looking back at principals, I think, she is strong to be as open and as honest about what is to be expected" (IN: 84). She also thinks that Dr. Tugba also gives teachers information as soon as she receives it. She thinks that it has been very difficult for her as principal. She said that:

It had to be difficult all the changes coming into the situation... She was trying to really find out what is really happening at the school: who are the personalities, what are the strengths and weakness of the staff, that kind of. She spent sometime doing that, but she was also doing things the way that she was required to do--As a principal and as she did those things. (IN:84)

In sum, Dr. Tugba has a behavior pattern that is relating to facing unanticipated situations. First of all, she is a very open and honest principal. She never takes anything personally. She keeps her cool and has a sense of humor. Although she intends to do everything immediately. When she gets angry, she prefers to solve the problem later on. She also focuses on the problem, not the people. Her behavior specifically takes the following steps: (1) Try to understand what the situation is without panicking, and describe the situation, (2) Determine who are involved, asking them what happened so as to get information, (3) Diagnose the problem, (4) Decide how to deal with it, (5) Give information to the people affected by the situations, (6) Analyze the process of what she has been doing, (7) Collect more information about the situation, (8) Synthesize that information, (9) Decide to do what is needed right there, (10) Start a new day fresh.

Dr. Tugba's linear behavior pattern to deal with unanticipated situations can be schematized as follows:

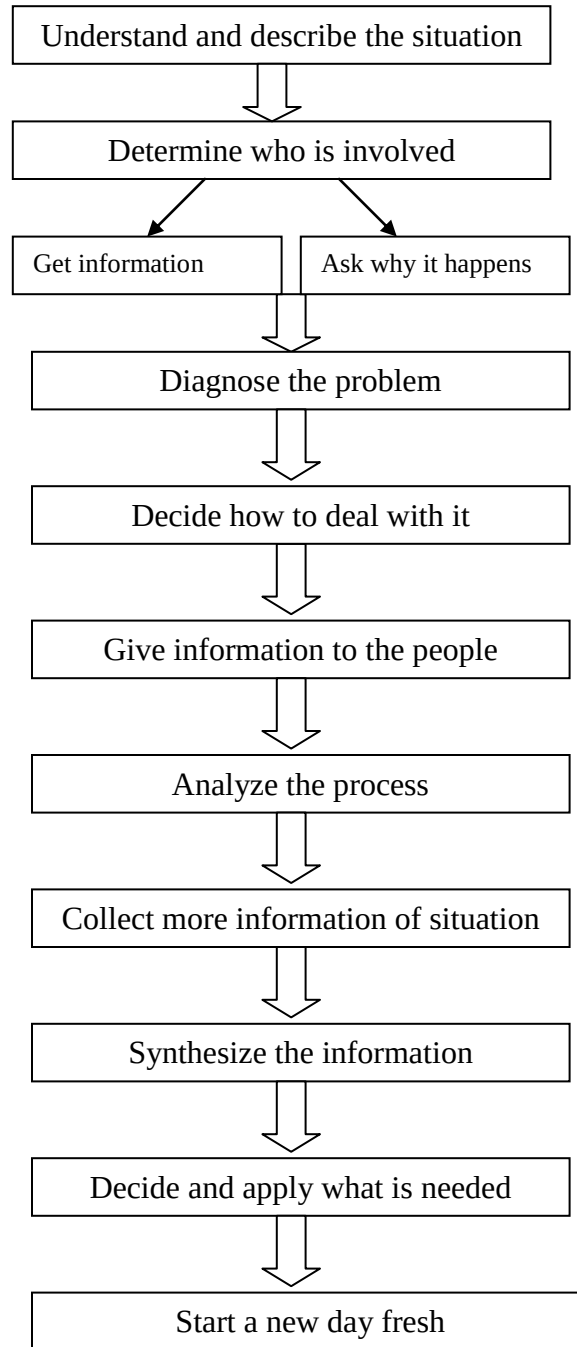


Figure 3. Dr. Tugba's linear behavior pattern for dealing with unanticipated situations

Principal's Strategies Handling Unanticipated Situations

Dr. Tugba believes that any kind of theoretical course--learning from experience, having a good network with colleagues and asking them for help, understanding the school's culture, knowing about chaos, and being aware of where you are and what the demand of your job--can help principals deal with unanticipated situations. Dr. Tugba also believes that personality types also help principals handle unanticipated situations.

Administrative Classes. Dr. Tugba says that principals have to take all kinds of administrative classes, which give them an analytical edge for discussing and dealing with unanticipated situations.

Reflective Learning. According to Tugba, another way of dealing with unanticipated situations is through learning from everyday situations. She believes that "the only way that a principal is going to learn is to be totally immersed in the everyday situations of the school. And that means also making mistakes and doing things the wrong way" (IN: 69-70).

Having a Networks. In addition to field experience, the other way a principal can gain experience in unanticipated situations is by having a network. She thinks that it is critical because she can call her friends, who have been principals for a couple of years before her, to consult them about a situation. She wants to be able to make sure that there are other people out there because no unexpected situations is unique that it is a pattern, in that everybody has to deal with these situations. There are other people who have dealt with or have been dealing with similar situations. She said that what makes this job so

exciting is that “you never know what is coming and how you deal with it. It is going to be again a matter of practice, just doing it” (IN: 70).

Knowing Your Personality Type. She believes that personality type is very important, too. Dr. Tugba thinks that “a principal has to be the kind of a person who bends but not break, who will not take him or herself so seriously that he or she drives himself/herself so crazy when situations happen” (IN: 70).

Understanding the Chaos. Dr. Tugba also claims that a principal has to be familiar with chaos, has to work with chaos, as well as expecting it. Some principals have a difficult time dealing with chaos because they try to control everything.

Understanding the Culture. Dr. Tugba suggests for principals to take classes concerning cultural diversity. She says that “you get out there and you can't set yourself one particular part of the world all the time” (IN: 70-71). She claims that as a principal:

You have to get out there, get this breath of knowledge and depth of the knowledge. You can't necessarily get it at a university level or reading a book or just talk to someone. You have to experience all these kinds of things because that'll give you more well-rounded perspective of how to deal with things.

(IN: 71)

She believes that in order to be an effective principal, that person has to have these experiences. She claims that:

You can be an effective principal driving yourself crazy at the same time, giving yourself all sorts of heart attacks, strokes, stress syndromes. But again, a principal has to come into this position with his eyes wide open, knowing that unexpected

things are coming. And the way that person is grounded will be enough to deal with all these, not to let the situations get to them. (IN: 71)

Understanding What You Stand For. The final suggestion is that principals have to have a pretty good sense of who they are as a person. Dr. Tugba said that “it comes back to experience, it comes back to the fact, your upbringing, your history, about where you have been and where you are now. It has to do with the kind of spiritual connection that you have, and all these things work together” (IN: 71). For Dr. Tugba, principals should determine ahead of time the way they are going to take all of the heat from the unanticipated situations. She claims that:

If you're in a position where you've taken a lot of heat before, you can deal with conflict a lot more easily. If not, it would be painful at a time. And it is for me. You would be successful in another time that drives you up the wall, but you've got all kinds of education from a whole lot of different places. (IN: 71)

Dr. Tugba has applied these six strategies: (1) Taking any kind of administrative classes, (2) Learning from the experience, (3) Having a good network and get help from colleagues, (4) Knowing your personality type, (5) Understanding chaos, (6) Understanding culture, and (7) understanding what you stand for. She suggests that other urban school principals apply these strategies in order to handle unanticipated situations.

Teaching Chaos is Critical

Dr. Tugba believes that teaching chaos theory is critical. In addition, she thinks that prospective principals should understand what is going to happen in real life. She said that:

If you as an administrator go strictly by the book and you are so rigid that you would not bend and some people think to give up, here is the rule. If I give up or I compromise those roles, then I compromise the whole system. (IN: 104)

She said that principals who try to control everything feel that they have to have things controlled; they are very controlling people. But they should be reminded that the more controlling you are, the harder things are that you have to deal with. That's why teaching chaos is critical in order to provide a principal more flexibility.

Dr. Tugba also believes that for aspiring administrators to understand unanticipated situations, both in a practical as well as theoretical sense, chaos theory, should have experiences from the principal's office. She notes that without this experience, principals will:

have breakdowns. They will be sick, they would be absent all the time. There will have headaches--stress and tension headaches--all the time. Because they refuse to relinquish what they think is control, they think that they can control situations. But they really don't...So, not only do they need that in the classroom, they need to get out there and be administrator for a week. Now, you sit down behind my desk and you are it. Let them alone, but they sit behind this desk, and they deal with the situations that I just sit back and deal with situations. (IN: 105)

Dr. Tugba sees the best teacher as actual experience. Those are the kinds of things that you don't ever forget because you can get yourself in a real spot and you never forget. The spot never forget how you handle to get out that.

Dr. Tugba sees that it is critical teaching chaos theory to prospective principals. She also suggests that prospective principals should get experience before becoming a principal in a real life situation.

Dr. Tugba's Understanding of Chaos and Its Implications

Dr. Tugba claimed that understanding chaos theory is not only useful for dealing with unanticipated situations, but also she applies chaos theory to many other kinds of administrative processes, such as decision-making and problem-solving.

Dr. Tugba learned about Margret Wheatley's views on chaos theory when she was doing her coursework for her doctorate. Actually, her understanding of Wheatley's definition of chaos theory came much earlier. She said on a very simplistic basis she learned about it at a point when she needed to "understand that changes, changes, changes, coming, coming. And that there is a, but yet there is a balance. And there is an opposite and every reaction opposite equal react on" (IN: 102).

Dr. Tugba reported that when you do not apply science to every situation of life that gives you an understanding of chaos. In addition, she said that "as you get older and get into a job field and then particularly into education, from the first day you step into a class as a teacher. You understand chaos theory; even if you might not actually be able to define it. You constantly deal with it because there are constant changes" (IN: 102).

Dr. Tugba gave snow days as an example of an application of chaos theory. She said that those "snow days would throw your weekly plan totally away. And then, if you have another snow day, your weekly plan buckles further. And there is continuity because we want to hear from two or three days or whatever now there is a day off

because of the vacation day” (IN: 102-103). Another example relates to the classroom. She says that “if children are absent, they're here one day and then absent or, you plan on doing a presentation with you kids and two of them don't show up. Now, what do you do? So, there is constant changes everyday in a classroom” (IN: 107). Dr. Tugba also explained how an administrator decides on chaotic situations. In the following section, the components will be explained with a diagram and a corresponding metaphors.

Turning the Ship’s Rudder at the Right Time and in the Right Way During Chaotic Situations

The decision-making process is not a step-by-step process; rather it involves a nonlinear circular decision- making process involved in either one or more of the components articulated in the diagram. In Dr. Tugba’s words, these components include:

1. Realize the impact of change. A school principal should realize that changes do not exist only in the classroom. Changes occur throughout the entire organization and it impacts itself everywhere else.

2. Understand the change. A principal should understand that changes happen; it is inevitable. Moreover, understanding change is not enough. A principal should understand that the world revolves around change.

3. Have a plan. A school principal should have a plan to deal with change.

4. Determine his/her function. A school principal should determine what is his/her function when these changes happen. Sometimes chaotic situations have a process, while other times they can't have a process.

5. Assimilate the information. If it is a new situation, then a school principal should start assimilating information. Dr. Tugba claims that “it is like well, when this happens this is what I did, here are my options. This is what I can do, this is what would happen if I do option one, two, or three” (IN: 103).

6. Think fast. A school principal should think fast. They have to do what they needed to do within the course of five minutes.

7. Immerse yourself into the workings of the organizations. A school principal should constantly immerse himself/herself in the organization, wherever that could be. They should immerse themselves in all of the changes and the chaos that happens around them.

8. Maintain your center. A school principal should maintain her/his center. because if they don't, they will just get lost all the changes. They must maintain their center and then, they should look at the options. The change, how it impacts the school, and then come to some decision.

The last component “maintain your center,” is followed by a linear decision-making process that consists of examining the options, looking at the change and its impact, and then making a decision. In the literature on decision-making, there are usually linear steps that decision-makers should follow. In this case, there are interlocking components. Each component can be found in another process, like thinking fast. Decision-makers should be fast thinker in each stage of those components.

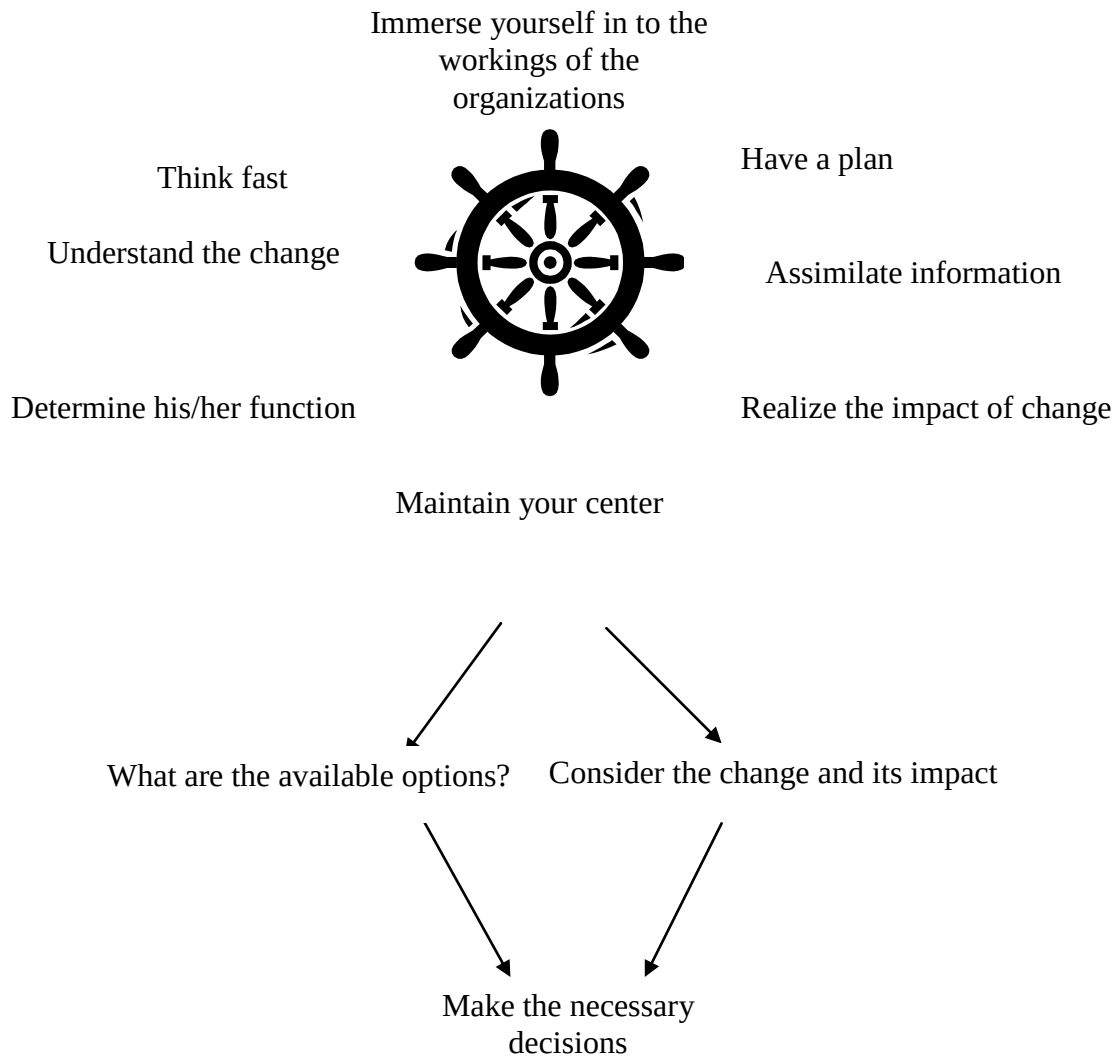


Figure 4. Components of principal's decision-making process in a chaotic situation

Those components of the decision-making process for chaotic situations can be described as the rudder of a ship. If you change it the right way and at the right time, you will be fine on your journey.

How Well does Chaos Theory Help Practice?

Dr. Tugba also explained the benefit of understanding chaos in dealing with situations. She said that her “biggest understanding” of chaos theory is the simple maxim: “change is life.” She states that:

If you keep trying to prevent change, you would be totally consumed by it and it would destroy you...because it renders you totally incapable of dealing with it. So you have to accept chaos and that's the way it is. And understanding this gives you a much better handle on how to deal with it. (IN: 104)

She gave teachers the example that because of the redesign, they have been having a difficulty handling situations. They are not handling the change very well because they don't understand that change is a part of life.

Dr. Tugba's claims make it clear that understanding chaos helps her deal with unpredictable situations more effectively.

Summary

In this section, the urban elementary school principal's responsibilities, daily activities, and problems and were first determined and presented. Second, three categories of unanticipated situations (i.e., program changes, the death of two students, and administrative issues happening at the school) were identified. Specifically, the redesign issue presents major unanticipated situation that this school has to face. Third, the reaction of an urban elementary school principal towards unanticipated situations and suggestions for other school principals were

mentioned. Finally, the chapter discussed the principal's understanding of chaos theory. Specifically, this section covered how she applied theory into practice.

CHAPTER V

Summary, Findings and Discussion, Conclusions, and Implications

Summary

This study was conducted to investigate what kinds of unanticipated situations occurred in an urban elementary school and how an urban elementary school principal perceives and responds to those unanticipated situations. It explores what kinds of strategies she uses and gives suggestions to other school principals who face similar unanticipated situations. Finally, this study touches on how chaos theory or the tenets of chaos theory fit with the data, and how well chaos theory can help the school principal in her daily activities, as well as handling the unanticipated situations.

This study is an individual qualitative case study. It is assumed that a qualitative study would provide more understanding about the urban education environment, unanticipated situations, handling of them, and indicators of chaos theory. The data were collected basically from an urban elementary school principal. One female and one male teacher and two secretaries were also participated in this study as key informants. The selection of the school principal and other key informants was based on purposeful sampling. The school principal and other key informants were asked individually to participate to this study. The school principal and key informants were also given a consent form describing the purpose of the research in detail. They were reminded that they might refuse to participate or discontinue at any time without any questions. In addition, they were also assured that their confidentiality would be kept and their real names nor that of the school would be used.

The data were collected at the end of autumn and at the beginning of winter, 1999. The primary sources of data were semi-structured interviews, structured interviews, archival records, documentation, and participant observation. Collected data were analyzed by using the technique of content analysis. Metaphors were used to analyze and present the data. The selected metaphors were attributed to the situations by the researcher communicating with her co-advisor.

In this study, triangulation was supported by using source and method triangulation. The data sources collected with different techniques were compared and contrasted. Field notes, interviews transcripts, archival records, and documents were used in the triangulation process.

It was found that the school principal's daily activities include supervising teachers and students, observing and evaluating teachers, attending meetings, dealing with discipline issues, talking to students, parents, and teachers, and handling budgetary issues. While she carried out all these activities, she faced some daily problems related to students, teachers, parents, redesigning of the school, budgeting, bus problems, discipline, and leading the school.

It was also found that the school principal faced a lot of unanticipated situations that can be categorized under three subtopics: program changes, unexpected death of students, and administrative changes. When the school principal dealt with those unanticipated situations, she developed some behavior patterns and strategies, such as taking administrative classes, learning from practice, networking, understanding culture and chaos, being aware of what job expects from principals, and a having flexible personality.

Although the school principal suggests all these strategies to other school principals, she especially stresses the importance of teaching chaos theory to the prospective principals, as well as having them learn from real situations. Moreover, the existence of unanticipated situations, uncertainty, and constant changes throughout the history of the school can be indicators of chaos theory. In addition, feedback mechanism, turbulence, the butterfly effect, and self-similarity and self-organization have all been observed from the data as tenets of chaos theory. Finally, the school principal's chaos understanding and its implications were mentioned. She claimed that her understanding of chaos theory helped her deal with unanticipated situations effectively, as well as other situations.

Findings and Discussion

Not only is each individual unique, but also each school is unique. Each school has its own culture, pace, climate, problems, and relations with its environment. In that respect, Kars Elementary School, which is an urban school, is like a human being. Although it has unique characteristics, it has also some common urban school characteristics. The students are from low socio-economic status families, their achievement scores are low, they are from an unsupportive environment, and they are dominantly African-American (87.45%), followed by white (8.24), multi-racial (2.55 %), Asian (1.18 %), and Hispanic (0.59 %) (1998 statistics). The building is very old and it is not as convenient as other suburban schools.

Kars Elementary School is similar to Englert (1993), Wolf (1978), and Maeroff's (1987) description of urban schools. The students' test results are low, there are low

expectations, and an unsupportive environment. Englert also discusses the positive side of an urban school system. For Englert, these schools are mostly the pioneers of educational reforms and have implemented numerous models of successful programs. However, these changes also cause turbulence, uncertainty, and chaos at this school. Instead of solving the problems, these new changes have created “unfinished business” which stays on the school’s agenda. Because of continuous changes in Kars Elementary School, “a life in a hurricane” can be a good metaphor to describe the school’s life. All the changes have been imposed from the central office.

Kars Elementary School is in constant change, which is along the lines of chaos theory. What is wrong here is that changes were imposed by the central office. The school staff is excluded from giving input concerning these changes. Wheatley was interviewed by Steinberger (1995) about change. She claims that “the basic idea is that all living things have the capacity to change to maintain themselves. We, as living organisms and as the part of a living system, will make profound changes if we feel they are needed” (p. 19). There are many reasons why those programs haven’t been successful until now. They include lack of continuity of the program, frequently changing principals, lack of evaluations and feedback, and using only test results, rather than historical data, as an argument for change.

In the following sections, the findings concerning each of these problems will be presented.

Research Questions

The data from interviews, observations, documentation, and archival records were used to answer the different research questions. The confidentiality of the participants, school, and the district was protected by inserting generic terms for specific names in the transcripts.

Research Question 1

The first research question--“What are the responsibilities, daily activities, and problems of an urban elementary school principal?”--was answered through interviews, documentation, and observation data. The school principal was asked to describe her daily activities during the first interview. What she said during the interviews was also supported throughout the three months observations period.

The urban school principal's daily activities, responsibilities, and problems are similar to the elementary school principal's activities as put forth in the literature. Elementary school principals' responsibilities are summarized by Holzman (1992), Cooper (1989), Vann (1989), Meadows (1990), and Hager & Scarr (1983). Dr. Tugba mentioned in an interview that while carrying out her responsibilities, she faced a lot of daily problems related to parents, students, teachers, the redesign of the school, the application of the curriculum, bus services, discipline, and administration. Starratt (1990) explains that the essence of a school principals' routine is "reacting to one crises after another" (p.13). Hearne (1991) explains the school principals' daily activities is dealing with continual surprises.

Dr. Tugba's administrative style is rooted in coping with problems on a daily basis. She is a "brave captain" who safely runs her ship through an uncertain and turbulent environment to the harbor. For example, although Dr. Tugba gave all kinds of information needed by the community members concerning the school, she didn't attend any of the community meetings because she didn't want to give anyone the impression that she was lobbying for the next principalship job. She didn't want to influence any community members for that position, but rather to assist the district in finding an appropriate principal. This stance Dr. Tugba called "political suicide." Bogotch, Miron, & Murray (1998) express the idea that urban school leaders need to capture the positive images, values, discourse, and actions associates with teaching and learning from inside the day-to-day situations of urban participants. Even though these values have not always been noticed or appreciated.

On the other hand, Sanders (1999) claims that "the urban school leader must understand the importance of political interactions and hold accountable for their role and involvement in helping urban schools become successful" (p. 199). Even so, urban school leaders should avoid all political interactions that harm urban children. Beaumont (1997) also mentions the importance of political interaction and says that urban leaders should be aware of the political and professional dynamics of the urban school bureaucracy, as well as having technical skills. Urban school principals serve students who are coming from disadvantaged families. So principals are expected to demonstrate more moral leadership.

Research Question 2

The second research question asked by this research was “What kind of unanticipated situations does an urban elementary school principal face?” Data from the interviews with school principal, and other four key informants produced three categories of unanticipated situations which happened at this school. These categories relate to program changes, students, and administrative issues.

The school principal found those situations surprising and chaotic. She claimed that the pattern she saw for those unanticipated situations created chaos; they were unexpected and unique. Unanticipated situations have both a positive and a negative side. Difficulties involved in program changes primarily have a negative effect on delivery of instruction. Then it affects the principal’s ability to maintain cohesiveness, unity of purpose, mission, and goals.

The death of two students was very a tragic event for students, teachers, parents, the principal, and community members. Although it was a tragedy, it also had some positive effects by creating unity among parents, teachers, and students, and the two buildings. In addition, the fire department equipped all hearing-impaired students’ homes with free flashing smoke detectors in case of a fire. The flashing light would alert other hearing impaired students to the eventuality a fire.

The constant turnover of principals very often created stressful situations at school because of the time it takes to establish a rapport between a new principal and members of the school. This creates low teachers morale, and if teachers think that they can’t get along with the new principal, they will leave the school. Since each principal has a different leadership style, it is difficult for staff to adapt and for the principal to find

an effective leadership style. It also affects parents because they have to build a rapport with the new school principal, to understand his/her philosophy and leadership style.

According to chaos theory, changes that occurred at this school seem to be unanticipated and the school is in constant changes. But what this theory does not accept is that these changes needs come from outside the organization, not from inside the organization. It is not a self-organizational kind of change. In this respect, those constant changes are not successful. These changes keep organizations in constant turbulence. Another reason for turbulence is what I call the “unfinished business” at Kars Elementary School. Kars Elementary School went through changes that didn’t really solve its problems. When these problems are not solved, it always affects the later life of the school. The third reason for having turbulence is the use of test results as the basis for change, instead of using historical data and a holistic approach for evaluation.

The redesign plan was started as a result of good intentions emanating from the central office. The redesign concept, its process, and the effects of redesign are seen within differently in the minds of the district, school, and the community. The redesign is a top-down change rather than a bottom-up change. The way the district applied the redesign does not seem correct because they excluded teachers, parents, and the principal--a triad of forces that should be consulted concerning any major changes. Therefore, the school staff was in shock and denial. They felt hopeless and experiencing uncertainty.

What I observed from the two town educational meetings is that the district doesn’t have a good relationship with the community. The district meets with community members because they want their higher achieving kids back in this school in order to

increase test scores as well as to get more money for the school budget. During the meetings, both the superintendents and assistant superintendents used “technical jargon,” such as LSDMC or experiential learning. Not knowing the meaning of these words, the community members either asked for explanations or were forced to search the Internet for their meaning. The communication style was very mechanistic between administrators from the district and community members. The superintendent and assistant superintendent gave very limited information to community members.

Dr. Tugba and other key informants reported that the redesign has negative effects on teachers, students, parents, the community, and the principal. Although the extent of the damage depends on the way the damage is handled, it still creates harmful effects. According to Dr. Tugba, redesign is the biggest issue for teachers. Since the decision, they have been sad, hurt, disappointed, cranky, and shocked. They have low morale and some of them are still in denial. In essence, they have difficulty understanding what has happened to them. Redesign is also a nightmare for the school principal. It has affected each unit in the school, including the special education unit, preschool, delivery of instruction, organization of the structure of the school, school policy, discipline, set of classroom, and curriculum.

In addition to the negative effects, some positive effects of redesign should also be mentioned. According to Dr. Tugba, the positive effect of the redesign can be getting the organization together to focus on the committed program. As a result, there could be cohesiveness among staff in terms of purpose, mission, and goals of the focused program.

Research Question 3

The third research question concerns how an urban elementary school perceives and reacts towards unanticipated situations. First, Dr. Tugba's response towards redesign was given. Then, how she generally reacts towards the unanticipated situations was presented. Her reactions towards the unanticipated situations were based on interviews and observations data.

Dr. Tugba is like a brave calm captain trying to make her crew suffer less in a windy and uncertain environment. Although she knew that she was going to lose her job, she was still concerned with her crew's job problems. She is giving as much information as she had from the central office. There is still a free flow of information at the school.

Dr. Tugba has a standard behavior pattern that applies when she is faced with unanticipated situations. First of all, she is very open and honest. She never takes anything personally and keeps her cool and a sense of humor. Even though, she intends to do everything immediately, when she gets angry, she prefers to solve the problem later on. She also focuses on the problem, not people. Her behavior pattern follows these steps: (1) Try to understand what the situation is without panicking, and describe the situation; (2) Determine the people involved and ask them what happened so as to get information; (3) Diagnose the problem; (4) Decide how to deal with the problem; (5) Give information to the people affected by the situation; (6) Analyze the process of what she has been doing until now; (7) Collecting more information about the situation; (8) Synthesize that information; (9) Decide and do what is needed right there; (10) Start a new day fresh.

Research Question 4

The fourth research question focused on strategies that the school principal applies while she faces those unanticipated situations: What kind of strategies does an urban elementary school principal suggest for school principals to deal with those unanticipated situations?

Dr. Tugba has applied the following six strategies: (1) take a wide range of administrative classes; (2) learn from the experience; (3) have a good network and get help colleagues; (4) understand personality types; (5) understand chaos; (6) understand culture; (7) and be aware of what you stand for. She suggests all these strategies to other urban school principals in order to handle any unanticipated situations.

Research Question 5

Research question 5 was “What kind of training does an urban elementary school principal suggest for future school principals in order to deal with unanticipated situations?” Data to answer this question were from interview with Dr. Tugba.

Dr. Tugba sees teaching chaos theory to the prospective principals as critical. She also suggests that prospective principals should get experience before becoming a principal in any real school situation because having theoretical courses are not enough to become a principal. Blair (1997) claims that chaos-minded principals handle daily activities better than other school principals who are not aware of chaos theory.

Research Question 6

Research question 6 was stated: “Do the tenets of chaos theory or chaos theory fit with unanticipated situations in an urban school setting?” Collected data related to unanticipated situations, uncertainty that staff experience throughout the change process, and facing continuous change can be considered the indicators of chaos theory. Other indicators related to the tenets of chaos theory are include butterfly effect, feedback mechanisms, turbulence, and self- similarity and self-organization.

Another indicator of chaos can be uncertainty. The whole staff and other involved people experienced uncertainty through the redesign. This could result from a lack of information flow between the school and the district. Dr. Tugba complained that the district did not give as much information as the school needed. Each time she needed additional information, she had to ask for it. There is a problem in the information flow between district and school mostly concerning the redesign issue. Although there is no problem inside the school in terms of flow of information, still there are a lot of rumors about the redesign, such as what will be the program for the next year or who will be the next principal.

Chaos is defined in the Cambridge Dictionary as “a state of total confusion or lack of order” (p.216). Chaos theory has its own key features and terminology which were intertwined so closely that it is not possible to interpret chaos theory without using these terms. Gleick (1987) says that chaos theory is the new hope, new style, and new way of seeing and making sense of the world. It can be defined as “the tendency of dynamical, nonlinear systems toward irregular, sometimes unpredictable, yet determinist behavior” (Lindsay, 1989, p. 4).

Having unexpected situations and continuous changes can be considered as the reflection of chaos theory in practice. Collection and analysis of these unanticipated situations explain that life is unpredictable. People can face unexpected situations anytime in their life. The only solution can be to observe the patterns in order to understand the situations better.

The first indicator of the tenets of chaos theory that can be observing is the “butterfly effect” which occurred after the death of two students and the redesign issue. The butterfly effect is also known as sensitive dependence to initial condition. According to Wheeler (1989), one of the properties of chaotic systems is their sensitivity to initial conditions, which is also known as the "Butterfly Effect: the minute changes caused by a butterfly stirring up the air in Peking can effect the weather in New York a month later" (p. 245). This was first discovered by Edward Lorenz in 1960 (Glieck, 1987). The butterfly effect is in a simple term, effects of slight differences at initial values can produce macroscopic effects (Rockler, 1990-1991; Hesse, 1991; Peca, 1992; and Wilbur et al.,1995).

Blair (1993) mentions that much of administrative experience can be explained in terms of the butterfly effect. Griffiths et al. (1991) claims that administrators not always face clear problems but rather first see little linkages, hints, and clues, which appear at unlikely times and in unlikely places. For them “the butterfly effect signals to administrators that seemingly innocuous occurrences may develop into major events” (p.439). Another examination of chaos theory, especially the butterfly effect, was done by Baker (1995). Baker found that schools and school systems exhibit the nonlinear nature of complex systems. The characteristics of chaos theory known as sensitive dependence

on initial conditions or the butterfly effect was apparently operating in the schools and school systems.

In this study, the death of two students and the redesign have the butterfly effect over the system. In fact, none can say that the death of two students is a small event, but the effect of the death of two hearing impaired students is too large, even if it has positive effects. There emerged a cohesiveness between two school buildings that hardly happens, as well as among students, parents, and community members. This event pulled them all together. The fire department officials gave free flashing smoke detectors to every hearing impaired student in the city to alert in case of a fire. That's a big effect. The butterfly effect can be observed in redesign case as well. The redesign of this school has big effect on students, teachers, staff, principals, most probably the families of the whole staff and community, teacher union, and the whole district.

Another observation of the tenets of chaos theory is turbulence. Gleick (1987) defines turbulence as a mess of disorder at all scales, small eddies within large ones. It is unstable, highly dissipative, drains energy, and creates drag. It is motion turned random.

Griffiths et al. (1991) claims that all educational administrators would like to know more about the onset of turbulence. They all have had the experience of working in an apparently stable situation when suddenly the student body erupts, the community rises up in arms, the teachers pull a wildcat strike, or the school board splits wide open. Order has a tendency to disintegrate into disturbance, disorderliness, and unruliness.

Blair (1993) summarizes Griffiths et al.'s explanation of the onset of turbulence as "seemingly stable situations give way rapidly to great eruptions as a result of the butterfly effect, often leaving the major participants without clues as to the onset of turbulence"

(p. 583). In Kars Elementary School, turbulence can be used as a metaphor to describe the situations of the school because of constant changes. When the school history is reviewed, it can be seen that the school is in constant turbulence.

The way that Kars Elementary School experienced change demonstrates a kind of turbulence. It is difficult to accept this situation as a regular pattern of the school, especially within last ten years, because none of the stakeholders is happy with the situation. They want to make changes to take the school from disorder to an orderly state. What the district wants to do with the last redesign issue is to break this cycle. The previous major changes were all top-down changes. Therefore, interpretations in this study were done according with these perspectives. Someone intends to investigate bottom-up changes and chaos theory could have this as another topic for further research.

The feedback mechanism is another observed tenet of chaos theory. The understanding of the feedback mechanisms of open systems and chaotic systems is different. In open systems, there is negative feedback, which is corrective for the continuousness of the system. On the other hand, in chaotic systems, the feedback mechanism is positive. The system takes more feedback than its maintenance. This feedback forces the system to change. In this school redesign, the district used students test scores, which is output of the school, as input for the change. It is technically true, but difficult to interpret if test scores provide enough feedback for change in this case.

According to Hesse (1991), chaotic complex systems have feedback mechanisms by which "output feeds back into the system as input" (p. 2). According to Murphy (1995), the Newtonian view of modern science posits a machine-like universe that regulates itself according to unchangeable laws. Under this paradigm, systems maintain

their stability by means of negative feedback. A mechanism takes corrective action to discourage deviation and preserves a steady state. Indeed, such views assume that stability is the "normal" state, and that apparent instability comes either from faulty observations or from a temporary derangement of normal continuity. In contrast, Murphy (1995) discusses chaotic systems that evolve by means of positive feedback. This process is analogous to placing a loudspeaker next to a microphone so that the sound distortion becomes amplified as they replay through the system. As each output from the loud speaker becomes the input into the microphone, increasingly noise enters the system.

Griffiths et al. (1991) summarizes one characteristic of chaotic systems is that output is used as feedback and goes back into the system as input. In a school district, for instance, measurements of student achievement (output) are fed back into the district (input). Griffiths et al.'s (1991) description of the feedback mechanism have been observed this particular redesign issue as well. The district's reason for change was low-test results, which is the output of the school that was used as input by the district. However, this input is not really too much to create a positive feedback loop for change. There could have been more historical data for healthy and effective change.

The final observance of the tenet of chaos theory was self-similarity and self-organization. This school is a typical urban school. In that respect, it is similar to other urban schools. As a branch of this district, the problem that they face, or any kind of change process is the same. Self-similarity is an important characteristic of fractals. Self-similarity is just as the term implies (Bütz, 1997). Glieck (1987) claims that "self similarity is symmetry across scale. It implies recursion, a pattern inside of a pattern" (p. 103). Wheatley (1994) believes that organizations are self-similar; when you enter the

organization you may observe this situation. Having this perspective helps leaders to understand the natural change process.

However, the change occurring at Kars Elementary School is not a natural self-organization type of change. The change is forced from the outside. Wheatley (1994) cites Jantsch (1980), who described self-organization "as the characteristics of living systems to continuously renew themselves and to regulate this process in such a way that the integrity of their structure is maintained" (p. 7). Wheatley (1994) also says that "every living thing expends energy and will do whatever is needed to preserve itself, including changing. Every living thing exists in form and is recognizable as itself" (p. 18).

Shipengrover & Conway (1996) mention that "in the world of self-organizing structures, change is not random or incoherent. Instead, systems evolve to greater independence and resiliency because they are free to adapt and because, through self-similarity, they maintain a coherent identity throughout their history" (p. 177). According to Murphy (1995), some theorists believe that this sensitivity of a chaotic system to its own history helps pull it out of disarray, as well as impelling the system into chaos.

This self-referentiality has presented problems in social applications, with some theorists concluding that change by external agents is virtually impossible (Svyantek & Deshon, 1993) or if change agents can be introduced into the system to perturb its embedded patterns (Loye & Eisler, 1987). Wheatley (1994) claims that in self-reference, freedom and order are two important concepts for self-organizations. The change process happening at Kars Elementary School is opposite of this approach. Although the changes are centralized, external, and controlled by the district, there is still self-organization within school with the new regularities and order. In the following paragraphs,

observations of the self-organizations over losing assistant principal, principals' change, and the death of two students would be examined.

The primary building of Kars Elementary School lost their assistant principal last year. This change created chaos in the management of the building. The staff and teachers needed somebody to answer their questions. They went to intermediate building to reach the school principal to get answers to their questions or get help for any kind of problem. Although the school principal told me that the situation was much better than now at the primary building, what I observed at the primary building is its secretary adapted the role of the assistant principal. She answered questions that teachers, students and parents might have. One time, even the head of discipline committee came to her office and asked her about a discipline issue. In the face of unanticipated situations, the chaotic situations give ways place to self-regulation in the primary building.

Another similar self-organization happened after the death of the two students. The two buildings came together, raised money for the families and had some donations for parents of those two students. The psychologists came to the school to help students handle the situation. The staff put these two students picture over the hallway and students wrote their feeling about the tragedy. The school also had some firefighters inform study body on fire safety to prevent the further tragedy.

The high rate of principal turnover is another change that Kars Elementary School has to deal with. When I was there, Dr. Tugba was new for the school, working there one and half years as principal. What I observed and learned from the documents produced during her tenure is that staff and students were able to adapt to her within a year. There were improvements in terms of discipline issues, teachers' absenteeism and turnover.

According to Dr. Tugba, students are more easily adaptable to changing the situations than staff, teachers, and parents.

The data that collected through the interviews and archival records goes back ten years ago that a top-down major program change series had been began. Those changes happened within school and the district regularities. Chaos theory would be applied to examine these changes. The way they started, are applied, and what kind of things forced the school for change.

Ten years ago, Kars Elementary School was a multi-age magnet school. Then the district decided that a multi-age school couldn't be basis for a magnet school. As a result, the district started searching for a new magnet school. The misapplication of this multi-age magnet school was positive feedback and forced the school to change. After having this positive feedback, the school went through uncertainty and instability until the school had the new program called the foreign language magnet school. The school experienced order for a short period. Kars Elementary self-organized because this school was near the university and easily found foreign students either from the staff and students' children or other immigrant people's kids.

Despite having students for the school, this order period wasn't too long. The way they applied the program created problem at school level because half of the subjects were taught in foreign language. The school again went through a period of uncertainty and finally instability. Test scores went down. While the school applied these multi-age and foreign language programs, they also had hearing impaired students and there were other applications for those students within those multi-age and foreign language magnet programs. The way the program offered for hearing impaired students and the equipment

that Kars Elementary had didn't fit the hearing impaired students that they had. Those situations made the situation more chaotic and complex. Examining the situation, the school district decided that Kars Elementary School needed to change their program. Two results were that there was positive feedback for school test results and the difficulty of application of this program. The school began to apply a sign language program.

Then, Kars Elementary becomes neighborhood school. This year 7th and 8th grades added to the K-6 grades. Having students from that neighborhood and from different part of the city at the beginning created problems in terms of students' having friend and adapting the school. But even within these changes, students test results are low. In addition, a new budget policy began to apply this year at this particular district that schools get money based on a per student basis. So the district decided that the current program is not working. In order to improve test result and get more money, Kars Elementary needed to change their school program, making it more attractive for community members to get their successful students to this school. As a result, the school would improve test results and get more money. The test results and having more money then acted as positive feedback for the redesigning of the school. The redesign program was prepared by administrators from the district and representatives from the teacher union to lift students achievement. It was assured that, it is aimed that school would be reopened with new leadership and staff and a new instruction model designed to meet the specific needs of that particular school community.

During my data collection process, the school was experiencing chaos and uncertainty surrounding the change. The following model represents the change pattern that happened at this school. When the school is in a stable condition, the school takes

positive feedback that drags the school into instability and finally chaos. When the school in is chaos, the district decides on a new program to bring the school into an order state. Before the order state, the school would self-organize. After a certain period of time, the school would experience a new wave of new positive feedback and go through another change process. This is a kind of pattern that Kars Elementary school has experienced last ten years.

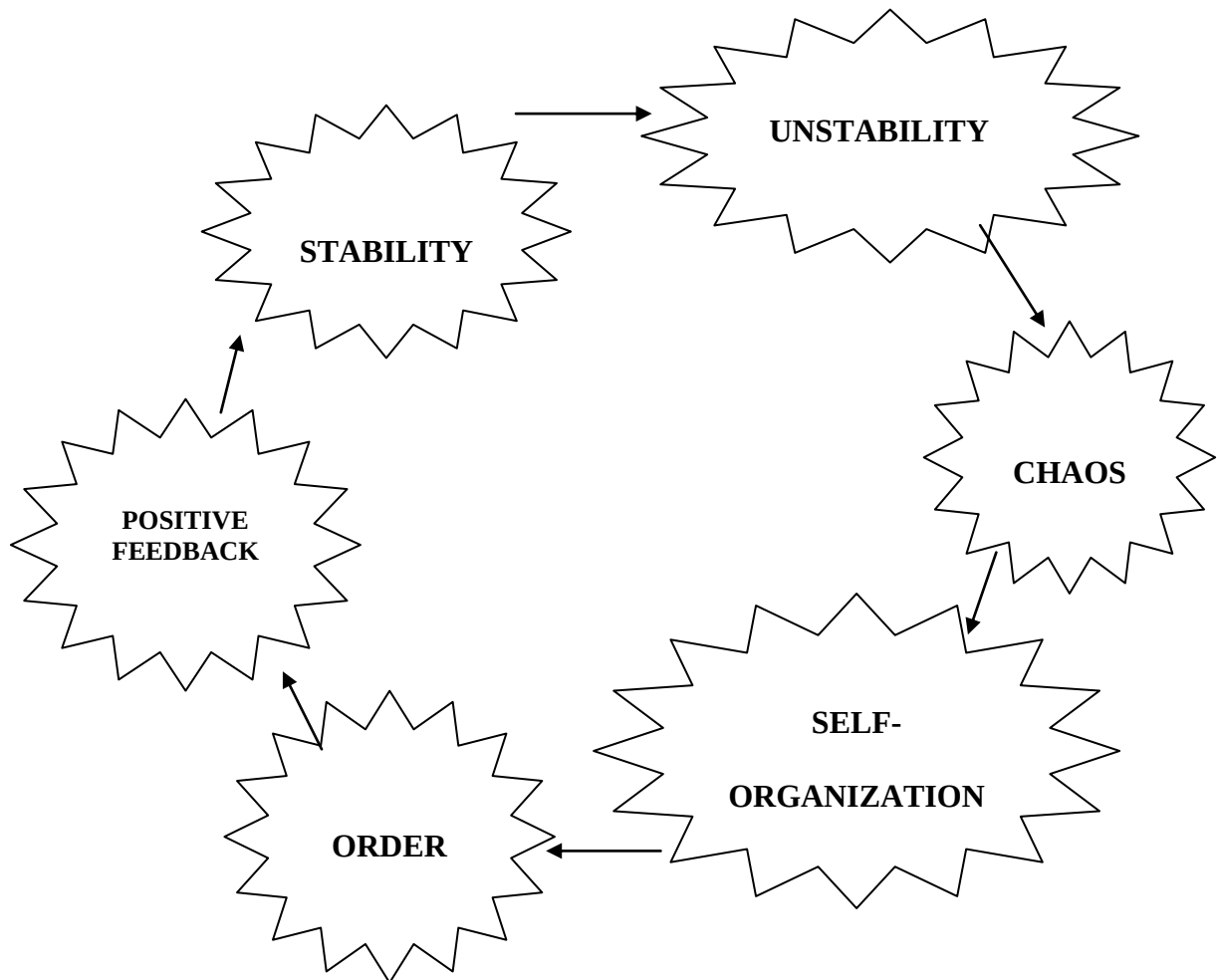


Figure 5. Application of chaos theory to top-down changes

There is a pattern in terms of program changes and principal turnover at Kars Elementary School. The program and the principal changed almost every two or three year. The way the program changes and principal turnovers occurred within regularities of the district and the school. The way that the school experienced those change processes was investigated in terms of the chaotic perspectives. Those changes proved that chaotic situations occur in regular and linear process. Although the current principal find teaching chaos critical, the way she deals with those unanticipated situations was through linear behavior pattern. One can deal with those unanticipated situations within regularities by applying chaos theory. At least it gives the different ways of approaching and understanding situations.

If a school is observed from the organic perceptive, it can easily be seen that each change finds its own way of adapting to regularities. The organization continues its life with new regularities and order that are never the same with previous one.

Research Question 7

Research question 7 addressed how well a knowledge of chaos theory helps the principal solve administrative problems mentioned in the theory. Specifically, this research question asks, “How does chaos theory describe the approach used by the principal when she addresses specific problems?”

Dr. Tugba claimed that understanding chaos theory is not only one of the strategies that she uses for dealing with unanticipated situations, but it also is useful for any kind of administrative process such as decision-making and problem-solving. On a very simplistic basis, Dr. Tugba confesses that she came a point where she as a person

“understand that changes are coming. And that there is a, but yet there is a balance. And there is an opposites and every reaction opposite equal react on” (IN: 102). Dr. Tugba reports that she applies chaos theory to her daily life. She said that “as you get older and get into a job field and then particularly into education from the first-day you step into a class as a teacher. You understand chaos theory; even [though] you might not actually be able to define it. You constantly deal with it because there are constant changes” (IN: 102).

The following components of the decision-making process in chaotic situations are suggested by Dr. Tugba for other school principals. The decision-making process is not a step by step process; rather it involves a nonlinear circular decision-making in either one or more than one components articulated in Figure 3. Those components are: understanding change and its impact on entire organization, understanding the change as an inevitable events, having a plan to deal with it, assimilating information for a new situation, thinking fast, immersing themselves in to the organizations, understanding the function of principals, and maintaining their center. After being aware of those components, the principals should assess the options, examine the change and its impact on the organization, and finally make the decision.

Dr. Tugba’s biggest understanding from chaos is that “life is change.” This understanding helps her to deal effectively with difficult issues. She said that “if you keep trying to prevent change, you would be totally consumed by it and it would destroy you” (IN: 104). Blair (1997) found that chaos-conscious principals deal with administrative issues effectively than others. Dr. Tugba’s statements about the application of chaos theory in practice answers the questions posed in the theoretical discussion in the

introduction and in the literature review part. Besides other theories applied in education, chaos theory has a value of application in practice, at least using it as a metaphor to explain the concepts.

Conclusion

1. This school is a typical urban school where constant changes have happened over the last ten years. Now the school is in another change process, which is called redesign.

2. The school principal's daily activities include the supervision of teachers and students; attending meetings inside and outside of the school; observing and evaluating teachers; talking to the parents, teachers, and students for different reasons; handling the discipline and bus problems; and dealing with all kind of budget issues.

3. School principal's responsibilities are categorized under seven subtitles: curriculum, hiring, supervision, fiscal, school-parent relations, school-community relations, and school improvement.

4. Three groups of unanticipated situations happened at this school relates to program changes, students, and administrator changes. Those unanticipated situations have both positive and negative effects on the school.

5. The school is in a redesign process that is different as a plan and as an implication process in the district's mind and at the school level. It is a top-down change and very painful at the school level. It is nightmare for the school principal and teachers who feel sad, cranky, disappointed, angry, and in denial. School redesign was expected to have positive effects as well as negative effects.

6. The school principal deals with the redesign issue like a brave captain, who tries to keep her teachers' morale high and keep students busy with their instruction without distracting them.

7. Despite the information flow from the district to the school, there seems to be an effective flow of information within the school. The school principal gives all kind of information to her staff concerning the redesign to overcome the uncertainty feeling inside of them.

8. The school principal applies and suggests seven types of strategies to handle the unanticipated situations. They are taking any kind of administrative classes, learning from practice, having a good network, having flexible personality, understanding chaos, understanding the culture, and understanding where you stand.

9. Indicators of chaos theory are having unanticipated situations and constant change, observing uncertainty, turbulence, the butterfly effects, self-similarity, and feedback mechanism.

10. The school principal suggests eight nonlinear decision-making components for chaotic situations. Those components are: (1) understanding the change and its impact on entire organization, (2) understanding the change as an inevitable event, (3) having a plan to deal with the change, (4) assimilating information for a new situation, (5) thinking fast, (6) immersing themselves in the organizations to understand the change better, (7) maintaining their center, and (8) understanding the function of the principal in that situation. After understanding those components, school principals should review their options and check the change impact on organization. Finally, the principal should make the decision.

11. The principal's understanding of chaos helps her in many kind of practices, as well as in unanticipated situations.

Implications

Yin (1994) reports that case studies have more audiences than any other types of research. These audiences include: (1) colleagues; (2) policymakers, practitioners, community leaders, and other professionals who do not specialize in case study methodology; (3) special groups, such as a student's dissertation or thesis committee; and (4) the funders of the research. All these items are also true for this study as well. Therefore, items of the implication and suggestions for further studies address each of these audiences.

1. Kars Elementary School is an urban elementary school that needs to be improved in many areas, such as facilities, test scores, buildings, etc. While accomplishing these improvements, school staff should be empowered to be aware of the changes that are needed, and to change the school.

2. Change should happen from the bottom-up, rather than the top-down. Parents, community members, teachers, and the principal should be immersed in the change process because they will feel more responsible and committed toward the change.

3. Either the school personnel or district personnel should not only use test scores, but also historical data, to understand the need for change. Each change should be evaluated before starting any other change.

4. Problems should be understood and solved at the school level. There should be a change committee at the school to search for the reason behind having all kinds of problems and the way they should be solved. Therefore, site-based management should be encouraged.

5. In order to keep consistency of implication of the programs, frequent turnovers of the principals should be prevented.

7. Urban school principals should understand that change is part of life. They should be flexible and understand change and its effects on the organization.

8. Comparing urban school students test scores with suburb students' test scores is unfair because the schools exist in a 'have' and 'have not' situation. The basic needs of urban school students still are unmet. It is unfair to expect them to be as successful as students in higher performing schools.

9. Teaching chaos theory can help prospective principals. A benefit to this learning would makes principals more efficient in dealing with unanticipated situations.

10. Chaos theory and its tenets can be used as a metaphor to explain concepts related to organizations, change, and leadership.

11. Urban education has its own context, so the principal preparation program should meet the needs of the urban education context. Separate urban school principal training programs should be developed, implemented, and extended throughout the country.

12. In any kind of interaction with district administrators, the school principal should be seen as a partner, rather than as a hierarchical administrator.

Suggestions for Researchers

1. The redesign issue can be studied as a separate topic to understand how to implement the redesign, the problems forced at both the district and school levels, and the success of the redesign issues.
2. Empowering the principal and decentralizing the system should be studied at urban schools.
3. Decision-making in chaotic and unanticipated situations should be studied by the researchers who are interested in chaos theory and decision-making.
4. Indicators of chaos theory and/or the tenets of chaos theory should be studied at the administrative level and the classroom levels.
5. High urban school principals' turnover should be studied.
6. Someone who intends to investigate the bottom-up changes and chaos theory could find this topic for further research.

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