SCHOOL LEADERS’ PERSPECTIVES ON EFFECTIVE CHANGE
IN A THAI CATHOLIC SCHOOL THROUGH SYSTEMS THINKING:
A CASE STUDY

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Anant Prichavudhi

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We approve the thesis of Anant Prichavudhi.

Date of Signature

Kyle L. Peck
Professor of Education
Thesis Adviser
Chair of Committee
Head of the Department of Adult Education,
Instructional Systems, and
Workforce Education and Development

Barbara L. Grabowski
Associate Professor of Education

Priya Sharma
Assistant Professor of Education

Patricia A. Nelson
Associate Professor of Education
ABSTRACT

This research study sought to uncover the school leaders’ perspectives and understandings of systems thinking as a tool to solve educational problems, and to explore the extent to which school leaders view systems thinking as a means to affect change in the school. The investigator used a qualitative research design and selected case study as the method of investigation. To comply with the 1999 National Education Reform Act of Thailand and as a preparation for transferring power to the new school board, this case study investigated all 15 school board members who were selected by the school administration at a large private K-12 Catholic school in Bangkok, Thailand. The individual interviews were conducted in the fall semester of 2002.

Using Senge’s (1994) causal-loop model of cause-and-effect relationship and Haines’ (2000) five critical phases of systems thinking as a framework, the study addressed four related issues: (1) What characteristics of “systems thinking” do school leaders exhibit when faced with school-related problems and issues? (2) What characteristics of “systems thinking” do school leaders exhibit when faced with problems and issues from other (nonschool) domains? (3) What characteristics of “systems thinking” do the school leaders employ/use as a means to affect change in the school? (4) What views do the school leaders express about the importance of “systems thinking” in improving schools (or their own areas of expertise)?
The results of the research indicated that the school leaders exhibited and identified different types of characteristics of systems thinking—holism, cause-effect relationships, feedback, and external environment—when faced with issues from both inside the school domains and from other nonrelated school domains. The research further showed that the school leaders perceived the meaning and the characteristics of systems thinking and later suggested appropriate means to improve the school and its educational system by applying systems thinking. The reviews of literature on change, systems theory and systems thinking, school effectiveness, and leadership were used to align, relate, connect, support, and conclude a transformational process, with four central themes of structure, culture and climate, power and politics, and individuals deemed as important in promoting change in the school system.

By using systems thinking as the framework for this case study, the researcher hoped to set a norm for the school leaders to accomplish their leadership roles in the organization by using systems thinking as an effective tool to relate to, connect with, and affect various parts and elements of the system and to be able to plan for change in the complex learning organization with effectiveness and confidence.
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CHAPTER 1

INTRODUCTION

…This you may say of man—when theories change and crash, when schools, philosophies, when narrow dark alleys of thought, national, religious, economic, grow and disintegrate, man reaches, stumbles forward, painfully, mistakenly sometimes. Having stepped forward, he may slip back, but only half a step, never the full step back.

John Steinbeck (1902-1968)
_The Grapes of Wrath_, 1939, p.173
(Steinbeck received the 1962 Nobel Prize in literature.)

On October 11, 2000, a leading English newspaper in Thailand, _The Bangkok Post_, published this shocking headline on the front page: “Thailand is put at the bottom of the class.” The report revealed “…Thailand's education system has been unprepared for the modern era and rote learning is the norm” (_The Bangkok Post_, October 11, 2000, p. 1). This particular news broke when _Strategic Intelligence_, a business research company in Singapore, reported: “…Thai education system will lag far behind many of its Asian counterparts in 10 years because its reform efforts have been implemented with little foresight or direction.”

The report by _Strategic Intelligence_ pointed out that the Thai government bureaucracy has tight control on education, which will make it difficult to effect change or even to get rid of incompetent teachers. The report continued that government reforms were targeting graft and corruption that had been widespread and deep-rooted in all levels
and sectors of government. Meanwhile, a World Bank report (The Bangkok Post, October 11, 2000, p. 1) revealed that Thai education spent more than half of its educational budget on administrative expenses, leaving only a small portion for investments that would improve quality of education. Moreover, the report continued, many teachers have been resisting the shift from rote learning to other new methods of instruction. In addition, Mr. Somkiat Tangkitvanich, a Thai educational researcher, speculated that a half-hearted reform in Thailand could mean its schools fall behind not only those of Singapore and Malaysia but also of China, India, and Vietnam. Those countries have targeted their education toward specific sectors or are more advanced in instructional technology (The Bangkok Post, October 11, 2000).

After the worst-ever economic crisis in the history of Thailand, there had been several campaigns and studies on reform of teaching and learning in the Thai education systems. According to a Suan Dusit poll conducted recently by Rajapad Teachers College in Bangkok, 60% of the people in Bangkok were not very satisfied with the different options education now offers. Reasons for dissatisfaction among parents spanned from low educational standards, poor assessment systems, centralization, variations in educational quality, high operating costs, and favoritism. Suggestions for change included teacher improvement, curriculum reform, implementation of a new bill on education reform, and 12 years of free basic education (K-12). Students were also dissatisfied with the education they currently received. Students said they preferred to learn in smaller classes with a good learning atmosphere and with more progressive
methods such as cooperative learning. Students also preferred to learn from kind, gentle, and honest teachers (Chiengkul, 1998, pp. 10-11).

The above reports and findings portray a bird’s eye view of the Thai educational system. The findings urge those in authority to change or transform outdated educational systems. Since the devaluation of the Baht (Thai currency) on July 2, 1997, and the economic crisis that followed, the government has been under pressures by the people to reform its bureaucratic systems. As a result, a major reform of the educational system has been identified as one crucial means to help solve the social, political, and economic problems of the country. In October 1999, two years after the crisis, the National Education Act was promulgated by the parliament. The Office of the National Education Commission, Office of the Prime Minister, reflected on the efforts and expectations of this bill:

The economic, political, cultural, and social crisis has caused all concerned to realize the expediency for the reform of Thai education. The urgently needed reform will undoubtedly redeem the country from the downward spiral, so that Thailand will rise in the immediate future as a nation of wealth, stability, and dignity capable of competing with others in this age of globalization. (ONEC, 1999, p. i)

Faced with ample problems, uncertainty, constraints, pressure from all sides, and the worst recession in the history of the country, the government looked forward to transforming the educational system. With much hope and high expectation of the outcomes, the government launched a massive reform of the entire educational system. It has become one of the most challenging reform projects undertaken by the government, and holds top priority among many resolutions.
For the country to succeed in this reform project at the local level, every school has been empowered to play a vital role in the change process and to benefit from it. According to the reform bill, school personnel and members of local communities as never before were invited to share in the development of their school’s vision, mission, and goals and to play more active roles with the school. Thus, the challenge to cooperate and lead the schools was placed in the hands of school boards who were charged to, from now on, “…supervise and support the management of the institution” (National Education Act 1999, Sec. 40, p. 17).

This chapter provides the reader with brief background information about the current situation of the Thai educational system and reasons why the country needs to undergo a systemic reform of its educational system at the national and local levels. In addition, the chapter refers to various studies and findings related to educational problems and school change around the globe, and portrays various characteristics that effective schools should possess. The problem section argues why a large K-12 private school, Assumption College Thonburi in Bangkok, Thailand, needs change and improvement in the educational system. The discussion also includes approaches the school should consider as a means for effective change in school and how the school and school leaders should perform those processes of change to become a more effective school. Despite that successful change in the school requires certain conditions and modifications, this study focused particularly on the human aspect of school leaders, namely the school board members, as a crucial element for effective change in the school.
The concept of *systems thinking* was used as means and framework for the school leaders to perform their leadership roles in transforming the school now and in the future.

**Background**

During the past few decades, the world has changed tremendously in various aspects and directions. Globalization, technology, and the advancement of telecommunication systems, for instance, have transformed the world into a global village. Holman and Devane (1999) stated: “Today’s turbulence makes many of our methods for running organizations and planning communities obsolete” (p. 3). The out-of-date management of many organizations is due, in part, to the incompetent handling of vast amounts of information technology. In addition, out-of-date management may stem from people within and outside the organization operating without insight into the “big picture.” Problems also may result from the inability to initiate and manage change in the workplaces because of partial or piecemeal approaches used to solve problems. More importantly, management may ignore its opportunity to improve ‘people’ who are the most important element of change in an organization. With the advent of more advanced technologies, and to remain up-to-date in an ever-changing world of information and technology, school organizations should recognize change as necessary. Watkins and Marsick (1993) supported the notion saying: “Organizations are realizing that they will not survive if they don’t change” (p. 4).
As the new century begins, change in school organization and in people’s attitudes has become necessary and inevitable. Reigeluth and Garfinkle (1994) suggested that an imperative and radical change of whole systems of learning and instruction must be considered. They argued that “the dawn of the industrial age brought with it massive changes in all of the society’s systems, including the family, business, and transportation” (p. 4). Now, in the information age, they proposed that “paradigm shifts are occurring in all of our societal systems of communications, transportation, the family, and the workplace” (p. 4). Thus, a systemic transformation in these areas including education is inevitable. In addition, Holman and Devane (1999) insisted that “change in one area of expertise no longer works, and ‘the people part’ of change is difficult to address. The implication is that it’s time to systematically include people in the change process and build their capacity for handling turbulence” (p. 5).

For the past several years, a group of scholars and researchers (Banathy 1991, 1992; Glickman, 1993; Goodlad, 1984; Perelman, 1987; Reigeluth and Garfinkle, 1994) have focused their research on educational change. Their studies have covered several elements of the nature of change in education and school systems. Their beliefs are that fundamental changes in an educational system should begin at the deepest level of purpose, values, and beliefs about learning and all corollary components that support learning, such as curriculum, instruction, assessment, and policy. With considerable failure in the efforts to bring about change within the system, it is high time to move outside the existing system. To prepare for the future and create a successful 21st century educational system requires mindsets about school and educational change (Reigeluth
and Garfinkle, 1994). Bridges (1991, 1993) supported this assertion: “As stakeholders begin to transcend old paradigms and embrace a new mindset of educational change, they will be faced with a new set of touchstones essential to changing education systematically” (as found in Jerling, 1995, p. 5).

It is evident that change is continuous and lifelong, and the environment caused by the current world situation is turbulent. It is time to include school and community members in the change process. Everybody must be actively involved in this new mindset of educational change, involved in team building, community orientation, shared leadership, and a focus on creating the school as a learning organization. Fullan (1991) affirmed that serious school improvement could be achieved at a variety of levels if individuals and groups of all the systems paid attention to both the content and the process. In his words:

To succeed in systemic change it is essential to see and understand both the small and the big pictures of the system. We have to know what change looks like from the point of view of the teacher, student, parent, and administrator if we are to understand the actions and reactions of individuals. And if we are to comprehend the big picture, we must combine the aggregate knowledge of these individual situations with an understanding of the organizational and institutional factors that influence the process of change as government departments, universities, teacher federations, school systems, and schools interact. (p. xi)

As a learning organization, a school is established to serve the society with a definite purpose. Inspired by the works of Bowles and Gintis (1976), Sarason (1990), Schlechty (1990), and Fullan (1991) shared his lofty goal of education: “To educate students in various academic or cognitive skills and knowledge, and to educate students in the development of individual and social skills and knowledge necessary to function occupationally and socio-politically in society” (p. 14).
With such goals, many researchers have attempted to study what constitutes school effectiveness and student achievement. A review of case studies by Purkey and Smith (1983), published in the *Handbook of Research on Teaching* edited by Wittrock (1986), provides a dated but comprehensive examination of works in this area. They studied 43 urban elementary schools and describe six different cases. Using various methods of investigation, the findings revealed five characteristics of school effectiveness: (a) strong leadership by the principal or other staff; (b) high expectations by staff for student achievement; (c) clear goals; (d) an academic emphasis for the school and an effective school wide staff training program; and (e) a system for monitoring student progress (p. 581). In another study, Cohen (1983) suggested three major characteristics of effective schools: effectiveness depends on classroom teaching, requires the careful coordination and management of the instructional program at the building level, and generates a sense of shared values and culture among both students and staff (p. 581).

More recently, Sammons, Hillman, and Mortimore (1995) reviewed literature on international school effectiveness and found that effective schools have distinctive features in common, despite the different approaches to education each country may have. The key features of school effectiveness were identified as: professional leadership, shared vision and goals, a learning environment, concentration on teaching and learning, high expectations, positive reinforcement, monitoring progress, pupils rights and responsibilities, purposeful teaching, a learning organization, and home-school partnership (pp. 39-40). Similarly, MacGilchrist, Myers, and Reed (1997) supported the
previous findings on school effectiveness and argued that these features could be synthesized into three essential core characteristics: high quality of professional leadership and management; a focus on teaching and pupil learning; and the development of a learning culture within the organization, where the school staff are willing to learn and to participate in a staff development program. They emphasized that, if present, these main characteristics could help create the right conditions and enable schools to become effective institutions.

In Asia, an interdisciplinary team of specialists from Florida State University used systems analysis and planning methodology to help the Republic of South Korea on a national educational development project. As the project leader, Morgan (1971) reported two indispensable elements for enduring educational reform, namely, the effort and the development process. The successful Korean project was based on a systemic approach involving the processes of analysis, design, and development from the discipline of instructional systems development (ISD), plus relevant variables or conditions that could affect educational improvement. These variables included administration and management, teacher roles, nature of the client students, physical facilities, parents and community involvement, peer contribution, and instructional resources (p. 49).

**Statement of Problem**

Assumption College Thonburi is a large K-12 Catholic school in Bangkok, Thailand. Founded in 1963, the school began with a little more than 100 students and
about a dozen teachers. Today, the enrollment of the school is almost 5,000 students, 277 teachers, and 124 teaching-support staff members. However, as a large organization in the nation experiencing an economic recession, the school has faced many educational setbacks. Inside the organization, the school encounters a multitude of societal pressures, such as economic stress, drug abuse among teen students, high tuition fees, the educational dilemma of declining academic achievement, unmotivated students, irresponsibility of some teachers, attrition of teachers and teaching staff, conflicts of interest among school members, decreasing of support from parents, parents’ dissatisfaction with the educational system, turnover of the principal, and immaturity of some administrators. Also, faced with the tremendous task of managing the organization, the school and the administration have to satisfy increasing requirements from various entities. These pressures and demands come from the 1999 National Education Act, the Ministry of Education, the Board of Trustees, the school Board of Directors, the Parent-Teacher Association, and to a greater extent, the teachers, the staff members, and the students of the school.

Outside the school organization, there is fierce competition among public and private schools for recruiting students. Moreover, the Ministry of Education sets higher standards for the school, to comply with the requirements of the new 1999 National Education Act, which encompasses the school's quality assurance scheme, school reform projects, and assessments of the educational system and the organizational management. In addition, the school faces a remarkable challenge from other influences, such as advancing technology and information systems, globalization, social and economic
transformation, politics, changes in social values, and social problems including drugs, single parents, and morality.

Today, the role of school leader has become more complex, multifaceted, and crucial than at any other time in the past century. As the world moved into the new millennium, the school has faced more complex and critical problems than before. As a result, the school is challenged to embrace new learning and teaching approaches within a milieu of decentralized power in educational administration and management. These complex situations in the school system would be chaotic if the leader of the school was not strong enough or lacked the characteristics of a visionary and transformational leader.

To perform its educative mission effectively and successfully in terms of academic matters, budgets, personnel, and general affairs administration, the school must plan for and develop a positive climate among members of the school and the community. Schlechty (1997) envisioned a new school system where the roles of school leaders and the interrelationship among school members and the community are positive (pp. 70-73). Yet, many questions remain: How well do the leaders of a school system realize its complexity? How well can school leaders bring about effective change in the school? Do they understand the school as a system? Will school leaders consider change in the school as systemic or piecemeal? Are they serious about their desire for school change and improvement? What should the school be and look like in the next ten years? Who are the new members of school board? Are they systems thinkers? More questions can be raised to voice concerns on reform and effective change in schools. However, as the call for school change is widespread and comes from all directions, the success of
school change depends largely on the school’s strong leadership and the support from the individual school members.

In the last two decades, many studies have been conducted on the school principal. However, little research has been done on the informal leadership role of the school board. Fullan (1991, 2001) observed in a number of cases that school boards and communities could be radically powerful where they become active (p. 423, pp. 208-212). Danzberger et al. (1987) conducted a national study of local school boards in the United States, focusing on 450 board chairpersons of city districts, and 50 in rural districts, plus interviews with a variety of local leaders. The findings revealed that the role of local school boards was unclear. Moreover, the board members received little preparation and training for their roles, and only one-third of the boards surveyed had any process for evaluating or monitoring the board’s role. Other findings from the same study revealed that boards are crucial agents for school improvement. The study recommended that state reforms should be concerned with strengthening the capacity of local boards to bring about and monitor change. It also recommended that the boards themselves should be engaged in self-improvement through in-service educational sessions and established systems to assess their own effectiveness.

Another study on the roles of school boards was conducted in Canada. LaRocque and Coleman (1989b, p. 15) investigated school board roles in relatively successful and less successful districts (as measured by student achievement) in ten districts in British Columbia. Through interviews and the examination of specific activities, the findings showed that the more successful school boards (1) were considerably more
knowledgeable about district programs and practices; (2) possessed a clearer sense of what they wanted to accomplish, based on a set of firmly held values and beliefs; and (3) engaged in activities that provided them with opportunities to articulate these values and beliefs. The study also revealed that the successful boards worked more actively and interactively with the superintendents and the district administrators.

Fullan (1991) asserted that a successful change in school has to come from all levels—local, regional, and national, namely, the teachers, principals, students, district administrators, consultants, parents, and especially the community (school board), and government. However, he raised concerns about the integrity and accountability of the school boards. One of the issues was an unstudied problem of how to increase the effectiveness of school boards (p. 245). Fullan also remarked that school boards and communities frequently did not have an influential role in determining change in school. His position on appropriate roles of the school board was clear:

More broadly, those interested in effective educational reform will have to deal with school boards and with community members in a way that confronts the fact that these groups are essential for the eventual implementation of many reforms: the school board for its endorsements, provision of resources necessary to support implementation, and ability to ask the right questions about results; parents for their support, reinforcement, and influence at the family and classroom levels. (pp. 245-246)

Research studies from different locations around the world have found many common characteristics for school effectiveness, but strong and professional leadership stands predominant. In fact, the most important aspect for change in school organization is the human element. Holman and Devane (1999) asserted that today’s turbulence makes many of our methods for running organizations and planning communities obsolete. One
of the challenges is that “if organizations had better leaders, then change would be easy and performance would follow” (pp. 3-4).

Because of a lack of research on the crucial roles of school boards in private schools, and a limited number of case studies on school leaders in Thailand, the present study offered the reader an opportunity to learn more about effective change in school from the perspectives school board members of a large K-12 private school, Assumption College Thonburi in Bangkok, Thailand.

Numerous research articles also have been published on systems thinking during the past decade. As a result, different workplaces such as schools, communities, organizations, and corporations are using the concept of systems thinking as a framework to bring about effective change in their organizations. Built on the work of Argyris and Schon’s (1978) *Organizational Learning: A Theory of Action Perspective*, Peter Senge’s (1990) *The Fifth Discipline: The Art and Practice of the Learning Organizations* has introduced ways for those interested to approach organizational change from a perspective that enables one to “see the whole” of the system (p. 3). According to Senge (1990), an organization is a place where a “learning environment” can be created to foster creativity, innovation, and the ability to foresee, anticipate, and react to change within the environment. He proposed five disciplines that foster dynamic change within the organization, which include: mental models, personal mastery, team building, shared vision, and systems thinking (pp. 3-13). In particular, Senge (1990) emphasized the fifth discipline, “systems thinking,” as a new way that individuals perceive themselves and their world. As a result, systems thinking has become an innovative tool for
organizational change. At the same time, it also makes understandable the subtlest aspect of an organization. In his words:

At the heart of a learning organization is a shift of mind—from seeing ourselves as separate from the world to connected to the world, from seeing problems as caused by someone or something “out there” to seeing how our own actions create the problems we experience. A learning organization is a place where people are continually discovering how they create their reality. And how they can change it. As Archimedes has said: “Give me a lever long enough . . . and single-handed I can move the world.” (pp. 12-13)

Ackoff (1993) believed that systems thinking had a practical value and was being used increasingly to look at the systemic nature of our work. Meanwhile, James and Connolly (2000) looked at the benefit of systems thinking as providing a useful lens through which to look at the institution as a whole. They also asserted that the benefit of systems thinking was to provide a useful framework upon which to base management action. This framework is particularly important in relation to boundary management.

During the past decade, different studies have been conducted using systems thinking as framework to improve organizations, corporate, and schools. A study by Colleen Lannon-Kim (1991) found systems thinking was applied to schools primarily as a problem-solving framework that can enhance students’ understanding of a subject, and secondarily as a restructuring tool for creating a more effective educational system. Later, McIlvain (1999) used the framework of systems thinking to study one elementary school in the content of the emerging learning community. Taylor (1999) employed Senge’s disciplines of systems thinking and shared leadership to examine staff development at a public school district. Reed (2001) studied a medium-sized supermarket in Richmond, VA, using Senge’s five disciplines as frameworks to determine the effectiveness of the organization. Her research recommendation for other organizations was that a specific
discipline as well as overall issues of five disciplines, including systems thinking, be studied.

Today, systems thinking has become a powerful set of tools that change agents and leaders of various types of organization could use to address the most stubborn problems. Systems thinking has become a way of understanding reality that emphasizes the relationships among a system’s parts, rather than the parts themselves. Although there are research studies that provide insights about change in organizations, few studies have examined a specific site of a private school in-depth and on the particular discipline of systems thinking from the school leaders’ perspectives. Given their responsibility for school change and management, it seems apparent that school leaders could benefit from using systems thinking as a tool. Since an individual school is the most important unit of pervasive change (Goodlad, 1984; Louis & Miles, 1990; Meier, 1995), this study focused on how 15 individual members of Assumption College Thonburi’s school board, in Bangkok, Thailand, employ “systems thinking” as a tool to effect change in the educational setting.

**Goals of the Study**

Governed by the 1999 National Education Act (Section 44, p. 19), each individual educational institution in Thailand was required to set up its own board comprised of education administrators, authorized persons, representatives of parents, those of community organizations, those of teachers and alumni, and scholars. This research study
investigated the school board members’ perspectives related to systems thinking and their understandings of effective change in the school. This study hoped to expand understanding of the unstudied problems of the integrity and the accountability of Thai school boards. Moreover, this study also hoped to provide a clearer sense of how the school board in Thailand performs its roles and how school board members believe they might initiate change within the school system.

The results of this study might be used to strengthen the school board members’ systems thinking skills, leadership skills, and knowledge about systems theories, change, and school effectiveness.

The primary goal of the study was to investigate the school leaders’ awareness and understandings of systems thinking. To what extent have they become systems thinkers? Do they realize the importance of systems thinking in current practice? To what extent do they engage in systems thinking as a means to effect change in the school? The secondary purpose of the study was to take into consideration those perceived problems and proposed solutions as seen by the school leaders and to describe these as a possible catalyst for successful and sustainable change in the school.

As sustainable change and improvement of the school system was the primary goal, the following research questions were used to guide this study:

1. What characteristics of “systems thinking” do school leaders exhibit when faced with school-related problems and issues?
2. What characteristics of “systems thinking” do school leaders exhibit when faced with problems and issues from other (nonschool) domains?
3. What characteristics of “systems thinking” do school leaders employ/use as a means to affect change in the school?

4. What views do school leaders express about the importance of “systems thinking” in improving the school (or their own areas of expertise)?

**Significance of the Study**

This case study on *School Leaders’ Perspectives on Effective Change in School Through Systems Thinking* investigated perspectives and understandings of systems thinking among school board members of a large religious-run private school at Assumption College Thonburi, in Bangkok, Thailand. Over the past three years, the kingdom has been undergoing major reform of education systems in areas of educational administration and management, educational standards and quality assurance, teachers, faculty staff, and other educational personnel, resources and investments for education, and technologies for education. This study focused on the human element of reform in the area of educational administration and management. As a result, this study offers the reader an opportunity to gain insight into a private school in Thailand, its educational systems, and the role of the school board. Moreover, the reader would comprehend school board members’ understanding of systems thinking and how they might plan for effective change in the school. Also, the reader would gain an insight into the Thai education system, as seen by the school board.
This study was important as an investigation of the school leaders’ awareness and understanding of systems thinking in order to effect change in the school. This study also served as an assessment of school leaders’ perspectives and understanding of systems thinking. The findings of this research helped determine what level of knowledge the school leaders have about the Thai educational system and systems thinking. It has assisted the researcher to determine and design appropriate instructional programs that will help school leaders improve their skills and knowledge.

This study might be of interest to policy makers including the Minister of Education, educational leaders of the Saint Gabriel’s Foundation, and in particular, to the administrators of Assumption College Thonburi. A thick description obtained from school leaders’ perspectives and understandings of systems thinking and change could allow policy makers to understand the importance of systems thinking and to improve the school’s educational systems in the future. This study might also be important if it gained attention among policy makers, especially those with authority over school administration and the governments by helping them understand the crucial roles of the school board and the support made for their effective leadership of reform of the school systems.

This study also uncovered the complexity of school systems and highlights relationships and the interconnectedness of policies, plans, people in the organization, members of the local communities, and the experiences at various levels of the systems.

Finally, this study contributed new perspectives on the issue of education reform and school change from an Asian point of view.
CHAPTER 2

REVIEW OF RESEARCH AND RELEVANT LITERATURE

When planning for a year—sow corn.
When planning for a decade—plant trees.
When planning for life—train and educate men.
—Kwan-Tzu, 3rd Century B.C.

Overview

Like other organizations, the school has been affected tremendously by the external environment and the forces of change. The revolution of the information age, advancement of telecommunication systems and technology, and globalization have made the world a global village. As a result, competition in the world market for skilled workers, cultural and social impacts, societal pressures for standards and quality education, educational bills on reform of the educational system, and innovation of learning and instructional strategies are among key factors that affect educational systems and school administrations far and wide.

In Thailand, education has become the first priority for most families. Public and religious-run private schools have experienced a steady increase in enrollment. Parents’ expectations of school effectiveness and academic excellence determine where they send their children to study. During the past several years, the parents’ and the society’s
expectations have determined how the schools are managed. Therefore, school improvement has become a constant effort of the school and its administrators. Their focus is to make schools better places for students to learn, achieve, and prepare to become productive citizens. Today, every school in the country is facing tougher demands from within and outside the school system and from Thai society for an unprecedented series of education reforms. Moreover, the National Education Act mandates that every school engage in educational change and help resolve various crises of the country. Faced with such large challenges from both inside and outside influences, it is essential that each school finds different ways to assess itself and to become as productive and successful as possible. Giroux (1989) perceived the schools’ needs to refocus on education reform and issues of the society, saying:

> Education reform needs to address the most basic questions of purpose and meaning. What kind of society do we want? How do we educate students for a truly democratic society? What conditions must we provide for both teachers and students for such an education to be meaningful and workable? These questions link schooling to the issues of critical citizenship, democratic community, and social justice. (p. 729)

Forced by pressures from the surrounding environments and critical issues of the society, it is inevitable that the schools adopt various approaches for effective change of its organization. Despite the many contexts and approaches to change in the school systems, the present study selected the human factor—the school leaders—as the primary focus for effective change of school systems. Employing the concept of systems thinking (Senge, 1994; Haines, 2000) as a framework, this research study focused on the school leaders’ perspectives of systems thinking to find means and processes for effective changes in a large K-12 religious-run private school in suburban of Bangkok, Thailand.
As has been noted, this study investigated the school board members’ perspectives and their understandings of systems thinking, the extent to which they are systems thinkers, the extent to which they realize the importance of systems thinking in the current practice of the school, and the extent to which they engage in systems thinking as means to affect change in the private school’s educational systems.

To provide a context for the interrelationships investigated by this study, the following literature review includes: change, systems theory, systems thinking, school effectiveness, and leadership. The literature review on change attempts to explore perspectives, factors, process, and management of educational change as well as why effective change in school organization is essential despite its complexity. The literature review on systems theory expands the historical background, the different elements of a system, and how systems theory relates to the school organization as a social system. The literature review of systems thinking explains the meaning and usefulness of systems thinking, which was chosen as a framework for this particular study. Justification in adopting systems thinking as a tool for effective change in school is also presented.

The literature review on school effectiveness presents a variety of key factors that are essential for the school if transformation of the educational system and sustainable change are the goals. And lastly, a review of literature that explores concepts and roles of leadership necessary for the school context is discussed. This literature review also explores the different characteristics and styles of leadership considered as relevant and critical for school board members to lead and manage effective change in school.
Change

In recent years, there has been an explosion of literature about change. This phenomenon is obvious when corporations and organizations have been challenged by the society to plan for change, improvement, innovation, renewal, and transformation in order to serve the needs of the society more effectively and efficiently. Though people see different things around them change everyday, they seem to take those events for granted. James and Connolly’s (2000) introduction to a chapter in their book, **Effective Change in School**, captured what seems to be an essence of change.

Change is an interesting notion. It is all around us, within us, and it is difficult if not impossible to escape from it. Change is perpetual. We might like to think we have at some time a period of stability but change carries on nonetheless. Just by living we experience change, if only because we grow older. Change can be minor, low key and easily handled. It can however, be substantial, very significant and extremely difficult to cope with. Change may be started by others and imposed upon us, or we may initiate it and carry through ourselves. At one level, it is simple. Change is simply a matter of learning to do things differently. But in reality it is extremely complex, especially if the change is significant. (p. 16)

During the past several years, many scholars and researchers have studied change and issues related to school organization. Hopkins et al. (1994) stated:

Change tends to manifest itself in organizations in one of two forms: incremental and planned change. **Incremental change** is a gradual and often subtle transition from one state to another. Meanwhile, **planned change** seeks to interrupt the natural development of events and, often on a given day, to break with previous practice to establish a new order. (p. 21)

They observed that, apart from these two forms of change, the nature of change tends to arise from one of two sources—external and internal. “**Internal change** is often seen as ‘natural’ or ‘organic’ like growth in the individual level of a child and the
organization without being conscious or noticing it. By contrast, *external change* is much harder to assimilate—it is what others would do to us and to our organization’’ (p. 21).

Planned versus incremented change have different implications for implementation in the school organization. A planned change for the school is seen as a combination of purposive change and innovation in an attempt to improve the system, and may be caused by pressure from the environment and external demands. However, incremental change which progresses slowly over time, is seen as a day-by-day happening.

Marris (1975) said change has two different sources: voluntary and imposed. In either case, the meaning of change will rarely be clear at the outset, and ambivalence will pervade the transition. According to Marris (1975), “Whether the change is sought or resisted, and happens by chance or design; whether we look at it from the standpoint of reformers or those they manipulate, of individuals or institutes, the response is characteristically ambivalent” (p. 7). Fullan (1991) looked at the meaning of change from two perspectives: subjective and objective. According to Fullan,

The subjective meaning of change is illustrated as “classroom press” where teacher is uncertain about how to influence students’ learning goals; about experiences with students as a group and individually; about pragmatic or trial-and-error approaches to teaching strategies; about class management of daily disruptions, discipline, interpersonal conflicts, making announcements, dealing with parents and staff members, etc. In fact, the teacher has to get through the daily grind; the rewards are having a few good days, covering the curriculum, getting a lesson across, having an impact on one or two individual students, and constantly feels the critical shortage of time. (p. 33)

This metaphor of “classroom press,” according to Huberman (1983) and Crandall and associates (1982), affects the teacher in a number of different ways.

First, it draws his or her *focus to the day-to-day effects* or short-term perspectives. Second, it *isolates him or her from other adults* (interaction with colleagues). Third, *it exhausts his or her energy*—at the end of the week; at the
end of the years, he or she is exhausted. Finally, it limits his or her opportunities for sustained reflection about what he or she does—the teacher tends to function intuitively and rarely spends time reasoning about how he or she carries out one's jobs. (Crandall et al., 1982, p. 29)

Meanwhile, Fullan (1991) noted that false clarity and painful unclarity at the initial stages of the change process are often sources of concern for the teacher, who wonders about how change will affect his or her duty in terms of classroom and extra-classroom work. Teachers are less than concerned about a description of the goals and supposed benefits of the program. In brief, change is usually not introduced in a way that takes into account the subjective reality of a teacher (pp. 32-36).

The objective meaning of change, on the other hand, is conceived as multidimensional. Fullan (1991) identified at least three components or dimensions at stake in implementing any new program or policy: (1) the possible use of new or revised materials, (2) the possible use of new teaching approaches, and (3) the possible alternative of beliefs. Fullan believed that these three aspects of change are necessary because together they represent the means of achieving a particular educational goal or set of goals. It is logical that change has to occur in practice along these three dimensions in order for it to have a chance of affecting the outcome (pp. 36-43). As Charters and Jones (1973) observed, “If we do not pay careful attention to whether change in practice has actually occurred, we run the risk of appraising non-events.” (cited in Fullan, 1991, p. 37)

Meanwhile, other scholars perceived change from different perspectives. Bennis et al. (1969) were among the first group of scholars who described systematically fundamental strategies of change. They identified three broad groupings or perspectives
on change, which included: the power-coercive, the normative re-educative, and the rational empirical. *Power-coercive* referred to an approach that is direct, legalistic and authoritarian, and where the flow of communication is one-way from the initiator to the practitioner. *Normative re-educative* described strategies directed toward the attitudes, norms, and opinions of a group of practitioners, the mode of approach usually being made through group work with an emphasis on two-way interpersonal communication. *Rational-empirical* characterized an approach based on expertise and aimed at the reason or intellect of the practitioner. Media used with this approach—usually books, lectures or advertisements—and communication are largely one-way (p. 34).

When Ernest House (1979) wrote a ‘state-of-the-art’ paper on curriculum innovation, he used the following three perspectives on educational change as his framework: technological, political, and cultural. The *technological* perspective had the characteristics of the adoption approach to change. The political perspective emphasized that change inevitably involves conflict. Change by its very nature involves individuals and groups doing new things that inevitably disturb the status quo. What for some is “improvement” may be for others, initially at least, irrelevant and in some cases foolish. And the *cultural* perspective was concerned with the social setting in which the innovation intervenes. It was the antithesis of the adoptive models and shared many of the values of the adaptive approach where the problem of change is treated as essentially a cultural one (as cited in Hopkins et al. 1994, pp. 32-34).

Another framework used for understanding change is concerned with the change process. James and Connolly (2000) stated the process of change is composed of the
actions, reactions, responses, and interactions of the various players who have a stake in the change. It is the ‘when?’ the ‘where?’ and the ‘who?’ of change. The process also embraces the particular influences that are currently at work (p. 30).

Pettigrew et al. (1988) used the context-content-process framework on their investigation of change in the National Health Service. They argued that organizational change is a process that occurs over time and in a context. It is, then, very different from the analysis of one-off episodes and single events. Their content model referred to the particular focus or area under study. It is the ‘what?’ of change. Meanwhile, they divided the context model into an inner context and an outer context. The inner context refers to the existing strategy, structure, culture, managements and political processes of the institution, which will influence the process. The outer context, on the other hand, is the wider, perhaps national, social, political, and economic context, and the interpretation of local and national policies and events.

Miles (1986) and Fullan (1991) shared their similar observations and stated that the change process is not linear, but consists of a series of three stages that merge into each other. These three overlapping phases on the process of change consist of initiation, implementation, and institutionalization. The initiation phase is about deciding to embark on innovation and developing commitment toward the process. Fullan (1991) argued that initiation depends on three Rs: relevance of the improvement innovation in terms of need, quality, practicality, clarity, and complexity; readiness of the staff to become involved; and resource and support availability, including time. Other factors also influence whether initiation occurs. These include existence and quality of existing innovations,
access to innovations, advocacy from personnel (teachers) or external sources, new policies and funds, and a problem-solving orientation. Meanwhile, the implementation phase consists of early experiences of putting reforms into practice.

Miles (1986) highlighted the important contributions of this last phase as clear responsibility for orchestration, shared control over implementation, a blend of pressure and support, sustained staff development, and early rewards for personnel or teachers.

The third phase, institutionalization, is the phase when innovation and change stop being regarded as something new and become part of the institution, such as a school’s usual way of doing things. It also describes whether or not innovations are built into ongoing practice. Fullan (1991) summarized this phase as being achieved through mobilization of broad support, principal commitment, embedding into classroom practice through structural changes and incorporation into policy, skill and commitment of a critical mass of staff, procedures for ongoing assistance especially for newcomers, removal of competing priorities, built-in evaluation, assistance, networking, and peer support (pp. 347-352).

Morrison (1998) provided a useful analysis of six main themes of educational change and management.

First, change is structural and systemic. Any real change will affect the whole system, in that change in one part of an institution has a knock-on effect in other parts. If change is substantial, it is not likely to be singular and simple; it is more likely to be composite and complex in nature, involving other areas of the organization. Second, change is a process that occurs over time. Because any change takes place over time, organizational change is not a discrete event, it is not sequential and it does not follow a straight line. Third, change is multidimensional. It encompasses a number of different dimensions including resources; contents, process, evaluation, leadership, management; administration, principals, knowledge, attitude, emotions, beliefs, and values. The fourth theme of change is that change is viewed differently by the various participants and
therefore calls up a range of responses. All those involved in the change process will have their own perspective on it. Change is experienced at both the personal and institutional levels, and the experience of change is heavily influenced by the context. Fifth, change management requires investment in technological resources, human resources and the management of the process. The effective management of change requires creativity and the ability to identify and solve problems. And six, change strategies must emerge over time, be flexible and adaptive. The management of change, therefore, needs to integrate change efforts from the top and bottom of the organization. (cited in James and Connolly, 2000, pp.18-19)

Many scholars have believed that school leaders are sometimes, if not frequently, unconscious of their actions or power to make change. As a reminder to school leaders, Stoll and Fink (1996), inspired by Fullan’s (1991, pp. 105-107) planning and implementing change, shared different views of “do’s” and don’ts” assumptions and offered key change processes they believed are essential for a successful educational change endeavor. They summarized their perspectives and advice on change as follows:

There is more than one version of what the change should be. A main purpose of the process is for all involved to exchange realities and continue to develop ideas.

People have to understand the change and work out their own meaning through clarification, which often occurs through practice. Changes in teacher behavior may, therefore, precede rather than follow changes in belief.

Change is a personal experience. It is necessary to recognize and attend to individuals' concerns. Stress and anxiety are common early emotions.

Change is approached differently by each school. Innovations are, and need to be, modified to suit the school’s own context.

Conflict and disagreement are inevitable and fundamental. There is always an ‘implementation dip’. If everything goes too smoothly, it is likely that not much is happening (Huberman and Miles 1984).

A mix of pressure and support is needed. People need help and encouragement when relearning is at stake. Particularly important are assistance, training in new skills, and follow-up help.

‘Top-down, bottom-up’ change engenders more commitment and continuation than either an autocratic, centralized approach or a laissez-faire decentralized approach.
Change rarely involves single innovation. Several ideas and activities are involved simultaneously and need to be blended. Sarason (1990) describes a rippling effect: ‘what you seek to change is so embedded in a system of interacting parts that if it is changed, then changes elsewhere are likely to occur’ (p. 16).

Effective change takes time, therefore persistence is essential. Even moderate change can take three to five years, while complex organizational restructuring may take much longer.

A school cannot always be developing, otherwise it runs out of steam. Change involves times of relative activity and consideration periods.

There are many valid reasons why people do not implement change; it is not just resistance to all change.

It is not realistic to expect all people to change. As an ex-colleague of ours used to say, ‘don’t water the rock!’ If you spend an inordinate amount of time on a few people relative to time spent on everyone else, is it fair and always worth the effort?

It is necessary to plan based on these assumptions.

The real agenda is changing school culture, ensuring whole-school development rather than implementation of single innovations (Stoll and Fink, 1996, pp. 45-46).

Finally, in the classic book *Change Forces*, Fullan (1993) summarized eight basic lessons that school leaders and other change agents should consider to facilitate change in the school:

(1) You can’t mandate what matters most. (The more complex the change the less you can force it.) (2) Change is a journey not a blueprint. (Change is non-linear, loaded with uncertainty and excitement and sometimes perverse.) (3) Problems are our friends. (Problems are inevitable and you can’t learn without them.) (4) Vision and strategic planning come later (Premature visions and planning blind.) (5) Individualism and collectivism must have equal power. (6). Neither centralization nor decentralization works. (Both top-down and bottom-up strategies are necessary.) (7) Connection with the wider environment is critical for success. (The best organizations learn externally as well as internally.) And (8) Every person is a change agent. (Change is too important to leave to the experts; personal mind set and mastery are the ultimate protection.) (pp. 21-22)
In summary, if transformation of education in school is to be successful, individuals in the organization must understand the real meaning of change and agree on certain approaches to perform it. To plan change in organizational systems requires the members of the organization to have both knowledge and understanding of how each part of the system exists and interrelates with other parts. As Fullan (1991) explained:

To succeed in systemic change, it is essential to see and understand both the small and the big pictures of the system. We have to know what change looks like from the point of view of the teacher, student, parent, and administrator if we are to understand the actions and reactions of individuals. And if we are to comprehend the big picture, we must combine the aggregate knowledge of these individual situations with an understanding of the organizational and institutional factors that influence the process of change as government departments, universities, teacher federations, school systems, and schools interact. (p. xi)

For this reason, it is important for school leaders to understand the meaning of change and change in different perspectives in order to effectively plan and implement change in their schools.

The next section discusses systems theory and its characteristics. It is essential for school leaders to understand the relationships between parts and whole within the school context.

**Systems Theory**

The origins of systems theory go back many centuries to when scientists first sought to learn about complex systems. Multiple scientists and philosophers in the past helped contribute to the growth of the systems movement. This inquiry started in the time of the Greek philosopher Plato (427 B.C.-347 B.C.) as modern cybernetics, a domain of
contemporary systems thinking. Some pioneering ideas about systems theory were articulated in the 18th century. It was the German philosopher Hegel who suggested that the ‘whole’ is more than the ‘sum’ of its parts, that the whole determines the nature of the parts, and the parts are dynamically interrelated and cannot be understood in isolation from the whole. Finally, in 1913 the Hungarian philosopher and scientist Bela Zali introduced a general theory of systems. In the 1920s the theory evolved as scientists began to examine the characteristics of systems. From their observations of systems, they concluded that no matter how different the components of various systems, all systems shared a common set of rules.

In the early 1950s, the basic concept and principles of a general theory of systems were set forth. As these pioneers shared a common conviction and recognized a compelling need for a disciplined inquiry in understanding and dealing with the increasing complexity of systems theory in the field of science, they proclaimed the first definition of systems theory: "the unified nature of reality" (Banathy, 1996, p. 74). As a result of general systems theory new methods of tackling complex real-world problems that span different disciplines have been developed and provide individuals with a macro view of how complex systems work.

The word “system” descends from the Greek verb *sunistanai*, which originally meant, “to cause to stand together.” As this origin suggests, “the structure of a system includes the quality of perception with which we, the observer, cause it to stand together” (Senge et al., 1994, p. 90).
Hall and Fagan (1956) defined a system as “a set of objects together with relationships between the objects and between their attributes. For a given system, the environment is the set of all objects in a change whose attributes affect the systems and also those objects whose attributes are changed by the behavior of the system” (pp. 18-21). In addition, Ackoff (1981) looked at a system as “a whole that cannot be divided into independent parts. From his definition, two of a system's most important properties are derived: every part of a system has properties that it loses when separated from the system, and every system has some properties —its essential ones— that none of its parts do” (p. 15). Bertalanffy (1968) remarked that it is necessary not only for us to study parts and processes in isolation, but also to solve the decisive problems found in the organization and the order unifying them, resulting from the dynamic interaction of parts, and making the behavior of parts different when studied in isolation or within the whole.

Other scholars and researchers define the term systems in a similar manner. According to Senge (1990), systems theory, which is rooted in cybernetics, emphasizes the multiplicity and complexity of factors that affect the functioning of any person or group over time. It also looks at wholes rather than parts, at "patterns of change rather than static 'snapshots' " (p. 68). Senge et al. (1999) later explained that a system is anything that takes its integrity and form from the ongoing interaction of its parts. “A system is defined by the fact that its elements have a common purpose and behave in a common way, precisely because they are interrelated toward that purpose” (p. 137). Meanwhile, Daft (2001) looked at systems as a set of interacting elements that requires inputs from the environment, transforms them, and discharges outputs to the external environment. The need
for inputs and outputs reflects dependency on the environment. Interacting elements mean that people and departments depend on one another and must work together. (p. 7)

Another perspective on systems is from W. Richard Scott (1992). According to Scott, there are three types of systems: rational system, natural system, and open system. A rational system views an organization as formal instruments designed to achieve specific goals of the organization. It emphasizes different elements within the systems, especially information, efficiency, effectiveness, optimization, implementation, rationality, and design. A natural systems view regards the individuals or people within the organization as more important than the structure and goals of the organization. An open systems view considers the environment that surrounds the organization as very important. The open system sees the organization such as school as not only influenced by environments but also dependent on them. As a result, the system takes inputs from the environments, transforms them, and produces outputs.

Though systems can be defined as two basic types — open and closed — most systems are closed. Closed systems usually do not interact with their environment. They are enclosed within permanent boundaries, isolated from interaction with other systems. In contrast, open systems interact with the outside environment. Educational systems, such as schools, are social organizations and considered as open systems. According to Katz and Kahn (1966), open systems share nine common characteristics:

**Importation of energy.** A primary distinction between open and closed systems is the exchange of energy across boundaries. Most large-scale organizations are dependent on the social effects of their output for energy renewal. In other words, the system's output affects the system’s environment.

**Throughput.** Throughput is the transformation of imported energy into output by means of the processes and functions of the organism and organization.
Output. Open systems export some products into the environment.

Systems as cycles of events. The exchange of energy between a system and its environment is cyclical in nature. The product returned to the environment becomes the source of energy for repetition of the cycle of activity. For example, a student may later become a politician who influences tax legislation that directly affects school funding.

Negative entropy. Entropy is a concept within systems theory whereby all forms of organization move toward cessation of activity and ultimate death. It is the reversal of the entropic process of perpetuating the differentiation of the system rather than decreasing it to a moribund state of etropor.

Information input, negative feedback, and the coding process. The inputs into a system may be of an informational nature as well as energy bearing, or energetic. Informational inputs provide important signals about changes in the environment that have implications for the way the system operates. Negative feedback signals the system that something is wrong. It suggests an alteration to the system's current course, which is central to systems theory. School systems need thermostat mechanisms to monitor the social, political, and economic climates in which they operate. Without such feedback mechanisms, school systems can become nonresponsive, isolated entities that are more closed than open and thereby more subjected to the effects of entropy.

Steady state and dynamic homeostasis. Dynamic homeostasis is the process by which, once established, a system will act to preserve its essential character. This is accomplished through constant exchange of inputs and outputs with the external environment, where the inputs are either energetic or informational and the outputs are the products of the system.

Differentiation. Open systems progress from simple to more-complex structures as they evolve and grow. In social systems, and in particular school systems, increased differentiation, such as societal values, public opinion, economic factors, is constrained by environmental variables. Differentiation may lead to new growth. This is the phenomenon of educational renewal.

Equifinality. The principle of equifinality as applied to open systems suggests that a system can reach the same final state from differing initial conditions and a variety of paths. (pp. 19-26)

As already mentioned, a school system is very complex and at the same time very dynamic. As open systems, every element within the school interconnects from the first stage of input, processes those inputs in the transforming stage, and produces certain results as the outputs at the end of the process. Outside the school systems, there are
different variables of environments that influence or affect the process and outcomes of
the school systems. Both inside and outside components of the school systems are crucial
in terms of creating school quality and effectiveness.

Hoy and Miskel (1996) looked at the school as a social system. They explained
that “inside” the school systems are the people (e.g., administrators, teachers, students,
parents), materials (e.g., buildings, learning facilities, and materials), and financial
systems of the organization. With these elements in the systems, the outputs are the
results of interaction among the components of formal structures, rules, individuals,
cultures, and policies of the school. The “outside” of the school systems, on the other
hand, consists of everything that is outside the school organization. These factors become
both constraints and opportunities for the school. Environments outside the school
include socioeconomic, political, demographic, and technological trends. Some other
constraints and opportunities of the school include school stakeholders, teaching quality,
the government, colleges and universities, new rules and regulations of the government,
teacher unions, school leaders, and different types of educational associations (pp. 26-
43).

The concept of systems theory has been used in many settings including business
and industry, information technology, health services, architecture, and engineering.

Regarding the field of education, Banathy (1996) remarked:

Acquiring a "systems view of education" means that we learn to think about
education as a system, we can understand and describe it as a system, we can put
the systems view into practice and apply it in educational inquiry, and we can
design education so that it will manifest systemic behavior. Once we individually
and collectively develop a systems view, then—and only then—can we become
"systemic" in our approach to educational reform, only then can we apply the
systems view to the reconceptualization and redefinition of education as a system, and only then can we engage in the design of systems that will nurture learning and enable the full development of human potential. (p. 83)

To allow individuals and school leaders to find true shared meaning and developing a lasting result of “what” and “how” to go about change in school, it is important to help the individual parties to develop, once again, an understanding of a system. An influential advocate of the need for systems is Seymour Sarason (1991). He proposed that a total systems view of education is essential if meaningful reform is ever to occur. In his words:

System is a concept we create to enable us to indicate that in order to understand a part, we have to study it in relation to other parts. It would be more correct to say that when we use the concept system it refers to existence of parts, that those parts stand in diverse relationships to each other, and that between and among those parts are boundaries (another abstraction) of various strength and permeability. Between system and surrounding are also boundaries, and trying to change any part of the system requires knowledge and understanding of how parts are interrelated. At the very least, taking the concept of a system seriously is a control against overly simple cause-and-effect explanations and interventions based on tunnel vision. (p. 15, as cited in Jenlink, 1995, p. 24)

In summary, it is important to understand that the system has certain basic characteristics. It consists of interrelated components (relationship between parts and whole), subsystems, and supra systems. Parts of a system do not equal the whole. System boundaries are artificial systems residing in an environment of another larger system. Systems can be open or closed— influenced by environment (open) or not influenced by environment (closed). Each system has inputs, processes, outputs, and feedback loops. Forces within a system tend to counteract each other (feedback), forcing the system back to equilibrium after being disturbed by external forces (homeostasis). Stated another way, change in one part of the system affects another part or the whole (system trying to reach
equilibrium). Unless a continuous source of energy is focused on an activity, energy within a system will dissipate and become random (entropy).

A system, then, is perceived as a whole whose elements “hang together” because they continually affect each other over time and operate toward a common purpose. Every system is goal oriented with a specific function to perform. It has inputs from its environment on which it acts. Moreover, it has outputs that it produces and sends out to the environment. Also, it obtains feedback from the environment that offers information about its performance. In other words, when an organization such as a school receives new inputs or experiences new transformations, the organization seeks balance or equilibrium. When the organization becomes unbalanced or experiences disequilibrium, it attempts to return to a steady state. It also uses information about its inputs, called feedback, to modify its inputs or transformations to attain its goal of more desirable outcomes and equilibrium. In this manner, general systems theory enables development of new methods for tracking complex real world problems that span different disciplines, and provides us with a broader view of how complex systems work.

For this study, the concept of systems theory is useful for integrating different elements of the school to promote effective change of the organization. Moreover, a systems perspective helps one understand how parts of the system interconnect with each other. Also, a systems perspective helps organize knowledge and emphasizes a way of thinking about interrelationships and connectedness among different elements of the school. As Senge (1990) asserted, the systems perspective is a framework that makes the full patterns clearer and helps us see how to change them. The challenge of this study is
to understand how members of the school board understand systems theory as well as the complexity of the open system of the school organization, and then to help them use systems concepts to plan for effective change.

**Systems Thinking**

Lippitt (1998) presented the following story in his book *Perferred Futuring* to demonstrate how people in the organization not only think but also perceive things differently. The story goes,

…There is a couple who are sitting in one end of a rowboat, both are very calm and enjoying the scenery. In the other end of the boat, another couple is furiously bailing water that is pouring in from a hole in the bottom of the boat. One member of the calm couple says to the other, “*Aren't you glad that hole is in their end of the boat?*”  (p. 6)

The story informs many of the readers that whether they are talking about a department or an entire organization or a community—any system—they should understand that “the hole is never in *their* end of the boat; it's always in our boat.” This story illustrates why systems thinking, which is the main focus of this study, is important and perhaps necessary for school leaders who are responsible for improving the school.

Thinking of an organization as a system is helpful in structuring and ordering management and leadership action. Systems thinking gives some clarity to the apparently unfathomable complexity of an organization such as a school. Systems thinking helps provide school leaders a perspective for viewing and understanding how a system is held together through its interrelationships between parts and wholes within the school systems. This study focuses on systems thinking, investigating the premise that effective
change in school and transformation of educational systems will take place only when the school leaders understand what “systems thinking” really means and how it becomes an effective tool to solve problems in a complex organization such as the school for which they are responsible.

During the past ten years, awareness of systems thinking has been growing in the United States. A number of literature reviews and research articles on systems thinking have been published. As a result, the understanding of systems thinking is used to bring about effective change in workplaces such as schools, communities, organizations, and corporations. Derived from the concept of systems theory, systems thinking refers to seeing the organization as a whole with different parts within the system that interrelate and interconnect with each other. Coghlan and Brannick (2001) gave a good example, and illustrated systems thinking using the human body, whereby bones, muscles, tissues, and organs perform interdependent and interrelated functions. “While we might dissect the body and make an analysis of any particular part, the body’s functioning depends on a holistic view of how all the parts work together” (pp. 98-99). Similarly, school as one form of organization may be viewed as a system, in which planning and controlling structural, technological, and behavioral systems are interdependent and interrelated components of the system.

Oshry (1995) suggested that to understand systems we have to study the diverse relationships of each part to the others, the relationships between and among those parts, and each part’s boundaries. Chaotic situations so often occur in organizations when people within the system lose site of the organizational relationships because of conflicts,
misunderstandings, and poor interpersonal relationships. Oshry defined four major types of “blindness” and disintegration often found in an organization: spatial, temporal, relationship, and process. *Spatial blindness* occurs when we see the ‘parts’ without the ‘whole.’ We see things happening everyday in the society or in the organization. We think we know about everything that happens around us, what caused it to happen, and why. In fact, we are not aware of things that happen and very often we don’t know about it.

*Temporal blindness* means seeing the present without seeing the past. Generally, history is invisible to us. We usually experience the present but are blind to the complex set of events that have brought us to the present. It is this blindness to the history of the moment that is a source of considerable misunderstanding and conflict.

*Relational blindness* is about seeing patterns of relationships. It is unfortunate that we do not see ourselves as being in relationship with our co-workers. We experience ourselves as autonomous entities. We do not see how powerfully this quality of relationship shapes our experiences.

Finally, *process blindness* is a lack of understanding how process affects the system. According to Oshry (1995),

We don't see our systems as wholes, as entities in their environment. We don't see the processes of the whole as the whole struggles to survive. We don't see how "it" differentiates in an environment of shared responsibilities and complexity and how we fall into turf warfare with one another. We don't see how "it" individuates in a diffusing environment and how we become alienated from one another. We don't see how "it" coalesces in an environment of shared vulnerability and how we become enmeshed in Group Think with one another. (Oshry, 1995, p. xiv)
Banathy (1991) was convinced that the current "crisis" in education was foremost a "crisis of perception." The crisis called for a major shift in "mindset" using a new design of education that should be based on "new thinking" — systems thinking — that is rooted in an appreciation of societal evolution and development, and in systems and design thinking. Banathy believed that systems thinking should enable us to understand the true nature of education as a complex dynamic system that operated in ever-changing environments and interacted with a variety of other societal systems (pp. 21-33). Hutton (1994) looked at systems thinking as a modern approach to quality drawn on knowledge from many fields. According to Hutton, “the aim of systems thinking is to create a complete, holistic system of management in which every component of the organization is integrated and supported with one another” (p. 292).

Senge (1995), in collaboration with the corporate members of the Center for Organization Learning, founded in 1991 at the Massachusetts Institute of Technology (MIT), proposed daunting changes in management theory. In his opinion, building learning organizations represents a profound cultural impact on traditional western civilization’s goal-oriented managerial theory. As an alternative, Senge supported a radical redesign in the process of structuring corporations and educational institutions as communities of inquiry and experimentation (1995, p. xv). Just as many ideas have been tested in the field of engineering, new ideas relating to social systems can also be tested. As a result, systems thinking allows people to make their understanding of social systems explicit and improve them in the same way that people can use engineering principles to make explicit and improve their understanding of mechanical systems.
Systems thinking is fundamentally different from that of the traditional form of analysis. Traditional analysis focuses on separating the individual pieces of what is being studied. In fact, the word “analysis” has as its root meaning, “to break into constituent parts.” Systems thinking, in contrast, focuses on how the thing being studied interacts with each other constituent part of the system—a set of elements that interact to produce behavior—of which it is a part. Instead of isolating smaller and smaller parts of the systems being studied, systems thinking works by expanding its view to take into account larger and larger numbers of interactions as an issue is studied. This character of systems thinking, therefore, makes it extremely effective for solving the most difficult types of problems (Aronson, 1996, 1998). For school leaders systems thinking allows them to see each element of the school systems in the “big picture” and not just one or some parts unrelated to the whole complex system of the organization.

Though systems thinking is seen by many as a powerful problem-solving tool, it is believed to be as powerful as language, augmenting and changing the ordinary ways people think and talk about complex issues. In fact, systems thinking forms a rich language and uses it as a tool for describing a vast array of interrelationships and patterns of change. Like Western languages with their subject-verb-objective structure that help shape perception for us, systems thinking creates a causal-loop which represents cause-and-effect relationships (Senge, 1990, p. 70; Senge et al., 1994, p. 184).

Figure 1 represents how a straight line (Diagram A) can become a dynamic loop that shows a flow or sequence of activities, a causal-loop that represents cause-and-effect relationships (Diagram B).
Diagram A

A then B then C then D

Diagram B

A affects D

D affects C

C affects B

B affects A

Senge’s (1994) causal-loop diagram

**Figure 1.** The causal-loop in diagram B (from system dynamics) represents cause-and-effect relationships. Changing any variable will produce change in all the variables in the loop. The arrows in both Diagrams A and B indicate influence or causality, not merely chronology.

According to Senge et al. (1994), “systems thinking, at its broadest level, encompasses a large and fairly amorphous body of methods, tools, and principles, all oriented to looking at the interrelatedness of forces and seeing them as part of a common process” (p. 89). From their research, new understanding of systems thinking emerged: “It is not a top-down or bottom-up of organizational change but is participative on all levels—aligned through common understanding of a system” (p. 89). Senge’s (1995) principle of systems thinking also involves the dynamics and interrelated actions within an educational setting. Each segment and every event of an organization such as a school is connected and involves others. Every activity impacts others with influences that are
camouflaged unless we intentionally focus on contemplating the entire setting rather than individual parts. Senge et al. (1994) wrote:

> Systems thinking finds its greatest benefits in helping leaders distinguish high from low leverage changes in highly complex situations. In fact, Systems Thinking lies in seeing through complexity to the underlying structures generating change. Systems Thinking does not mean ignoring complexity. Rather, it means organizing complexity into a coherent story that illuminates the causes of problems and how they can be remedied in enduring ways. …What we most need are ways to know what is important and what is not important, what variables to focus on and which to play less attention to. (p. 128)

Systems thinking has been used in thinking differently and better about everything we do. Management sectors have used the discipline of systems thinking to design, build, and sustain customer-focused high-performance learning organizations. Haines (2000) referred to systems thinking in the area of management as a “new orientation to life” (p. 38). Systems thinking also studies the organization as a whole in its interaction with the environment. In this situation, it is about thinking backwards from a desired outcome, determining where the organization is, and finding the core strategies or actions that will take it from today to its desired outcome. Using the concept of systems theory, Haines (2000) introduced a new way of thinking backward with five critical phases to serve as locator points which he defined as “true systems thinking.” At phase A, planners would concentrate on defining the systems outcomes, using such questions as: Where do we want to be? Next, phase B is about establishing a feedback system by which the organization will specifically measure its progress. In phase C, planners determine where the organization is at present. In phase D, actions are taken in the organization to reach the goals. It is a transformational process. And finally, at phase
Haines (2000) was convinced that by starting at phase $A$ (outputs), systems thinking could clarify the overall objectives of the whole. It would simplify the process and make sure all the pieces fit together in a continuous, growth-orientated system that focuses on outcome. “In systems thinking, the whole is primary and the parts are secondary, not vice versa” (p. 39). The figure below illustrates how every element works as part of a system to produce a desired affect.

**Figure 2.** A system is made up of a set of components that work together for the overall objective of the whole (output). Systems thinking is a new way of thinking backward with five phases to serve as locator points throughout the process (Haines, 2000).
The benefits of systems thinking as seen by Haines (2000) are tremendous. First, it is a way of thinking more effectively about any system: its purposes, its environment, and its components. Second, it is a framework and way to make sense of life's complexities, since all living things are systems. Third, it is a way to learn new things easier, and the basic rules stay the same from system to system. Fourth, it is a framework for diagnosing, analyzing, problem solving, and decision making in an organization — or in any system. Complex problems become easier to understand, as do the interrelationships of parts and the multiple cause/effect cycles. Fifth, it is a way to manage in the complex "systems age," i.e., focusing on the whole, its components, and the interrelationships of the components. It is a better way to integrate new ideas within the systems context. Sixth, it is a way to see the big picture as well as the details. Seventh, it is a view of the long-term and the short-term consequences.

Other benefits of systems thinking include a new and better way to create strategies, solve problems, and find leverage points, while keeping the outcome/vision and goal in mind at all times. Systems thinking uncovers points of leverage for change that might otherwise be ignored. In addition, it is a method of understanding the relationships, patterns, and themes between issues and events and for identifying the root causes of a current problem. It engages teams and individuals in a deeper thought process/analysis and definition of more root causes that provide longer-lasting results. Apart from these benefits, systems thinking helps get at the deeper structure and relationship/process issues that aren't obvious with a "quick fix" mentality. Systems thinking can also be a framework for focusing on the customer and the external
environment. Another benefit is its forward-looking, solution-seeking perspective instead of simply problem-solving today's issue. Finally, systems thinking is a common language with a better way to communicate and collaborate (pp. 37-38).

In addition to the many benefits shared by prominent researchers in the field, James and Connolly (2000) reported the benefits of systems thinking as providing a useful lens through which to inspect an institution as a whole. By exploring the various subsystems and the way they interrelate, systems thinking can provide a clearer view of the institution. Meanwhile, systems thinking helps audit the work of the whole system and the various parts by looking at the resources the subsystems need and have; how well the different boundaries are managed; the inputs and outputs of the different subsystems; how the various subsystems fulfill their roles; and exactly how the subsystems contribute to the outputs of the system as a whole. James and Connolly also looked at another benefit of systems thinking: it provides a useful framework upon which to base management action. This framework is particularly important in relation to boundary management. How well do individual managers manage the boundaries? Are they managing on the boundary? Systems thinking can also give insights into the whole management role in taking responsibility for the system? How well are the processes and outputs of the system monitored? How are the resources that the system requires managed (pp. 65-66)?

In summary, systems thinking is considered by advocates to be a “new orientation to life” (Haines, 2000, p. 38) to be used as a tool to solve problems in different workplaces. It is a better, more natural, and holistic view of living systems, such as
individuals, teams, and organizations as they try to survive and thrive in today's dynamic environment. Systems thinking is different from the traditional analytic approach that works on each problem, breaks it down into separate parts, analyzes and resolves one area at a time, then moves on to the next. Systems thinking, in contrast, refers to seeing an organization as a whole, made up of interrelated and interdependent parts. In fact, systems thinking is a discipline for seeing “wholes.” It is a framework used for seeing the interrelationships of the organizational parts and system with clear concepts of “seeing the forest and the trees” (Senge, 1990, p. 127), or seeing patterns of change rather than a static “snapshot” (Senge, 1990, p. 68). Systems thinking studies the organization as a whole, in its interaction with the environment. In this situation, systems thinking works backwards to understand how each part of the whole system works in relation to, and in support of, the entire system's objectives.

It is the focus of this study to understand how familiar school leaders are with the concept of systems thinking. Seeing and understanding how every part of the school system is interconnected and interrelated with each other may make them more effective leaders—as systems thinkers.

**School Effectiveness and its Characteristics**

School effectiveness has been the focus of research for the past 40 years. The study of school effectiveness has been considered the most valid empirical knowledge in the whole area of educational change. Miles’ work is an example and has provided a
foundation for other researchers to base their works on school improvement. As Miles (1992) noted: “The effective school correlates provide a legitimated list of markers or criteria for a desired state of organizational being—a vision, in current parlance…which is a crucial element of any deliberate change strategy” (p. 12).

Since the beginning of school, the relationship between quality of school and quality of learning for students has been accepted as “an article of faith” (Sergiovanni, 2001, p. 161). Until quite recently, the research on effective schools consistently has demonstrated correlations between student achievement on tests of basic skills and a stable set of school organization and process characteristics, commonly known as ‘correlates.’ This was the period when social inequality and factors such as poverty, segregated schooling, and the home elements in particular were regarded as being more important and influential than the school as predictors of a student’s academic performance. The two famous research works of Coleman and colleagues (1966) in the United States and the Plowden Report (1967) in Great Britain were highly influential publicly and politically; both strongly maintained that the home influence on students’ skills and achievement outweighed that of the school. The work of Coleman’s study, *Equality of Educational Opportunity*, suggested that social inequality, poverty, and segregated schooling were key elements in determining inadequate levels of learning for many students, and that improving learning would require the correction of these social factors.

Research studies in the 1970s and 80s provided quite a different picture as to the relationship between schooling and quality of learning for students. Researchers had
found that schooling does make a difference. Further, quality schooling is related to the amount and kind of leadership that school principals provide directly and promote among teachers and supporting staff. This assertion was supported by hundreds of studies on school effectiveness and success. For example, a classic study conducted in 1978 by Gilbert Austin compared 18 high-achieving and 12 low-achieving schools in the state of Maryland, using that state’s accountability data. The research indicated that one difference between the two types of school was the impact of the strong leadership of the schools. Edmond’s (1978) study on effective school correlates and reduction of racial inequality in inner-city American schools identified a list of characteristic of effective school such as: (1) emphasis is on student acquisition of basic skills, (2) high expectations for students, (3) strong administrative leadership, (4) frequent monitoring of student progress, and (5) orderly climate conducive to learning. In the UK, on the other hand, Michael Rutter and colleagues (1979) compared the ‘effectiveness’ of 10 secondary schools in south London on a range of student outcome measures. The findings were described as varied on the degree of academic emphasis, teacher actions in lessons, the availability of incentives and rewards, good conditions for pupils, and the extent to which children are able to take responsibility (p. 178). These research studies set a new paradigm proposing that it is the school, and not the social norm and family background, that may be accountable for student learning.

Meanwhile, the features or the characteristics of effective and successful school remained open for discussion. Sergiovanni’s (2001, p. 167) study, based on previous effective school research by Brookover and Lezotte (1979), Brookover and colleagues
(1979), and Edmonds (1979), found that effective schools are characterized by high agreement among staff as to goals and purpose, a clear sense of mission, and the active presence of purposing. Studies by Bossert and his colleagues (1982) and by Greenfield (1982) had revealed that goal orientation and the articulation and modeling of school purposes by principals are also common characteristics. Moreover, the research by Blumberg and Greenfield (1980) had revealed that successful school leaders are proactive and direct behaviors at building and articulating a vision of what the school is and can become. These findings were supported by the research study of Prunty and Hively (1982) and Newberg and Glatthorn (undated). Of note also, the study by Rutter and colleagues (1979) identified the concept of shared goals and expectations and identified approved modes of behavior or strong school culture as being important characteristics.

Although there is no widely accepted common definition of school effectiveness, in general an effective school is involved in some way with a student’s progress. An attempt to develop a rigorous definition of effectiveness for American high schools, for example, yielded four suggestions, including multifaceted achievements of the school, quality of learning and instruction, concern for order and respect between teachers and students, and expectations of intellectual outcomes (Rossman et al., 1988, pp. 138-141). A review of international school effectiveness literature undertaken by Sammons, Hillman, and Mortimore (1995) found that although approaches to education vary from one country to another, successful schools have 11 distinctive features in common: professional leadership, shared vision and goals, a conducive learning environment, concentration on teaching and learning, high expectations, positive reinforcement,
monitoring progress, student rights and responsibilities, purposeful teaching, a learning organization, and home-school partnership (cited in James & Connolly, 2000, p. 40).

Stoll and Fink (1996) described the characteristics of effective schools in three broad categories: common mission includes a shared and communicated vision of school goals and priorities, and the school leader plays a major role in encouraging teachers’, parents’ and students’ involvement in, commitment to, and responsibility for the vision; emphasis on learning implies that teachers have and convey high expectations to their students, use a variety of teaching techniques and monitoring strategies, and work together in teams to create teaching materials linked to school goals; and climate conducive to learning describes a school in which morale and self-concept among school members is high, due to active involvement and responsibility on the part of students, recognition and incentives, and fairness and consistency with regard to student behavior. Also, the learning environment is attractive, with displays of learning activity, and the school is inviting to parents and members of the community who are also involved in school life (p. 16).

An extensive study of school effectiveness was conducted by Duttweiler (1988, 1990). Duttweiler reviewed the literature on school effectiveness (Purkey and Smith, 1982; Roueche and Baker, 1986; Stedman, 1987; Wayson, 1988; Wimpelberg, Teddlie, and Stringfield, 1989) and revealed a more comprehensive picture of what constitutes an effective school than was provided by earlier studies. The following characteristics emerged from Duttweiler’s synthesis:…“Effective schools are student-centered, ... offer academically rich programs, provide instruction that promotes student learning, …have a
positive school climate… characterized by a stated mission, goals, values, and standards of performance, …foster collegial interaction, …have extensive staff development, …practice shared leadership, …foster creative problem solving,… involve parents and the communities” (pp. 72-74).

MacGilchrist, Myers, and Reed (1997), on the other hand, provided a clearer view of what institutes an effective school. They stated that school effectiveness has the characteristics of high-quality professional leadership and management, of focusing on teaching and student learning, and of developing a learning culture within the organization where school staff is willing to be learners and to participate in a staff development program.

In summary, school effectiveness consists of different combinations of factors that have affected students’ progress. The main factors of school effectiveness range from strong, professional leadership and management, shared vision and goals among school members, climate of the school and learning environment, emphasis on curriculum and teaching, high expectations, student self-esteem and discipline, teacher development and focus on learning and teaching, and support and involvement from parents and local community. School effectiveness will be possible only when the school board members undertake their crucial roles of leadership and management and select those characteristics of school effectiveness to initiate on change.
School Leadership and Its Characteristics

It has been emphasized time and again that good leadership is one of the key features of successful change in schools (National Commission on Education, 1993, p. 229). School improvement depends on school leaders who can foster the conditions necessary for sustaining education reform in a complex, rapidly changing society. The effective schools literature of the 1980s identified school leadership as an essential feature of an effective school (Brookover et al. 1982). Management guru Peter Drucker (1995) affirmed that finding school leaders would be the major challenge for school reform. James and Connolly (2000) supported the notion saying there is no doubt that leadership is important; in fact, its importance seems to be increasing. “In education everywhere, leadership is being emphasized increasingly as a factor, if not the factor, that ‘makes the difference’” (p. 32). In a recent article on “The Change Leaders,” Fullan (2002) stated: “Effective school leaders are key to large-scale sustainable education reform” (p. 16).

Normally, in the schools where change has been successful and sustainable, the successful characteristics are personified in the head teacher or the principal. As the change journey progresses, it seems that leadership moves from the exofficio leaders to others who share leadership in the school. In Thailand, schools have begun to make the transition from the principal’s primary influence on the implementation of specific innovations to include other school leader in leading and managing changes in the school organization. In this particular case, the focus is more holistically at the roles of school
board members who are shared leaders of the school. As a result, shared leadership and leadership roles are in the hands of the school board, which has an essential responsibility for educational change in the school. Drawn in particular from the literature on school leadership, this study informs the reader on the meaning of the term ‘leadership’ and discusses the different characteristics considered essential for the school leaders (both the school principal and the individual member of a school board) in order to successfully lead the school to an effective change.

The leadership literature of the 1970s and ’80s, with its focus on effective leaders, revisited personal traits as determinants of leadership abilities. It primarily contributed to understanding the impact of personal and individual behaviors of effective leaders and their role in making the organization successful. The studies differentiated characteristics of effective leaders compared with managers, and introduced a new leadership characteristic—vision—and exploded its importance. Along with having vision as a characteristic of the effective leader, this study explores other characteristics of leadership including shared vision, invitational leadership, valuing human resources, constructivist leadership, the leader as designer, steward, and learner, transactional leadership, and transformational leadership.

The definitions of the term leadership are plentiful. Smith and Piele (1997) presented the meaning of leadership from different individuals’ perspectives in their book *School Leadership: Handbook for Excellence* (pp. 1-2). Derived from the verb “to lead,” leadership, as defined by James Lipham (1979), is “that behavior of an individual which initiates a new structure in interaction within a social system” (cited in Smith and Piele,
1997, pp. 1-2). Carl Welte (1978) defined leadership as “natural and learned ability, skill, and personal characteristics to conduct interpersonal relations which influence people to take desired actions.” In simpler terms, John Pejza (1985) expressed the difference as follows: “You lead people, you manage things.” On the emphasis of personal relationships, Fred Fiedler, Martin Chemers, and Linda Mahar (1976) noted that leadership includes “the ability to consult, manage conflict, inspire loyalty, and imbue subordinates with a desire to remain on the job.” George Terry (1960) suggested another definition of leadership, calling it “the activity of influencing people to strive willingly for group goals.” Bowsher (2001) cited Drucker’s (1995) four perspectives on the effective leader: “(1) The only definition of a leader is someone who has followers. Some people are thinkers. Some are prophets. Both roles are important and badly needed. But without followers, there can be no leaders. (2) An effective leader is not someone who is loved or admired. Popularity is not leadership. Results are. (3) Leaders are highly visible. They, therefore, set examples. (4) Leadership is not rank, privileges, title, or money. It is responsibility” (p. 329).

Rost (1991) offered a definition of leadership that helps connect its practice to community building. “Leadership is an influence relationship among leaders and followers who intend real changes that reflect their mutual purposes” (p. 102). Rost and Smith (1992) believed that school leaders’ credibility could be thought of as encompassing five Cs: character, courage, competence, composure, and caring. *Character* for the school leader is honesty, trust, and integrity. *Courage* is the willingness to change and to stand up for one’s beliefs. *Competence* is defined in both technical and
interpersonal senses. *Composure* is being graceful under pressure and displaying emotion appropriately. *Caring* for school leaders, is being concerned with the welfare of others (p. 199). Certain relationship appear to be required among these five characteristics and must be met by school leaders before their leadership can be fully and widely expressed in the school.

The distinction between leadership and management remains the subject of debate. Looking into the school context in particular, distinctions between managing and leading rest on a number of factors and interpretations. As James and Connolly (2000) explained, “leadership is viewed as being concerned with change, influence, relationships, people, and strategy, which inspire and motivate the creation of meaning. Management is concerned with stasis, authority (usually hierarchical), ensuring correct operations, controlling, monitoring, and problem-solving” (p. 36). Louis and Miles (1990) also provided a distinction between *leadership* and *management* but emphasize that both are essential. In their view, leadership relates to mission, direction, and inspiration, whereas management involves designing and carrying out plans, getting things done, and working effectively with people (cited in Fullan, 1991, pp. 157-158).

Goleman (2000, pp. 82-83) conducted an extensive study on the relationship between leadership styles and organizational climate. He performed his analyses using Hay/McBer’s database of a random sample of 3,871 executives. His findings revealed six leadership styles, four of which positively affect the organizational climate were: *authoritative* (mobilizes people toward a vision, or “come with me”); *affiliative* (creates harmony and builds emotional bonds, or “people come first”); *democratic* (forges
consensus through participation, or “What do you think”); and coaching (developing people for the future, or “try this”). The other two leadership styles that negatively influence and affect the climate were coercive (demands compliance, and makes people resent and resist, or “do when I tell you”); and pacesetting (sets high standards for performance, and people get overwhelmed and burnt out) (Fullan, 2001, pp. 148-149).

Another characteristic of good leadership is communicating vision and messages to the individuals, groups, and community of the school organization. Stoll and Fink (1996) affirmed that invitational leadership is another type of impressive characteristic of a leader. Built on four basic premises, invitational leadership begins with optimism, in the sense that people have untapped potential for growth and thus they choose their own behaviors. The leader can, therefore, hold high expectations for others. Next, the leader respects the individuals as human beings. Respect is manifested through civility, politeness, courtesy, caring, and encouragement of vigorous discussion and dissent. The third component of invitational leadership is trust. The leader trusts others to behave in concert with their worthiness, responsibility, personal choice, and ability. Finally, the actions of the leader are intentionally supportive, caring, and encouraging in policies, practices, programs, and instruction (p. 109).

The leadership literature for school improvement particularly distinguishes two important forms of leadership among a variety of leadership styles: transactional and transformational. James and Connolly (2000) explained the meaning of transactional leadership, which comes in a lower order of improvement, and is the result of a leader-follower exchange process—a transaction. For this particular type of leadership, the
leader meets the followers’ needs if performance measures up to their ‘contracts’ with the leader. In contrast, transformational leadership, which was initially characterized by Burns (1978), brings about a higher order of improvement. The transformational leader raises the level of awareness of the significance of outcomes and processes, and in doing so gets the followers to transcend their own self-interests for the sake of the team and importantly raises the need level or expands the range of needs in the followers (pp. 36-37). In addition, Schlechty (2001) stated that transactional leadership requires the leader only to improve operational effectiveness based on well-established and commonly accepted assumptions. In contrast, transformational leadership requires the leader to embrace and cause others to embrace new and revolutionary assumptions (p. 164).

Bass and Avolio (1994) clarified the transformational behaviors of a leader as the ‘Four I’s’—idealized, inspirational, intellectual, and individualized. Idealized refers to the leaders’ influence as a role model, admired, respected, trusted, and exhibiting charismatic behavior, which arouses strong emotions in the followers and identification with the leader. Inspirational motivation entails communicating an appealing vision, modeling the right kind of behavior, providing meaning and challenge, displaying enthusiasm and optimism, and using symbols to focus the efforts of followers. Intellectual stimulation is behavior that increases or stimulates awareness of problems, encourages creativity, and persuades followers to view, approach, and find solutions to problems from a new perspective. Individualized consideration includes giving support, encouragement, and motivation to each individual’s needs by acting as coach or mentor (pp. 136-137). These four key elements of transformational leadership are consistent with
the notion of leader as ‘learning guide,’ which is implicit in many contemporary views of organizational leadership. These characteristics can be considered highly appropriate as the basis for leadership models of leaders in school settings. Also, transformational leadership appears to motivate many of the school board members to adopt some critical and reflective approaches to engage and practice their responsibilities and leadership role of the school, and also to experiment with radical and creative ways to promote effective change.

A newer leadership style is called constructivist leadership. Lambert et al. (1995) defined this type of leadership as involving a reciprocal process that enables members of a school community to construct meaning that leads toward a common purpose and success of the school. Constructivist leadership helps school members to continually define themselves, to grow together, to craft common purposes, and to construct meaning from the world they live in (p. 33). Lambert (1998) pointed out that when the purpose of leadership becomes that of constructing meaning, facilitating learning, and developing collective responsibility, leadership is linked directly to the very heart of a school’s culture.

Senge’s (1990) work on learning organizations indicated that despite many individuals’ desire to create a better learning organization, leadership might be the limiting factor preventing this change in some environments. Three types of leadership style envisioned by Senge that map exceedingly well on the complexities of the educational change process are leaders as designer, steward, and teacher. The leader as designer is the architect of the organization’s policies, strategies, and systems. In essence,
the task of the leader is designing learning processes where people throughout the organization can deal productively with the critical issues they face, and can develop their mastery in the learning discipline. This is new work for most experienced managers, many of whom rise to the top because of their decision-making and problem-solving skills, not their skills in mentoring, coaching, and helping others learn. Second, the leader as steward refers to the ‘ability to lead’ and continually seek and oversee the broader purpose and direction of the organization. It describes the leader who has a sense of higher purpose and destiny supporting his or her vision, aspirations, and hopes for the organization. The steward is more connected to a larger societal need than the immediate needs of the organization, and sees his or her organization as a vehicle for bringing learning and change into society. Finally, the leader as “teacher” refers the type of leadership that empowers and assists people to achieve their views of ‘reality’ that are being considered as personal pressure, crises, and limitations. It is this type of leadership that fosters learning for everyone to develop systematic understandings, openness to challenge, and further improvement of the organization. According to Senge, the task of the “leader as learner” is compared to that of the artist who develops and improves his or her skills to ‘create’ a new piece of work rather than succumb to ‘limitation’ (pp. 339-357).

Within the context of leader as teacher, Schlechty (2001) adapted the John Dewey’s (1910) classic definition of reflective thought from the treatise, “How We Think,” to support this important role: “…Great leaders must be great teachers. The basic materials with which they work are beliefs: their own beliefs, and the beliefs of those
they would lead. Among the first tasks of the leaders is ensuring that followers are challenged to examine what they believe about schools, children, and the schooling enterprise. This examination should take place in the light of the evidence that supports these beliefs. It should lead to the consequences of acting on them” (p. 169).

Schlechty (2001) emphasized that if the school has to become the place that focuses on effective change, the school leaders should benefit from these three characteristics and competencies, namely, integrity; persistence and constancy of purpose; self-awareness; and ego strength. He affirmed that change leaders must be persons of unquestioned integrity. It is essential that persons who lead structural and cultural change establish and maintain a reputation for openness and honesty. Meanwhile, change leaders have to be constant and persistent in their purpose, clear in their intentions, and willing to stay the course—even at some personal sacrifice and risk. Also, change leaders must understand themselves and be fully aware of their own strengths and weaknesses or ego while they take the leadership role (pp. 182-187).

In summary, leadership has become one of the most important factors for school improvement and effectiveness. School leaders must take on different roles sometimes as leader and sometimes as manager, in order to both lead the school community and manage various school strategies and improvement projects. To lead and manage the school effectively, school leaders must possess different characteristics of leadership. Strong leaders, for instance, are persons of character, courage, competence, composure, and caring. Another type of successful leader might emphasize idealized influence, inspirational motivation, intellectual stimulation, and individualized consideration as key
elements. Successful leadership can have many styles and characteristics. Among the
different styles and characteristics of effective leadership are shared vision leadership,
invitational leadership, constructivist leadership, and transactional leadership. One
outstanding style of effective leadership is the transformational leader who goes beyond
individual needs, focuses on a common purpose, addresses intrinsic rewards and higher
psychological needs such as self actualization, and develops commitment with and in the
followers. Effective leadership demands from the individuals who take charge of school
change that they be trustworthy, able to sacrifice, fill with integrity, persistent and
constant of purpose. Successful change in the school of this particular study depends on
the individual school board members and, how the various and strong characteristics of
leadership become essential parts of their lives.

Summary

Like other types of organization, school has been affected tremendously by
different forces of change, including the advancement of telecommunication systems and
technology, globalization, socioeconomic systems, and competition in the world market
for skilled workers. In Thailand, education has become the first priority for most families.
During the past several years, parents and the society expect academic excellence from
the school. As a result, it has been a constant effort of the schools to improve their
educational systems and their management. Today, every school in the country is facing
tougher demands from within and outside the school system for an unprecedented series
of education reforms. Moreover, the 1999 National Education Act mandates that every school must engage in educational change and help resolve various crises of the country. Faced with such challenges, the school finds different ways to assess itself and to become more productive and successful.

One of the most important change-related issues is the new leadership role of the school board. This study focuses on their perspectives and understanding of systems thinking as framework to be employed by individual school board members in their efforts to bring about sustainable change in the school.

To provide a context necessary to understand the interrelationships of key elements leading to effective change in school, this chapter reviewed the literature on change, systems theory, systems thinking, school effectiveness, and leadership. The review of literature focused on each theme and presented essential elements for the readers to understand and connect.
CHAPTER 3

CONCEPTUAL FRAMEWORK AND METHODOLOGY OF RESEARCH

We must create a great change in human direction—an understanding of the interdependency by which the universe evolves. Know—that knowing—is the underlying foundation for the life we must develop. We cannot leave it to the scientists—nor any form of government—each individual must fuse a philosophy with a plan of action.


Introduction

This chapter describes the conceptual framework and methodology of research used in this study. The primary goal of the study was to investigate school leaders’ perspectives and understandings of effective change in school through systems thinking. Key questions for investigation included:

1. What characteristics of “systems thinking” do school leaders exhibit when faced with school-related problems and issues?

2. What characteristics of “systems thinking” do school leaders exhibit when faced with problems and issues from other (nonschool) domains?
3. What characteristics of “systems thinking” do school leaders employ/use as a means to affect change in the school?

4. What views do school leaders express about the importance of “systems thinking” in improving the school (or their own areas of expertise)?

The secondary goal of this study was to consider perceived problems and to propose solutions that school leaders might contemplate for an effective, sustainable change in the school system in the future.

The following sections present a brief discussion of the research paradigm, rationale for choosing a qualitative research design as a method to investigate the research question, the theoretical framework of the phenomenology that guided the study, the structure of case study as an approach to conduct the research study, the setting and the sample for the case, methods and procedures used to gather data, strategies used to analyze data, experiences and roles of the researcher, researcher’s bias, ethical considerations, issues of trustworthiness (validity, reliability, credibility, and transferability), and limitations of this study.

**The Research Paradigm**

Qualitative research gained prominence during the past 20 years when several publishers produced books with qualitative orientations (e.g., Berg, 1989; Kirby and McKenna, 1989; Strauss and Corbin, 1989; and Van Maanen, 1988). Ever since, a growing number of educational researchers have continued to explore this research
method. Many scholars using qualitative research were convinced that quantitative inquiry did not fully illuminate all the aspects of research in education. Their exploration of qualitative processes that would generate knowledge and understanding has led to an “era of paradigm proliferation,” as Donmoyer (1996) called it, and several new research methodologies have emerged.

As a new type of inquiry emerged into the field, different researchers and scholars tried to explain the meaning of this paradigm. Guba (1990) defined the term paradigm as “a basic set of beliefs that guide actions” (p. 17). Denzin and Lincoln (1994) looked at paradigm as “a systematic set of beliefs and feelings about the world and how it should be understood and studied” (p. 13). Patton (1990) defined paradigm as “a worldview, a general perspective, a way of breaking down the complexity of the real world” (p. 37). “Paradigm” is deeply embedded in the socialization of adherents and practitioners of qualitative inquiry. It tells them what is important, legitimate, and reasonable. In addition, it is normative, telling the practitioners what to do without the necessity of long existential or epistemological consideration. In fact, it is these aspects that constitute the assumptions of both strength and weakness of the paradigm.

As the move from a social-based to an arts - or humanities-based approach to research continues, researchers have increasingly recognized that scientific inquiry is one species of research. In other words, research is not merely a species of social science. Elliot Eisner (1997), a leading proponent of alternative forms of representation, proposed that the legitimacy of the truth claims generated from the diverse modes of inquiry depends on how the work is pursued. In his word: “Virtually and carefully, reflective,
A systematic study of phenomena undertaken to advance human understanding can count as a form of research. It all depends on how that work is pursued” (p. 262).

Though the internal logic of the various research traditions is grounded on the assumption about what is true (epistemology), what is real (ontology), and what is the value (axiology), each research tradition carries its own identity and has an identical approach. Different schools of thought attempt to differentiate the two research genres and argue their incompatibility based on philosophical underpinnings of the two approaches (Howe, 1988). Dabbs (1982) believed, the notion of quality is essential to the nature of things. Quality, on the one hand, refers to the what, how, and where of a thing – its essence and ambience. Quantity, on the other hand, is elementally an amount of something. In contrast, quantitative research refers to counts and measures of things, while qualitative research refers to the meanings, concepts, definitions, characteristics, metaphors, symbols, and descriptions of things. (p. 32)

Borg and Gall (1989) compared the two approaches of quantitative and qualitative research as positivistic and naturalistic with regard to dimensions of the vision of the nature of reality, the relationship of the researcher to the research subject, issues of generalizability, discussion of causality, and the roles of values.

Others scholars have also provided their perspectives on these two research genres. Pressley and McCormick (1995) proposed that “quantitative researchers take as their ideal the classic scientific method, whereas qualitative researchers are more interested in interpretations, with the perceptions of participants in a setting valued as data” (p. 15). Pressley and McCormick continued saying, “while the quantitative researchers do all that is possible to obtain objectivity, the qualitative researchers, in contrast, are more comfortable with subjectivity. However, what quantitative researchers
are often interested in and see as the most important characteristic is in testing theories using experiments, statistical correlations, and other quantitative analyses. In contrast, qualitative researchers are frequently interested in constructing theories based on observations and interviews” (pp. 15-16). Much earlier, McClintock et al. (1979, p. 149) pointed out the differences between the two research methods when they are underlining similarities in logic of case studies. Qualitative methods are described as “thick” (Geertz, 1973, p. 6), “deep” (Sieber, 1973), and “holistic” (Rist, 1977, p. 44). In contrast, quantitative approaches may be characterized by qualitative researchers as “thin” (Geertz, 1973: 6), and “narrow” (Rist, 1977, p. 47), but generalizable (Sieber, 1973).

In summary, during the past 30 years the forms of educational research have grown tremendously. Bogdan (1972) stated that qualitative research has left its mark conceptually and theoretically on social science. Both of the research genres have their special characteristics and involve different strengths and weaknesses. The quantitative method, on the one hand, is viewed by some as positivist, thin, and narrow, but generalizable in its scientific approach. The qualitative method, on the other hand, is viewed as naturalistic, thick, deep, and holistic. Eisner (1997) concluded that the legitimacy of the truth claims generated through these diverse modes of inquiry depends on how the work is pursued. Hence, it is up to the logic justification of the researcher to pursue his or her study.
Qualitative Research Design

Different scholars have provided various definitions and meanings of qualitative research. Merriam (1998) characterized qualitative research as an umbrella concept covering several forms of inquiry. This analogy helped explain the meaning of social phenomenon with as little disruption of the natural setting as possible, and in which the focus of the study is on interpretation and meaning. Smith and Glass (1987) regarded qualitative research as devoted to developing an understanding of human phenomena and experience, which helps explain “the persons involved, their behavior and perceptions, and the influence of the physical, social, and psychological environment or context on them” (p. 257). According to Cresswell (1998):

Qualitative research is an inquiry process of understanding, based on distinct methodological traditions of inquiry that explore a social or human problem. In the process of a study, the researcher builds a complex, holistic picture, analyzes words, reports detailed views of informants, and conducts the study in a natural setting. (p. 15)

A comprehensive definition of qualitative research came from Denzin and Lincoln (1994):

Qualitative research is a multimethod in focus, involving an interpretive, naturalistic approach to its subject matter. This means that qualitative researchers study things in their natural settings, attempting to make sense of or interpret phenomena in terms of the meanings people bring to them. Qualitative research involves the studied use and collection of a variety of empirical materials – case study, personal experience, introspective, life story, interview, observational, historical, interactional, and visual texts – that describe routine and problematic moments and meaning in individuals’ lives. (p. 2)

Qualitative research studies have many typologies and traditions. Denzin and Lincoln (1994) provided different approaches to qualitative study, which include case
studies, ethnography and participant observation, phenomenology and ethnomethodology, grounded theory, biographical method, historical social science, participative inquiry, and clinical research. In addition, Gall, Borg, and Gall (1996) analyzed the above approaches of qualitative study and provide three major genres that focus on: (1) *individual lived experience* exemplified by phenomenological approaches, some feminist inquiry, and narrative analysis; (2) *society and culture* as seen in ethnography and qualitative sociology; and (3) *language and communication* expressed by sociolinguistic and semiotic approaches.

Qualitative research also has different strong characteristics and it provides ample advantages to research study. Foshay et al. (1999) stated the advantage of a qualitative or—naturalistic method—is the ability to ascribe meaning to a situation by studying things in context rather than in artificial isolation as happens in controlled experiments. Meanwhile, Sherman and Webb (1988) listed four important characteristics of qualitative research methods: (1) Events can be understood adequately only if they are seen in context; therefore, qualitative researchers immerse themselves in the setting. (2) The contexts of inquiry are not contrived; they are natural. Nothing is predefined or taken for granted. (3) Qualitative research wants those who are studied to speak for themselves, to offer their own perspectives in words and actions. Qualitative research is an interactive process in which the persons studied teach the researcher about their lives. (4) Qualitative researchers attend to experience as a whole, not in terms of separate variables. The aim of qualitative research is, therefore, to understand experience as being unified (p. 913).
The above characteristics of qualitative research were consistent with the values of qualitative research described by Borg and Gall (1989). They listed the following values: (1) phenomenology: the researcher develops an "insider's" viewpoint from multiple perspectives; (2) holism: the researcher perceives the big picture or the total situation rather than a few elements in a complex situation, as in quantitative research; (3) nonjudgmental orientation: the researcher records a situation in qualitative terms without superimposing his or her value system, judgments, hypotheses, or preconceptions may distort what the researcher sees; (4) contextualization: all information is considered only in the context of the environment in which it was gathered.

It seems obvious that these characteristics of qualitative research are appropriate for studying effective change in a school. Marshall and Rossman (1999) affirmed that “qualitative research is pragmatic, interpretative, and grounded in the lived experiences of people” (p. 2). I chose the qualitative research design because I was interested in studying people’s perspectives in the natural settings of the school organization. The intention of this particular study was to examine, in depth, the phenomenon of systems thinking and understanding about effective change in a school system as perceived by a group of school leaders. The qualitative research design provided a way to uncover problems and recommendations to improve. In such a case, experiments would have been unethical (Marshall, 1987).

This research was conducted from an interpretivist perspective using qualitative design methods. Cited in the Handbook of Research on Teaching, Erickson (1986) claimed the primary characteristic of qualitative research is the centrality of interpretation.
and the findings are not so much “findings” as “assertions.” This interpretivist paradigm “portrays the world in which reality is socially constructed, complex and ever-changing” (Glesne and Peshkin, 1992, p. 6). Rossman and Rallis (1998) supported the notion that the interpretivist paradigm holds status quo assumptions about the social world and that interpretative research tries to understand the social world as it is (the status quo) from the perspective of individual experience. Prediction, in the paradigm, is seen as a social control, and undesirable. Rather, the goal is to generate a “thick description” (Geertz, 1983) of the actor’s worldviews (p. 35). Because the meaning is to be constructed in a context based on multiple perspectives, the research design of this study evolved with the interactions of the researcher and the context (Lincoln and Guba, 1985).

Thus, this particular type of qualitative research design allowed me to foster pragmatism, using multiple methods of exploration and effective change in a large K-12 private school in Bangkok. The design approach of the study was from the interpretivist paradigm, as opposed to positivist or scientific paradigm. As a result, this naturalistic inquiry helped the researcher identify phenomena and lived experiences (actor’s worldview) of individual school leaders regarding their perspectives, awareness, and understanding of systems thinking and the educational systems of the school. The interpretation and description of individual perspectives on the school system and related problems of school management as seen by the school leaders may be used in the future to determine means and processes to change in the school.
Phenomenology as Framework

Various frameworks can be chosen and used as a framework when conducting a qualitative research study. The framework of phenomenology was considered appropriate to direct this study. Derived from the Greek word *phenomenon*, phenomenology means “to show itself,” “to put into light” or manifest something that can become visible in itself (Heidegger, 1962, p. 57). According to Bishop and Scudder, (1991) “phenomenology attempted to disclose the essential meaning of human endeavors” (p. 5).

Foremost, phenomenology is a philosophy or a variety of distinctive, related philosophies. Phenomenology may also be reviewed as approach and method. In fact, Edmund H. Husserl (1859-1937), the German mathematician and father of phenomenology, considered phenomenology to be all three—a philosophy, an approach, and a method. Ray (1994) said that Husserl’s philosophical attitude toward phenomenology related to the question, *How do we know?* Thus, the essence of the thing as it “is meant,” or what makes something what it is without preconceptions or prejudices is revealed (Husserl, 1970). In other words, the basic philosophical assumption of phenomenology is that it attempts to disclose the essential meaning of human experience and the essence of the human experience can be obtained through a bracketed and nonpredetermined interpretation.

During Husserl’s period, phenomenology was regarded as a philosophical tradition and used in the development of a rigorous science. Later, through the work of Schutz (1977), phenomenology was extended and firmly established as a major
philosophical and social science perspective (Patton, 1990). Husserl’s basic philosophical assumption on phenomenology that “we can only know what we experience” has had a great impact on qualitative research, which is also called “naturalistic inquiry” (Patton, 1990, pp. 39-44).

Phenomenology is a unique approach to research. Bogdan and Biklen (1992) regarded phenomenology as a process employed to discern the meaning of events and interactions to ordinary people in particular situations. “Phenomenologists believe that multiple ways of interpreting experiences are available to each of us through interacting with others, and that it is the meaning of our experiences that constitutes reality” (p. 34). According to Patton (1990), phenomenological research was based on the assumption that captures people’s experiences and focuses on the essence of shared experience. In his words: “Phenomenologists focus on how we put together the phenomena we experience in such a way as to make sense of the world and, in so doing, develop a worldview” (p. 69). Patton (1990) affirmed: “A phenomenological study is one that focuses on descriptions of what people experience and how it is that they experience what they experience” (p. 71).

In this study, the awareness, perspectives, and understanding of systems thinking among the school leaders, as well as their experiences related to school educational systems, were the phenomena under investigation. The goal of this study was to discover, from multiple perspectives, the essence of the school leaders’ insights and shared experiences on effective change in the school. Thus, their lived experiences and insights
on respective professions would provide a means and process for effective, sustainable change in the school.

**Case Study as Method of Investigation**

Five traditions of qualitative research design commonly found in education are basic or generic qualitative study, phenomenology, grounded theory, ethnography, and case study (Merriam, 2001, p. 11). I chose case study as the method of investigation of the school leader’s perspectives of systems thinking and change in school. Since case study is a form of qualitative research as well as a methodology, it is particularly useful to begin the examination of a case within that broader context.

Case study can be defined in terms of process and can be used to carry out investigation or inquiry of bounded systems or units of analysis selected for study. Yin (1994) defined *case study* in terms of a research process that attempts to address questions of “how” or “why” within a real-life situation over which the researcher has little control (pp.1-3). Adelman, Jenkins, and Kemmis (1983) regarded case study as an exploration of a single entity or phenomenology (an event, process, organization, group, or individual) that is “an instance drawn from a class” (p. 3). Another focus of case study is on the product of the investigation. Wolcott (1992) described case study as “an end-product of field–oriented research,” which means the end report of a case investigation. Merriam (1988) viewed the case as an intensive, holistic description and analysis of a single instance, phenomenon, or social unit.
Stake (1995) defined *case study* “as and integrated system” (p.2), a study of the particularity and complexity of a single case that leads to understanding of its activity within the broader view of circumstances. Smith’s (1978) notion of the case was that it is “a bounded system” (p. 19). Miles and Huberman (1994) referred to the case as “a phenomenon of some sort occurring in a bounded context” (p. 25). Merriam (1998) viewed case study design as normally employed “to gain an in-depth understanding of the situation and for meaning for those involved with the interest in the process, context, and discovery rather than the outcomes, or a specific variable, and confirmation” (p. 19). Rossman and Rallis (1998) proposed that case study seeks to understand a larger phenomenon through close examination of a specific case and, therefore, focuses on the particular. Case study is not only rich in its description and heuristic values, but also holistic and inductive in its nature. By providing details and complexity, case study can illuminate the reader’s understanding of the setting or event, thereby extending comprehension of some complex set of events or circumstances (pp. 70-71).

Thus, case study can be defined by purpose, which it differentiates as description, explanation, or evaluation (Gall et al. 1996). Case study can also be defined by characteristics. Rossman and Rallis (1998) defined *case study* as descriptive, holistic, heuristic, and inductive. Merriam (1998) organized these special features into three essential properties: particularistic, descriptive, and heuristic. *Particularistic* emerges here as the first characteristic and inherent in case studies by definition for its focus on a particular situation, event, program, or phenomenon. Merriam (1998) stated the importance is the case itself, which describes the specific phenomenon and what it might
represent under investigation (p. 29). Shaw (1978) viewed case study as concentrated attention on the way a particular group of people confronts specific problems, taking a holistic view of the situation (p. 2). In this study, the particular situation was the issue of effective change in a large K-12 private school and the school leader’s perspectives and understanding of systems thinking that affects the change process within the school system, which was the bounded system under investigation.

The second characteristic of qualitative case studies is descriptive. In case study, the end product is a rich, “thick” description of the phenomenon under study. (The term “thick description” comes from anthropology and means complete, literal description of incident or entity being investigated). Instead of reporting the findings in numerical data, “case studies use prose and literary techniques to describe, elicit images, and analyze the situation. In fact, they present documentation of events, quotes, samples, and artifacts” (Wilson, 1979, p. 448). The present study was conducted from the interpretivist paradigm and explored and described those perspectives of the school leaders regarding their awareness, knowledge, understanding, and perspectives of systems thinking and other issues related to the school systems and school effectiveness. The end product of this study is a rich and “thick description” (Lincoln and Guba, 1985) of the school leader’s perspectives of systems thinking, including description, quotes, opinions, and suggestions considered critical to bring about change in the school.

The third characteristic of qualitative case studies is heuristic. Derived from the Greek word heuriskein the root meaning of heuristic is to discover or to find. In heuristic inquiry, the focus is exclusively and continually aimed at discovering new meaning and
understanding of the human experiences or phenomena under study. Douglas and Moustakas (1984) wrote, “Heuristics is concerned with meanings, not measurement; with essence, not appearance; with quality, not quantity; with experience, not behavior” (p. 42; as cited in Patton, 1990, p. 71). Earlier, Stake (1981) observed: “Previously unknown relationships and variables can be expected to emerge from case studies leading to a rethinking of the phenomenon being studied. Insights into how things get to be the way they are can be expected to result from case studies” (p. 47). It was another intention of this study to discover various variables and insights among the school leaders’ perspectives on school change through a systems thinking approach. Reflections, essence, experience, and insights on effective change in the school came from the inquiry and shared reflection of the school leaders’ lived experiences related to the case under investigation.

In summary, the purpose of this particular case study was to uncover the perspectives and understanding related to systems thinking and the means for promoting effective change in the school by the school leaders. This study was an interpretive case study of a single unit or bounded system of a individual group of school leaders of a particular, large K-12 private school in Bangkok, Thailand. This case study focused on holistic description and explanation of the significant factors as revealed from lived experience, reflections, and insights related to school systems held by the individual school leaders. This study also gathered as much information about perspectives and understanding of systems thinking from those participants (school leaders) as possible, with the intent of analyzing and interpreting the phenomenon of systems thinking, which
then emerged from the examination of data and information into themes, subthemes, concepts, and patterns of experiences. The model of analysis was inductive. As a result, the inductive reasoning helped discover concepts and understandings rather than verifying predetermined hypotheses.

The Setting

Marshall and Rossman (1999, p. 69) and Rossman and Rallis (1998, p. 86) suggested a realistic site for study is where entry is possible; a rich mix of the processes, people, programs, interactions, and structure of interest are present; the researcher can build trust with the participants; and the information, and credibility of the study are assured. Other considerations for site selection were its uniqueness, compelling characteristics, and unusualness.

In this study, Assumption College Thonburi, a large K-12 private Catholic high school in Bangkok, Thailand, was chosen as the broadest unit of analysis and boundary (Smith, 1978; Stake, 1995) for the case. Founded in 1961 by Saint Gabriel’s Foundation, Thailand, the school had become one of the fastest developing schools of the Foundation during the past decade. Saint Gabriel’s Foundation, Thailand, the leading religious educational organization, had 12 educational institutions throughout the kingdom under its administration. The setting chosen for this study was one among the K-12 schools of the Foundation. For the particular school under investigation, the number of students
enrolled in the beginning of the academic year 2002 was 4,786. The school had 268 teachers, of whom 96 were male and 172 were female.

There were various reasons to consider this particular K-12 school as a setting. First, entry was possible (Marshall and Rossman, 1999, p. 69; Rossman and Rallis, 1998, p. 86). As a former administrator of the school, I had become a good friend to a number of teachers and parents and still maintained contact with them. As soon as I decided to choose this site for my case study, I wrote a letter to the principal and received a reply from him with full permission and support to conduct my research at his school (Appendix A). Second, the site offered a full mix of processes, programs, and people. The site had a rich school culture. It was a large Catholic K-12 school with a good mix in the school management and educational system. The administrators had maintained balance on the function of the Catholic school in serving the majority of Buddhist students and teachers. The school emphasized areas of teaching and learning, and of student discipline. Third, I had previously built trusting relations with the participants, and fourth, I was assured of receiving of quality data and having a credible study. In fact, I have come to know most of the participants during the six-year period of my service at the school. Five of the participants were my co-administrators and teachers and four were members of the school’s Parent-Teacher Association (PTA) during my tenure. The other six participants also were not strangers to me. Two were assistant professors who had taught many of our teachers at their university, three were parents of current students, and the last participant was a local district administrator whose son was a school alumnus.
Given their status and my acquaintance with most of the participants, I was confident that I would receive full cooperation.

The specific setting for the investigation offered many compelling characteristics and uniqueness as a developing school. To mention a few, the school had made numerous attempts during the past four decades to improve its teaching and learning systems. Moreover, the school had been considered as a model school for the Foundation in terms of strategic planning, increased enrollment, student achievement, and innovative application of educational technology for effective and efficient learning and teaching purposes. Also, the school had the potential for becoming a leading high school in the country with the advantages of its prime location and conducive learning environment at the western part of Bangkok, modern buildings and learning facilities, and up-to-date technological support. More importantly, the school has had a strong Parent-Teacher Association (PTA) and had received great support in terms of donations and cooperation from the parents and the local community. Most importantly, the school had several major educational projects pending implementation such as the whole-school bilingual educational program (English-Thai) and the International School (with English as the medium for learning) in the near future. Finally, the school, which offered full support of the study, had recently appointed a new school board to co-administer and develop a shared vision, mission, and goals for the school.

As further justification, Assumption College Thonburi was chosen because the school had reached a milestone of 40 years of service in the year 2002 and school management wanted its educational systems to be assessed and improved. Second, the
school was a successful large private Catholic school. Its reputation and recognition had emerged from various successful innovative learning projects, employment of advanced instructional technology for learning and teaching, and the school’s clear master plan for future development. Third, the school was well funded and has received continuous support from parents and members of the local community during past years. Fourth, the school had been well established and recognized both at the local and regional levels and had had increasing enrollment each year. Fifth, the participants in this study were 15 newly selected school board members who were about to begin their new leadership roles in the school and an assessment of their perspectives of systems thinking as a tool for effective change in the school system was needed. Finally, the researcher had access to the school by virtue of his administrative role as the former principal.

However, as a large Catholic religious private school, Assumption College Thonburi had been using a hierarchical model for its management. Under the current 1999 National Education Act, mandated by the Ministry of Education, the school was required to adopt the school board as a new approach to school administration. Thus, the awareness and understanding of systems thinking and school effectiveness on the part of a new school board was considered a crucial matter for future success of the school and, therefore, became the prime focus of investigation for this case study.

A three-month period between September and November 2002 were the boundaries for this case study. Since the school year began in May and ended in March, this period of investigation was in the middle session of the school year. As a result, the school had been engaging in various types of academic activities including a number of
school board meetings. As the researcher, I considered these different educational activities and the involvement of the new school board during this period to be appropriate for conducting individual in-depth and focus group interviews, making observations, gathering data and information, and performing content analyses of the school’s documents and minutes.

The Sample

Burgess (1982) stated that sampling in field research involves the selection of a research site, time, people, and events (p. 76). Normally, there are two basic types of sampling used in research: probability and nonprobability sampling. Probabilistic sampling allows the investigator to generalize results of the study to the population from which the sample is drawn randomly. Since generalization was not the main purpose of this study, probabilistic sampling was not necessary for the qualitative research. Thus, nonprobability sampling, which Chein (1981) called purposive and Patton (1990) named purposeful, was the most appropriate choice for this case study.

Merriam (1998) said purposeful sampling was based on the assumption that the investigator wants to discover, understand, and gain insight, and therefore must select a sample from which the most can be learned (p. 61). Merriam (1998), Goetz and LeCompte (1984), Miles and Huberman (1994), and Patton (1990) differentiated among different types of purposeful sampling as: typical, unique, maximum variation, convenience, snowball, chain, and network. As mandated by the Ministry of Education
under the new regulations of the 1999 National Education Act, the school conducted a search for a school board, members of the school board were selected by the school authority at the end of the previous school year, and the list was submitted to the Ministry of Education for endorsement. On October 1, 2002, the school announced to the school members and communities a list of 15 school board members. In this study, the sample consisted of all 15 school board members, which included: a representative of Saint Gabriel’s Foundation, Thailand, as scholar; the school principal, four academic officers and scholars, two representatives of current parents, two representatives from the Assumption College Thonburi Alumni Association, two representatives from the local community, and three teachers. The participants in this study represented the entire community of school board members with variety in terms of educational background, social status, profession, gender, age, perspectives, and experiences with private and public school administration. The personal and educational backgrounds of individual participants are discussed extensively in the next chapter.

Researcher’s Roles, Experiences, and Biases

Educational Background

I bring an insider’s perspective to this study as a Thai citizen who was born, raised, and educated in Thailand. I began my primary education at a small parochial school, built by my great-grandfather for the Catholic Church of The Epiphany nearly a hundred years ago in Nakhon Nayok province. This small province is about 60 miles
northeast of Bangkok. After finishing my fourth-grade study, I left my hometown to receive further secondary and high school education in three other private religious-run Catholic schools. From my 12 years as a Thai student, I became familiar with many traditional teaching and learning methods implemented at those prestigious private schools. Indeed, during the ’60s, rote learning and strict discipline were seen as common practice at these and most of the Thai schools in the country.

My undergraduate study of education in English and Educational Technology, was also completed in Thailand in 1978 at Sri Nakharinwirot University in Bangsaen, a teacher education college near Sriracha in Chonburi province, where I spent 4 years teaching at a K-12 religious-run Catholic school. I spent 12 years as an educator at three large private schools, two schools in the east and one in the north of the country. In 1987, I received a scholarship from Saint Gabriel’s Foundation, a religious nonprofit educational organization in Thailand, to further my graduate study in the concurrent programs of Instructional Design, Development, and Evaluation (IDD&E) at the School of Education and Educational Communications, S.I. Newhouse School of Public Communications, Syracuse University, New York. After working for another nine years as school principal at two other Catholic religious-run K-12 schools, returned to school in 1999 to study for a doctorate in the Instructional Systems Program (INSYS) in the Penn State College of Education. These experiences taught me the traditions, practices, quality, and limitations of learning and teaching systems inside my country and abroad.
Experiences as Teacher and School Administrator

My professional experiences as teacher and school administrator helped to motivate this study on effective change in school through the perspectives of systems thinking of the school board. Three years prior to and during my undergraduate program of education, I was a full-time teacher at two large private schools; one was Assumption College Rayong in the province of Rayong (1973-75) and the other was Assumption College Sriracha, in Chonburi province (1975-79). This Sriracha school was the largest boarding school in the country, about 70 miles east of Bangkok. After my undergraduate study in Thailand and right after my graduate study in the United States, I taught English at Assumption College in Lampang province (1979-81). I then became principal of this and two other schools from 1981 to 1998, including Assumption College in Sriracha and Assumption College Thonburi in Bangkok, which is the setting of this study. During the past three decades, my teaching career and administrative interests have concentrated on how to make school more effective, how to improve the educational systems of teaching and learning, and by what means and methods to provide effective, practical training materials, and related facilities within those respective schools.

As a teacher, I have learned what students care and need most. I believe they have a desire to learn with the guidance of kind, dedicated, and understanding teachers. They also prefer to study in small-sized classrooms with conducive learning atmospheres, sufficiently equipped with teaching aids and technology. Unfortunately, nowadays, some of the teenage students have been distracted by an influx of foreign culture and fashion, through the influence of media and new technology. Some students have shown little
interest in studies. Meanwhile, I valued what teachers really look for in their respectable profession. Thai society still adores teachers as the second parents to their children. They show great respect toward teachers, as it was in the past. Most teachers have been aware of the hardships of the teaching occupation and have willingly accepted the relatively low salary. However, in recent years, teachers and the teaching profession have been questioned by the society. The concerns raised by the people have ranged from competency to integrity, professionalism, role modeling, attitude, dedication, sacrifice, and morality. The fate of the Thai teachers is being challenged by higher expectations of the present society and especially by the recent 1999 National Education Act.

As an administrator, I have learned how the leadership role of the school administrator (principal) has great influence and impact on the school, the teachers, the students, the parents, and the entire educational system. In the capacity of school leader, the administrator could play a vital role in convincing parents and obtaining cooperation and support from them. It was one of the most difficult responsibilities and most time-consuming processes for the school administrator to maintain and improve the school to meet and satisfy the needs and expectations of the parents and the society for high educational quality. However, the services I rendered to those institutions (especially the setting for this study) were sharing and communicating vision and mission of the school and its goals with the Parent-Teacher Association (PTA), designing and developing a variety of in-service training programs for the personnel especially on teaching skills and uses of technology, providing seminars and workshops on new curriculum, and
organizing visits and field trips to various leading schools, institutions, and other learning organizations in the country, in Asia, Europe, and Australia.

In brief, it was through my regular visits and continuous contact with those students, teachers, parents, and leaders of the communities that I have developed and remained in close and collegial relationships with them. My experiences with these people helped me realize the importance of this particular study on school effectiveness and educational reform. It also heightened my preparedness in doing this investigation on change and school effectiveness with the new school board members. Thus, my previous roles as teacher and administrator at this setting have brought me in close contact with 15 school board members of Assumption College Thonburi in Bangkok. By observing, talking, listening, visiting, meeting, and partying with them, I developed a closer collegial relationship with them.

A Look at the Thai Educational Systems

My insider’s perspectives in this study are also reflected in my experiences and familiarity with change and reform of the Thai educational systems. During the past several years, Thai educational systems have been under the tight control of the bureaucratic government. This phenomenon was evident both in the public and especially in the private schooling systems. A centralized system of power and policy was in the hands of the Ministry of Education who made rules, designed curricula, controlled the budget, supervised school management, and evaluated the schools’ performances and outcomes.
For the past four decades, I have witnessed gradual changes in the Thai educational systems. In 1960, the country made a major transformation in its educational systems by announcing the first 4 of its 12 years as compulsory education. In 1973, the educational system was extended from 4 to 7 years of compulsory education, leaving the remaining period as optional. In 1977, the government made another major reform when the educational system was changed from 4-3-3-2 structure to 6-3-3 system wherein 6 years of compulsory primary education is followed by 3 years of lower secondary school and by another 3 years of upper secondary schooling, which was still in use until early 2001. In 1981, the evaluation system was adjusted from a pass-fail (percentage) to a credit-hour system. In 1990, after using the old curricula for about 10 years, the Ministry of Education, once again, revised the entire curricula. As a result, schools and teachers were encouraged to design their respective curricula to suit the learners’ needs and the localities. New technology such as computers and audio-visual devices was brought into classrooms and it created great excitement in learning and instructional systems. Finally, the most recent and radical reform of the Thai educational systems took place in 1999. The worst economic crisis in August 1997 and other setbacks of social, political, and the out-of-date educational systems were among the main reasons for a massive reform. As a result, the current educational system of the country was changed again into a 3-3-3-3 system in 2001. The implementation of the current reform of the Thai education system is at an early stage and it is too soon to make comment.

The changes I have witnessed during the past 4 decades made me quite familiar with different stages of at least five major and minor educational reforms of the country.
from centralization to decentralization, from the power of the Ministry of Education to the good hands of the school board members, from teacher-centered learning strategies to more problem-solving and child-centered learning approaches, and from the ordinary chalk-and-blackboard and few books in the library as medium of learning into advanced information systems with computer, Internet, and the World Wide Web as new tools and means to learning. Thus, these long and struggling years of transitions and changes of the Thai educational systems have had a great impact on my past and future careers as educator and administrator. My experience has inspired me with a strong foundation and determination to perform this research study on school effectiveness in this new era of Thai education.

**Perspectives on School Effectiveness**

In Thailand today, people pay much more attention to education than they did in the past. Parents judge and value the success of each school and they select where to enroll their children based on a variety of criteria: prestige of the school, strong team of administrators and management, teachers’ quality, conducive learning atmosphere and facilities, the student’s achievement on standard tests, and the percentage of students accepted into colleges. Despite high tuition fees and tough competition among the candidates, most parents prefer the private schools, especially the Catholic, religious-run private schools to those of the primary government schooling systems. However, in the past few years, the government schools have gained more public confidence and they have outperformed many of private middle and high schools. Key factors that cause the
private schools in general and the school that is the setting of study to run behind those of the public education systems include: insufficient budget, high school fees, quality of instructors, outdated curriculum, lack of new technology, the social values of some of the government prep or elite schools, large classes, parents’ dissatisfaction with school performance, lack of support from government, conflicts of interest among teachers, incompetence of school leaders, poor school management, and low achievement test results of middle and high school students.

Since it was founded in 1961, this large K-12 private religious-run school, Assumption College Thonburi in Bangkok, has faced different setbacks related to its management and school effectiveness. The transfers of several principals at the ends of their first three-year terms and the appointment of new leaders, and many inexperienced, incapable, and immature department heads have made the school struggle for a smooth continuation of its goals, mission, and policies. Despite the setbacks, the school has made several attempts in the past to evaluate and improve its educational systems and strategies.

As a result of these needs, it was my conviction that this research would be significant and useful to this school. At the same time, I believed my decision to focus on educational change and school effectiveness through the new role and responsibility of the school board members would contribute to future improvement of this setting and to a certain extent, other private schools.
Another experience that was instrumental in defining my focus of this study was the inspiration I received from my committee chair and other valuable academic activities I attended during my doctoral program at Penn State. In mid-September 2000, Professor Kyle L. Peck, my mentor and adviser, suggested that I read Peter Senge’s *The Fifth Discipline: The Art and Practice of the Learning Organizations* (1994). The analogy of “The Beer Game” (Senge, 1994, pp. 26-54) and the description of how “systems thinking” was employed to help solve different social and educational problems in corporate and learning organizations captivated my attention deeply. Moreover, during two and a half years of my study in the Instructional Systems Program (INSYS) at Penn State, my personal interest in the concept of systems thinking increased gradually. I had studied and reflected on a number of academic courses and participated in various professional activities. Some of the important assignments and relevant research studies that brought me closer to issues of educational change and school effectiveness were *Introduction to Educational Systems Design* (INSYS 471), *Systemic Change in Organizations* (INSYS 497 B), *Advanced Educational Systems Design* (INSYS 571), and *Diffusion and Adoption of Innovations* (INSYS 586). In addition, my personal efforts in reading, attending conferences, involvement in research studies, discussion with peer students, and dialogue with faculty members focused on systemic change in organizations helped me grow intellectually in the context of change in schools, and contributed immensely to this particular study of school effectiveness. With these aforementioned experiences, I believed I had a strong foundation to do this study.
**School Leader as Systems Thinker**

Like other types of organization, a school system is both complex and dynamic. Every part within the school system works systematically from the first stage of input, through processing, to the last stage of output with certain results at the end of the process. Outside the school system, meanwhile, there are different variables in the environment that influence or affect the process and outcome of the system. In fact, both internal and external factors of the school system are crucial in terms of school quality and effectiveness. It is obvious, on the one hand, that the “inside” of the school system are people (e.g., administrators, teachers, students, parents), materials (e.g., buildings, learning facilities, and teaching materials), and financial systems of the organization. With these parts or elements within the systems, the outputs are the results of interactions of those parts and components of formal structures, rules, individuals, culture, and policies of the school. On the other hand, the “outside” of the school system consists of everything outside the school organization. In fact, these outside factors become constraints as well as opportunities for the school. Different factors or environments outside the school system include socio-economic, political, demographic, and technological trends, etc. However, some other constraints and opportunities of the school system are in fact stakeholders, teaching quality, the government, colleges and universities, new rules and regulations imposed by the government, teacher unions, school leaders, and different types of educational associations.

It is my personal conviction that Assumption College Thonburi will change if the school administrator possesses the vision and character of a true leader. In becoming a
visionary and transformational school leader, and in particular, a systems thinker, the school leader has to learn to see the whole school system as one unit where each and every “part” of the school relates to and interconnects with other parts. Equipped with multiple characteristics of strong leadership, the school leader will effectively understand, counsel, motivate, listen, nurture, enhance, criticize constructively, sympathize, supervise, and provide support in times of need to members in the organization. On the other hand, the school leader has to play a leading role in supporting and stimulating those stakeholders and encouraging them to vigorously participate in the various types of academic activities of the school. In particular, the school leader must find different means to convince stakeholders to share and get involved with the school’s vision, mission, and goals. As part of a dynamic school system, the school leader should also build personal relationships and interconnectedness among stakeholder—parents, teachers, students, supporting staff, employees, alumni, and the community—who are essential to the school system.

I regard these characteristics and respective roles of the school leader as critical for successful change in the school in the future. As a systems thinker, it is crucial for the school leader to perceive and understand more clearly the dynamic loop and those cause-effect relationships of the various parts of the organization in connection with the whole system. As a systems thinker, the school leader will systemically envision, analyze, plan, design, participate, solve problems, use feedback, understand an impact caused by an environment, and decide which are the best choices for school improvement. This study
places high value on successful change in educational systems through the competent work of systems thinkers who serve as a group of 15 school board members.

**Researcher’s Biases**

In qualitative studies, “the researcher is the primary instrument” (Patton, 1990, p. 14; Marshall and Rossman, 1999, p. 79). As the instrument, the researcher needs to accomplish various things and play different roles. Van Maanen (1998) reminded the researcher that once in the field: “listen, observe, participate, converse, lurk, collaborate, count, classify, learn, reflex, and—with luck, understand” (p. 1). Also, Merriam (1998) suggested three personality characteristics and skills necessary for this type of qualitative research: tolerance for ambiguity, sensitivity, and communication skills (pp. 20-24).

The researcher once served as the principal at the study site. During my 6 years service, I had many opportunities to analyze, synthesize, design, develop, implement, and evaluate a variety of the school’s educational projects and strategic planning with various groups of parents and the leaders of the community. Moreover, I had numerous chances to meet and interact with teachers, parents, leaders of the community, and government officers for the main purpose of improving the school. Also during that period, I participated in different types of meetings and conferences and became chair of different committees, not only within the school, but also throughout the broader system of education locally and internationally.

The experiences I gained as the school administrator had both advantages and disadvantages to me as the researcher in this study. The advantages, on the one hand,
were the insights of school administration systems, prospects of the school’s vision and mission, easy access to school personnel at all levels, and established relationships with a numbers of parents and community representatives. The disadvantage, on the other hand, was that as a former principal and school leader, I had ample opportunities to work closely with the teachers and parents in various educational school projects. As a result, I had a personal bias and I favored this educational transformation and effective change in the school.

I had concerns about being the researcher. My first concern was my status as a former administrator. As Locke, Spirduse, and Silverman (1993) observed, my connections would bring into question a range of ethical, and personal issues that might be sensitive to qualitative approaches. My role as the researcher would bring me in person into the lives of school board members during the meetings, personal observations, social gatherings, and especially the in-depth interviews. However, these could be regarded as advantages. By having a deep understanding of the school system, gaining easy access in the school, and possessing positive relationships with school administrators, teachers, parents, and representatives of the community, I might received higher quality information.

Another concern was related to my sensitivity in the data-gathering phase. Field and Morse (1985) reminded that researchers should try very hard to bracket preconceived ideas about the phenomenon, to understand through the voices of the informants. That's why Creswell (1998) simply stated: "the concept of *epoche* is central” (p. 54). Meanwhile, Schmitt (1968) insisted the researcher set aside his or her prejudgments,
biases, and preconceived ideas about things. He or she "invalidates," "inhibits," and "disqualifies" all commitments with references to previous knowledge and experience (p. 59). In essence, my role as the former administrator and the interpersonal relationships I might have with certain school board members (administrator, parents, teachers, and the representatives of the local community) must be curtained and bracketed. During the data-gathering phase of this study, different aspects of good qualitative research were employed, including communication systems and methods, establishing good rapport, being flexible with the interview schedule, asking appropriate questions, being a good listener, jotting down notes when necessary, and bracketing personal bias.

Another concern as the researcher in this study was the degree of actual intervention and access into the daily life activities of some school board members, especially the president of the Foundation, college professors, some parents who are CEOs of companies, and the teachers. The negotiation of entry into their privacy and daily activity through formal and informal gatekeepers at their respective working places and the offices was considered important. However, the question of trust might emerge if time was too short to build confidence in some of the participants. In this study, some of the methods for negotiating entry would include an introduction letter, a personal introduction by the school principal, personal telephone contact, and a personal visit at the respective offices.

In summary, this study focused on school leaders’ perspectives on effective change in school through systems thinking. With a variety of past experiences as educator and school administrator, I strove to understand, discover, and describe from the school
leaders’ perspectives those issues relating to effective change in the school, which was the prime focus of this study. However, because of my past educational and working experiences both in Thailand and abroad, as well as my personal contact and relationship with many teachers, parents, and leaders of the local community of this setting, I believed that my perspectives, thoughts, feelings, values, and especially biases could permeate the whole research process. As stated, the process and the product of this investigation involved both the school board members’ subjectivity and also my own intention, bias, and interest in change and school effectiveness to a certain extent. Hence, I worked hard to guard against undue influence from my personal experiences and opinions and to remain faithful as I recorded, described, and interpreted whatever experiences, perspectives, and opinions each participant revealed and shared. As a result, this study revealed multiple perspectives and realities of those respected school board members on educational change and school effectiveness. The findings of this study were meant for Assumption College Thonburi’s setting, which was the site of this research study, and therefore were not appropriate for generalization to broader settings or other private school leadership populations. Thus, each reader has to interpret and find certain meanings of the study within his or her own interpretation scheme.

Data Gathering Methods and Procedure

Case study relies on a variety of techniques for data gathering such as interviews, observations, document analysis, and even surveys that are conducted over a period of
time (Marshall and Rossman, 1999, p. 61). In qualitative research, the use of multiple methods for data gathering is frequently called triangulation. These three kinds of data collection consist of: in-depth, open-ended interviews; direct observation; and contextual analysis of written documents. For many researchers, triangulation is restricted to the use of multiple data-gathering techniques (usually three) to investigate the same phenomenon. This is interpreted as a means of mutual confirmation of measures and validation of findings (Jick, 1983; Knafl and Breitmayer, 1989; Leedy, 1993; Mitchell, 1986; Sohier, 1988; Webb et al., 1981).

In this study, three techniques for data collection were employed to achieve a better perspective and understanding of systems thinking with respect to issues related to school administration as understood by the school leaders. The attempt to employ a variety of data gathering techniques was used intentionally to increase the credibility of the findings. The data collection in this research study included interview, observation, and contextual analysis of written documents of the school; the primary source of data was in-depth interviewing. This method was chosen to explore and gather information on lived experiences of those school leaders. Merriam (2001) said, “interviewing is the best technique to use when conducting intensive case studies of a few selected individuals” (p. 72). Dexter (1970) also realized the effectiveness of the method, saying, “Interviewing is the preferred tactic of data collection when…it will get better data or more data at less cost than other tactics” (p. 11).

In addition to interviews, observation was used to add a fuller context to this research. Direct observation was performed once at the site on September 27, 2002, at the
last meeting of the school’s board of trustees before it changed its name to school board and included more scholars, parents, alumni, and teacher representatives to comply with the new regulations of education reform. During the two-and-a-half-hour meeting, I observed the discussion of board members on various issues of the school, including preparation and training of the teachers in preparation to adopt the new reform regulations. The discussion was extensive concerning the new curriculum, strategic plans for numbers of students, emphases of teaching and learning at the high school level, uses of new technology to enhance learning, and concerns of the new role of the school board. Findings from this direct observation of the school board meeting were reported in chapter 5. In addition to direct observation of the meeting, I spent a lot of time (September 17 to November 12, 2002) both before and after interviews walking through the school and observing a variety of the school’s activities. I also spent time meeting with small groups of teachers and parents informally while they worked and relaxed in their offices, teacher’s rooms, the library, the school’s canteen, parking lots, the swimming pool, and in the corridors.

By living and being present in the setting for about three months, I developed closer relationships with members of the school and the participants, gaining their respect, trust, and openness. Also, I used the opportunity of my three-month stay at the setting to gather written materials and documents concerning school systems and change for the contextual analysis. Documents included minutes of school board meetings, materials concerning school policy and strategic 5-year planning, annual reports and evaluations, documents on change and education reform of the private school, school
administrative charts, various reports (e.g., Strengths, Weaknesses, Opportunities, and Threats analysis or SWOT analysis) on teaching and learning activities, and the new government regulations on education reform including guidelines and roles of the new school board. Findings obtained from content analyses of various school documents were reported in chapters 4 and 5.

According to Merriam (1998), the decision to use interviews to collect data should be based on what information is needed and whether interviews are the most appropriate means to get it. Because I had to ask questions and needed to probe for more details of the participants’ perspectives and experiences of systems thinking and effective change in schools, the interview was the best tool to obtain data and to achieve my objective because direct observation of their thoughts, experiences, and feelings were not possible.

On October 8, 2002, prior to interviewing, I consulted with a Thai language expert on the translation of the interview instruments from English into Thai vernacular (Appendix B). Graduated from Newhouse School of Public Communications at Syracuse University in New York in 1994 in the Radio-Television Department, Ms. Wattana Manaviiboon has had extensive experience over two decades in communications and education in Thailand, the United Kingdom, and the United States. For 6 years during the 1970s, she worked as program producer and announcer for the Thai Section of the World Service of the British Broadcasting Corporation (BBC) in Great Britain. Back in Thailand, she worked for the Australian Embassy’s Information Office in Bangkok, focusing on radio and television production, before she joined the financial institutions in
the area of corporate communications. At Ogilvy Public Communications Worldwide
Thailand Office, she served as Director of Account Management overseeing the strategic
directions of the company’s clients. Recently, she was Senior Vice President at Krung
Thai Bank, one of Thailand’s largest commercial Banks, overseeing its Corporate
Communications Department. Ms. Manaviboon is recognized for her bilingual skill, and
has five publications to her credit. She also contributes periodically to Thai vernacular
and English publications in Thailand. With outstanding successes in her respective career
in communications, commerce, and education, she helped translate the interview
questions from English script into the native Thai language, that the questions best
reflected the objectives of the thesis.

Before finalizing the interview questions, draft questions in Thai were reviewed
by two other language and content experts. On October 17, 2002, I consulted with Ms.
Sirikul Boonnak, a Thai journalist for the English newspaper, *The Bangkok Post*, at the
Ministry of Education where she based her reporting assignment. Graduated from the
Chiengmai University in the north of Thailand in Journalism, her 7-year journalism
experience has spanned covering news of educational issues and conducting interviews
with hundreds of school administrators and politicians around the country. On the same
day, I met with the second expert. Graduated from the University of Kent at Canterbury
in England in 2001 with a doctoral degree in Media and Women’s Studies, Dr. Wilasinee
Phiphitkul is currently an assistant professor at the Department of Journalism,
Chulalongkorn University, in Bangkok. Her extensive experiences have included full-
time lecturer on women’s studies and qualitative researcher at Thamasat University and
Dhurakit Bandit University in Bangkok. For the past 7 years, she has been working as a newspaper columnist, radio talk show host at her University, and an active researcher for the Thailand Research Fund (TRF). As a result of our meetings, both experts gave many constructive comments and suggestions on particular uses of key words and they helped improve the interview questions to the level that any participant could understand them (Appendix C).

On October 21, 2002, I sent a letter to the principal of Assumption College Samrong, a large K-12 private school in Samut Prakarn province, about 10 miles east of Bangkok, requesting permission to conduct a pilot study on the Thai interview questions (Appendix D). On October 26, 2002, I met with three school board members to conduct the pilot test, which would be used to review and critique the interview instrument. My reasons for choosing this site for a pretest was that Assumption College Samrong is also a Catholic religious-run high school, founded in 1978, and having a management system under the same Saint Gabriel’s Foundation as the study site. Also, both schools shared a similar philosophy, goals, and mission of becoming excellent and providing quality education. Finally, Assumption College Samrong has a ratio and number of teachers (76 males and 130 female) and students (2,118 primary and 1,559 secondary) similar to Assumption College Thonburi.

To field test the 10 improved interview questions, three Samrong school board members were interviewed individually for about half an hour. First was the school principal. Graduated from Srinakarinwirot Prasanmit in Educational Administration, Mr. Chaiwan Pornprasit (56) had been the school leader for the past 17 years, of which he
spent 15 years as a member of the school’s PTA. He is the current vice-president of the
Private School Association in Samut Prakarn province, a position he has held for 10
years. The second board member was a school parent, Mr. Vongthap Rojanathavorn (45).
Graduated from Srinakariwirot Prasanmit in Bangkok, he has served as an educator for
the Office of Ministry of Education in Samut Prakarn Province for the past 13 years. The
third individual was Ms. Pojanee Kijsamrej (55). Graduated from Churalongkorn
University in Bangkok in Educational Administration in 1993, she has been the assistant
principal of the school, a member of the school’s PTA, and a member of the board of
directors for the past 18 years. At the end of the interview, I asked each one of them to
comment on the instrument and encouraged them to suggest improvements. After
including their feedback, particularly on usage of certain technical terms and wordings in
Thai, the final interview questions were ready for use with the school board members at
the research site.

Meanwhile, before leaving for the case study site in Bangkok, Thailand, and to
conform with Penn State’s policy relative to the use of human subjects, I submitted the
Application for the Use of Human Participants for Social Science Research, a consent
form, sample of interview questions, and copy of a letter of permission to access the
study site (Appendix E) to the Office for Research Protections (ORP). The Social
Sciences Committee of the Institutional Review Board in the ORP spent about three
weeks reviewing the proposal. ORP approved the consent form and the interview
protocol on August 27, 2002 (Appendix F).
Once I arrived at the study site, I met with the principal of the school to discuss the purpose of the study. At that meeting, I asked for his permission to stay at the site while the school sent out my self-introduction letter to the school board members. I wanted time to prepare myself for the interviews, to conduct my observations, and to locate the written materials (Appendix G).

On October 14, 2002, the principal sent a formal letter introducing me to the school board members. This letter was intended to inform them about the purpose of the study and to request their permission and cooperation for formal in-depth interviews at convenient time and locations. One week after sending the letter, I started calling each of the school board members using a telephone script as a guide, introduced myself, informed each member in more detail of the study, and made appointments for the interviews (Appendix H). To enhance my rapport with them, I arranged to visit some of the participants at their homes and offices before their interviews. These first meetings were also used as opportunities to explain the study and to reconfirm the interview schedule. During these initial meetings, participants were asked about which areas they might consider very important to speak about during the actual interview. My hope was that each participant would feel relaxed and have increased confidence following this initial meeting. The visit took about 15-30 minutes. It was conducted one week prior to the second interview.

This second round of interviews began on October 27, 2002, 2 weeks after sending out the self-introduction letter to the participants. The last interview was conducted on November 12, 2002, 16 days after the first interview. All of the interviews
dates, times, and locations were set up by the participants and most took place in an office or quiet room. The most important issue facing the interviewing process was ethics (Marshall and Rossman, 1999, pp. 90-100) and the protection of human subjects (Stake, 1995, p.58). In this study an informed consent form (Appendix I) was used to protect the participants' anonymity (Marshall and Rossman, 1999, p. 90). Each of the 15 participants was fully informed about the purpose of the study. Each understood what he or she was expected to do, and gave consent willingly. Also, each understood that he or she might withdraw from the study at any time without prejudice. This practice assured that participants would not be deceived about the study (Rossman and Rallis, 1998, p. 50). In addition, Taylor and Bogdan (1984) recommended five issues that should be addressed at the outset of every interview: purposes, intentions, and motives of the investigator; the use of pseudonym; decision about who has the final say over the study’s content; payment (if any); and logistics with regard to time, place, and number of interviews to be scheduled (pp. 87-88).

I met with each school board member as scheduled, at his or her convenient time and location. Because time was the most valuable thing for all of the participants, I briefly introduced myself, stated the purpose of the study, asked each to provide me with a pseudonym, discussed the use of the consent form, and the number of the interview questions, the duration of interview (Taylor and Bogdan, 1984), and thanked the participant for support and cooperation. At the beginning of each interview, I gave the participant two copies of the Informed Consent Form, one in English, another in Thai (Appendix J). I asked the participant to read the entire form. Once he or she finished, we
both signed and each person kept one copy. Next, I asked permission to audio record the conversation, to write notes, and to probe for more information when needs arose.

Using the interview protocol as my guide (Appendix K), I began each individual, in-depth, open-ended, and structured interview to explore multiple perspectives of systems thinking and phenomena of school change from the perspective of school board leaders. The focus was on the participant’s feelings, personal emotion, knowledge-base of the government and private school systems, perspectives and understanding of systems thinking, current issues the world is facing, the education system of private schools, educational reform, school change, school effectiveness, and roles of school board members within the school systems. When the subject was ready, the first interview question in English was read out slowly and followed by the same question in Thai. The researcher concluded and moved to the next interview question when the data stopped or started becoming repetitive. The ten interview questions used in the study included:

1. What is your perspective on the current Thai public educational system?
2. From your perspective, what is the status quo of the private school system?
3. What is your perspective about this particular school?
4. What do you see as the most important health-related issues the world faces at the moment, and what do you think should be done to resolve them?
5. Why is the current unrest in the Middle East important to nations around the world, and what do you think might be done to resolve the problems?
6. How are different components of the school interrelated or linked with one another?

7. What elements within the school system do you perceive as critical?

8. As a school leader, what could an organization like this school do in order to be (more) successful?

9. Have you heard of “systems thinking”? If so, what is it? (Explain it to them by reading a paragraph description.)

10. Do you think that systems thinking might be important in causing school change? If so, how? If not, why not?

All the interviews were conducted in the native Thai language. Each of the 15 interviews lasted from 55 minutes to 70 minutes. Following each interview, I sent the audiotape cassette to the typist to transcribe the interview. I read and checked each of the transcribed interviews. This process involved listening to portions or all of the tapes and making corrections to words in the transcript where necessary. This process was also used to prepare for and improve the following interviews. In addition, this process was used to explore new areas and experiences with the perspectives of systems thinking and change in school. I used subsequent interviews to clarify and further develop areas from previous interviews, and to verify participants’ meanings and experiences (Van Maanen, 1992; Maykul and Morehouse, 1994). After finishing the interviews with the 15 school board members, an informal meeting was arranged for validation of their interview transcripts. This meeting allowed them to add any further thoughts they might have had in the interim. Only three teacher representatives, one parent representative, and two
scholar representatives were available. New data were added and incorrect statements deleted, and then transcribed into the standard, smooth, native Thai language. The process of data analysis followed right after the completion of all 15-interview transcriptions.

Data Analysis

Moustakas (1994) summarized the methods of data analysis (introduced by Giorgi, 1979, p. 83) as the following: (1) Read the entire description to get a sense of the whole. (2) Read the same description more slowly and delineate each time that a transition in meaning is perceived. (3) Eliminate redundancies and clarify or elaborate the meaning of the units by relating them to each other and to the sense of the whole. (4) Reflect on the units, trying to come up with the essence of that situation for the subject, transform each unit, when relevant, to psychological science. (5) Synthesize and integrate the insights achieved into a consistent description of the structure of learning (pp. 13-14).

Van Manen (1992) and Maykul and Morehouse (1994) provided similar approaches to data analysis. These steps included: (1) Read and check each interview to obtain a sense of the whole. This step includes listening to all tapes and making corrections to words in the transcript where necessary. (2) Look for themes and concepts within each of the interviews. This step involved reading each transcript line by line, and one by one trying to reflect on key words that relate to themes and concepts and underlining some selected parts with marking pen, to expand the meaning those key
words to themes, subthemes, and concepts. (3) Look over the text as a whole and see if there are significant meanings that relate to each other.

Patton (1990) said, “each qualitative study is unique, the analytical approach used will be unique” (p. 372). In this study, the strategies of coding and categorizing were adopted from Van Manen (1992), Maykul and Morehouse (1994), and Giorgi (1979) and combined to help analyze and identify the meaningful data units together and interpret them (Miles and Huberman, 1994; Strauss and Corbin, 1998). Following the completion of the data collection, I began a more detailed analysis of each of the transcripts. A thorough reading over each of the 15 transcripts, starting with the first question on all 15, was conducted to understand the perspectives of the participants. By reading the whole transcript at different times, I obtained a holistic view of the interviews. During this process, I highlighted key words, phrases, sentence(s), concepts, and short paragraphs that caught my attention or seemed connected and important to the research questions. This open coding process was a way “to open up the text and expose the thoughts, ideas, and meanings contained therein” in order to “uncover, name, and develop concepts” (Strauss and Corbin, 1998, p. 102). Meanwhile, I made right-hand marginal annotations that included the summaries of ideas, perspectives, understandings, thoughts, reflections, suggestions, recommendations of the participants, as well as my thoughts. For the purpose of this study, excerpt transcriptions in Thai were translated back into English (Appendix L).

The second level of analysis was used to identify individual concepts and perspectives of the participants. I used Van Manen’s (1992) strategies for isolating
themes and concepts and identified in the marked transcripts those words, phrases, and sentences that revealed the participants’ perspectives of systems thinking and school change. I used the “Inspiration” computer software to draw a set of concept maps, to gather and display all the key concepts found in each of the 15 interview transcripts, and to label them by assigned participant number and the line number(s) of his or her interview transcription. The numbering would facilitate an in-context reference at any time. This level of analysis went from the first interview question until the last one in the same manner.

The third level of analysis was a continuation of the second level analysis. At the third level, instead of cutting and pasting themes, concepts, and portions of text onto cards and linking them to themes, I used concept mapping to determine all of the themes, subthemes, and concepts that related to the interview question. Meanwhile, colors were assigned to separate each theme, subtheme, and concept from one another and for quick reference. Also, each entry on the concept map was labeled with brief details and information, assigned number of each participant, and line number of the transcript where a fuller reference and context for the theme could be found. The purpose of addressing each participant by number was another attempt to preserve his or her privacy (Appendix M).
Rossman and Rallis (1998) stated, “the trustworthiness of qualitative research is judged by two major interrelated criteria: the standard for acceptable and competent practice, and the involvement with the ethical conduct relating to the topic of study and the setting” (p. 43). Earlier, Lincoln and Guba (1985) had substituted the notion of "trustworthiness" for that of validity. In addition, Patton (1990) asserted: "In qualitative inquiry the researcher is the instrument. Validity in qualitative methods, therefore, hinges to a great extent on the skill, competence, and rigor of the person doing fieldwork" (p. 14). Lincoln and Guba (1985, pp. 289-332) indicated that qualitative researchers must inform what they do by four alternative constructs: Credibility—How credible are the particular findings of the study? Transferability—How transferable and applicable are these findings to another setting or group of people? Dependability—How can we be reasonably sure that the findings would be replicated if the study were conducted with the same participants in the same context? and Confirmability—How can we be sure that the findings reflect the participants and the inquiry itself rather than a fabrication from the researcher’s biases or prejudices?

Other researchers and scholars help explain what constitutes trustworthy and ethical practice of a research work. Patton (1990) explained “the validity and reliability of qualitative data depend to a great extent on the methodological skill, sensitivity, and integrity of the researcher” (p. 11), continuing that
systematic and rigorous observation involves far more than just being present and looking around. Skillful interviewing involves much more than just asking questions” (p. 11). In Patton’s view, “content analysis requires considerably more than just reading to see what’s there. In fact, generating useful and credible qualitative findings through observation, interviewing, and content analysis requires discipline, knowledge, training, practice, creativity, and hard work (p. 11).

In this study, internal validity was the first consideration and concerned the quality of the research study itself. Merriam (1998) suggested six basic strategies to enhance internal validity: triangulation, member checks, long-term observation, peer examination, participatory or collaborative modes of research, and researcher’s bias (pp. 204-205). To ensure the internal validity, this study used multiple methods of data gathering, or “triangulation” of individual and in-depth interviews, contextual analysis of various types of school documents and materials, and observation of a school board meeting and various school activities that were regarded as important and essential sources of data. I also submitted the results (findings) to some of the participants who could read and understand English for a review and took into account their feedback and recommendations. Another factor of concern was bias. As I mentioned previously, I presented my experiences and biases and also minimized the biases by asking questions about how things could be different or what certain questions I should not ask. I also showed the experiences of all the participants, described who they were, what they have become and achieved, and interpreted them while remaining faithful to their experiences.

Regarding external validity, the concern was about generalizability, the extent to which the findings could be replicated or applied to other situations (Merriam, 1988, p. 173). Every case study has its particular purpose. In this case study, the purpose was to investigate and uncover the perspectives, awareness, and understanding of systems
thinking of a particular group of school board members at a large K-12 religious private school in Thailand. As a result, the emphasis of this case study was meant for the particular setting of Assumption College Thonburi, in Bangkok, Thailand. Lincoln and Guba (1985) and Merriam (1988) suggested that the researcher needs to be concerned with presenting readers with enough detail of a study’s context, phenomenon of interest, research design, and research process, so that readers can make truly informed generalizations and transfer this information to their own situations. In this study, rich and thick description and interpretation was provided to the readers about the discovery and the diversity of the school leader’s perspectives of systems thinking, means to affect change in schools, and ways to improve knowledge about systems theories, systems thinking skills, school effectiveness, and leadership skills. Hence, the readers are left to determine for themselves the application and transferability based on the findings of this study.

With regard to reliability, the main concern was, can the data be trusted? or can the methods of research be trusted? Multiple methods for gathering data, which included in-depth interviews, observation, and contextual analysis of written materials of the school, were meant to strengthen reliability and internal validity of this study. Also, as recommended by Guba and Lincoln (1985) this study arranged the research questions, interview questions, procedures for conducting data gathering, methods of data analysis, and review of the interview transcripts. Member checks were conducted following the interviews by allowing as many as the participants to improve their own manuscripts in order to enhance validity. Also, the researcher presented the data analysis concept maps,
original interview transcripts in Thai, an annotated sample English translation of an interview transcript to the thesis committee members to inspect and provide comment. Finally, to ensure that the interview was correctly and appropriately translated, all statements that have been quoted in this study were translated by the same bilingual expert who had assisted in translating the interview questions into Thai.

**Limitations of the Study**

There were obviously some limitations of the study and requirements for improving future research. As Briggs (1986) noted, “the validity of a great deal of what we believe to be true about human beings and the way they relate to one another hinges on the viability of the interview as a methodological strategy” (p. 1). I considered myself as a novice qualitative researcher. I felt that I required more knowledge, skill, and practice on in order to use this tool more effectively while interacting with the participants. Therefore, I suggest it is imperative that social science researchers receive adequate training before employing the interview as a tool. Training should include specific guidelines for constructing interview questions and conducting the interviews.

Another limitation of this study might come from a socially acceptable response bias. Due to human respect and inherited culture in the Thai people, many of the school board members might share their experiences with certain amount of reservation. They would have done this out of respect for the Saint Gabriel’s Foundation, the school organization, the current team of management, and the administrators. Hence, the
researcher might not have obtained complete perspectives, actual facts, nor all the thoughts of the participants. The setting of this study was a large K-12 Catholic school. The school community included almost 5 thousand families, a few hundred teachers and supporting staff members, and a few thousand current students and alumni. However, the 15 new school board members might not represent the entire school community because of internal management factors and constraints and the process through which they were selected. As a result, the findings of this study might be incomplete or not comprehensive enough. If fact, if I could have interviewed beyond the particular group of the school leaders and was able to include some more key representatives of teachers, parents, students, alumni, and the community leaders, this study might have become richer and more rigorous, with more insights and broader perspectives of systems thinking and effective change in schools.

Another limitation of this study might be the factor of time. On the one hand, I spent about two and a half months at the site collecting data and making observations of the school board’s and the school’s activities. I felt that the time was less than optimal. The 15 participants, on the other hand, had their busy schedules each day in their respective responsibilities, some at the school, others at the university, factory, overseas conferences, and corporate meetings. As a result, some of the interviews were conducted in haste. Some participants delayed their interviews, some because of tight daily schedules, and others because of the pressures of workload and other appointments. Time constraints resulted in less than full sharings of perspectives on the research topic.
The use of two languages, English and Thai, as the means of communication during the interviews and translations of the transcripts was another limitation. Such translations from English into Thai and Thai into English might not convey the complete or direct meanings of a subject, despite the expertise of the bilingual interpreter.

Another limitation of this study was the inability to directly generalize the school board members’ perspectives on systems thinking and effective change in their school to other schools. This case study was first and foremost meant for the benefit of the Assumption College Thonburi. Although there might be other private schools affiliated with Saint Gabriel’s Foundation and other Catholic and private schools in Thailand that carry the same missions and possess similar characteristics, the implications and transferability of this study may not be transferred without due consideration to those organizations.

Another limitation was the personal bias I brought to the study. Though I have tried to use different means and methods, including interviews, subjects their transcripts checking, and reviews of the text by external readers, to include only the perspectives of others involved in the study, my past experience and understanding of the Thai educational system, and my involvement as a former administrator at the study school undoubtedly may be embedded in this study. My biases during the interpretation of the interviews data and observations may be found in the study despite the bracketing or nonpredetermined and presuppositionless interpretation.

Finally, the distance between the study site and my institution (Penn State, University Park, PA, USA) was another limitation. I designed this research study while in
the United States. Despite the information age and advanced technology, some information could not be easily accessed nor obtained after I left for Thailand or returned to the U.S. Thus, some data on the school and other background information for the study might be incomplete or missing.

**Summary**

This chapter describes the conceptual framework and methodology of the research study. The study chose a qualitative research method, used phenomenology as framework, and employed the case study as the method of investigation. The research study had Assumption College Thonburi, a large, private K-12 Catholic school in Bangkok as the broadest unit of analysis and boundary. The research participants included 11 males and 4 females, who were selected by the school to serve on the new school board instituted by government reform. The research study used in-depth, structured interviews, document analyses, and observations as means for gathering data. The observation and document analyses were conducted at the study site in Bangkok from September 17 to November 12, 2002. The individual interviews with the 15 participants were conducted during October 27 to November 12, 2002. Ten interview questions were used to investigate the participants’ perspectives and knowledge of systems thinking. The 15 transcripts were read, analyzed, and categorized into themes, subthemes, and concepts. The researcher presented his roles, experiences, and biases, and described how he used various approaches, including triangulation, participant checks,
and peer examinations of the transcripts to increase trustworthiness, validity, and reliability. The research study had limitations with respect to aspects of culture inherent in the participants, the small number of participants, and a short time frame for conducting the research study.

The next chapter documents the educational and professional backgrounds of 15 subject school board members, including their personal opinions on becoming members of the school board. Chapter 4 also discusses the history of the school, reasons for school improvement, transitions of change with respect to the school’s administrative charts, and the new legal obligation share leadership with representatives of the local community.
CHAPTER 4
THE SITE AND THE STUDY PARTICIPANTS

…I shall be telling this with a sigh
Somewhere ages and ages hence:
Two roads diverged in a wood, and I—
I took the one less traveled by,
And that has made all the difference.

“The Road Not Taken”
Robert Frost (1874-1963)

The previous three chapters outlined the problems and purpose of this study, provided the related literature reviews on change, systems theory, systems thinking, leadership characteristics, and school effectiveness, and the third chapter discussed the methodology that guided the study. This chapter presents a detailed background of the research site, periods of transition in the school that affected the management as reflected by changes in the organizational charts, and personal and educational backgrounds of the 15 school board members.

The Research Study Site

Assumption College Thonburi, where the research was conducted, is located in a suburban neighborhood about 10 miles west of Bangkok, the capital of Thailand. Founded in 1961, this K-12 Catholic private school is the eighth of the 12 schools of
Saint Gabriel’s Foundation, Thailand (Appendix N). The Foundation is a nonprofit educational organization administered by the Montfort Brothers of Saint Gabriel, Thailand, a Catholic religious-men’s congregation founded in 1705 by St. Louis Marie Grignion de Montfort of France. The school began its service to the people of the locality when a local politician, Mr. Thangai Suvannathat, an alumnus of Assumption College (the mother school of Saint Gabriel’s Foundation in Bangkok), donated 20 acres of land to the Foundation. On the first school year, the school had five teachers and 123 students who met in a small, two-story wooden building. As time went by, the school enrolled more students and the number of classrooms increased. In its 40 years of serving the local communities, the school produced 18,034 alumni. Today, the school owns about 30 acres of land and has four large classroom buildings and six learning facilities. In the year 2002, the school housed about 4,786 students with 92 classrooms. The school enrolled 2,582 students in the primary school, 1,242 in the middle school, and 962 in the high school. The teaching staff during the period of study was 268 members, of whom 96 were male and 172 female. The school had 20 teachers with master’s degrees including school administration, mathematics, science, Thai language, music, and physical education. The school had approximately 35 supporting teachers, 14 foreign teachers from the United States of America, Great Britain, and Australia, and 129 support staff members. For the past five years, the teaching staff size has increased rapidly due to the increased enrollment and the expansion of the school facilities and curriculum.

During the past four decades, the school has experienced changes of leadership and has been improved in a variety of ways. Since its beginning nine principals have
administered the school, with the help of three boards of trustees, three boards of the Parent-Teacher Association (PTA), and five school boards of directors. In the past 10 years, the school has made a rapid and crucial change in its internal management and its educational systems. Three major projects were accomplished, including a central library and learning center, a classroom building, and a main auditorium. Moreover, the school purchased new technology and provided extensive training to the teaching staff on how to use technology to enhance teaching and learning. Each academic year, the school has conducted seminars and workshops that have focused on school effectiveness and have laid out strategies and other short-term planning for the school. Recently, the first five-year plan for the years 1997-2002 was completed, and the school began its second five-year plan for the years 2002-2006 with an emphasis on effective change of the school’s educational systems, management, personnel, quality, and students’ achievement.

In the past year, the school conducted a research study as part of the school assurance project. The result of this study as summarized by the SWOT Analysis technique found both strengths and weaknesses of the administration and educational systems. The strengths included strategic school planning and systematic management, clear focus on the school’s master plan, sufficient learning facilities, uses of modern technology, high-quality teaching staff, and good learning environment. On the other hand, the school uncovered certain weaknesses, including poor teamwork among the personnel, inaccuracy and insufficiency in assessing of personnel, and lenience on evaluating of various school projects (School Charter, Second Phase, 2002-2006, p.18).
In August 2002, the subcommittee on research for Saint Gabriel’s Foundation, Thailand, conducted a similar survey at the school and gathered data on areas of school administration and management from various stakeholders of the school community. The findings of this survey revealed the following.

1. Administrators, teachers, and supporting staff members rated the school administration “very high,” especially the school’s handling of the issues of educational reform. However, they were not quite satisfied with the reform plan concerning teaching and learning.

2. The first-to sixth-grade students were “very satisfied” with the overall management of the school.

3. People of the local communities and nearby localities rated the management of the school and its educational systems as “high” especially with regard to the school’s learning environment.

4. Parents of current students and alumni in Bangkok reported being “very satisfied” about the overall performance of the school management, especially the emphasis on improvement of personnel and students (Saint Gabriel’s Foundation, 2001).

**Transition Periods**

Under the ownership and supervision of Saint Gabriel’s Foundation, Thailand, Assumption College Thonburi has a strong commitment to fulfill its educative mission to
the society. In fact, over the past four decades, the school has stood firm on its educational philosophy, mission, and goals and has faithfully followed the school’s objectives:

Preparing pupils through the acquisition of knowledge and skills related thereunto, at primary and secondary levels, which will be a good foundation for their future and further quest for more knowledge in the concept of life-long education….

…Inculcating the pupils’ minds with the right attitudes, right precepts of religion and moral principles, which will help guide them in their world of reality, in order that they may be able to make decisions with intelligence and wisdom, and know how to solve conflicts and problems through peaceful means as responsible members of society and the world at large (Schools of Gabrielite Foundation, 1996, p. 9).

As a large K-12 Catholic private-religious school, Assumption College Thonburi has its own culture and tradition of management. Since its establishment, the principal of the school has been appointed by the President of Saint Gabriel’s Foundation, Thailand, to be the school leader. Normally, each principal served the school for one term but not more than two three-year terms. During the past several years, the school and its offices were arranged vertically in bureaucracy that produced a hierarchy of authority. This bureaucratic trait was manifested in the school’s organizational chart, with the principal at the top followed by the assistants, department chairs, teachers, and students at successively lower levels. It was obvious that this well-established system of superordination and subordination “…attempted to guarantee the disciplined compliance to directives from superiors that is necessary for implementing the various tasks and functions of the organization” (Hoy and Miskel, 1996, p. 48). As a matter of fact, the school’s organizational chart was changed at various times to comply with new regulations of the Ministry of Education and Saint Gabriel’s Foundation. In 1992, though
it was simply bureaucratic in its hierarchy of authority, the first organizational chart was published showing key positions of the school’s administration (Figure 3).

**Figure 3.** The 1992 administrative chart shows the flow of direct and supporting power within the Assumption College Thonburi school system. Saint Gabriel’s Foundation, Thailand, has the highest power and authority over the school system.
As new principals were appointed by Saint Gabriel’s Foundation, Thailand, to lead and manage the school, they had to follow new guidelines and policies of the Foundation and the Ministry of Education. As a result, the organizational chart of the school was changed or modified accordingly. Different committees and associations that supported or connected with the school administration were added or relocated on the organizational chart. Meanwhile, role of the assistant principal was given to the leaders of administrative offices, including the registrar’s office, bursar’s office, academic office, disciplinary office, social and activity office, and office of physical plant. This change in certain roles of school administration was reflected clearly in the 1997 organizational chart, which is summarized in Figure 4.
Figure 4. The 1997 organizational chart shows Saint Gabriel’s Foundation, Thailand, has the highest power and authority. The power flows directly to the school principal, who is supported by four advisory boards. This chart displays the school board of directors and the principal as supporting the school director with six new assistant principals to assist the director.
When the country faced an economic downturn in August 1997, educational reform became one of the most important concerns and new priority was placed on restructuring the economic, political, and educational systems of the Thai society. Since 1997, the educational reform process has progressed considerably in many aspects. The Secretary General of the National Education Commission, Thailand, Lung Kaewdang recently expressed his conviction that: “The year 2002 is the most remarkable period for the reform of education in Thailand. In particular, it is the transition period for the reorganization of educational administration and management in accordance with the 1999 National Education Act” (Lung Kaewdang, 2001). In fact, one of the most important reform plans for education was the decentralization of public educational administration and management to local organizations and educational institutions. Decentralization was put forth to comply with Thailand’s new constitution and in accordance with the 1999 National Education Act:

…There shall be a board supervising and supporting the management of the institution. The board shall comprise representatives of parents, those of teachers, community and local administration organizations, alumni of the institution, and scholars. (Section 40, pp. 17-18)

In August 2002, the school once again revised its organizational chart in response to the new regulations of the Ministry of Education. This time, the new school board was placed at the top of its chart, signifying a new milestone that the school places its future success in the hands of the school board. Figure 5 shows the school’s 2002 organizational chart with the role of the school board on top.
Figure 5. The 2002 administrative chart shows the new role of school board as center of the school administration. It assumes the previous roles of the council and Board of Trustees with the same supporting roles of the PTA and the Alumni Association. This shift was made to comply with the 1999 National Education Act of the school system.
The School Board Members

Since the beginning of May 2002, which was soon after the opening of the new school year, the school began to look into the different areas of educational reform. One of the most important areas of change in the school system was in school administration. The transition of power at the top level of management was in response to the *National Education Act of 1999*. It designated representatives of the school community as having more power in the school’s administration. As a result, the school appointed a search committee to find suitable persons for this board from among parents, teachers, community organizations, local administration organizations, alumni, and scholars. After four months of consultation with parents, teachers, alumni, and the foundation’s Board of the Directors, the school announced on October 1, 2002, names of 15 individuals as the school board members.

The first school board of Assumption College Thonburi comprised five scholars, two representatives from parents, two representatives from alumni, two representatives from local communities, three representatives from teachers, and the current principal of the school as the president of the board. Based on the ministry’s guidelines, the responsibilities of the school board included:

- Approve the policy, plan, and budget of the school/institution;
- Promote academic matters and the development of teachers and educational personnel;
- Mobilize resources for education;
- Promote internal and external evaluation;
Coordinate and promote relationships between the institution and external organizations;

Provide suggestions and advice to the administration;

Participate in the monitoring, inspection and evaluation of the administration; and

Promote and support the performance of the school/institution.  
(ONEC, 2001, pp. 80-81)

The remainder of chapter 4 describes the school board members’ educational backgrounds, working experiences, and their impressions on becoming school board members. Each participant was assigned a pseudonym to preserve his or her privacy. The demographic information and educational backgrounds about the 15 participants, including sex, age, working experiences, educational qualifications, and pseudonyms are presented in Table 1.
Table 1. Demographic information and educational background of the research participants.

<table>
<thead>
<tr>
<th>Participants</th>
<th>Sex</th>
<th>Age</th>
<th>Qualifications</th>
<th>Representative</th>
<th>Occupation</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. George</td>
<td>Male</td>
<td>45</td>
<td>M.A.</td>
<td>Principal</td>
<td>Administrator</td>
</tr>
<tr>
<td>2. Kittisak</td>
<td>Male</td>
<td>48</td>
<td>M.Ed.</td>
<td>Scholar</td>
<td>Religious</td>
</tr>
<tr>
<td>3. Sunny</td>
<td>Male</td>
<td>56</td>
<td>Ed.D.</td>
<td>Scholar</td>
<td>Professor</td>
</tr>
<tr>
<td>4. Jittree</td>
<td>Female</td>
<td>62</td>
<td>Ph.D.</td>
<td>Scholar</td>
<td>Professor</td>
</tr>
<tr>
<td>5. Suthee</td>
<td>Male</td>
<td>57</td>
<td>Diploma</td>
<td>Scholar</td>
<td>Business</td>
</tr>
<tr>
<td>6. Panya</td>
<td>Female</td>
<td>52</td>
<td>Certificate</td>
<td>Scholar</td>
<td>Business</td>
</tr>
<tr>
<td>7. Pornchai</td>
<td>Male</td>
<td>48</td>
<td>Ph.D.</td>
<td>Parent</td>
<td>Researcher</td>
</tr>
<tr>
<td>8. Gary</td>
<td>Male</td>
<td>52</td>
<td>M.A.</td>
<td>Parent</td>
<td>Business</td>
</tr>
<tr>
<td>9. Tum</td>
<td>Male</td>
<td>46</td>
<td>Ph.D.</td>
<td>Alumni</td>
<td>Professor</td>
</tr>
<tr>
<td>10. Kenny</td>
<td>Male</td>
<td>41</td>
<td>Diploma</td>
<td>Alumni</td>
<td>Business</td>
</tr>
<tr>
<td>11. Pracha</td>
<td>Female</td>
<td>56</td>
<td>Certificate</td>
<td>Community</td>
<td>Politician</td>
</tr>
<tr>
<td>12. Tucknum</td>
<td>Male</td>
<td>53</td>
<td>Diploma</td>
<td>Community</td>
<td>Business</td>
</tr>
<tr>
<td>13. John</td>
<td>Male</td>
<td>37</td>
<td>M.A.</td>
<td>Teacher</td>
<td>Educator</td>
</tr>
<tr>
<td>14. Lek</td>
<td>Male</td>
<td>57</td>
<td>B.Ed.</td>
<td>Teacher</td>
<td>Educator</td>
</tr>
<tr>
<td>15. Karn</td>
<td>Female</td>
<td>44</td>
<td>B.A.</td>
<td>Teacher</td>
<td>Educator</td>
</tr>
</tbody>
</table>

School Principal as Chair of the Board

George. During this research study, the chair of the school board was George, the school principal. At age 45, George was appointed by the Saint Gabriel Foundation, Thailand, as the 10th school principal of Assumption College Thonburi. Since his appointment in April 2001 to lead the institution, he has worked closely with teachers and other groups to improve educational systems during this reform period. George was
graduated in 1987 with a bachelor’s degree of Education in English from Sri Nakharinwirot University at Bangsaen in Chonburi Province, and in 1998 a master’s degree in Educational Administration from Chulalongkorn University, Bangkok. Prior to his current position, George worked at different schools under Saint Gabriel’s Foundation. His assignments began in 1978 as an English teacher at Assumption College Rayong, which lasted for one year. Later, he served for five years as head teacher at Montfort College in Chiengmai, a northern province of Thailand. He worked another five years as the school bursar at Assumption College Sriracha, in Chonburi province. He came to Bangkok in 1980 and worked for Assumption College at Bang Rak as the school’s treasurer. From 1992 to 1997, he was the principal at Assumption College at Sathorn. From 1997 to May 2001, he served as assistant principal at Saint Gabriel’s College in Bangkok.

George’s contributions to the society during the past 10 years have included serving on the Commission on Education, Sub-Commission on Research, and Commission of Peace and Justice of Saint Gabriel’s Foundation, Thailand, and as vice-president of the Parent-Teacher Association at Assumption College Thonburi. His distinguished role in various schools of the Foundation and his extensive experiences in school management gained while working around the country have made him feel comfortable with his new role as the school board’s chair. He described his new responsibility as the school board:

We have to hold firm with principle while doing our work, no matter what conditions and how the working situation will turn out. I think we need to have a good system to do our work. We also need to have a clear goal, learn to listen to other people, and accept those criticisms that will enable us to improve ourselves.
After all, I believe that if everyone in the organization learns to apply what we get from the feedback, it will be very useful and make us more effective in our task. In my opinion, the school board will be our great support and it will surely help the school and students to learn and succeed in the studies. (1.191-196, November 8, 2002)

**Scholar Representatives**

When this research was conducted, there were five scholar representatives on the school board. Each scholar had a different character, educational background, experience base, and social status.

**Kittisak.** The first scholar of the school board was the president of Saint Gabriel’s Foundation, Thailand. At 48, Kittisak has been responsible for all 12 schools of Saint Gabriel’s Foundation throughout the kingdom. Kittisak was graduated in 1990 with a master’s degree in Spirituality from the Angelicum University in Rome, Italy, and in 1997 with a master’s of Education from Dayton University, Ohio, in the United States. Kittisak’s experience expanded as assistant director at Assumption College Thonburi from 1975 to 1983. He also served as director of the Saint Gabriel Scholasticate at Sampran for three years. Later, in 1992-1996, he was vice-director at Assumption College Sriracha, in Chonburi Province. Prior to his current position since March 2001 as Provincial Superior of the Montfort Brothers of Saint Gabriel, Province of Thailand, he was a councillor of Saint Gabriel’s Foundation for three years (1998-2000).

His social status and contributions to the society have been extensive. At the time of this research, some of his current positions included president of the Board of Trustee of Assumption University in Bangkok; director of Assumption College Samrong,
vice-chairman of the Conference of Major Religious Superior of Men in Thailand, and
adviser to the Alumni Association and the Parent-Teacher Association of Saint Gabriel’s
Foundation, Thailand. On being a member of the school board, Kittisak said:

I feel very honored that the school gives me such a recognition to be one among
the 15 members. As far as I’m concerned, I’ve come to know this school for a
number of years. I used to work at this school, in fact eight years, and knew
many teachers, and administrators, as well as both strong and weak sides of the
school. My former relationship with the school will certainly enable me to
support the school board and contribute to the success of the school. (2.277-282,
October 27, 2002)

Sunny. The second scholar of the school board was a 56-year-old professor. Born
in Bangkok in 1946, Dr. Sunny has served as an associate professor in the Educational
Administration Department, Chulalongkorn University, Bangkok, since 1976. Prior to his
work at the university, he received a bachelor’s degree in Economics (marketing) from
the University of The East, the Philippines, in 1971, and continued graduate study at East
Texas State University where he earned a master’s degree in Business Administration in
1973 and doctorate in Supervision and Development of Curriculum and Instruction in
1975.

Dr. Sunny’s extensive experiences during the past 26 years have included serving
as: an executive committee member for the Educational Supervision and Curriculum
Department, Faculty of Education, Chulalongkorn University, Bangkok (1976- present);
a member of the Executive Council for the Educational Administration Program Council,
Thailand (2000-2002); a consultant to the Commission on Education, Archdiocese of
Bangkok (1990-present); and a consultant to the Office of Educational Administration
and Promotion, Office of the Minister, Ministry of the Interior (1985-present). As a new school board member, he commented:

I felt very much honored to be chosen to be a board member of this prestigious school. As far as my profession in higher education is concerned, I may have to render my service to different schools but not in the role of active board member. I really love to work on this specific area of education. In fact, if there is anything that I can do for the school, I’m more than delighted to help for the benefit of our children. (3.156-160, November 11, 2002)

**Jittree.** Dr. Jittree, a 62-year-old retired professor, was the third scholar on the school board. She earned a bachelor’s degree in Secondary Education in 1963 from Chulalongkorn University, Bangkok, continued her graduate study at Chulalongkorn, and earned a master’s degree in Teaching English as a Foreign Language in 1967. After a brief period of study at the University of Reading in England in 1974, she left for the United States to pursue her doctoral degree at the State University of New York, Buffalo, under Ford Foundation scholarship. She was graduated in 1978 with a Ph.D. in Educational Administration.

Upon returning to Thailand, she worked as a high school teacher at two schools in Bangkok—Rajinee Bon from 1963-1965, and for the next 12 years Chulalongkorn Demonstration School. Her other work experiences were at the Department of Local Administration, Ministry of the Interior, supervising rural education in the country, and later, the Provincial Administration Organization where she supervised the Municipality of Muang Pattaya. In 1980, she worked for the Ministry of Education for a year and later became a full-time lecturer in the Educational Administration program, Faculty of
Education, Chulalongkorn University, for 10 years. She retired from teaching last year. A former assistant professor Dr. Jittree said of her appointment to the school board:

I hope to see Assumption College Thonburi become a role model for all the schools, especially for the private ones, on the issue of educational reform. I wish that the school can perform an excellent job on change and improvement of the educational system. And this is the right moment for the school to do it. (4.250-252, November 6, 2002)

Suthee. The fourth scholar serving on the school board was Mr. Suthee. He was born in 1945 in Trang, the southern province of Thailand. He received a high school diploma from the Provincial School of Trang. Mr. Suthee is one of the most successful people in Thailand in the food products industry. As chairman of the huge Kuang Pai San Food Products Public Company, Limited, he is well respected for his vision, calmness, and integrity. Over the past 20 years as the chairman, he has worked hard, and in 1997 he helped the company get through a tough period during the country’s most severe economic recession. Today, the successful management of his company is reflected in the variety of “Smiling Fish” food products displayed on the shelves of stores and supermarkets in Asia, Europe, and North America.

Mr. Suthee served for 15 years as the PTA president of Assumption College Tjonburi, and as vice-president and president (10 years) of “Tow Trakul Association” for Chinese families. As a new member of the school board, he said:

I am very honored indeed …and I’m perplexed about how much I can contribute to the board. However, since I have been working with the school for the past several years, I’m confident that I have many good views to share and improve the school and our students if there is good cooperation among the individual members. (5.213-216, October 29, 2002)
Panya. The fifth scholar representative was a former PTA member and parent of three alumni. Born as the eldest daughter to a traditional Chinese family, Kun Panya was allowed to study until her fourth grade. At a young age, she had to work hard for her family and raise her five sisters. After she married a young salesman, she co-founded an elastic fabric factory. At 52, she became vice-president of her own factory. During the past 20 years, the company has expanded and relocated three times. Outside of work at the factory, she renders service to society through educational initiatives. She has been the PTA bursar of the Assumption College Thonburi for 15 years. She has been a PTA member at Assumption Commercial College in Bangkok for two years. During the past five years, she has become an advisor to the school principal of Assumption College Thonburi. With deep understanding of the value of education, she said of her appointment:

I’m more than happy to be one of the school board members. I’m always ready to help with whatever the school needs. I’ll do my part to the best of my ability.

(6.133-134, November 5, 2002)

Parent Representatives

The school chose two representatives from among almost 5,000 thousand parents of current students in the school. At this writing, the first representative had a strong academic background and involved himself in higher education. The second representative was a successful businessman. Following are their backgrounds.

Pornchai. The first representative of the parents was a 48-year-old researcher. Graduated in 1996 from the National Institute of Development Administration (NIDA),
Bangkok, Thailand, with the degree of Doctor of Philosophy in Development Administration, Dr. Pornchai has been dean of the Graduate School, South-East Asia University in Nongkhaem District, Bangkok, since 1996. He has been recognized as a National Researcher of the Research Council of Thailand since 1995, and he was named the outstanding academician of Thailand in 1998. In August 2001, he was selected as a Thai representative to attend the APEC Educators Exchanged Program on Technology held in Singapore. He was recognized by the Minister of Education of Singapore for his outstanding research paper.

During this research, he was an active board member for the Institution of Higher Education Development of Thailand and a member of the Parent-Teacher Association of Assumption College Thonburi (for the past four years). As a representative of the parents to the new school board, he said:

I myself have vowed to do good things for my country. I’ve been a consultant myself to many organizations in the government sectors. This is the way I want to render my service to the country. As for myself I accept to be a board member in order to help the school and to improve its educational system. It is not because my son is studying here. In fact, I am more that happy to do this job for the society. I regard this appointment as an honor and it becomes part of my life’s commitment, vision, and determination that I’ve to do it to the best of my ability. (7.355-3363, October 31, 2002)

**Gary.** The second representative of parents was Mr. Gary. At 52, he was the managing director of a very successful food product and canning company in Thailand. Mr. Gary received his high school diploma from Assumption College Sriracha in Chonburi Province. He left for the United States of America and studied in the field of Industrial Engineering at Oklahoma State University (OSU). After receiving a Bachelor
of Science degree, he continued his study at OSU and in 1976 was graduated with a Master of Science degree in Technical Education. Upon returning to his home country, Gary helped with his family’s coconut products business until he became the managing director of Thep Padung Porn Coconut Co., Ltd. in 1976.

During this research, Gary devoted himself to various educational institutions. He was the founder and the president of the PTA at Sattrevit 3, a large government high school near his residence. In addition, Gary has been president for the last 3 years the president of the Thai Alumni for the Oklahoma State University. He also has served as a member of the Board of Trustee of Assumption College Thonburi until his selection to the new school board. Gary said:

I really feel myself the school has given me a very high honor. I want to use this opportunity to express my ideas. Though I might not have that luxury of time, I still want to see this school improve itself in many good ways, especially its educational system. And I will do my very best to serve as the parent’s representative. (8.125-127, November 4, 2002)

Alumni Representatives

Tum. Among thousands of Assumption college Thonburi alumni, two people were chosen to become members of the new school board. The first alumni representative was an associate professor, Dr. Tum. Born in 1956, he received his primary and secondary education at Assumption College Thonburi. In 1970, after finishing the ninth grade (the highest grade level at that time) at the school, he continued his high school education at Amnuaysil School in Bangkok. His college years were spent at the Mahidol University in Bangkok. In 1978 he earned a Bachelor of Science degree in Medical
Technology, in 1981 a Master of Science in Tropical Medicine, and in 1988, a Doctor of Philosophy in Tropical Medicine.

Dr. Tum has been active in research in medical technology and tropical medicine. He began his teaching career (1986 - 1989) as a scientist on the faculty of Nutrition and Food Science, Mahidol University, became a lecturer for one year, and was appointed in 1990 as the assistant professor. He was promoted to the associate professor in 1994. At this writing, Dr. Tum was the associate dean for Development of Policies and Planning.

As a representative of the alumni to the new school board, Dr. Tum said:

I’m so glad that I can render a service to my own school. I have to say that this appointment neither makes me very glad nor feel sorry, but rather feel very honored to be able to serve my alma mater. Assumption College Thonburi is my first school and I just love it. I hope to contribute many good things and to supervise what school policies and strategies it might have in the future. I wish to see this school grow up and improve. (9.179-181, November 5, 2002)

Kenny. The second representative of the alumni was Mr. Kenny. After finishing his ninth grade at Assumption College Thonburi in 1976, Kenny continued his higher education in Bangkok at Assumption Commercial College, a prestigious vocational school of Saint Gabriel’s Foundation, Thailand. After his graduation in 1979, he started working for his family’s business. Over the past 10 years, he has been the president of his own company, with sells household fixtures and materials. During this research, he was a board member of his company, Krailas Metal Co., Ltd., and another board member of an export garment company, Krailas International Co., Ltd. At 41, Kenny’s services to the society have included a term as president of the Assumption College Thonburi’s Alumni Association from 2000 to present. He also served as a board member of Assumption
Convent’s Parent-Teacher Association and, in 2001, he was a member of the Confederation of Saint Gabriel’s Alumni Association, Thailand. As the Alumni Association’s representative to the school board, Kenny said:

I’m very proud to receive this honor. I feel a bit worried about this heavy responsibility for the school. However, it is my determination to help this school develop its educational system and grow up into a bright future. (10.148-150, November 11, 2002)

Representatives of the Local Community

There were two individuals on the new school board representing the people of the local community. The first representative was the district officer of the community and the second member was a local businessman.

Pracha. Born in 1946 at Bangpai where the school is now located, Kamnun Pracha was married to the district officer of the town. As a mother of seven children she worked hard to raise her children well. As a typical Thai woman in the past, she received just basic education at Watchai Shimpree School, earning a low secondary diploma after finishing ninth grade. Being the wife of a local officer, Kamnun Pracha enriched herself with human relations skills for over 30 years. As a result, she became well known and accepted by the people of the community. She was elected district leader of the town for five years since her husband retired from the post in 1997. During this research, she was in her fifth year as head of Bangpai District. As a resident, she has seen the school grow form the beginning. She was proud to serve on the board. In a brief statement, she said:

I’m very delighted that the school gives me such privilege. I’ll do everything I can to help both the school and the community. (11.111, November 4, 2002)
The second representative of the local community was Mr. Tucknum. Born in 1949 in Bangkok to a Chinese family, Tucknum was educated in Malaysia. He was graduated from Hung Chiang College High School in 1969. After receiving his high school diploma, he returned to work for his family. Later he began his venture in printing. For the past 16 years, Mr. Tucknum has been the managing director of Taen Ake Printing Co., Ltd. Since he lived close to the school, he devoted his free time and served as vice-president of the PTA a post he has held for the past 9 years. His enthusiasm for the well-being of the school was instrumental to his appointment as one of the local community’s representatives. Tucknum said:

"As a parent of a student, it is a great honor to become a member of the school board. I’ll take this opportunity to pay back to the society with both my time and ability so that I may help improve the school. I don’t expect anything back; rather I expect to serve and see our children grow up receiving lots of good things. I hope to use my 30 years of experience combined with some 10 years rendering service to the school, to improve the educational system of the school. I hope to see the school excel in many ways especially in academic areas and sports."

(12.255-264, October 29, 2002)

Representatives of the School’s Teachers

In 2002, the school had a total of 276 teachers of whom there were 101 males and 175 females. Three teachers were selected to represent the teachers, including an administrator, a male teacher, and a female teacher.

John. John was the administrator among the three teacher representatives. At 37, he has been the assistant principal for the primary level (first to sixth grade) of the school. After his graduation in 1994 from Lux Mundi, a Catholic College in Nakorn Prathom
Province, John worked as a mathematics teacher for two years, one year at Assumption College Sriracha in Chonburi Province, and another one year at Saint Louis College in Chachoengsao Province, about 40 miles east of Bangkok. Later, for six years, he worked as an assistant principal for the primary section and head of the Service Department at Saint Gabriel’s College in Bangkok. He finished his master’s program in Supervision and Curriculum at Chulalongkorn University in Bangkok in 2002. His experience outside the school was as the secretary to the Commission on Justice and Peace of Saint Gabriel’s Foundation, Thailand. As a representative of the school teachers to the new school board, John said:

I’m so proud that they give me such privilege to become a board member. As I’m about to graduate from Supervision and Curriculum Program, I’ve seen my studies very much relating to change in our educational system. I really hope that my knowledge gained from this study will help improve learning and instruction at our school. I’m grateful to all who give me this wonderful opportunity to represent them to the board and I’ll do my very best to serve them. (13.191-196, October 30, 2002)

Lek. The second among the three teacher representatives was a 58-year-old male teacher. Mr. Lek has been working at this school for the past 29 years since he was graduated from Silapakorn University in 1973 with a bachelor’s degree in Education, majoring in English. Now a senior teacher of the school, he has worked as an English teacher for many years. He also has performed in other roles, including assistant principal for the Registrar Office, a member of the Board of the Directors, member of the PTA, and advisory board member to the school’s Alumni Association. As a veteran teacher of the school, Mr. Lek said:
I’m so proud to receive this honor from the school administration. As a result, I’ll try my best to use my experience and knowledge to help improve and change our school. I’ll be more than happy to cooperate with the board to plan, work out, and to achieve the common goal. (14.272-275, October 28, 2002)

**Karn.** The third representative of the teachers was a woman, Mrs. Karn.

Graduated from Ramkamhaeng University in Bangkok with a bachelor of Arts in Economics in 1981, the 44-year-old, Mrs. Karn has been a teacher for 14 years. She spent her first 10 years as an Economics teacher at the high school level. She has been the assistant principal to the Bursar’s Office during the past 4 years. During this research, she served as a member of the school’s PTA. Regarding her appointment to the new school board, Karn said:

I’m very glad to be chosen as a representative of the teachers to the school board. I’ll try to do as best as I can. I also hope to be more dynamic regarding this responsibility, both in my thinking and action. (15.273-275, October 28, 2002)

**Summary**

Assumption College Thonburi, where the research study was conducted, is located in a suburb of Bangkok, the capital of Thailand. Founded in 1961, the school is the eighth of the 12 schools under the auspices Saint Gabriel’s Foundation, Thailand. During the past four decades, the school has undergone different stages of transformation and change. During the period under study in 2002, the school had 268 teaching staff members, 4,786 students, and 92 classes. As a large K-12 Catholic private institution, the school has a typical way of management. The school has operated under several organizational charts under the supervision of the Ministry of Education and the
Foundation of Saint Gabriel. After the worst economic recession in 1997, the government devised reform plans to alleviate national crises and improve the economic, social, and political systems of the country. The reform of education was one of the most important parts of the reform agenda. With the reforms the government intended that the administrative structure of each institution be decentralized at the local level and administered by representatives of parents, teachers, community organizations, local administration organizations, alumni, and scholars.

As a result, in October 2002, Assumption College Thonburi selected 15 representative individuals to serve on the new school board. All 15 school board members participated in this study. One of them was the principal of Assumption College Thonburi and he is chair of the board. Five others represented scholars, of whom two were assistant professors from the university, one was president of the Saint Gabriel’s Foundation, and two were factory owners. There were two parent representatives, one a researcher at a private university and the other a businessman. Also, there were two representatives of the Alumni Association, two representatives of the local community, and three teachers from the school. Among these 15 school board members, there were 4 female participants and the rest were 11 male participants. The demographic information and educational backgrounds for the 15 participants, such as sex, age, work experiences, educational qualifications, and pseudonyms assigned to preserve their privacy, are provided in Table 1.
The next chapter presents a rich description of the findings from the interviews with the school board members regarding their perspectives on systems theory, systems thinking, and other issues related to school effectiveness.
CHAPTER 5

PRESENTATION OF FINDINGS AND INTERPRETATION

Schools are capable of improving themselves. If the conditions are right, I am confident that the teachers and principals and parents can work together to influence schools in ways others cannot. The Old Testament tells us that “a people without a vision shall perish.” The same can be said about schools and school people without vision. It might also be said that schools full of vision will flourish.

Roland S. Barth (1990)
Improving Schools From Within, pp.159-160

Overview

The previous chapters outlined the problems and purposes of the research study, provided the existing research and literature review, described the methodology that guided the study, and presented the site of the study and the personal backgrounds of the school board members who were interviewed for this research. This chapter presents findings that were generated from the individual interviews with the participants. The intent of this chapter is to analyze and interpret the data concerning the research questions, and to connect that analysis to the relevant literature and previous research studies identified by the researcher.

The participants selected for this study were the 15 school board members at Assumption College Thonburi, a large K-12 Catholic school in Bangkok. School board
members were chosen and appointed by the school authority to represent the individual groups of teachers, parents, alumni, local communities, and scholars. There were 11 male school board members and four female representatives. The participants were between 37 and 62 years of age, with their average being about 50 years. Among the 15 participants, four of them held doctoral degrees, and four of them master’s degrees. Two of the participants had bachelor’s degrees, and the remaining five participants were holders of either high school/vocational certificates or an associate degrees/ diplomas. Data were gathered through an in-depth, individual interview with each of the 15 school board members. The actual interviews were conducted from October 27 to November 12, 2002, at the study site and at the respective offices of the individual participants who were not school employees.

Like other organizations, the school is a complex organization comprising people of differing roles, perspectives, and concerns. The school systems include administrators, teachers, supporting staff members, students, parents, and local communities, as well as various boards including the board of directors, board of trustees, the PTA, and alumni, all of whom relate, interact, connect, link, provide, support, integrate, and affect the organization one way or another. In addition to providing quality education, schools in general (and this private organization under investigation in particular) face environmental pressure from all sides. For example, the school faces outside pressure from globalization, the advancement of information systems and technology, the economic crisis of the country, employers’ needs for an educated workforce, parental dissatisfaction, the nation’s new constitution, and the 1999 National Education Act, not to
mention the pressure from political, socioeconomic, and educational reform. The external environment forces the school to assess its management strategies and improve the school system. As the government’s massive reform agenda proceeds, it is the duty of the school to comply with the requirements of reform and use this opportunity to assess needs and plan for change in the organization.

For the past several years, researchers have tried to study the effectiveness of the school organization. The findings revealed several common characteristics of school effectiveness that include strong leadership by the principal or other staff members, clear goals, academic emphasis, and a monitoring system for student progress (Purkey and Smith, 1983). Additionally, the school is effective when there is a careful coordination and management of the instructional program, along with a sense of shared values and culture among the administrators, staff, students, and community (Cohen, 1983).

Fullan (1991) affirmed that serious school improvement can be achieved at a variety of levels—locally, regionally, and nationally—when the individuals and groups of all the systems involved pay attention to both the content and the process of change. In his words:

To succeed in systemic change it is essential to see and understand both the small and big pictures of the system. We have to know what change looks like from the point of view of the teacher, student, parent, and administrator if we are to understand the actions and reactions of individuals. (p. xi)

This study selected the human element of a group of school leaders and focused the investigation on the critical role of the school board with representatives from the entire school community. The investigation focused on both content and process of what
and how the school leaders perceive, understand, and employ the concept of systems thinking for change.

The study investigated the 15 school board members’ perspectives and their understanding of systems thinking and other related issues inside and outside the educational environments of the school system. The reason for the investigation was to determine if the concept of systems thinking was an important tool to affect change, solve organizational problems, and allow the school to improve and to understand the extent to which the board members might be described as systems thinkers. Employing Senge’s (1994) dynamic loop and Haines’ (2000) systems thinking module as frameworks to perceive a holistic or “big picture” view of the school, this study investigated the 15 school board members responses when asked about their perspectives, understanding, and experiences related to the school under investigation as well as current issues within and outside the educational context. The findings presented here include perspectives on the current issues of the Thai educational system, relationships between and among different components of the school systems, school effectiveness, suggestions for educational improvement in the school systems, and an analysis of the knowledge of systems thinking exhibited by the school personnel and the school board members.

In the previous chapter, each participant was given a number and had a pseudonym in order to preserve their privacy. In this chapter, conclusions are stated and codes are used to indicate which participants’ statements serve as evidence for the research conclusions. In these cases, the 15 participants are identified by their numbers (1 through 15), followed by the line number(s) of the interview transcriptions. For example,
at the end of certain sentences, the numbers 5.74, 10.37-42, or 12.73 might appear. The reader is directed to participant 5, line number 74, participant 10, lines 37-42, and participant 12, line number 73 of the respective transcriptions. Direct quotations are also included in the findings as evidence.

**Analysis and Interpretation of Findings**

An examination of findings gleaned from the responses of the 15 participants and guided by the research questions posed in the first chapter revealed several characteristics of systems thinking from the participants’ perspectives. Systems thinking referred to a process of seeing an organization such as school as a whole with different parts and segments, where every event and every activity of the organization interacts, connects, interrelates, impacts, and involves each other and the environment (Senge et al., 1994, p. 128; Haines, 2000, p. 38). In many instances, the concepts and framework of systems thinking represented by Senge’s (1994) causal-loop diagram of cause-effect relationship and Haines’ (2000) five critical phases of systems theory--outputs, feedback, inputs, throughputs, and environment--were used by the participants to examine to what extent they are systems thinkers, to what degree they realize the importance of systems thinking in current practice of the school systems, and to what extent they employ systems thinking as means of affecting change in the school.

For the purposes of uncovering the participants’ perspectives and understanding of systems thinking and of assessing their abilities to become systems thinkers, the
following characteristics of systems thinking were employed to measure the extent to which the participants are systems thinkers. The main characteristics of systems thinking used were the following:


2. Ability to see interrelationships, interconnectedness, supports, integration, interaction, affects, and influences between parts, components, and/or elements of the whole system (Senge, 1994, 1999; Daft, 2001; Hutton, 1994).

3. Ability to perceive “cause-effect” relationship within the system and not linear (Senge, 1990, 1994).

4. Ability to identify how information about the systems and the quality of its output is used to make adjustments (Haines, 2000).

5. Ability to understand that the environment has impact and influence on the system and that it can be both cause and effect, not just one direction (Hall and Fagan, 1956; Daft, 2001).

The assessment of the participants’ understanding of systems thinking and their abilities to demonstrate or exhibit themselves as systems thinkers was based on individual responses to the 10 interview questions about the current situation of the Thai educational system, the private school system, and in particular at the school under investigation, the current issues outside the school’s domain, and suggestions for effective school change in the future. Participants became systems thinkers when they demonstrated their
understanding and ability to see a system as holistic, understand cause-effect relationship, use feedback as a mechanism to improve the system, and understand the impact of the environment to the system. Based on the review of literature, the researcher used different criteria to distinguish these key characteristics of systems thinking and classified answers into the categories that appropriately demonstrated the participants as systems thinkers. To distinguish a statement as holistic or “big picture” thinking, there had to be evidence and direct statements that related one system, factor, or part to connect with, relate to, or integrate with several other parts or an external system. To consider a statement as representing interconnectedness or cause-effect relationships, there had to be two components or parts, one of which affected the other to produce a desirable or undesirable result. To regard a statement as representing an understanding of feedback, there had to be evidence that the participant understood how systems adjust to information to change the quantity or quality or form of a performance. To view a statement as evidence of environment, there had to be some elements or factors from outside the system that had an impact or an influence on the systems.

**Research Question 1.**
**What characteristics of “systems thinking” do leaders exhibit when faced with school-related problems and issues?**

Faced with the current school-related issues and problems, the 15 participants exhibited their perspectives and understanding of systems thinking, experiences, feelings, and concerns over the school-related issues. The following evidence and direct statements were selected from participating school board members to illustrate their use of systems.
thinking. This study’s assessment regarding the extent to which the participants exhibited systems thinking encompassed the following major characteristics of systems thinking: (1) seeing a system as holistic or a “big picture,” (2) seeing interconnectedness and interrelationships of cause-effect chains between and among different parts of the system, (3) using feedback as a mechanism to improve the system, and (4) realizing the impact and influence of the environment on the system.

**Ability to view a system as holistic or “big picture.”** Some evidence indicated that many of the school board members are systems thinkers in terms of seeing systems holistically or as big pictures, not discrete parts. Nine of the 15 participants (1, 2, 4, 5, 6, 8, 9, 12, and 14) exhibited their understanding of this first characteristic of systems thinking. These participants demonstrated their knowledge of systems thinking by referring to various parts of the complex system and relating many components or parts together. Their efforts to determine different relationships of these components in terms of policy, management systems, educational systems of teaching and learning, culture, people, and politics revealed a big picture of the entire system that has many limitations and implications for improvement.

George was the first participant who demonstrated his abilities as a systems thinker. Regarding the current Thai educational system, George’s perspective focused on the government’s policy. He believed that this policy was related to and affected other elements of big and small educational systems, including school management, educational systems of teaching and learning, and teachers. In his words:
I see the government’s good intentions concerning educational reform. I agree fully with the concept of trying to transform the entire educational system. However, it’ll be hard and full of problems for the reform process to succeed during its different phases of implementation, because there are many other elements that need to be considered. (1.6-9)

George shared his perspective on why the educational reforms underway in Thailand would be difficult to improve. He also provided more facts that contributed to the big picture of the weakness of government policy. Some of the key elements that might cause a delay or affect the process of educational transformation included:

I see the stability and the practicality of the government policy toward change as major problems. I see discontinuity throughout the use of the curricula in our school systems. The curricula keep changing, and I see why teachers find it difficult to implement the policy. As a result, there is a large gap of teaching and learning quality between schools in cities and in villages. I see no coherence in learning and instruction from K-12 to the college level. I see weaknesses in our assessment system. Most students seek knowledge outside the classroom from tutoring schools in order to earn better grades and pass the entrance examination into universities. Students suffer from heavy workloads and the pressures of fierce competition to pass the entrance examination. (1.9-20)

George viewed the Thai educational system as critical due to the government’s policy. He believed that the system is related to the smaller subsystems of the schools and continues down to the elements of teaching and learning.

We have many successful students who have passed through this educational system. When I look back at these students entering the job market, I cannot help but see the entire picture and compare how we perform our teaching with the achievement of our students. As an administrator, I’ve tried to see the entire process of the educational system with input, process, and output. To me, the Thai educational system is in critical condition, if not total failure, with respect to in the reform policy, particularly concerning the curricula. (1.25-32)

The second participant, Kittisak, showed himself to be a systems thinker when he observed the current system’s problems, including the bureaucratic government systems, the civil servants who lost their control and power, the new educational reform, the implementation of different phases and projects, and other variables. In his words:
The Thai educational system is undergoing changes right now. This reform process involves a lot of people. It needs time to work because the educational system is large and complex. There are many variables that come into play. The elements of the bureaucracy, the government’s personnel and their morale and readiness toward change, their understanding of the Educational Act and its guidelines, and the cooperation among practitioners are the factors that affect the change process. (2.6-45)

His opinion of a successful reform of the educational system was brief:

Finally, I think we need more time and some ‘young blood’ to take charge of this responsibility. The success of this change requires someone who can gain the respect of all to perform the job. Capable people, time, resources, and cooperation are factors that are needed here. (2.76-78)

Jittree, the fourth participant, demonstrated her abilities as a systems thinker concerning the current Thai educational system by expressing her views on the issue of continuity from the K-12 to higher education levels. In her opinion, there seems to be no connection or continuity in the entire educational system. Each level has its own way of teaching without seeing where students go next or proceed in their education. In her words:

I can see that we manage our education in separate sections, namely, kindergarten, primary, low secondary, high secondary, and college levels. It is obvious that we educate students level by level without connecting between each level or across the entire educational system. (4.43-46)

She looked at the educational system and pointed out different components that she believes have to be related to each other to make a good system. She continued:

Our educational system does not pay attention to the factor of individual difference. We seem not to care what people will become in the future. We assume that they will be just fine at the end. In fact, the government has absolute power to integrate different ministries and departments together and let them work as a unit. The Ministry of Education should be the spearhead of change. As usual, we are concerned about how to bring good policy into successful implementation. My concerns focus on two things: first, the readiness of people at the lower levels who have to carry out change, and second, the seriousness of the policy makers. I believe these two parts must be related and connected for educational transformation to succeed. (4.50-57)
It was Jittree’s understanding that the school is effectiveness when it combines and integrates different factors and components, such as school policy, management, educational system, personnel, and strong culture. These factors interact and support one another to make a school strong and effective. In her words:

When the school is effective, we don’t look only at each different resource. We focus on total systems of dedicated personnel, integrity, determination, and self-reliance. (4.68-70)

The fifth participant, Suthee, demonstrated himself as a systems thinker when he provided his perspective on relationships of different elements of the current Thai educational system. He viewed the government policy on higher education, teacher preparation, insufficient financial support, and unclear implementation plans as key components that affect the reform of education. In his words:

I feel that the government is not fully serious about educational reform. It is evident when one sees a limited budget that sets aside this mega project compared to other projects of the government. If education is a means to build a strong society, then the emphasis should be here and not the other way. (5.25-29)

Panya, the sixth participant, demonstrated her ability as a systems thinker when she spoke out on the current Thai educational systems.

I see the reform on education as an opening gate for hundreds and thousands of students to have opportunities for better education. I regard this change as fortunante for our country and children. To look beyond this change, I feel that our country is more recognized by other countries as the one that is making every effort to achieve goals in educational reform. To achieve these goals, there needs to be a lot of involvement from both the government and the private sector. A lot of personnel will receive training and make improvements on teaching. I can see many good things coming out of this reform. (6.1-9)

Gary, the eighth participant, showed himself as a systems thinker when he compared aspects of the current Thai educational system with educational systems in other countries. In his words:
In the broad picture that I see, beginning with a comparison of how our students and students abroad learn, I can say that our students are tense and have a heavier workload than students in many other countries. Students elsewhere have more freedom in terms of approaches to their learning. The other systems teach them how to think and solve problems while our students learn under strict discipline. We all have the same 12-year learning system. Things I can see changing slowly in our system is that students participate and speak out in class more and the schools do not emphasize homework like they used to do. But our system needs to improve as soon as possible on cooperative learning. (8.6-11)

Gary also looked at the private and public school systems and pointed out what they had in common and what made them different from one another.

Looking at both systems, I can see that the private schools have high operating cost. Despite some support provided by the government to some private schools, I see that in general, the primary classes of the private schools are much better than the public schools. On the other hand, the public schools at the middle and high school levels seem to perform better than those of the private systems. Supporting this observation is the fact that a large number of students from public and private schools are being accepted into colleges. In the private schools, however, about 80 percent of students receive additional tutoring outside class. I feel that when the parents of private school students can afford to pay for the tutoring fee, students pay less attention in class. This factor may be related to the educational system of the schools, especially to teaching and learning. (8.19-28)

Tum, the ninth participant, was characterized as a systems thinker when he observed setbacks in the current Thai educational system and proposed ideas to improve the system.

In my opinion, our educational system is understood and focused on one side, that is, the academic area. We almost forget that there are many elements that constitute an educational system. Important elements outside the educational system were general knowledge, flexibility, and adjustment of students to new environments. We learn from the news that many students are successful in their studies to become medical doctors and architects, but the quality of life is getting worse. In my view, this is a telltale sign or an indicator that the educational system needs to be assessed, and that it is high time to look for improvement. It is the job of those who are responsible to come up with ways to improve the system. (9.10-16)

Tucknum, the twelfth participant, exhibited his systems thinking when he explained current Thai education in terms of different elements that relate to each other in
the big system. He viewed the current system as out-of-date, with rote learning as the method of instruction. In addition, learning is not compatible with real-life situations, assessments are not reliable, and teacher quality and incentives are parts of the big picture of current educational problems. The following statements echoed some of his concerns on the current state of education in Thailand.

Those who have never seen a rural school will not be able to tell the difference. The schools in Bangkok and those up in the mountains have a large disparity between them. Similarly, public schools and private schools experience the same disparity in terms of education management. Even the location, investment, and all the amenities for students differ greatly. Students in good schools with financial stability enjoy more advantages compared to their peers in inferior schools, especially the temple schools, which suffer an awful plight. The disparity is not limited to students alone but also extends to their guardians. Social opportunities after graduation are no comparison, as well. The situation in our country is unlike in foreign countries, where disparity is minimal due to effective education management. (12.24-33)

Lek, the fourteenth participant, exhibited himself as a systems thinker when he viewed the current system of Thai education as the disintegration of many parts in the system. In his words:

In my opinion, the current educational system in Thailand is not stable enough. In the reform of the educational system, the measures taken by the government, including laws and regulations, have not been swift enough. Until now, the change in education is still uncertain. …The government itself isn’t clear about this. At the moment, the law, implemented in 1999, is yet to be concluded by the government. (14.6-12)

He continued reflecting on educational reform and pointed out different factors. His view on the future success of change was the following:

I think the success of the reform depends very much on the personnel of the entire school system. They need knowledge and understanding of the new regulations. They must be open-minded and listen to one another. They must seek to apply new ways and methods. The school leaders need to have vision and know how to manage and know what types of curricula and learning strategies should be implemented. And most important is how the schools respond to students’ needs and lead them to success. (14. 37-44)
Summary. Nine of the 15 school board participants, George, Kittisak, Jittree, Suthee, Panya, Gary, Tum, Tucknum, and Lek exhibited their understanding of a “big picture” as a characteristic of systems thinking when they were faced with the current Thai educational system, the status quo of private schools, and their schools under investigation. It appears that one school leader, three scholar representatives, one alumnus, one local community representative, and one teacher representative viewed the educational system as holistic. Educational systems and school systems are complex, and it is difficult for many ordinary people to see the system as a whole when so many parts and components are related, interacting, integrated, supported, and affecting one another. Yet, some of the school board members exhibited their knowledge by looking into various subsystems within the larger system to see how the many parts and components interact to cause the system to perform an outcome. Some of the parts and components of the big system portrayed by the participants included policy, management systems, educational systems of teaching and learning, culture, politics, and individuals. Despite different exhibitions of this characteristic of systems thinking, there was some evidence to show that the school board members are systems thinkers in terms of seeing systems holistically as a big picture.

Ability to see interconnectedness or “cause-effect” relationships. In this research, there was much evidence that the school board members are systems thinkers in term of cause-effect relationships. All 15 participants exhibited their understanding of
systems thinking under the second characteristic, seeing relationships among the
components of the educational system and observing how one part can have a cause-
effect chain or relationship with other parts. This type of cause-effect relationship can
cause both positive and negative results in an educational system at large. The findings
revealed that most of the participants understood quite well the effects of one part of the
school system on other parts. Though the participants have different educational and
personal backgrounds, all demonstrated their views, expectations, and concerns regarding
policy, management, learning and instruction, resources, structures, politics, individuals,
and cultures. The following quotations illustrate the depth and breadth of their knowledge
of systems thinking and the extent to which they are systems thinkers.

George, the first participant, described the interrelatedness of school leaders and
teachers. He saw these components as greatly affecting each other, noting that a school
leader’s high expectations alone without sufficient support from teachers has caused the
failure of many school projects. In his words:

A school leader can initiate and implement many school policies and projects. However, he needs to realize first that improvement based on the teachers is the way to success. And I see this point as crucial. If we need our students to learn how to speak English, their teachers must have the ability to communicate in English to a certain degree. The same idea applies to other improvements. For example, to allow teachers to teach effectively, we have to prepare them beforehand. If a teacher does not understand what and how to teach, how can the teacher make students learn and understand anything? (1.38-42)

Regarding the status quo of the private school system, George exhibited his
understanding of relationships and the cause-effect chain among many variables of the
system. Despite government control over private schools, George viewed the status of the
private school in connection with different factors, including management, effective
educational system, and policy. The success of these schools depends on the autonomy, leadership among other schools, the quality of education, and self-reliance. His understanding of the relationships and cause-effect chain was apparent in the following statement.

I understand that the school is under the government’s supervision so the government has the authority to control the tuition fee, for example. Despite the control on policy by the government, the private schools are better off in many respects. I see that there is a high enrollment because the schools offer quality education to students. This quality of education comes from the school’s ownership, self-reliance, and independence as well as the school effective management. (1.49-58)

Regarding the school under investigation, George exhibited his understanding of cause-effect relationship in the following passage.

This school is strong because of its excellent learning facility, learning atmosphere, and sufficient educational equipment. I also associate this school with a strong school leader, dedicated teachers, and caring support staff members. … I can see how well the parents support the school. This school has good connections with the parents’ representatives and the local communities. Also, I can see that the school has frequent meetings with the parents. (1.62-76)

George’s perspective on the cause-effect relationship of the school focused on the component of teachers. His view of young teachers was that they might be serious enough in the teaching profession, but they seem to care more about their incomes. On the other hand, he thought the senior teachers were not active in teaching because of their long years working within the school. And both types of teachers affect the school’s quality of education, parent’s dissatisfaction with school management, and turnover of gifted students. As a result, teacher apathy causes the school to spend much time and other resources to improve (1.64-67).
The second participant, Kittisak, exhibited his understanding of a cause-effect relationship between the factors of teachers and quality of teaching. In his view for example, when teachers are not serious in their profession, it reflects on their students’ learning outcomes and many other areas of the educational system. In his words:

The human resource, teachers in particular … until now, those who entered the profession were those who resorted to studying teaching because they failed to succeed in other areas of training. As teachers, they were not the most capable ones; they became uninspired teachers. As a result, we experience many problems with a wide range of issues. Therefore, the pool of teachers comprises those inefficient ones. Incapable teachers cannot produce capable students. This is an area we have to resolve. (2.49-53)

Kittisak also showed his understanding of cause-effect relationships when discussing the disintegration of old and new learning systems.

We might change the way we now teach and prepare our students to provide more opportunity for disabled students to learn music, sports, and more. In addition, we have home schooling for those whose parents prefer new approaches for a learning environment rather than the traditional school system. However, when these students plan to go to college, they face the old method of pass-fail entrance examination. And that is the contrast between the old and the new systems. It doesn’t help improve but causes more problems. (2.65-73)

Regarding the status quo of the private school system, Kittisak described cause-effect relationships related to effective school management. He viewed the strength of the system as a result of school efficiency, sufficient resources, parent support, emphasis on academic areas, and strict discipline. In his words:

I think the success of the private school system relates to many factors concerning school management. I see the elements of effective management and sufficient resources that make the school move fast…I see factors of public confidence given by parents on teaching and learning emphasis, discipline, etiquette, and safety as elements that make the private school system well accepted. (2.94-102)

In regard to the weaknesses of the private school system, Kittisak also pointed out many interconnected factors. In his view, factors that have an effect on other parts
include quality and dedication of personnel, quick turnover of school leaders, profit-oriented management, and parents’ dissatisfaction. In his words:

The impact of the private school system stems from personnel factors. In the case of Catholic institutions, the lack of sufficient religious leaders to administer the schools affects the staff members’ morale and the quality of the educational system. …I see the parents’ dissatisfaction of some private schools that emphasize profit-oriented rather than academic-oriented management, which results in these schools falling behind the government schools. More importantly, people will look down on profit-motivated private schools including those good Catholic schools. (2. 105-113)

Kittisak also pointed out the impact of the private school system on the government school system. Kittisak believed that the private school system helps share the government’s burden and responsibility for more than 1.6 million students in the country in 2002. Thus, the private school system saves the government a lot of money because of the services that private schools provide. In his words:

Private schools are a great help. Without them, public schools will be in dire shape as the government is in no position to provide education to the youth all over the country. The government has to thank the private schools for their supportive role. (2. 116-118)

Regarding the school under investigation, Kittisak exhibited his understanding of cause-effect relationships from a different perspective that resulted in school improvement. In his words:

As a person who once worked here, I can see the school has been improving in many aspects. The school seems to move along well with alumni and parents. The school is well equipped with learning facilities and teachers receive training regularly. The school also receives support from parents and their staff members. With the factors of positive relationships and good support given by the alumni and parents plus good teamwork of teachers and learning facilities, it makes the school stronger and more effective. (2.122-129)

On the other hand, Kittisak viewed the school’s future and pointed out some key elements that might affect school improvement. In his words:
I can see that there is room for the school to improve in the future. The school will improve if the management builds a more positive working atmosphere for members of the school community. In addition, the school will be more effective if it conducts internal auditing and assesses different projects and performances. However, I’m convinced that the school will grow strong and it is hard for other schools to compete. (2. 132-136)

The third participant, Sunny, exhibited his understanding of systems thinking in his view that various areas of the educational system relate together under the reform process. His perspective on cause-effect relationships of the change process encompassed the following.

I think change is reasonable but the implementation is too fast. For example, I agree with 12-year free education. The idea is good but it should go step by step. It is quite certain that the government doesn’t have enough money. When money becomes the factor, it affects the implementation of the plan as well as management of different centers. When money is short, it slows down the management. It affects the quality of performance and the outcomes. Finally, the government has to come back to assess and improve the strategy. (3.12-17)

Sunny looked into the new curricula and found it was not well prepared. According to this participant, the government’s idea was to decentralize and allow all schools to design their own curricula.

I think the government is rushing each school to design its own curricula. The effect of this decision will do no good to schools because the responsible persons are not ready and have not been trained to perform this task. They still lack the concept and understanding of the context and the content. In addition, some of the school administrations are not clear about what they should do. Some administrations don’t even pay attention to the reform. The result is poor curricula that might not cover all the areas that it should. Perhaps, it is not an up-to-date one. (3.28-33)

Sunny further exhibited his understanding of systems thinking with respect to the status quo of the private school system. He looked at some variables that make the private school system more effective than the government schools. In his words:

My verdict is private schools are more serious compared to public schools. The next question is academic intensity. In my opinion, the private schools are keener
compared to public schools. Private schools have tangible owners. As a result, they have to manage the schools well. This is reflected in the quality of the students. Second, the private schools must have access to funding and focus on the quality of education. Third, the ease in running private schools is another factor. Some schools enjoy better funding. In terms of values between private and public schools, I think the former enjoys more advantage as people pay attention to this attribute. (3.48-54)

Jittree, the fourth participant, exhibited her view on the cause-effect relationship that quality management leads to school effectiveness. The following statements supported her claim:

I have a good impression when I see the leaders of Catholic schools. When invited to give talks, I can see that they have great dedication to lead the school. They also exhibit self-sacrifice to their work and their willingness to fulfill their mission. Thus, their leadership styles inspire the staff members to follow and to gain trust from the parents. (4.72-75)

Her concern for the future of the private school system revolved around school leadership and its relationship with other elements in the school system, such as power distribution within the organization, issues of personal interest, and needs of students.

I can see the seriousness of the school leaders and see them respond to the new ideas on school improvement immediately. My concern is that if the school administrative power has been transferred from the religious people to the lay teachers, the quality of management will not be the same. ...In my view, the effective school needs strong leadership, sufficient resources, and integrity of the people of the organization. ...The success of school reform depends on these factors and this will increase the private school’s credibility to become leaders among other schools. (4.74-80)

Her view of the effectiveness of the schools caused by the relationship between the school leader and the teachers was captured in the following statement.

The issue of individuals in the organization is serious. It is a matter of how the school shares vision with the teachers and lets them understand the objectives. Problems occur when individuals or groups within the school seek their ways and pursue their own interests. (4.81-84)
Jittree also had another concern about students’ needs for quality education that stemmed from their dissatisfaction with the quality of public education. In her words:

When people from outside want to get into the private school system because the government cannot offer the quality they want, it is the duty of the schools to have a clear idea of how to respond and serve their needs. I see that the schools have to adjust and improve themselves now in different ways. At least, this group of students will turn back to public education and the schools will have to accept those students whom the schools really don’t want. (4.89-93)

Regarding the school under investigation, Jittree exhibited her understanding of the cause-effect relationship with stakeholders that could result in school effectiveness. In her words:

From my personal contact with the school, I’m convinced that the school can achieve its educational objectives in providing quality education. The supporting reasons are that the school has excellent learning facilities, full support from parents and local communities, and the eagerness of many individuals to partake of the school’s mission and goals. Moreover, the school has to assess its relationship and roles with these stakeholders and maximize their capacities to support the school and the school’s mission. (4.102-106)

The fifth participant, Suthee, demonstrated his perspective on cause-effect relationships with respect to the government’s policy on the teaching profession and teacher education and the effect on the overall educational system. In his words:

I’m convinced that teaching is the most important occupation, for it has to direct and inspire students. In this case we need the best to be teachers. In the opposite, we can recruit and prepare teachers from those who cannot study in another field, but as a consequence, when student teachers are not happy with their profession and have no where else to go, the end result is quite unthinkable. I’m not sure if this is another indication of the failure of the Thai educational system. (5.32-38)

Suthee postulated that the Thai educational system would be improved if support and integration of different components came into play. In his words:

I see that we are not yet clear what educational reform means to us. Despite beautiful words in writing, it is up to us how much we can put them into practice. Reform needs many factors to make it happen, including support and cooperation
between and among the government and private sectors, the budget, the supervision, and the ability to execute things as planned. (5.49-52)

Regarding the school under investigation, Suthee viewed the strength of the system in relation to the many factors that affect the system. Among key factors that make a school effective, he recognized policy in management, leadership, finance, and cooperation and support of parents and the PTA. In his words:

From my observation when I got involved in different activities with the school, I could see the school improving continuously. This fast development came from having strong school leaders with well-planned strategies and development projects. I also could see the school was well supported financially from both the Foundation and the parents. One important thing is that the school has received good support and cooperation from the parents and the PTA in different ways during the past several years. (5.100-109)

The sixth participant, Panya, demonstrated herself as a systems thinker when she provided her views on different cause-effect relationships for the school under investigation.

I see the school is able to provide quality education to students because the school is well equipped with instructional technology, sufficient learning facilities, and a conducive atmosphere. On the other hand, I see some elements of the school that cause the system to slow down. A quick turnover of the school leader is one element. With each change of school leader comes new school policy, and often times it is not on the same track. In addition, the quality of teachers and their performances and cooperation as a team are questionable, and that might result from improper placement. I’d like the school to assess teachers’ performances throughout the school year and provide necessary means so that the school can move on. (6.46-51)

Pornchai, the seventh participant, exhibited his ability to see cause-effect relationships by pointing out the failure of the current educational system and reliance on tutoring schools. In his words:

Tutoring school is a phenomenon that serves as an indicator pointing to the failure of our school system. As a result, people with business sense took the system’s failure as an opportunity to build tutoring schools. It by no means suggests that we have good education. In fact, it indicates that we have not done
our best inside our schools; time has been spent giving tutoring instead. The teachers may themselves be giving special tutoring and those students who do not join these classes may see their grades affected. (7.56-61)

Regarding the status quo of the private school systems, Pornchai viewed the bureaucratic system as a key factor of spending more time on controlling than supporting the system. In his words:

We have long been under the influence of the bureaucracy. We have been under this influence for decades. Any private entrepreneur thinking of entering the business of education has to come under government supervision. The supervision of both the public and private sectors depends on what is known as the system of patronage, namely, the system of mutual contentment. Rather than being used to take care of or regulate the private sector for its ability to become self-reliant to lessen the need for official supervision and enable the private sector to take care of itself, regulations are used to determine if the private sector has met certain criteria, if it has done this or that. In other words, efforts are made to invent more red tape, which in principle suggests that the wave of thought that I’m talking about is true. It is what appears before us today. While the government tries to provide support, those assigned to supervise try to impose system and regulation, a situation that stands in the way of the development of the country. (7.76-86)

Regarding the school under investigation, Pornchai expressed his views on factors that allowed the school to be effective. In his words:

To me, the school’s reputation is high. I think it is because the school has done so many good things to the people during the past several years. These good deeds bring the school more support from parents. High enrollment is a good indicator of the effectiveness of this school. (7.110-113)

Considering the status quo of the private school system, Gary, the eighth participant, exhibited his understanding of why parents prefer private school to the public school system. In his words:

I think parents prefer the private to the public school system because of its emphasis on educational areas. Good private schools have a lot of support from parents. As a result, the parents are happy to pay high tuition fees for their children to attend private school. To many parents, it is worth spending in exchange for quality education. (8.34-40)
Regarding the school under investigation, Gary was positive about the school’s performance. He pointed out different components that contributed to school effectiveness. In his words:

I see the school management system as growing up fast. Parents might complain about high tuition fees, but overall the quality of teachers is good. Parent support is strong. Participation on different school activities is high among parents and local communities. The ratio of teachers and students is normal. The school’s image is positive. I feel that these factors will contribute to the school’s future success. (8.45-51)

Tum, the ninth participant, viewed the private school system and perceived different cause-effect relationships. He believed the system should consider certain elements and do something different in order to survive. In his words:

To survive, I think the school needs to have a new approach. There will be both pro and con, like and dislike. I can give an example. When the system is okay to an extent, we see increased enrollment. However, the motive to enroll is just to learn and nothing apart from learning. As a result, they are like people growing up on one part, the head, but having a small, weak, undeveloped part of the body at the legs. If we need the entire educational system to develop and gain a sustainable change and improvement, we need to invest more. As a result, when the high school is proved to be successful, the other classes will follow, and then everything in the school system will result in improvement. My conviction is that when the school leader is strong, the staff members and school personnel are responsible, and the school has good policy, the school should move along well. (9.56-62)

Regarding the school under investigation, Tum viewed the successful outcomes of the alumni as a cause-effect relationship with respect to school effectiveness. In his view, the school had strong qualities that produced satisfactory achievement. In his words:

I have a fond memory of the school. I can see that when the students graduate from the school and become successful in their lives, they will think about things they received in the old days. These good experiences will make alumni decide to enroll their children in the same school. The more effective the school, the more alumni will think of their school. I propose that the school should focus on elements of number of students in each class, improvement of teachers, readiness for all kinds of competitions, support from different boards of the school, and
careful implementation of plans and projects by the school leader as advised by the representatives of the school board. (9.82-91)

Kenny, the tenth participant, looked at the current Thai educational system and found that educational reform is good but it takes a long time to improve the entire system. From his perspective, he found some related elements that affected one another and caused the change process to slow down. In his words:

We have to accept that our background in education is not well grounded. Change will take time and improvement in education is in the same manner. One key factor that affects so much in developing the country is politics. Politicians have their power and they use it to influence our daily lives. They hold the influence over the educational system. It is obvious every time we have a new government. The educational policy will change along with the politicians. …In addition to discontinuity of the government policy, we face another problem of quality teachers. I want to see that each teacher understands his or her role and responsibility clearly. Each has different qualities of a good teacher, but if teachers are not professional, how can they impart their knowledge effectively? (10.6-20)

Regarding the status quo of the private school system, Kenny showed his understanding of relationships with respect to reality between private schools in city and suburbs. According to Kenny, the quality and acceptance of private and public schools are determined by where they are, what situation they face, and how the staff members perform their duties. The relationships of these variables determine how the schools operate and fulfill their missions. In his words:

I can see private schools in the city are superior to those private schools in the suburbs and the provinces. This difference might be the cause of financial background of each school and the factors of location. Another factor that makes the private schools different from each other is the quality of teachers. My personal belief is that teachers want to work for the government schools. Their jobs are more secure and better paid. As a result, teachers in private schools care more for their well being than teaching. And that causes the private schools many problems. (10.37-44)
Kenny viewed the strength of the private school system in terms of its sharing of educational responsibility with the public school system. The relationships and common mission of quality education allow a great number of students to have educational freedom to choose their basic education. In his words:

But without the current private schools, public schools will be in an awful shape; private schools are there to ease the situation. Public schools are unable to fully expand their network to truly accommodate the educational requirements of the children. In fact, I would like to see the equality (equal standards) among private schools in the urban and rural areas. In future, I want to see private schools that are self-reliant and strong enough to help others (people). (10.45-50)

Regarding the school under investigation, Kenny considered that change on the physical aspect of the school should result in improvements of many areas of the school system. In his words:

I can see the school is fast changing these days. The school has new learning facilities. I want to see from this point on, the school develop its personnel, limit its classrooms to a reasonable number of students, have more teaches with master’s and doctoral degrees, and strive to continuously develop its academic area. (10.54-59)

Pracha, the eleventh participant, looked at the status of the private schools and pointed out relationships of elements that put the schools on high status. In her words:

In my perspective, the private school system is better than the government schools in different ways. I see that the private schools are more effective because they have sufficient learning equipment, enough instructional technology, dedicated teaching staff members, and an emphasis on using foreign languages. (11.23-24)

Tucknum, the twelfth participant, exhibited himself as systems thinker on cause-effect relationships of an effective educational system. His understanding of an effective system encompassed structure, policy, and individuals who must support, relate, and integrate well with each other. In his words:
The educational system will work if the human factor is good and well. Instead we may aim at a perfect system but the foundation is weak, and it does no good at all here. I say this for I see the contrast between educational systems in the city and suburbs, I see the quality of teachers to teach in these two systems, and I see the amount of support by the government that will never be good enough for the needs of people. And these factors make it hard for us to offer equal opportunity in education, let alone show concern for the problems of teachers in terms of their quality and quantity. (12. 55-65)

With respect to the status of the private school systems, Tucknum had this view on the assessment system. He believed this aspect to be critical and that it affected the quality of learning and teaching as a whole. In his words:

I think in Thailand we don’t know how those in authority regard the learning criteria. In examinations that allow students to make the choice of A, B, C, or D, it seems as if each student sits in the examination just to get the scores. It is as if each student studies to get a pass rather than to acquire real knowledge. Therefore, examinations do not really fulfill the task of examining the students’ knowledge. What I heard is really like that these days. Therefore, it has become something that is troubling when exam results are announced. You don’t know where the scores of each student come from, whether they represent actual knowledge that students have acquired, or whether they represent assistance received from fellow students. (12.83-89)

Regarding the school under investigation, Tucknum viewed different elements of the school that affect and result in strength and weakness. Interconnectedness and integration of various elements of the school that are reflected as strengths include:

The school is well established and well known in the area. The school has a large enrollment, sufficient learning facilities and learning center, modern instructional technological laboratories, and good support from parents. As a result, all the students will benefit from the school and its resources that certainly affect and improve understanding in learning. (12.108-114)

Tucknum regarded the following factors as weakness for the school, including the elements of personnel, turnover of school leader, turnover of students at the high school level, programs of study, and parents’ dissatisfaction with the school’s performance on
academic areas. The element of personnel seemed to cause some effects on the school. In his words:

Assumption Thounburi is quite far from the city. Those teachers who are not living in the area have to spend more time and money to come and work here everyday. As most of the teachers already receive low salaries, there are not many teachers who want to come and teach here. As a result, there are many teachers who come from teacher colleges but very few are from the prestigious university. The quality of these teachers will affect the school teaching and learning systems more or less. (12.117-122)

John, the thirteenth participant, exhibited his understanding of systems thinking when he recognized some factors of cause-effect relationships within the Thai educational systems. He believed that change of the educational system was good where students could learn more on problem-solving skills. To him, change process met with difficulty when other components did not support or integrate well with the objectives. Among some key components that affect effective change he identified discontinuity of the government policy and its leaders, contrast of quality and effectiveness between private and public educational systems, quality of teachers, and student choice on curricula and study programs. In his words:

I see that on each change of the government, there is no single Minister of Education who can stay in the post more than 10 years. As people change so does the policy. As a result it affects the system and the practice. (13.18-21)

John continued giving his perspective on relationships among parts in the systems that waited for improvement.

You may see that each year there are about 300,000 students who want to study in colleges, but the government’s universities can take not more than 100,000 students. The rest will have to go to private institutions and open university. I see this as another problem that affects our educational system where change is the result of this chaotic situation and frustration of hundreds and thousands students each year is its legacy. (13.21-25)
When students have only one goal, that is, to get into a university, the schools, particularly the private ones, will emphasize the academic areas and ignore most of the activities that have no connection with the entrance examination. As a result, students learn to pass the examination and don’t have an opportunity to participate or voice their opinions in class. (13.28-33)

Considering the status quo of private schools, John observed that there were different types of these. He emphasized that good private schools had to have strong points to gain acceptance from parents. In his opinion, parents regarded different elements of the school that led them to recognize its effectiveness. In his words:

I think the parents will accept the school as good and regard the school as effective when they see the following practices: (1) the school implements a strict discipline, (2) the school is free from drugs, and (3) students can go to college after they graduate from the school. (13.59-62)

Regarding the school under investigation, John viewed different components of the school that related, affected, and contributed to school effectiveness. In his words:

The school is large and has excellent learning facilities. I see the school has a strong leader and the teachers are taken care of by the administration. I see the teachers are very dedicated to teaching, and I see the alumni and the PTA give full support to the school. The school has good relationships with the local communities. The school works with different schools nearby to improve learning and teaching. (13.66-72)

From his perspective, John believed that the school could increase its effectiveness in the future if it improved other related components. In his words:

I am convinced that the school will be more effective when it limits the number of enrollment, in this case 30 students in one classroom and not 50 as it is today. The school will become more effective when it considers bilingual as the means for leaning and instruction. And it will increase its effectiveness when it makes maximum use of technology, computers, and the Internet for both teachers and students. (13.77-84)

Lek, the fourteenth participant, showed his understanding of systems thinking when he viewed cause-effect relationships that make the private schools effective. In his words:
I believe every private school has to improve itself constantly. It can be on some certain area or many areas at the same time. But the emphasis of improvement goes to areas of academic activities, values, and etiquette. Parents want their children to be in schools that are free from drugs and strict on discipline; they want conducive learning environments; and they want positive relationships among the students themselves. (14.64-71)

Regarding the school under investigation, Lek considered school management and the turnover of the school’s leaders as having a major effect on many school practices. In his words:

Our schools suffer from the interruption of top management as the schools under the Foundation are run by religious leaders who serve three-year terms. Once they’ve served their terms, they get transferred and replaced. Occasionally, disrupted policies contribute to the interruption of the schools’ progress. By the time the new management has settled in, some precious time has been wasted. This is the weakness of our schools. I used to put forward to the Foundation that before a replacement superior was appointed, the substitute should be well in place, at least for a semester. Once the existing superior is transferred, the incumbent should be able to carry out the policy seamlessly for a smooth management transition of the school. (14.127-134)

Karn, the fifteenth participant, demonstrated systems thinking when she pictured the current system of Thai education as complex, unclear, and disintegrated in many parts of the system. In her words:

There is much change now, but it is too fast and it affects the teachers, even their personal lives. The school wants to emphasize only teaching and learning, but teachers are not ready or cannot adjust themselves to the situation. I think the school needs to give the teachers more time to learn and gradually improve themselves. I can see that teachers are desperate when they are in the change process. (15.6-11)

Regarding the status quo of the private school, Karn exhibited her understanding of cause-effect relationships of different factors that make the system strong. In her words:

I can see elements of effective management of the school—swift decision making, self-support, technology, and emphasis on teaching and learning as factors that make the school effective. (15.85-93)
Karn pointed out the weaknesses of the school on many aspects, too.

I think the private schools are weak because of their tight financial systems. They do not have good recruitment systems for new teachers. Many schools have problems because of the quality of teachers. Some teachers are not serious about their teaching profession. Some teachers have personal interests other than teaching. And the question of integrity is another concern for some of the teachers. (15.103-121)

Regarding the school under investigation, Karn exhibited her understanding of cause-effect relationships concerning different factors that the school should improve. In her words:

I think the school is good in most of the things. However, I feel that some teachers don’t know their responsibilities well enough. This causes many other problems for the school system in terms of unclear roles and collaboration among departments. The uneasy feelings among teachers come from the administrators who did not take decisive action to end the conflict or misunderstanding in different workplaces of the school. (15.124-130)

**Summary.** Much evidence from this research indicates that all of the 15 participants exhibited an understanding of systems thinking with respect to the characteristic of seeing relationships and cause-effect chains among the various components of the education system. All but one parent representative viewed systems thinking as having cause-effect relationships for most of the key factors and elements.

The school board participants who were scholars, parents, alumni, local community leaders, and teacher representatives viewed various cause-effect relationships among elements including:

- The affect of unstable and changing government policy on school management,
• The affect of bureaucratic systems on the stability and performance of schools, teachers, and students,
• The affect of the school leader on the teacher’s performances,
• The affect of school learning facilities on students’ achievement,
• The affect of teachers and their work attitudes on the school atmosphere and on students,
• The affect of parents’ support and positive relationships with school, which resulted in school progress and development,
• The affect of effective school management of the educational system, which resulted in high enrollment, sound finances, and parental support,
• The affect of quality of school teachers, which resulted in improved school effectiveness,
• The affect of weakness in the assessment system, on students’ performances, and
• The affect of weak recruitment system resulting in poor teacher performance.

These cause-effect relationships offered strong evidence illustrating that school board members are systems thinkers.

**Ability to identify how information is used to make adjustments.** There was little evidence from the interviews to indicate that the school board members are systems thinkers in terms of feedback. Only one participant exhibited his understanding of
systems thinking when he demonstrated the ability to apply what he had seen in the past to improve the school system.

Tucknum, the twelfth participant, exhibited himself as a systems thinker when he demonstrated his understanding of the effectiveness of feedback. His understanding of feedback referred to change and improvement of the system after seeing many school personnel and himself returning from different field trips. In his words:

I can see that our people make a frequent trip abroad to Europe and other developed counties to learn new things and come back to improve things of our own. In fact, we try to learn from others and even apply them on many aspects concerning the educational system and development. For example, we have kindergarten, then 1st to 6th grades, then three years of high school, and then another four years in college. And this is the system we have adopted from others. (12.51-55)

**Ability to realize how the environment can influence the system.** There was little evidence to say that the school board members are systems thinkers in term of the environment’s impact and influence on the system. Three out of 15 participants exhibited their understanding of systems thinking in realizing how the environment can have an impact on the system.

The fifth participant, Suthee, showed systems thinking with his view that change within the Thai educational system has occurred because of outside influence and that reform of the educational system has been the result of that influence.

I feel that our educational system is not stable. It has been changed many times. Despite these changes, there is no guarantee for success. We seem to follow those countries in the west. They have 12 grades in their systems and they retain it for years. In our case, when something new happens, we are quite sensitive and react to that influence too easily. When we switch to new things without much thought, later we have to switch back when we find that the change did not work the way we expected. (5.6-12)
Suthee continued with the following example of an outside pressure to change the educational system that turned out to be unstable. In his words:

Previously, we had prathom four (4th grade), followed by mathayom one (8th grade). They were eventually replaced by prathom seven (primary level) and mathayom suksa (secondary level). Then, the system was reversed, as if we were still searching for ourselves in this system. It is something you can sense from conversations with parents who often discuss this issue. It is something highly improbable; comments were negative. (5.12-16)

Pornchai, the seventh participant, also demonstrated systems thinking with respect to outside influence on the Thai educational system. From his perspective, the government lacked “a management concept,” which made it difficult to begin a reform process. In his words:

We don’t know ourselves who we are because we adopt different ideas and cultures from the outside. We take these so called ‘modernizations’ from the western countries and apply them to our system without having anything developed by our own. It is the influence of the western culture that we adopt and sometimes copy them to our own practice. …Once the country faces an economic crisis, we come back to ourselves and realize that we need to have our own identity and strong vision. On the other hand, I observed the leader of the country, who should have a clear vision and lead, did not stay long in power. Every time we have a new government, everything begins counting again from zero—0, 1, 2, 3. … How can the country be improved in that way. And this is crucial in my opinion. (7.5-25)

The ninth participant, Tum, demonstrated systems thinking when he saw the impact of the outside environment on the current Thai educational system. In his words:

Our current educational system is quite open. It adopts, adapts, and takes ideas from the western countries and becomes more international. In my opinion, the Thai educational system is very much influenced by the influx of culture. Some of the good things are that Thai students learn many new things from the fast and advanced technology. We can see that Thai students have a certain degree of competence to compete with students from foreign countries. (9.6-10)

Tum also mentioned different factors that had an impact on Thai students. In his words:

I see the outside environment as influencing the current system. I’d like to say in this way that the environment is everything that has a direct impact on children.
The environment, therefore, would include media, fashion, and culture. A good example of impact is how today’s youth believe in the power of money, work as little as they can, and become more narrow-minded people. (9.26-28)

**Summary.** There was little evidence suggesting that school board members are systems thinkers in terms of the impact and influence that environment can have on the system. Only a scholar, an alumnus, and a parent participant exhibited their understanding of systems thinking on the characteristic of environment. Their perspectives concerned change as influenced by other countries, the impact of modernization, and the influx of different cultures.

**Documents and Meeting Notes**

In addition to the information gathered from the individual interviews of the 15 school board members, the researcher came across more information from a content analysis of the school documents. The researcher found from *The 1990 Handbook on School Planning* that the school had been trying to improve. The administrator and teachers had explained the school in a big picture and realized the school’s weaknesses in areas of management, personnel, and the instructional system. In the area of school management, especially short and long-term planning, the school was found lacking in proper planning. As a result, most of the plans and projects were found to lack clarity and collaboration, continuity, controlled budgeting, and effective follow-up. The school personnel were another area of concern for improvement. Among key problems with respect to personnel were ineffective communication systems, lack of self-responsibility,
conflict of interest, insufficient teaching skills, low self-esteem and motivation, and irresponsible uses of the school’s resources. On the issue of the instructional system, there was disintegration and conflict between and among departments of the school, which resulted in ineffective teaching and affected students’ learning achievement (pp. 5-8).

The content analysis from other school documents also revealed that the school had performed other improvements during the past several years. In 1997, the school devised a 5-year strategic planning (1997-2001) that aimed at improving the school system in various areas. With a shared vision and a combined effort among the school leaders, teachers, and parent representatives, the 5-year plan reflected the school’s determination and firm commitment to transformation its educational systems. To achieve the objectives on school effectiveness, the school focused on change in the following areas: (1) personnel development, (2) curriculum and instruction, (3) school management systems, (4) development of learning facilities and learning environment, (5) design and development of instructional technology, (6) public relations systems, and (7) establishment of a endowment fund (5-year School Planning, 1997, p. 13).

The researcher also found another document from the School Charter (2002-2006) summarizing key areas for future improvement of the school system. With collaboration among school administrators, teachers, and different boards, the school determined to improve the organization with a focus on four main areas including (1) academics, (2) students, (3) personnel, and (4) management. Improvement of academics included learning and instruction, effective use of instructional technology, design of new
curriculum, implementation of assessment systems, and a maximum use of the school
library and resource center. Improvement of the quality of students included cognitive
and affective domains, and psychomotor skills, especially for creative thinking and
problem solving, human values, attitudes, and physical fitness. Improvement of school
personnel included various programs of in-service training on teaching methods and
strategies, training how to use new technology and software, and pedagogy. Improvement
of school management included integration of technology with the school’s information
systems for the purpose of effective and efficient management, provision of sufficient
facilities and resources for learning and instruction, and promotion of public relations
with the local communities and the society (School Charter, 2002, p. 15).

On September 27, 2002, the researcher had an opportunity to observe the first
school board meeting. An analysis of the transcription of the meeting revealed that few
participants thought in terms of a big picture, cause-effect relationship, and feedback
when they exchanged their views and ideas about issues relating to the school
management and the educational system. The following statements presented the
participant’s perspectives of systems thinking.

In response to a board member on what a strategic plan for the school’s
educational systems should be, Pornchai, a parent representative, exhibited his
understanding of systems thinking on big picture when he said:

…There are so many schools that were established long before us, but it did not
mean that they had to be successful all the time. In my opinion, it is the matter
how we manage to convince parents when they come to us. We have to make
them trust us. Once their children come to us, they will receive quality education,
receive a good foundation in life, have discipline, and be well formed. When they
graduate from our school, they will become a valuable asset to the society. With
good education it is expected that the country will not face an economic downturn again. With our good educational systems, I wish to see accountability in the society, transparency in whatever we do, and every project and plan checked and evaluated. I also want to see the school have effective systems and a management responsible to the society. Most importantly, I’d like the school system to become more effective, accountable, and to comply with the 1999 National Education Act. (Pornchai, September 27, 2002, pp. 86-92)

On issues of learning and instruction, Pornchai considered that to succeed in life Thai students need more than language skills. They need many other elements taught by the school and the educational system. In his words:

I wish to see all Thai students know how to think and not just only know how to do just what their parents or teachers want them to do and out of a great respect to them and without asking any questions or exchanging thoughts. To let them learn how to solve problems, we need to do it right now in the school and we should not wait until they go to college, which I fear will be too late. We should build some concrete foundation for our students today so that they know how to think for themselves, to do what is right, what to speak and know how to voice their ideas and opinions. ….I believe it is not a bad thing at all when one of our girl students becomes an actress in a TV series or appears for a fashion show. We need to talk to parents and let them understand that in the information age and we all need to act anew with more confidence, respect, and concern to one another. I also want to add that the school needs to emphasize education, teach them to respect other people’s rights, and to build up individual responsibility to the society. I want the school to take this role seriously and to act on it right away. If we wait until our students turn 15-16-17, or 18 years of age, it may be too late to let them have a sense of responsibility to themselves, families, society, the country, and the world at large. When the time comes in the near future, we may regret that our children cannot compete with anyone in the world. (Pornchai, September 27, 2002, pp. 319-331)

During the meeting, George, the school principal, exhibited his understanding of systems thinking on cause-effect relationship when he told the school board that the school is serious about the policy of small classes. He believed that this policy would result in more effective teaching and closer supervision of each student. In his words:

I’ll try to keep the number of students at 50 per classroom. This policy already began in the academic year 2002 starting at the first grade. It will move on to the 2nd grade next year (2003) and the school will stick to it for all classes. I’m convinced that we can implement this policy and the practice will certainly affect
our teachers by allowing them to teach more effectively, with less workload and easier in-class supervision. (George, September 27, 2002, pp. 306-308)

Tucknum, a parent representative, observed that the school has a number of master’s degree teachers whose retirements are coming up soon, while many young teachers are quite inexperienced in teaching. His concern was that it might impact the learning and teaching systems of the school. In his words:

I read from one of the fact sheets and learned that the school has 19 teachers with master’s degrees, of which 15 teachers are more than 40 years old, one is over 50, and four less than 40 years of age. As a parent representative, I fear that this will affect our educational system once these senior teachers retire in the next few years. Though we may have about 21 ‘young blood’ teachers to take their place, I want to say that their undergrad education are not sufficient enough to teach our students, especially in the high school level. (Tucknum, September 27, 2002, pp. 332-338)

In response to Tucknum’s perspective on school management, Kittisak, a scholar representative, exhibited himself as systems thinker on cause-effect relationships when he pointed out different factors that the school board needed to consider. In his words:

I think the school must have a plan for how many master’s degree teachers it really needs and how many more it wants in the future. The school can encourage some of the teachers to continue their study, and have a plan on how long they will take, and how many new teachers the school will be recruiting. One more thing I find important is to keep a balance between the senior (over 40 years of age) and the young teachers in our school. It is necessary to inform parents and make them have confidence in the school management. Meanwhile, it is important to look into the school’s budget whether it can support the teacher’s high education. At present, we have many good teachers with bachelor’s degrees. If we need more teachers with master’s degrees, will the school be able to manage its current budget, and is it in the school’s 5-year planning? (Kittisak, September 27, 2002, pp. 364-369)

Pornchai, a parent representative, exhibited his understanding of systems thinking on feedback when he made an identical statement in response to the discussion of the advantage of using foreign languages in the school’s curriculum. In his words:
I’ve been visiting different countries including many countries in Asia. From my observation, many of these Asian counties use English language and their people can speak it very well. Certainly we have our own language and culture and of course we need to safeguard them. However, the world is now so connected and everyone uses English language as a means of communication. It will be good if we can include English and Chinese languages in our curriculum and require our students to master these languages for the purpose of effective communication in daily life and in doing a successful business. (Pornchai, September 27, 2002, pp. 313-318)

As the principal made his report to the school board on the school’s new assessment systems, Dr. Tum, an alumni representative, demonstrated himself as systems thinker on feedback when he suggested that the school’s measurement system be planned out carefully. In his words:

I understand that there will be someone in charge of the evaluation system. I wonder if there is any way to determine the criteria and to guarantee the reliability that meets the learning objectives. It is my concern that the school should be careful on this matter because the result may not be what the school is looking for. There are certain factors that may cause the evaluation process to be unreliable if the school did not pay attention to certain elements carefully or not be serious enough in doing it. (Tum, September 27, 2002, pp. 286-288)

Dr. Tum, continued concerning a high school student’s performance on the general entrance examination into the universities.

My question is that how many 12th grade students do we have and how many are accepted into universities? I cannot see any relationship from the data presented here. What institutions were these 100 students accepted into? How many of them passed the test? …I want to see more clearly in what programs of study they were accepted by what universities, and in what faculties: e.g., how many students go into medicine, engineering, science, liberal arts, education, business administration, and economics. Because if we don’t know where they go and what programs of study they achieve, the school will not be able to assess itself and adjust any plan to improve the educational system. The school will never be able to know both strength and weakness of its educational system, or see what was wrong in teaching and learning. I think this data doesn’t tell us clearly about the student’s achievement. It is too broad or provides little clue for the school to decide what to do or improve ourselves, and we need to present it better than this one. (Tum, September 27, 2002, pp. 238-245)
Discussion

The issues concerning the Thai educational system, the private school system, and the school under investigation are very complex. Ackoff (1981), Senge (1990, 1991), and Hutton (1994) reminded us to view a system as a “big picture” or holistic view rather than static snapshots. Senge (1994, 1999), Daft (2001), and Hutton (1994) pointed out the interrelationships, interconnectedness, supports, integration, interaction, affects, and influences between and among different parts, components, or/and elements of the whole system. Daft (2001) reminded us to look at a system as a set of interacting elements that requires inputs from the environment, transforms them, and discharges outputs to the external environment. Banathy (1991) believed that systems thinking should enable us to understand the true nature of education as a complex, dynamic system that operates in ever-changing environments and interacts with a variety of other societal systems (pp. 21-33). The findings from this research study reveal that when the school leaders look at a particular system and any situation around them with the framework of systems thinking, they are better equipped to understand how every piece or part within the system or situation ties or relates or connects together, resulting in either a desired or undesired outcome. In the case of the Thai educational system, the participants see different factors that are not well connected, related, and supported, and the results are different setbacks to the educational reforms. Factors or elements such as bureaucratic systems of the government, unstable policy on change, the attitude of civil servants who lost their control and power, incorporation among different department, and insufficient
funding can lead to or cause many problems. In the case of the private school system, the participants understand that private schools are well accepted by parents only when the various components of the school system are well integrated with, supported by, connected with, and related to one another. Factors and elements that tie up and contribute to private school effectiveness seen by the participants included strong leadership, effective management, sense of ownership, autonomy, financial stability, sufficient learning facilities, parental support and participation, and quality of students. Regarding the school under investigation, the participants used the framework of systems thinking to characterize the current situation of the school and understand how many factors and components of school management cause the school and see many parts of the organization being affected by these cause-effect relationships. In terms of weakness, the participants pointed out different parts and elements of the school that degrade the system, including a quick turnover of the principal, lack of good team work among staff members, inexperienced teachers, conflict of interest on some school activities by some individual teachers, and impact of influence coming from the environment outside the school.

According to Senge (1990), systems theory emphasizes the multiplicity and complexity of factors that affect the functioning of any person, or group, or organization over time. It also examines wholes rather than parts, as "patterns of change rather than static 'snapshots' " (p. 68). Haines (2000) also argued: “In systems thinking, the whole is primary and the parts are secondary, not vice versa” (p. 39). After taking all elements of the school system and analyzing them, it is apparent that key concepts and characteristics
of systems thinking enable the participants of this study to see the system and the situation as a whole with the multiplicity and complexity of factors and different pieces and parts that affect the other functions of policy, person, and school organization over time.

Based on the analysis and the interpretation of the statements or direct quotes from the findings, more than half of the participants were able to use systems thinking to characterize the school’s big picture, while all participants exhibited high ability to understand cause-effect relationships from a systems perspective. Regarding the characteristics of feedback and environmental influence, the participants showed little evidence of systems thinking. There were key components of the Thai educational and system in Assumption Thonburi school that the school leaders cited, which demonstrated their understanding of relationships and systems thinking. Such elements included the policies of the government or the school; the management system; the educational system; the human elements of administrators, teachers, and students; and the environment as parts of the system that interrelated, integrated, or affect one other. For the purpose of this discussion, let us take the element of an educational system.

An educational system is composed of different parts that support or rely on each other to produce desired outcomes. As a result, we see relationships and connectedness among the elements—effective teaching and learning, sense of the ownership, enrollment, sufficient school budgeting, trust given by parents, and close supervision by school administrators of student discipline, learning facilities (modern buildings and the learning center), learning equipment, and the playgrounds—as factors that have a positive
effect on the school. Conversely, the weaknesses of the system also are considered to have cause-effect relationships on different parts of the system, including poor standards of learner’s outcomes, rote learning methods, teacher-centered strategy, competition among individual schools, pressure on students for good grades by parents, and too much homework. The desire for future improvement is seen as providing a feedback loop that serves as reinforcement or counteraction for the system to move.

In fact, the school system functions when each component of the school, including policy, management, people, and environment, relates with, connects to, and affects one another. Daft (2001) asserted that interacting elements mean people and departments depend on one another and must work together (p. 7). Scott (1987, 1992) emphasized also that the school is an open system and should view the environment that surrounds the organization as significant. Environments not only influence organizations such as schools, but also depend very much on them. As a result, the school system processes and produces certain outcomes because each component within and outside the school system relates to and supports one another.

Connections with elements outside the educational system must also link to and gather support from the other equally important elements of policy, management, people, and the environment. In this way we look at every element not as a straight line from point A to B to C and then to D, but rather as holistic, as a dynamic loop of cause-effect relationship with everything affecting each other. Hutton (1994) argued that the aim of systems thinking is, therefore, to create a complete, holistic system of management in which every component of the organization is integrated with one another (p. 292).
Lippitt’s (1998, p. 6) boat analogy, “…Aren’t you glad that hole is in their end of the boat?” is a significant contribution to situation analysis that thinking in terms of systems—systems thinking—is important and necessary for school leaders who are responsible for school improvement to understand.

It is evident that when the participants look at the school in a holistic picture as one unit, they should realize that each part of the school system relates to, connects with, supports, integrates with, interacts with, influences, and affects every other part. In addition, the participants should understand that each part of the system is dynamic, and it can cause other parts to produce a degree of both desirable and undesirable results. This cause-effect relationship is considered as one of the key factors of systems thinking. It is quite obvious that few participants understand and have the ability to provide feedback, a mechanism that helps reinforce and balance the system, as a means to improve the school system. Also, few participants exhibited their understanding of the impacts and influences of the external environment that puts pressure the system to adjust its performance.

Most of the participants understood the concept of systems thinking. They employed some of the key characteristics of systems thinking and many exhibited themselves as systems thinkers when faced with complex cause-effect issues of the educational system and school management.
Research Question 2. What characteristics of “systems thinking” do school leaders exhibit when faced with problems and issues from other (nonschool) domains?

Facing the current issues in the world, each of the 15 participants responded courteously to the interview questions 4 and 5, which related to their background knowledge and their current professions. In their responses to the questions, they employed different characteristics of systems thinking and exhibited themselves to differing extents as systems thinkers. Among their world-view perspectives and responses regarding the predominant world issues they consider as relevant were the issues of morality, conflict/war or violence, the economy, health, education, and technology. Participants also perceived the issues and exhibited certain characteristics of systems thinking and themselves as systems thinkers when they pointed out interrelationships, interconnections, affects, and impacts between and among issues in general and unrest in the Middle East in particular. The participants also described many issues that had direct impact and influence on cause-effect relationships within the world megasystems, and the many serious consequences that can follow. The assessment for research question 2 of the extent to which the participants were systems thinkers covered the four major characteristics of systems thinking, including: (1) seeing a system as holistic or a “big picture,” (2) seeing interconnectedness and interrelationships of cause-effect chains between and among different parts of the system (3) using feedback as a mechanism to improve the system, and (4) realizing the impact and influence of the environment on the system.
Ability to view a system as holistic or a big picture. Based on the individual background and profession, each of the 15 participants revealed their personal opinions on the current issues the world faces at the moment. From their world-view perspectives, the predominant world issues including morality, war and violence, economy, health, education, and technology were considered as parts of a big picture of the world.

Morality. The first world issue the participants discussed was the problem of immorality. Kittisak, Sunny, Jittree, and Karn considered the issue of morality to be serious (2.149-150; 4.118; 15.145). A lack of religious practice on the part of people makes them become more selfish (2.151) and unkind (3.80). Kittisak, Gary, Tum, and Tucknum viewed the conflict of belief in religion as part of malpractice in religion, misunderstanding, and a prejudice they have among themselves (2.144; 8.58; 9.98; 12.152). Jittree and Karn pointed out that more and more people lack human identity. People, especially the youth, imitate others quickly (4.116), and they adopt things too easily (like fashion and violence) without realizing the serious consequences that may follow (15.146). Five participants, Sunny, Jittree, Tum, Tucknum, and Karn exhibited their belief that morality is an issue in the following statements.

I think we have a lot of problems including selfishness and immorality, and people seem not to care much about it. (3.80)

I see that when many countries come together under one common purpose, they tend to establish a negotiating power. This can be seen as selfishness because they think more of themselves rather than others or the society. (4.116-118)

I think the world has problems including conflict, power of money, conflict on natural resources, environment, and religion beliefs. (9.98)
I can see problems that stem from different opinions and things related to religious practices. (12.152)

I feel that today’s people have problems concerning morality and negligence on religious practice. (15.145)

**War and Aggression.** The participants reported war and aggression as the second major issues the world faces. At least 11 participants voiced opinions related to threats to peace in our world because of terrorism and war (1.83; 2.144, 175-180; 3.94-96; 5.127; 6.59; 7.149; 10.49, 66; 12.152; 13. 112-115; 14.157; 15.142). Tucknum and Lek pointed out some specific kinds of violence as part of the problem the world is now facing (12.155; 14.157). Sunny and Gary believed the exploitation of power by some superpower countries is another type of aggression and threat to peace (3.79; 8.58-59). Finally, Gary believed that the issue of safety has become a great consequence and concern resulting from the unrest situations (8.59).

I think the conflict in the Middle East is the factor that relates to world economy. The area is the world’s largest producer of oil. Unfortunately, every country in the world needs oil. When there is a conflict in the region, it affects all countries when the production of oil decreases. As a result, the price goes up. When the price of oil goes up, it affects the whole world’s economic system. Its effect happens automatically. This is the real cause-effect relationship that we can see very clearly from this situation. (2, 2.175-180)

When I look at the situation in the Middle East, I can easily relate it to the world economy because that region is the center for oil production. I understand that when the price of oil is up, it affects everything in the world. (3, 3.94-96)

I think it is about problems of war, aggression, and conflict that stronger countries use their power to take advantage of the less fortunate ones. (8.58-59)

I can say that the conflict in the (Middle East) region will affect the whole world economically. The region is the main producer of oil. Every sector in business depends on this resource. If we have no oil, everything will be affected—price of food products will increase and transportation systems will stop operating… (13.112-115)
The Economy. The third category of problems that the world faces deal with the economy. People need to eat every day, according to Karn, and it is a problem when they are hungry (15.143). Tum and Kenny observed that the issue of capitalism and the use of money as power affect other poor countries as well (9.98; 10.68). Conflict of interest over the world’s resources (on the land for oil, and in the sea for fishery and mineral wealth, for example), as Tum pointed out, is leading to another conflict, too (9.99). However, the issue of poverty, as noted by George, Suthee, Pornchai, and Karn, is another serious problem for the world (1.84; 5.127; 7.154; and 15.145). Suthee, Pornchai, Tum, and Kenny exhibited their understanding of systems thinking in the following statements.

We have to accept that the world has a lot of problems. We have the problem of poverty such as in Ethiopia, in Africa. (5.127)

I think poverty is the problem that the world cannot solve. (7.154)

I see the problems of using money as power, the power of trading goods or of selling and buying things. (9.98-99)

I see the problems as the people who possess economic power to manipulate the poor countries (10.68)

Physical Health. George, Pronchai, and Lek pointed out the dreadful disease of AIDS as a devastating epidemic of our time (1.84; 7.151-153; 14.165). Meanwhile, drug usage is another related issue that causes a lot of problems for people around the world according to Panya and Pracha (6.58; 11.49). Tum, Lek, and Karn also pointed out the issues of the environmental degradation and pollution in big cities of the industrial countries are other problem for millions of people (9.99; 14.163; 15.145).
I think it is a problem of child malnutrition. You can see this problem in North Korea and Africa. (7.151-153)

I see the problem of AIDS as very serious. I think we should do more with public relations so that people realize the dreadfulness of this disease and find ways to protect themselves. (14.165)

Education and Technology. Finally, the issue of education and technology comes into place as one part of the world’s issue. Kittisak and Pornchai indicated that lack of education for thousands of children around the world is a serious problem (2.145; 7.155). On the other hand, too much emphasis on technology can affect the lives and behavior of many people, especially the youth, as observed by Jittree and John (4.113; 13.98).

Kittisak saw the untruthfulness and distortion of reporting in the various types of mass media as another problem in our society (2.147-148). Three participants, Jittree, John, and Kittisak exhibited their understanding of these issues in the following statements.

The problem I can see here is about technology. We emphasize technology so much and completely forget to educate and develop people at the same time. (4.113)

I think one major problem is that people rely too much on technology. (14.98)

Nowadays, I think the media mislead the people by giving only one-sided information. As a result, they make people more confused. Regarding the issue of morality, I feel that this problem comes along with the world’s development and globalization. (2.145-148)

Ability to see cause-effect relationships between parts of the system. Almost all participants pointed out the unrest in the Middle East as important and crucial to other nations around the world because the tension can turn into a deeper conflict and develop into war (1.106; 2.175-179; 3.94-96; 5.143-144; 6.72-74; 7.182-186; 8.71-72; 9.112;
From Suny’s, Panya’s, and Tum’s perspectives, the unrest and tension in the Middle East region has a root cause from the natural resource of oil. Three participants pointed out the differences in religious beliefs and nationality as reasons for the current unrest (3.96; 6.73-74; 9.113).

Tum believed that the unrest in the Middle East region happens because of the conflict in the past several years between and among those countries in the region, and it still carries on today (9.111). He also thought that aggression is a root cause of the unrest in the region (9.112). Kenny and Lek saw the “power seeking” of some counties in the world as the cause of unrest in the Middle East (10.83; 14.186). And Jittree pointed out that confrontation and fighting between certain countries are the reasons for the unrest (4.134).

Conflicts of interest for the world’s resources (9.99), economics (1.84; 5.127; 7.164; 9.98; 10.68; and 15.143-145), and power (3.79; 8.58-59; 15.142) were predicted by many participants to lead to other conflicts in due time. When the world is faced with issues of conflict and unrest (terrorist: 1.83; 2.144; 6.59; 10.66; 12.152; 14.157; violence: 12.155; 14.157; and war: 1.83; 5.127; 6.58; 7.149; 8.58; 10.49), people suffer the consequences and the issue of safety then follows. Participants pointed out that when conflict arises it affects the world’s economy (9.98-99; 10.68; 15.143). Poor countries suffer the most from economic crisis and devaluation (1.84; 5.127; 7.154; and 15.145). Physical health becomes another serious cause-effect relationship made worse because of poverty and lack of proper education (2.145; 7.155). As a result, the dreadful disease AIDS and other devastating epidemics of our time are spreading everywhere (1.84;
The blight of drugs is another related issue that follows and causes a lot of problems to people around the world (6.58; 11.49). These problems are related to and affect each other and will continue to grow worse in a vicious circle if no one attempts to stop them from escalating.

Most participants viewed the unrest in the Middle East as important and crucial to other nations around the world because the tension may escalate into a deeper conflict and finally turn into war. The participants believed that the unrest and tension in the region has a root cause from the conflict of interest on natural resources, especially oil (1.106; 2.175-179; 3.94; 5.143-144; 6.72-74; 7.182-186; 8.71-72; 9.112; 10.83; 11.60; 12.174; 13.112; 14.186; 15.164). However, the conflict in the region had come also from the other previous conflicts in the past years between and among those countries in the region (4.134; 9.11-112; 10.83; 13.115; and 14.186). These past conflicts were rooted either in different religious beliefs (3.96; 6.73-74; 9.113) or economic interests or other political motives (10.83; 14.186). These in turn affected the relationship between and among the countries in the region and had the potential to develop into a deeper conflict, confrontation, aggression, and finally an invasion of the smaller and less powerful countries. This vicious circle of unrest, conflict, and fighting among those countries in the region goes on. The following statements demonstrated 12 of 15 participants’ understandings of cause-effect relationships of the situation in the Middle East that had affects the world.

I see that the Middle East has a natural resource, crude oil. Because every country wants to have this resource, the situation becomes tense when some countries want to take it as their own. This situation is the same way it was in the colonial period…. (1.106)
I look carefully and see, from my perspective as a businessman, the issue is about benefit advantage. When everyone wants oil, those countries that have oil have to protect it as long as they can for their own benefit. And that is a cause for tension. (5.143-144)

I think some countries want to dominate the region and to take over the natural resources. This conflict in the region is the result of the conflict of interests among superpower countries and among themselves. (6.72-74)

I understand the region as a center for oil production. When we have problems about oil, it affects the economic system. I can see a cause-effect chain from here to other crises in the world. (7.182-186)

I think the main problem concerns natural resources, that is, oil. The oil in the region is the cause for conflict of interest and relates to the issue of politics. (8.71-72)

If we study the history of that region well, we can see that the present situation or conflict is a continuation of previous conflicts in the past. War is regarded as a form of aggression against another country. It aims at taking control over the land or resources of others. (9.111-113)

I think every country in the Middle East is rich from oil business. The problem in the region occurs because everyone wants to expand its business or have more power to rule the world. The problem is the result of greed with respect to the natural resources of neighboring countries. (10.83-86)

I understand that it is the problem regarding the economy. When the price of oil goes up, costs of consumable products such as food go up, too. I see the problem begins from greed. (11.60-61)

I see this as a problem of division or race. The situation becomes worse when each country wants to win or have power over another country. As conflict in the region or other interest increases, it may escalate into war, war for oil. If this is the case, the world will be affected. All business will be affected and stopped. (12.174-177)

I think if war breaks out every country will suffer. The root cause of this problem is about power, seeking more power, and wanting to rule the world. It is about greed over other people’s natural resources. (14.186-187)

**Summary.** There was strong evidence that most of the participants think in terms of cause-effect relationships, but little in holistic terms, and not at all in terms of feedback and external environment. The 15 participants looked at issues facing the world and
conflict in the Middle East, in particular, from a variety of perspectives. The most important health-related issues of the world and the current unrest in the Middle East were viewed as issues of morality, war and violence, economy, physical health, education, and technology. Unrest in the Middle East was related to and connected with conflicts of religion, conflict over natural resources, religious beliefs and nationality, historical conflict, aggression, power seeking, and confrontation between and among the countries in the region. The participants singled out the issue of unrest in the Middle East and indicated that it can have broad impact on other nations, because the tension can develop into deeper conflict and turn into war. The participants perceived different ways to resolve Middle East problems, including more cooperation, self-respect, negotiation, dialogue, strong mediation, human values, sound leadership, and education.

**Discussion**

Oshry (1995) said that organizations suffer when people within the system do not realize the effect on organizational relationships due to conflicts, misunderstandings, and poor interpersonal relationships. They suffer from systems blindness on spatial, temporal, relational, and process issues. To understand systems, we have to understand (1) how every part of the system relates to every other part and to the whole system (part and whole), (2) the relationships of power between and among of those parts (top and bottom), (3) each part’s boundaries and time (past and present), and (4) the whole process (see system as a whole in its environment).
In response to the question on nonrelated issues to educational systems, the participants viewed the complexity of the world’s situations holistically (Ackoff, 1981, Senge, 1990, 1991, and Hutton, 1994) in many ways and saw numerous cause-effect relationships (Senge, 1994, Senge et al, 1994) among different parts of the existing situations. The participants tried their best in limited time to look into various symptoms and problems of the world’s complex issues, and they pointed out the cause-effect relationships related to issues of morality, violence, economy, technology, health, and education.

For the purpose of this discussion, the participant regarded the element of human values foremost in systems thinking. Panya, for example, considered the values of forgiveness (6.62), understanding (6.62), kindness (6.62), sacrifice (6.63), optimism (6.64, 13.103), and selflessness (15.154) to be essential elements to solving world problems. Other participants pointed out elements of faith in religion (13.101), practicing the principles of religious beliefs (7.161), having respect for others (12.164), engaging in self-evaluation (5.151), and eliminating prejudices and ego (12.164) as equally necessary. Still other participants indicated the importance of open dialogue as an effective means of solving these problems (7.162; 8.62; 13.161-162), citing non-violence (12.162), mutual understanding and support among people (8.63; 12.161), cooperation among governments (14.170), more participation among members of the communities (11.52), involvement on the part of leaders in dialogue (14. 174; 15.151), and strong governance (9.102) among critical elements to solve problems.
It was interesting to see how participants thought about the unrest in the Middle East and what characteristics of systems thinking they employed here. It was quite a surprise to learn that out of the 15 participants, only one person was convinced that there was “no way” to solve the problems in the Middle East (9.116). The rest of the participants believed that there must be some ways to approach and solve the problems in the region. Once again, we observed that each participant employed specific elements of systems thinking that suited his or her life experience and current profession. Five participants, Kittisak, Pornchai, Kenny, Pracha, and Lek said a solution should come from increasing cooperation and concern for one other (2.186; 7.199; 10.89; 11.63; 14.192), from ceasing to take advantage of other countries (14.192-193), by listening more to others (6.77), and by having more concern for one another (4.138). Meanwhile, George and Kenny suggested that the rival countries seek strong mediators to end the conflicts (1.112, 10.89). Four other participants, George, Pracha, John, and Lek suggested that an international committee be set up to arrange and negotiate an end to the unrest (1.112; 11.63; 13.120; 14.192), that leaders sit down at the table for negotiation (2.185), that nations solicit the help of a strong mediator (3.99; 5.149; 8.75; 12.178-181). Some participants recommended strong leadership for each country (10.88; 15.170), while others suggested that people of both sides acquire more human values of generosity (2.192), accept others as they are (6.78), be happy with what they have (1.111), accept themselves as they are (1.110), and give people education (2.189).

In summary, there was considerable evidence that the participants have exhibited characteristics of systems thinking when they think in terms of cause-effect relationships
and minimal evidence that they think in terms of feedback. The participants exhibited themselves as systems thinkers by exploring a variety of ways to determine reasonable means to end the Middle East conflict and world unrest. It was obvious that the participants had tried their best to explore various areas of the conflict in the Middle East region. Looking at the world situation holistically, they identified several key issues as root causes of world conflict, which have cause-effect relationships, including morality, war and violence, economy, health, education, and technology. It was enriching to the researcher to observe and learn from the participants that there is no single way to resolve a complex problem. The participants provided a variety of methods as means to resolve conflict and problems, including emphasis on human values, dialogue, strong leadership and compromising leadership, strong governance, and education.

**Research Question 3.**
What characteristics of “systems thinking” do the school leaders employ/use as a means to affect change in the school?

The findings obtained from interview questions 6, 7, and 8 presented the participants’ perspectives and understanding of systems thinking on relationships, interconnectedness, interactions, supports, and affects of different parts and components of the school system. The findings also presented a variety of ways to improve the system of the school under investigation and to make it more successful, as perceived by the participants.

**Ability to see relationships and interactions between parts of the system.** In response to questions about how different components of the school system were
interrelated or linked with one another, the 15 school board members easily exhibited their understanding and abilities as systems thinkers. Six participants, Jittree, Pornchai, Tum, John, Lek, and Karn observed that school management and its goals were central parts of the school where different components had a connection and/or relationship with the school system (4.152; 7.216; 9.126; 13.150; 14.217; 15.222), and six participants, George, Sunny, Suthee, Panya, Tum, and Lek, indicated the role of administrator as a central component of school management (1.119; 3.109; 5.171; 6.84; 9.123; 14.217). Five participants, Kittisak, Suthee, Tum, Kenny, and Tucknum considered the role of teachers to be central to the relationship with many other components of the school (2.218; 5.171; 9.123; 10.95; 12.187). George, Pornchai, Tucknum, John, Lek, and Karn looked at the school policies and strategic planning (7.215; 13.150, 15.222), various departments of the school system (1.12; 12.190; 14.219), and teams of personnel (1.120; 14.219) as central to the functioning of all components of the school.

The participants also exhibited their understanding of systems thinking on the relationships, interconnectedness, interaction, and support of the administrators, teachers, school policy and management, departments, and teams of personnel, and regarded all of these as essential to the school system. Tum and Lek commented on the direct connections between the administrator and the school policy and management (9.123; 14.217). Meanwhile, Sunny pointed out that success in school management determined the quality of the school leader (3.109). Gary and Tum noted the school’s cooperation with the community (8.81; 9.123), while Suthee expounded on the support provided by the parents working in close relationships with the administrators, teachers, and
supporting staff members of the school (5.171). The participants could see that, different goals of the school depended and relied very much on interactions among components within the school, and these interactions were crucial for the school to succeed in its various educational objectives. Among the components that had to relate with policies and goals, Pornchai, Tum, John, Lek, and Karn identified the need to consider various strategies when planning (7.216; 13.150; 15.222), the influence of the external environment (7.216), the support available from different teams of personnel (14.219), and the knowledge and skill of the administrators (9.123; 14.217).

The teacher element was mentioned by a number of participants as one of the crucial components of the school system. Teachers, from the point of view of the participants, related with many other components within the school system, including the school administrator (Suthee.171), the school itself (8.81), the parents (5.171; 9.123), other teachers, and other departments of the school (2.218; 1.12; 2.219). Meanwhile, the teachers also had a direct connection with the students, whose quality of study and learning outcomes also depended on family background, connections with parents (9.123), and the social and environment at home (3.111).

Another important element of the school which George, Tucknum, and Lek identified, was the interconnections among departments or offices within the school (1.12; 12.190; 14.219). They pointed out how different departments or offices within the school system have close relationships with other parts of the organization. In fact, George, Kittisak, Tucknum, and Lek saw all of the departments of the school system fostering direct connections among teams of teachers (1.12; 14.219), individual teachers
(12.187-190), and with the students whose achievement and learning outcomes depended upon them (12.188-190).

Figure 6 illustrates the research participants understanding of systems thinking with respect to relationships, interconnectedness, support, linkage, integration, interaction, and influence between and among various components of the school system.

In summary, there was strong evidence that most of the school board members think in terms of relationship and interconnectedness of different parts and components of the school system. They exhibited their understanding of systems thinking when describing their perceptions of different core components within the school systems and when identifying how particular parts or components of the school system related to and interconnected with other parts of the school. Some of the essential components affecting one another, as pointed out by the participants, included the school administrator, teachers, policy, management, and departments. These components were considered to be core elements of the school, and they related to and connected with all other parts of the school system such as the community, parents, students, achievement and outcomes, and the outside environment. As a result, these components worked as one unit and produced a desired result for the school as a whole to continue its normal operation. One participant concisely summarized his understanding of relationship, interconnectedness, integration, interaction, linkage, affect, and influence of different parts and components within the school. In his words:
Figure 6. Map of the internal relationships and interconnectedness between and among different components and parts of the school system. Those administrators, departments, teams, teachers, goals, and policies are core components that link together all parts of the school system to function.

I think parents, students, teachers, administrators, and the community have to relate themselves all together. If we have students with ‘demand,’ then the school and all the teaching staff members must be a ‘supply’ and people outside are the ‘environment.’ I believe that they have to have more relationship among
themselves and use ‘education’ or ‘school’ or ‘common goal’ as a means to connect them more closely. (9.123-127)

Ability to see interconnectedness or “cause-effect” relationships among parts of the system. There was much evidence that the school board members were systems thinkers in terms of cause-effect relationships. The participants exhibited their understanding on different characteristics of systems thinking and exhibited themselves as systems thinkers when they viewed the school system and expressed their opinions and concerns on various critical issues of different elements and components of the school system that related in causal-loop chains. Some critical components of the school that the participants viewed as cause-effect relationships included: policy, educational system, teachers, students, and school leader. Each component had its own problems that related to and affected other components.

Policy. Looking at some elements at the study site that were perceived as critical, participants had certain concerns regarding school policy and the school management system. Some participants indicated that different parts within the school system needed to be fixed. Two participants, Jittree and Tum, pointed out how unclear objectives of the school’s strategic planning which they considered critical to the school system and management, might affect other school policies (4.175; 9.132). According to Pornchai, The school is seen as lacking a philosophy in preparing students to become bold and dynamic in their thinking. Rather we teach them to just listen and be submissive, and those students who don’t practice as teachers want will be punished… that is an old way of good education. (7.235-238)
Panya pointed out the issue of “discontinuity” of the school's policy as having cause-effect relationship to other parts of the school policy (6.98). Lek also indicated that changing principals affected the entire school systems. In his words:

I think changing the school leader happens quite often, and it is not good at all. It is a kind of set back to the school. The former leader might be enthusiastic while the new leader is a bit too slow… let alone different characteristics of a good leadership each person has …and that is a real problem. (14.226-228)

**Educational System.** The school’s educational system was another critical element mentioned by the participants, and included the use of learning facilities and technology. Panya and Pornchai pointed out that the school was not keen on how to teach critical thinking to students (6.96; 7.236). Panya said that another problem related to teaching was how to build leadership skills among students (6.97). Pornchai also felt that the current curriculum made students more submissive and not know how to do things themselves (7.236). Sunny observed that the school did not make enough effort to have teachers realize the importance of the cooperative learning method. He expressed that teachers should make students realize that they need to work as a group and learn cooperatively. He also believed that teaching about certain subjects such as Thai culture and traditions was necessary and must be linked or tied together with other lessons (3.117-119). George noted that much of the advanced technology and equipment of the school were not fully used by teachers and students (1.135). Finally, two participants, Panya and Karn, commented on the assessment system. Panya pointed out that the assessment system of the school was “not accurate and reliable” (6.93). Meanwhile, Karn
shared her perspective of the disintegration among various elements within the school systems. In her words:

For the moment, I think it’s the top management of the school… And the teachers who put their personal interests before collective gains. Our schools could have been more advanced had we gotten rid of teachers with their personal interests. Teaching and learning, too, constitute a major part. The guardians have become increasingly vocal. For them, they feel that schools that have become famous are lacking in development cooperation. (15.236-243)

**Teachers.** The issue of personnel was other critical element within the school system. The participants observed that this issue had many direct cause-effect relationships with other parts and components of the school system. Three participants, Kenny, John, and Karn, indicated the element of teamwork among teaching staff members as critical (10.108; 13.156; 15.240). Kenny, the alumni representative, observed that: “Teachers should not divide among themselves. Instead they should share common goals and have self-dedication for the organization without a reservation” (10.108). Meanwhile, two participants observed a negative attitude toward the teaching profession among some teachers as another critical factor. George, the principal said: “Teachers still teach in their traditional styles and methods even when they see many of their students have to seek help from outside their classrooms with special tutoring sessions as an alternative means to understand their lessons” (1.139). Kittisak, one of the five scholar representatives, pointed out that: “…teachers need to have a new attitude toward their teaching profession. They cannot have that type of mentality as many used to have in past years” (2.236). Some other participants observed teachers’ performances as inactive and unmotivated (George.141; Kenny.106). Kittisak suggested that teachers were not
motivated due to lack of incentive (2.240), poor salary, and limited income (2.240). Another problem for some teachers, as seen by George, was that they did not understand their roles very well, and some had trouble performing their assigned duties (1.130). George pointed out a negative atmosphere in the workplace as another problem which occurred because of nagging and criticizing among parties (1.133). One major problem found among the teachers was conflict of interest, especially on the issue of school bus operation (2.24; 6.94; 15.237). The individual teachers used their school times and personal influences to convince students to commute to school in their vans or minibuses, and the parents were expected to pay high fares for the service without the knowledge and approval of the school.

Students. Though the element of students was touched very little, participant did make some remarks. For example, they noted how the outdated educational systems of the country affected the students’ abilities to compete with students from other countries in the region. The participants also had concerns about the quality of students and the achievement tests. Panya, the parent representative, said that Thai students are irresponsible and lack self-confidence. They also lack problem-solving skills and are weak in foreign language(s) (6.29-32). She also pointed out that Thai students are in constant competition in their studies, starting from early classes through high school and continuing into college (6.17). Worse still, Thai students are often defeated at international events when they have to compete with students from other countries in the region (2.42).
School Leader. Another cause-effect relationship found in the school under investigation concerned the school leader. Many critical problems of the school were observed to start from the school leader. The characteristics of a school leader, and the role of leadership in a complex organization were regarded as crucial to school management and effectiveness. One participant pointed out that some administrators were not dynamic and brave enough to lead the school organization. Pornchai, the parent representative, said:

I think the administrators who are responsible for strategic planning have no vision. They do not think creatively, but instead they are afraid to apply innovative ideas into practice. Meanwhile, those who put the policy into practice dare not think out of the frame. (7.239-243)

Jittree, the scholar representative, observed that administrators and teachers did not share common goals for the school (4.167). According to Jittree and Karn, it was obvious that administrators at the middle level had more privilege than the teachers who got the least attention from the school authority (4.168). As a result, favoritism (13.157) and partiality (14.231) among individual and different groups of teachers were common within the school system. Jitree perceived this as a problem of cause-effect relationship.

Between teachers and the management, you have to look at them in parallel. People normally regard the management first, which is quite true. But management development alone without the development of teachers only slows the process. For taking their interaction into account, the learning is something simultaneous. Children, too, are equally important. If children are perceived as the issue, for example, obese children, you will realize that it is related to the external systems, namely the community, being the families that feed the children. They will always live the life in contrast to the way the school wants them to be. Looking ahead to the development of children in collaboration with their parents, it may have something to do with school management. Talking about participation, I wish to see a specific collaborative plan dealing directly
with the issues of school. For this school, I think the actual issue comes from the outside, elements that are unfavorable to the development. (4.167-176)

Some participants observed that school leadership was an important part of the private school system. One participant said openly that the quality of a private school depended very much on the school leader. Tum, an alumni representative, said the school would move effectively if it had a strong leader (9.51). Kittisak, the scholar representative, pointed out that some small private schools needed immediate improvement in their system, especially on teaching and learning, if they were to survive (2.89).

In brief, there was some evidence to support that most of the school board members used systems thinking in terms of cause-effect relationships. Most of the 15 participants had no problem expressing their views and concerns as cause-effect issues of the study site. For example, Jittree, Panya, Pornchai, Tum, and Lek agreed that discontinuity of policy and management systems caused the school to slow down, and in turn affected quick turnover of the school leader. George, Sunny, Panya, Pornchai, and Karn remarked that the problems of effective teaching and learning had a root cause in irresponsible teachers and an inaccurate, unreliable assessment system. George, Kittisak, Panya, Kenny, John, and Karn indicated the element of personnel and many of its limitations constituted the root cause to many other problems within the school and the educational system. Students’ achievement, according to Kittisak and Panya was affected by the out-out-date curriculum and ineffective teaching. Finally, Kittisak, Jittree, Pornchai, John, and Lek pointed out the issues of leadership style and decision making as
crucial for the entire school system for these had a direct impact on all other components within the system.

**Ability to see feedback as a mechanism for reinforcement or improvement.**

There was some evidence that the school board members exhibited systems thinking in terms of seeing feedback and using it to improve the school. Among the elements of the school where participants observed feedback for future improvement were: policy, school management, educational system, teachers, students, and school leadership.

**Policy.** At the school under investigation, Pornchai, the parent representative, wanted the school to be unique when compared to other schools and recommended a specialization in information technology (7.255-258; 7.267). Meanwhile, four other participants wanted the school to emphasize parental roles, their relationship and involvement with the school, and their positive attitude toward the organization. Tum, the alumni representative, and John, the teacher representative, wanted the school to gather as many of the parents’ constructive suggestions and recommendations as possible and integrate them into the school’s policy (9.143; 13.129). Kenney, the alumni representative, wanted the school to build on the positive attitudes of parents and students toward the school management (10.120). Witnessing many problems at children are facing in the society, Gary, the parent representative, wanted the school to emphasize the teaching of values and morality to the students (8.98-99). George, the school administrator, commented on the rapidly increasing number of students, and suggested
that the school should consider implementing a cap on number of students in each class, at levels appropriate to allow for effective teaching and instruction (1.155).

**School Management.** Suggestions for improvement with respect to school management included goal setting, planning, needs assessment, managing of resources, placement of personnel, and organizational evaluation. Panya, the scholar representative, wanted the school to have clear goals and objectives in its administration (6.106). Jittree, the scholar representative, and Tum, the alumni representative, wanted the school to be more specific in its strategic planning (4.184-190; 9.146). Jittree voiced expectations for a clear system of education that included teaching problem-solving skills to students, having good plans to guide educational programs, and other school development projects (4.206). Feedback to school management could include proper investing on school projects according to Pornchai (7.259), and a feasibility study of future expansion, according to Tum (9.146). Other participants wanted the school to examine its internal management. One participant suggested that the school should organize more meetings and seminars to build understanding among the staff members concerning different goals and objectives of the school. Kittisak, the scholar representative, said: “I see that many teachers are not open-minded to new administrators and among other groups of the teachers themselves. They seem to have their own way of thinking and doing things” (2.219-221). Pornchai, the parent representative, wanted the school to become more professional and aggressive in its management. In his words: “I think the school needs to be brave and perhaps aggressive. Though we are a nonprofit organization, we need to be
more active and not just try to survive; we need to become very professional in our endeavor” (7.274-278).

Apart from different goal setting, planning, and internal managing, Panya and Tucknum wanted the school to use feedback to better handle the personnel issues and the distribution of power (6.107; 12.224-225). Panya, the scholar representative, and Karn, the teacher representative, suggested the school needed to pay more attention to the issue of personnel placement. Panya said that the policy of “putting the right man in the right job” should be the school norm (6.108; 15.180). Meanwhile, Sunny, the scholar representative, suggested that school improvement be guided by the needs of teachers, students, and parents (3.127-129). Regular needs assessments of teachers, students, and parents such as their satisfaction regarding the school’s facilities, teaching aids, learning environment, outcomes, and performances, would benefit school management, according to Panya (6.107). Finally, Suthee and Panya, the two scholar representatives, suggested that the school should perform a self-evaluation (5.160). The evaluation could be performed on any area of school management by the school administration itself (6.108) or with the support and cooperation of parents (6.109).

**Educational system.** Many participants voiced their concerns about the educational system of the school (1.150-154; 6.106; 10.118; 14.201; 15.196) George, the school administrator, pointed out that if the school’s educational system was to be strong, it must focus on the foreign languages of English and Chinese, and put these into the curriculum (1.150). George suggested that a recruiting system of foreign teachers to teach
in the school should be one of the considerations for school improvement (1.151).

Another consideration to improve the educational system should be the school’s evaluation systems. George remarked: “The school must have a good and reliable assessment system that measures the outcomes of students and determines how good the teachers were and to what standard they taught their lessons” (1.153). Karn, the teacher representative, wanted the school to be a technology-oriented organization (15.207). George considered the learning environment as very important, and pointed out that the school should make every effort to maintain and improve a conducive learning atmosphere for students (1.158).

*Teachers.* There were a number of suggestions concerning the future improvement of teachers. Five participants pointed out that various methods of teacher development and the resulting feedback were essential to school improvement (1.157; 5.163; 7.261; 13.131-133; 14.202). George and Kenny wanted the school to provide the teachers with more seminars and workshops on teaching methods and the new curriculum (1.67; 10.58). Pornchai, George, John, and Lek suggested instruction on new teaching strategies such as implementing a student-centered learning approach (7.261); providing seminars and workshops (1.157); explaining teaching pedagogy and philosophy of education (13.131-133); and emphasizing personal responsibility and time management (14.202). Kittisak and Lek wanted to see the school increase its priority on staff development through constant training on using new technology, new curriculum, and field trips (2.125; 14.110-114). Karn proposed that teachers' training be conducted and
improvement happened in parallel with increasing the quality of students (15.58). Kittisak requested more “young blood” teachers to step in and help solve the educational problems (2.76). Kittisak also suggested that the school needed to improve the teamwork spirit among the teachers (2.136). John called for the school to give more attention to senior teachers. He expressed concern for senior teachers acquiring knowledge and skills for using technology as an effective tool for instruction (13.134). Lek wanted the school to look into the matter of incentives and salary increases (14. 207-211). Tum, the alumni representative, said: “If a teacher’s improvement is important, I want the school to provide more incentive and to boost the morale of the teachers because they have such small salaries” (9.73-75). Kittisak wanted the school to build up good teamwork and better cooperation among the staff members (2.223). Finally, George and Tum remarked that evaluation of teachers’ performances was essential (1.154; 9.148) and that it could be done with parents’ support (6.109).

**Students.** Karn, the teacher representative, wanted students to have more responsibility for their learning activities (15.58). Tum suggested that parents and families should take their roles more seriously to better prepare their children before sending them to school for formal education (9.21).

**Leadership.** Several participants voiced their beliefs that the element of leadership was another crucial factor for school improvement and an emerging issue at the school (2.217; 4.199; 12.220-225). One participant observed that the turnover of the
school principal happened too often during the past years. Another participant believed that everything in the school system depended on the school leader’s decision and his approach to various policies. Tum and Karn wanted the Foundation to pay more attention to the process of appointing a new school leader. An effective way to find a suitable school leader, they thought, was through a search committee and a survey among key members of the school community (9.149; 15.182-185). Suthee had a concern about the teachers’ needs. School administrators should be advised to voice various concerns and needs of the teachers in the school (5.164). In brief, the improvement of school leader included looking into the possibility of establishing a search committee, consultation with key members of the school community, and careful selection and decision on the part of the Foundation for new appointments of the school leaders.

**Summary.** There was some evidence that the school board members are systems thinkers in terms of using feedback to stimulate school improvement. The participants focused their attention on key elements of the school system and provided different means and methods for future improvement. George, Pornchai, Gary, Tum, Kenny, Pracha, and John wanted the school to focus on a specialization in particular areas, integration of parents’ suggestions and recommendations, build on parents’ positive attitudes toward school, emphasize the teaching of values, and reduce the number of students in each class. Kittisak, Sunny, Jittree, Suthee, Panya, Tum, Tucknum, and Karn suggested the school would improve its management system by focusing on strategic planning, a clear system of education, proper investment, shared vision with teachers,
placement of new teachers, needs assessment of personnel and stakeholder, and self-evaluation. George, Panya, Lek, and Karn suggested that the school focus on specific learning and teaching systems, including foreign languages, foreign teachers recruitment, technology-oriented organization, and provision of a conducive learning atmosphere. George, Kittisak, Suthee, Panya, Pornchai, Tum, Kenny, John, Lek, and Karn suggested the school improve teachers’ quality by providing more seminars, training, and incentives, by better preparing new leaders, by building teamwork, and by better assessing their performance. Finally, Kittisak, Jittree, Suthee, Tum, Tucknum, and Karn suggested that the school improve on the quick turnover of the school leaders and new appointments.

**Ability to realize impact and influence of the environment.** There was very little evidence that the school board members think systemically in terms of impact of the external environment on school effectiveness. They did not relate how the problems of the environment outside the school system could be used to affect change in the school system. However, they did share how the external environment affects the school. George, for example, said that it was quite typical for many of the Thai parents to overprotect their children (1.137). This attitude was considered healthy when love is given to children, he said, but it became a problem for the school when parents interfered with a teacher’s decision concerning a student’s behavior or learning activities. Jittree thought that the school experienced other kinds of pressure from the society, including interference from the government, society’s need for high-quality education, high
expectations of parents both for the school’s performance and for learners’ outcomes, and demands from the government’s current educational reform projects (4.176).

**Summary.** In summary, the participants could see the big picture of the school under investigation and clearly used systems thinking when discussing how different elements of the school system interrelated to, connected with, and affected one another, including unclear school objectives, quick turnover of school leaders, inadequate teacher professionalism, quality of learning and teaching, assessment systems for learners and teachers, and intervention of government and parents. The participants expressed their concerns about many problems extensively, and suggested a variety of ways to improve the school. Their dialogue concerned major areas of school policy, such as parental involvement, assertiveness of management in goal setting, planning and needs assessment, managing school resources and facilities, implementing new approaches and strategies for effective learning and teaching, strengthening school leaders, improving teachers and placement of personnel, and evaluating the organization.

**Discussion**

Thinking of an organization as a system is helpful in structuring and ordering management and leadership action. The concept of systems thinking can provide school leaders a perspective for viewing and understanding how a system operates through the interrelationships between parts and the whole within the school system.
To understand what a system is and why a framework of systems thinking is important, Coghlan and Brannick (2001) gave a good example when comparing systems thinking to the human body, where bones, muscles, tissues, and organs perform interdependent and interrelated functions: “While we might dissect the body and make an analysis of any particular part, the body’s functioning depends on a holistic view of how all the parts work together” (pp. 98-99). Similarly, the school, as one form of organization, can be viewed as a system, in which planning, structuring, developing, managing, communicating, implementing, controlling, and evaluating are interdependent and interrelated functions of the system.

The analysis and interpretation of the findings, as related to relationships within the school system and focusing on critical problems of the school under investigation, showed how the participants would use systems thinking to solve the school’s problems. The participants had their focus on administrators, teachers’ roles, school policy and managements, departments, and teams of personnel, and they regarded these as essential aspects of the school’s complex system. The relationships, connections, and linkages among these core elements and other components in the school system included the administrator with the school policy and management (9.123; 14.217), the quality of the school leadership (3.109), cooperation with the community (8.81; 9.123), support given by parents (5.171), and teachers and other teams of supporting staff members of the school (5.171). The above components also related to and affected different goals, policies, strategies, and planning of the school systems (7.216; 13.150; 15.222). Furthermore, the environment that surrounded the school (7.216), such as support from
different teams of the personnel (14.219), and the administrators (9.123; 14.217) also counted. Apart from this, it was the elements of teachers, parents (5.171; 9.123), students (9.123), other departments of the school (2.218; 12.219), and the social and environment at home (3.111) that related together in the system.

The participants pointed used systems thinking to identify some critical problems in the school including unclear school philosophy, outdated teaching strategies and learning goals, and discontinuity of the school’s policy caused by the quick turnover of the school leaders. Other problems include outdated assessment systems, negative attitudes of teachers toward the teaching profession, lack of proper incentives and motivation, negative atmosphere in the workplace and among colleagues, conflicts of interest among school members, interference of the government, high expectations from society and parents for high-quality education, a demand for a swift education reform, and the need for informed school leadership.

The participants also used systems thinking to explore numerous ways to improve the organization. Some of the many elements they recommended improving included positive relationships and cooperation with parents, prioritization of the school’s goals, emphasis on instructional systems, a focus on student quality, and evaluation and needs assessments of management, parents, teachers, and students. Other suggestions included proper investment and school expansion projects, selection of strong leadership, effective recruitment systems for hiring new teachers, careful placement of teachers, and assessments of teacher performance and student achievement, as well as self-evaluation, an internal audit, and a teacher improvement program.
Related to the characteristics of systems thinking, the participants reported seeing numerous relationships and interconnectedness among different parts of the system, perceiving different cause-and-effect elements among relationships, and providing necessary feedback among the parts to improve the school. Senge’s (1995) principle of systems thinking was helpful here, as it described the dynamic and interrelated actions within an educational setting. Senge’s perspective of systems thinking on change in highly complex situation like this school system was to know what matter was important and what to attend. In his words:

Systems thinking finds its greatest benefits in helping leaders distinguish high from low leverage changes in highly complex situations. In effect, systems thinking lies in seeing through complexity to the underlying structures generating change. Systems thinking does not mean ignoring complexity. Rather, it means organizing complexity into a coherent story that illuminates the causes of problems and how they can be remedied in enduring ways. …What we most need are ways to know what is important and what is not important, what variables to focus on and which to play less attention to…. (1994, p. 128)

Research Question 4.
What views do school leaders express about the importance of “systems thinking” in improving the schools (or their own areas of expertise)?

Before they arrived at this question and offered suggestions of ways to improve the school, the 15 participants had engaged in many discussions of school systems; relationships of different parts to the whole of the school, its educational system, and school management; issues outside the school domain and problem-solving approaches to address those issues. Toward the end of the interview, they began to have a better understanding of how effective the tool of systems thinking could be. During the interviews, all but two of the participants acknowledged that they had heard of systems thinking previously. However, all 15 participants agreed that systems thinking could be
an important tool to affect change in the school system. Some of the acknowledgments included: “I think it certainly can” (1.180). “Yes, but we need first and foremost the information and then to act (3.150). “Systems thinking is the essential part in school change...”(4.237). “I think it is the important principle to really matter on change in school” (5.205). “I believe it can be applied to our school (6.128). “I think it is possible” (7.318). “I believe it can cause change” (8.119). “Yes, I fully agree” (9.173). “I think that is very important element” (10.140), Of course!” (12.246). “I regard it as a very important tool” (15. 263).

In response to the question: Have you heard of “systems thinking?” If so, what is it? Thirteen of the 15 participants said they had heard of systems thinking before this research study. The other two participants (Kittisak and Kenny) said they also had heard of it but were not quite sure what it really meant. The individual participants who had heard of systems thinking explained its meaning as they understood it.

I look at things in an overall picture...with everything interrelated. (1.166. 170)

You think with data and information in hand. (3.139-140)

Never think as a separate part ...but how things have roles and how they are related together...every part has its role and it contributes to success. (4.218-222)

In my business I set goals and begin from first step onward until the last one. (5.192-195)

I consider first each and every part of the whole process...(6.119)

Things that relate well with each other from the beginning... look at the teaching on critical thinking from first level to high school as an example ” (7. 297-302).

You listen to others carefully and then put everything into practice step by step… (8.108-109)

When we talk about systems thinking, we look at each and every part and consider even the wrong ones as well. (9.162-163)
I think it is about thinking together as a whole unit. (11.92)

I understand that things begin with step that is from a processes to application and every part of the system must be related or connected with each other…(12.234-236)

I believe that system thinking comes from the idea of industry...we have an ISO 9000… (13.167-169)

We think things in a systematic way….like pulling resources together to achieve goal. (14.241-243)

Everything has to connect with each other. (15.251-252)

Meanwhile, the two participants who were not sure of systems thinking expressed themselves as the follows: “I'm not quite sure yet” (2.256). The other participant reflected: “...I think it is how we look at thing as a whole picture and not just at one particular point or part of it” (10.129-130).

The above answers revealed that most of the participants had some understanding of systems thinking. However, it was not an easy task to separate answers that exhibited systems thinking from those that illustrated systematic thinking concepts. The answer from George, Jittree, Pornchai, Pracha, Tucknum, and Karn quite obviously showed understanding of systems thinking to a certain extent. The respective participants used many key words that related to the characteristics of systems thinking. “I look at things in an overall picture…with everything interrelated” (1.166, 170). “Never think as a separate part…things have roles and they relate together…and they contribute to success” (4.218-222). “Things that relate well with each other from the beginning…like teaching from first grade up…” (7.297-302). “Look at the whole picture and not at one particular part or point of it” (10.129-130). “...I think it is about thinking together as a whole unit” (11.92).
“Every part of the system must be related or connected with each other” ...(12.234-236).
“...Everything has to connect with each other” (15.251-252).

On the other hand, some participants exhibited that they understood the concept of systems thinking but did not necessarily at particular events in a systemic way. The evidence was obvious in exchanges with Suthee, Panya, Tum, and Lek. Suthee, for example, looked at things in a linear fashion in conducting his business, saying, “...I set goals and begin from the first step onward until the last one.” Panya tended to look at thing as “the whole process,” but did not see the relationships among the parts of the system. Lek said he thinks of things “in a systematic way” but not necessary systemically.

In brief, most of the participants exhibited their understanding of the concept of systems thinking correctly. They described things quite well that related to the characteristics of systems thinking and understood that everything in the system had to relate to and connect with one another and that everything should be viewed as a whole picture, as one holistic unit. However, there were also some participants who looked at things in a systematic way or in a linear manner. Some participants were not quite sure of systems thinking.

The last questions in the interviews were: Do you think that systems thinking might be important in causing school change? If so, how? If not, why not? In response, the participants suggested how to improve knowledge of systems thinking in the school system, which could lead to change in the organization. They carefully considered a variety of effective approaches and methods to generate knowledge of systems thinking.
including: inviting experts to give talks; having the school leader first learn and understand the concept of systems thinking; organizing a teachers’ study group on systems thinking; hosting meetings, seminars, workshops; and using other communication methods to increase awareness and understanding among the community members of the school; setting short-term goals for school members to master the concept of systems thinking; and finally, involving every school member to help them work as teams and learn about the effectiveness of systems thinking.

All 15 participants agreed that systems thinking would be an important tool to affect change in the school system. In their words:

I think it certainly can. (1.180)
I think everything within the system is all connected. (2.266)
Yes, but we need first and foremost the information and then to act. (3.150)
Systems thinking is the essential part in school change…. (4.237)
I think it is the important principle to really matter on change in school. (5.205)
I believe it can be applied to our school. (6.128)
I think it is possible. (7.318)
I believe it can cause change. (8.119)
Yes, I fully agree. (9.173)
I think that is very important element. (10.140)
It is a good thing to have it. (11.102)
Of course! (12.246)
I look at it as a kind of system. (13.179)
I understand that it is very appropriate thing to have it as tool for change. (14.253)
I regard it as very important tool. (15.263)

Meanwhile, each participant provided his or her opinion about the idea that systems thinking might cause change in the school system. Those methods that were considered as means to increase knowledge of systems thinking in the setting suggested by George and the other five scholar representatives, namely, Kittisak, Sunny, Jittree, Suthee, and Panya included:

Invite an expert on systems thinking to tell, explain, and elaborate to us what it means. (1.185-186)

I think the leader (principal) has to be a spearhead…and through him gets every member of the school to work as team. The leader must also have a clear idea of what systems thinking is in the first place. (2.266-267, 274-175)

First and foremost, I think we need to study it well and also to think or consider about it a lot. (3.150-151)

The school leader needs to adopt systems thinking as part of a school learning project…and try hard to explain it to his teachers in both small and large groups. (4.237-247)

The school needs to convince parents that it is important for them to think and see in the same line with the school on change and they should support the idea. (5.209-210)

The school has a kind of seminar on this innovative idea and emphasizes to the school members that they should no longer think as 'parts' but as a ‘whole’ of the system. (6.129-130)

The next four respective participants, Pornchai and Gary as parent representatives and Tum and Kenny as alumni representatives, looked at the other methods as means to improve knowledge of systems thinking to people in the setting. In their own words:

Everybody has to help think and plan out of any possible way in order to learn and understand of systems thinking…and also to incorporate the teaching of the Lord Buddha into it. (7.322, 327-329)

By accepting the opinion of the majority.... through seminars, by listening to special talks on the topic; through group dynamics, by working together as team, and by building up mutual understanding. (8.119-122)
Everybody has to come together and think as a group. The success of using systems thinking for school change is through meetings, communication, PR, and increased involvement of parents and community members. (9.173-176)

I think we need to explain to the school members what causes the problems and how they do harm to school. In that way they may understand about systems thinking better. (10.140-145)

Finally, the last five respective participants, Pracha and Tucknum as local community representatives and John, Lek, and Karn as teacher representatives, proposed some other methods to gain knowledge of systems thinking. In their words:

I think it needs someone who knows of systems thinking to tell or explain more to other school members during school meetings. (11.102-103)

I think we have to learn to look at thing as a loop or a circle...and then identify what goes wrong… and hope to improve it at the end. (12.246-251)

I suggest five ways…that we invite experts to give talks, assign teachers who know which content well to help explain to others, exhibit good examples of systems thinking, organize field trips, and give rewards to those who can prove their knowledge of systems thinking and be able to apply it in their work. (13.184-188)

I believe we need to come up with short-term planning. We also need a kind of seminar for the personnel of all levels on the topic and to explain to them about systems thinking and how it can be applied to school change. (14.255-262)

Everyone in the school has to understand it in the same way... by have meetings, hearing talks by the principal who points out its effectiveness to teachers; everybody has to work closer on the agenda of systems thinking. (15.263-269)

In summary, most of the participants expressed that they heard of systems thinking before. Most of the participants seemed to understand the function of systems thinking to an extent that they could look at thing holistically and see its different components relating, linking, connecting, affecting, interacting, integrating, and supporting with each other. Finally, all the participants were convinced that systems thinking is important and can be an effective tool when changing the school system.
Discussion

The participants have seen and understood what the key characteristics of systems thinking are. Flashing back to the previous discussions, systems thinking refers to seeing the organization such as a school as a whole with different parts and segments, where every event and every activity of the organization interacts, connects, interrelates, impacts, and involves each other and the environment (Senge et al., 1994, p. 128; Haines, 2000, p. 38). In this particular study site, when the participants were challenged to come up with means and methods that might affect change in the school organization, they were convinced that systems thinking approach would be effective and could change the school and its educational system. This conviction is in line with Sarason’s (1991) opinion that a total systems view of education is essential if meaningful reform is ever to occur. In Sarason’s words:

System is a concept we create to enable us to indicate that in order to understand a part, we have to study it in relation to other parts. It would be more correct to say that when we use the concept system it refers to existence of parts, that those parts stand in diverse relationships to each other, and that between and among those parts are boundaries (another abstraction) of various strength and permeability. Between system and surrounding are also boundaries, and trying to change any part of the system requires knowledge and understanding of how parts are interrelated. At the very least, taking the concept of a system seriously is a control against overly simple cause-and-effect explanations and interventions based on tunnel vision. (p. 15, as cited in Jenlink, 1995, p. 24)

This study focused on systems thinking, but effective change in school and transformation of educational systems will take place only when the school leaders gain insights and understanding into what “systems thinking” really means and how it might become one of the effective tools used to solve various problems, given the complexity of
the school organization and the shared responsibility of leadership. A quest for better and more effective tools to affect change in Assumption College Thonburi will go forward with at least one effective tool, systems thinking, in the minds of school board members as the school undergoes a reform process.

Summary

In summary, the purpose of chapter 5 was to present the findings and interpret the participants’ perspectives in terms of systems thinking. The discussion that ensued spanned the four main research questions guiding this research study. Using Senge’s (1994) causal-loop diagram of cause-effect relationship and Haines’ (2000) five critical phases of systems theory of outputs, feedback, inputs, throughputs, and environment as the framework, the researcher was able to examine the extent to which the participants have become systems thinkers, to explore to what degree they have realized the importance of systems thinking in current practice of their school system, and to ascertain to what extent they have employed systems thinking as means to affect change in the school. Throughout the interviews, the participants exhibited key concepts and characteristics of systems thinking when describing relationships and cause-effect connections. Toward the end of each interview, the participants were allowed to recall their knowledge and understanding of systems thinking. Finally, they expressed their views and proposed ways to use systems thinking to help improve the school and its educational systems.
The next chapter presents a summary, synthesis of the findings, and implications and recommendations for practice and future research.
CHAPTER 6
SUMMARY, SYNTHESIS OF FINDINGS, IMPLICATIONS, AND RECOMMENDATIONS

It must be remembered that there is nothing more difficult to plan, more doubtful of success, nor more dangerous to manage than the creation of a new system. For the initiator has the enmity of all who would profit by the preservation of the old institution and merely lukewarm defenders in those who would gain by the new ones.

Machiavelli, 1513

Summary

This chapter summarizes the previous chapters and synthesizes the study’s findings derived from the data identifying emerging key elements and categories related to systems thinking. The chapter is presented as a discussion from the main themes of the literature review, suggestions of practical implications from the findings, and recommendations for future research.

The goal of this study was to uncover perspectives, awareness, and understanding among members of a particular school board of systems thinking, along with the extent to which they perceived that they had become systems thinkers, their realization of the importance of systems thinking in current school management practice, and their personal views of systems thinking as a means to affect change in their school organization and its various educational systems.
This study was conducted at a large private K-12 Catholic school in Bangkok, Thailand, where the national government has instituted major reforms of the country’s educational system. A qualitative research design was chosen for the study. The design employed phenomenology as the framework and used case study as the method of investigation. The study chose a group of 15 newly elected school board members at Assumption College Thonburi as the unit of analysis and the school setting as the boundary of analysis (Smith, 1978; Stake, 1995). The intent was to investigate the school board members’ perspectives of systems thinking related to current issues affecting the Thai educational system and in particular the school under investigation. After the site investigation and data collection, the interview transcripts were analyzed and interpreted. The results of the analysis were used to assess the new school board members’ understandings of systems thinking. The results will be used in the future, to design instructional methods and materials to improve board members’ knowledge and skills related to systems thinking. The results also suggested a number of appropriate opportunities for effective school improvement now and in the future.

The site investigation for this research was conducted during the months of September to November 2002. During this period, the researcher stayed at the site in order to build trust, review documents the school had generated over a 10-year period, observe a meeting of the board of trustees of the school at that time, and meet with a number of administrators, teachers, and parents who shared their feelings, expectations, and concerns related to the current national educational reform and its effects on their school. In particular, the researcher used the in-depth interview to gather data from
members of the new school board. The structured one-hour interviews with the 15 individual members were conducted from October 27 to November 12, 2002. The school board members participating in this study were the school principal, who chaired the new board, five scholar representatives, two parent representatives, two alumni representatives, two local community representatives, and three teacher representatives.

The major findings of this study related to four research questions.

1. What characteristics of “systems thinking” do school leaders exhibit when faced with school-related problems and issues?

2. What characteristics of “systems thinking” do school leaders exhibit when faced with problems and issues from other (nonschool) domains?

3. What characteristics of “systems thinking” do the school leaders employ/use as a means to affect change in the school?

4. What views do the school leaders express about the importance of “systems thinking” in improving schools (or their own areas of expertise)?

The findings indicated that, when facing issues both related and unrelated to educational systems, participants exhibited various characteristics of systems thinking. Their response indicated their understanding of the effects, relationships, and interconnectedness of different parts and components of the school system. For most of the participants, their systems thinking ability in terms of cause-effect relationships was clearly evident. However, the findings offered less evidence that the school board
members considered systems thinking in terms of the big picture (holism), feedback, or the impacts of the environment.

For this research, the framework of systems thinking was represented by Senge’s (1994) causal-loop, describing cause-and-effect relationships, and Haines’ (2000) five phases of relationship among the elements of output, feedback, input, throughput, and environment. This framework proved to be not only an effective tool suitable for use as a higher thinking skill, but also a tool that helped to organize the school leaders’ thoughts to aid their understanding and comprehension of the complexities of the school system.

When the school board members began to understand systems thinking at a deeper level, they more easily saw the elements of interconnectedness, relationships, effects, feedback, and processes as essential parts of the school system. Thus, systems thinking proved useful in explaining multilevel phenomena to the school board members, helping them understand that there are so many ‘parts’ in the ‘whole’ school system that relate to, connect with, and affect on each another while the system is functioning. As a result, a system is dynamic and must be seen by looking at the whole, rather than the parts, at “patterns of change rather than static snapshots” (Senge, 1990, p. 68). By articulating the meaning of a system, the school board members were able to view and understand in detail how the school system functions together through its interrelationships between parts and whole, and to use the tool of systems thinking to determine appropriate ways to improve. When the school leaders understand the organization as a whole system, they can make intelligent and informed contributions to their collective decisions and school improvement. With systems thinking, the school
board members know better how to use their leadership roles to initiate, plan, participate in, execute, and make commitments to the school’s business and to foster effective change.

**Synthesis of the Findings**

Scott (1992) observed that the school organization is an open system, and its surrounding environment is very important. The school is not only influenced by both internal and external environments, but also depends very much on them. Hoy and Miskel (1996, pp. 26-43) affirmed that, as a complex organization, each and every element within the school interconnects from the first stage of input, processing those inputs and producing certain results as the outputs at the end of the process, while the outside environment influences or affects the process and outcomes of the system.

The findings from this study indicated that the participants, who were members of a new school board created by government reform, viewed the major components of the school system in terms of cause-effect relationships, including policy and goals, educational and management systems, climate and cultures, resources, individuals and constituencies, and environment. The following summary uses four key elements, namely, structure, individuals, culture and climate, and power and politics (Hoy and Miskel, 1996, pp. 406-412) to organize the findings. The inputs and outputs, the feedback loop, and the environment are also summarized.
Structure

Every organization has a structure. The structure of Assumption Thonburi school system, as perceived by the participants, included policies, goals, rules, regulations, hierarchy, and division of duty. This bureaucratic structure allowed the leader of the organization, the principal, to perform and manage administrative tasks. To carry out and achieve the vision, mission, and goals of the organization, the leader had to employ authority through various means of planning strategies, communicating vision, coordinating people, supervising plans, implementing discipline, making rational decisions, with maximum efficiency, and providing incentives for the teachers and staff members to be motivated and productive. However, the study’s participants observed that the school organization was influenced by pressures from the impact and influence of the external environment—the government, the society, globalization, and world crises—that surrounded and affected the management of the organization. As a result, the organization struggled to find the right structure to administer. The participants recognized the relationships, interconnectedness, integration, and support of different parts of the system, and understood that organizational performance and quality were affected to a certain extent when the school tried to balance the pressures from within and outside the organization. They also understood the impact of the problems concerning unclear goals, discontinuity of school policy, turnover of school leaders, weaknesses of the assessment system and internal auditing, lack of support for inexperienced teachers, less participation from parents and local communities, and insufficient or disconnected
coordination among divisions and departments in the school which caused setbacks for school management and for students’ learning outcomes.

**Individuals**

People play major roles in any system. The key people and their motivations within the study’s school system, as perceived by the participants, included school administrators, teachers, supporting staff members, students, parents, alumni, and members of the communities. It is note here that the school organization cannot perform its various activities and interactions to conform to structural requirements without the participation and engagement of the individual members of the key groups. The participants observed, however, that cognitive understanding of the roles of administrator, teacher, or parent, and the individual incentives, motivation, and self-regulation processes that govern behavior, goal-achievement, and self-efficacy were crucial but did not necessarily affect the school policies and goals. The participants reported that they had identified different kinds of work-related behavior, especially among the teachers and their peers concerning teaching performance, as one of the main problems of the school. Suggestions to overcome these negative factors and to affect change in the school were thought to be the responsibility of every member of the school. The participants suggested methods to determine the needs, values, expectancy, and goals of individuals, which included the careful selection and appointment of new school leaders, constant improvement via teamwork, enhancement of teacher’s personal and working skills, sufficient provision of incentives, motivation, and instructional
technology, building positive relationships with parents and members of the communities, building cooperation among the staff members, and supervision of students’ behaviors and assessment of their learning outcomes.

**Culture and Climate**

Culture is another of the essential parts of an organization. The elements of culture and the internal atmosphere of the school organization, as perceived by the participants, included shared assumptions, values, practices, traditions, norms, respect, and icons. The participants observed that effective systems of the school must rest on a strong school culture identified by trust, intimacy, cooperation, and orientation and stressing quality, innovation, dedication, teamwork, and people. The strong points of the school culture and climate come from the school’s status quo as a well-established private school. Trust, support, and cooperation come from parents, local communities, and close ties among the alumni. In contrast, the school faces problems with a closed climate which happens when the school administrators and teachers go their own ways and do not share the same view of the school’s vision or proceed without dedication and commitment to the responsibilities entrusted to them that directly affect the students. The participants observed that the school is affected by the social climate and by the tight control of the government and its unstable practices of new rules and regulations. Meanwhile, the students are under custodial control of discipline by the teachers and the school. The participants believed that the organizational health and positive atmosphere
come from factors of trust, openness, and communication among the school members, which will affect students’ learning and achievement.

**Power and Politics**

Power and politics are other essential elements of an organization. Though the issues of power and politics did not appear obvious in the findings, the participants observed power as a central aspect of relationship within the system. Power is a broad construct that includes both legitimate and illegitimate as well as formal and informal methods of ensuring compliance. Two forms of power are legitimate—formal and informal authority—and two kinds are illegitimate—coercive and political gamesmanship. The participants observed no problem in the exercise of legitimate power from the administrators, except when educational reform is disrupted because government personnel fear losing their power due to change and relocation of people to new functions and departments. Regarding illegitimate power, politics was mentioned by some of the participants, who felt that political games are played among the school administrators and teachers, especially during the appointment of a new school leader, recruitment and placement of new teachers, assessment of a teacher’s performance, and conflicts of interest among teachers on school projects and learning activities.

**Environment**

Environment plays a crucial role on the school system and has significant impact and influence on the organization. The external environment of the school system
consists of everything that is outside the school organization. In this study, these outside factors were viewed as both constraints and opportunities for the school organization. Numerous factors outside the school, including social, economic, political, demographic, and technological trends, influence and affect the internal structures, processes, and operations of the school. The participants identified a variety of elements from the external environments that were affecting enrollment and quality of education in the school system, including the recent economic crisis in the country, hardships for parents caused by the economic situation, the influx of foreign cultures, the power and influence of mass media and technology, the government’s and parents’ intervention with the school’s management, and fierce competition among institutions inside and outside the country.

Input, Outcome, and Feedback

Input, outcome, and feedback to a system are more of its essential parts. The elements of inputs and outcomes were reported as influencing school effectiveness. The participants perceived various elements as factors with the potential to make the school system strong and effective through the process of transformation. Among the many strong elements identified as inputs are high enrollments, sufficient learning facilities, financial stability, self-dependence, efficiency and effectiveness in management, quality of the teachers, quality and quantity of instructional technology, variety of syllabi and curricula, strong leadership, trust and support from parents and local communities, and a conducive learning atmosphere.
With these elements in the system, the outputs are the results of interactions among those formal structures, rules, individuals, culture, and policies of the school. The identified outcomes of the school organization, therefore, include the students’ achievement, a strong bond among alumni, the quality of the alumni in the society, more recognition and acceptance from the society, the promising future of students, and the acceptance of the school’s performance by the parents and the local communities.

The feedback loop then serves as an indicator of the need to adjust one or more of the school elements. In this case, the school leaders are responsible for school effectiveness and quality of the educational system. On one hand, school leaders must respond to the expectations of teachers, parents, and students, as well as to information and the environment effects from the feedback loop. On the other hand, school leaders have to find the means to fix, maintain, or increase the quality and goal-directed behavior of teachers and students, in cooperation with parents and members of the communities. It is a difficult task and heavy responsibility for the school leaders to both control and perform their leadership role, not only in communicating the school’s vision, mission, and goals, and allocating resources, but also when exercising power, managing the complex organization, building a positive working atmosphere, supervising teaching and learning, communicating with the school members and members of the communities, and integrating of the basic organizational dimensions of structure, culture, individuals, and politics. The success of school leaders with respect to administrative functions requires personal effort and proficient leadership skills as well as many other strong
characteristics of envisioning, planning, motivating, communicating, leading, decision making, controlling, and integrating.

Figure 7 helps summarize the major internal and external features of school systems that the participants viewed as important to the school organization.

**Figure 7.** This integrated model of school effectiveness summarizes the major internal and external features of the organization, as mentioned by respondents with respect to the environment, the feedback, and the challenge for satisfactory outcomes through the processes of inputs of existing resources and the internal processes of structure, politics, culture, and individuals as key factors.
Implications

The implications of this study’s findings are organized using the topics discussed in the literature review: change, systems theory and systems thinking, school effectiveness, and leadership. This study shed light on what constitutes effective change in school educational systems, what approaches are perceived as effective, who affects change, how change can be implemented in the organization, and how change can be sustained. Meanwhile, systems theory was put forth as an important concept in the design for effective change in the school. Unless the school leaders have knowledge about critical elements and relationships of different parts of a system, it will be difficult to initiate change and to improve the school. Moreover, the framework of systems thinking was chosen as the main focus of the study. The framework drew from two models: Senge’s (1994) causal loop of cause-and-effect relationship model and Haines’ (2000) five critical phases of looking backward from outputs, feedback, inputs, throughputs, and environment model. The framework was used to build clear understanding of what systems thinking means with respect to being an effective tool to affect change. Two other sections cover the characteristics of leadership and school effectiveness.

Change

School organizations face pressures from the environments within and outside the system. James and Connolly (2000) stated that change is simply a matter of learning to do things differently. But in reality it is extremely complex, especially if the change is
significant” (p. 16). Hopkins et al. (1994) studied change and issues relating to school organization, and affirmed that change tends to manifest itself in organizations in one of two forms—incremental and planned change—and can take place externally and internally. Planned change is considered appropriate for this study since the school leader may interrupt or break from existing school events or previous practices to establish a new order. Fullan (1991) looked at the meaning of change in two perspectives: subjective and objective. The objective meaning of change is conceived as having at least three components or dimensions at stake while implementing any new program or policy: (1) the possible use of new or revised materials, (2) the possible use of new teaching approaches, and (3) the possible alternative beliefs. Fullan believed that these three aspects of change together represent the means of achieving a particular educational goal or set of goals. It is logical to school leaders that change in educational systems has to occur in practice along all three dimensions to produce sustainable desired outcomes.

A study by House (1979) found technological, political, and cultural perspectives to be important to systemic change. However, the political perspective emphasizes that change inevitably involves conflict. Change by its very nature involves certain individuals and groups doing new things, which inevitably disturb the status quo. Change implied here that school board members should be aware of any influence and political issue that involved individuals or groups of people in the school. The fact is that what is transformation, change, renewal, and improvement for some may, for others, appear to be irrelevant and in some cases foolish. It was important that the school board members realize the cultural aspects of norms, practices, and values that the school administrators,
teachers, students, and parents have at their school and into which new innovative ideas must be integrated.

Pettigrew et al. (1988) emphasized that organizational change is a process that occurs over time and in a context, which is divided into an inner context and outer context. The inner context, which refers to the existing strategy, structure, culture, management, and political processes of the school, will most influence the process of change. The outer context, on the other hand, is the wider, perhaps national, social, political, and economic context, and the interpretation of local and national policies and events. The school leaders must consider the inner context of the school, especially elements of structure, culture and climate, individuals, and politics and policy of the school that closely link and relate with one another during the process of transformation. The findings of this study revealed that the elements of goals and structure of the school were perceived as especially important in the educational system, and that the cultural norms and regular practices of the organization, the individual members of the school, and the political issues were all critical elements of the school during the process of change. It is recommended that the school board members be alert and pay close attention to these factors when they plan and perform change and improvement in the school.

The studies of change by Miles (1986), Fullan (1991), and James and Connolly (2000) revealed that change is a process that is not linear. As a process, change consists of actions, reactions, and interactions. Change also involves various players who have a stake in the change process. The process has at least three phases, including initiation, implementation, and institutionalization. Fullan (1991) explained that the initiation phase
depends on three Rs: relevance of the innovation in terms of need, quality, practicality, clarity, and complexity; readiness of the staff to become involved; and resources and support availability, including time. Other factors also influence whether initiation occurs. These include existence and quality of innovations, access to innovations, advocacy from personnel (teachers) or external sources, new policies and funds, and a problem-solving orientation. Meanwhile, the implementation phase consists of early experiences of putting reforms into practice. Miles (1986) highlighted the importance of the implementation phase, calling for clear responsibility for orchestration, shared control over implementation, a blend of pressure and support, sustained staff development, and early rewards for personnel or teachers. The third phase, institutionalization of change, occurs when innovation and change stop being regarded as something new and become part of the institution, such as the school’s usual way of doing things. The third phase also determines whether or not innovations are built into ongoing practice. Fullan (1991) summarized this phase as being achieved through mobilization of broad support, principal commitment, embedding into classroom practice through structural changes and incorporation into policy, skill and commitment of a critical mass of staff, procedures for ongoing assistance especially for newcomers, the removal of competing priorities, built in evaluation, assistance, networking, and peer support.

The findings of this study were supported by the above discussion of the initiation phase in the literature reviews. The school board members already viewed a number of components in the school system and had become aware of a series of actions, reactions, and interactions between and among different parts, elements, and components of the
school to involve and interact with one another. To succeed with change, the school board must consider the relevance of the school’s needs, quality of personnel, practicality of plans and strategies, clarity of policy, plans, and projects, and awareness of the complexity of the entire system. Meanwhile, the readiness factors include staff and parent involvement. The resource factors include support availability of all parties, time, materials, and finances. Other factors to consider for a successful change also include existence and quality of existing innovations, access to innovations, advocacy from personnel (teachers, parents) and external sources, new policies and funds, and a problem-solving orientation for the school. This implies that the school board realizes the complexity of the change process and that it involves different types of elements, including people, resources, policy, management, support, cooperation, understanding, and time, which were listed among the key elements of the school system by the participants.

While this study attempted to broaden the school leaders’ horizons and their perspectives on systems thinking, the findings uncovered the similarity of two of the six themes of educational change and management as proposed by Morrison (1998) and James and Connolly (2000). These findings were in agreement with the literature review that change is multidimensional and that change is viewed differently by the various participants and, therefore, calls for a range of responses. Multidimensionality encompasses a number of different elements including resources, contents, process, evaluation, leadership, management, administration, principals, knowledge, attitudes, emotions, beliefs, and values. The findings revealed that each individual participant who
is a member of the school board had his or her lived experiences and differences in professional background. These individual differences made each participant view a situation or a component of the school system quite differently. As a result, each participant had his or her alternative approach to dealing with a particular issue, which was based on the content and the context of the school as well. It is implied that the school board members must realize this factor of multidimensionality, with each member understanding that personal beliefs, principles, attitudes, knowledge, and values will affect their attempts to perform innovative ideas or incorporate particular changes in the school system.

Many scholars believe that school leaders are sometimes, if not frequently, unconscious of their actions or power to make change the focus of their organization. Fullan (1993) shared with school leaders some key assumptions about change processes. From this study, it is implied that the school board members understood the nature of change and its impact in depth, and took the following advice seriously when they promoted change in a school organization.

- You can’t mandate what matters. The more complex the change the less you can force it.

- Change is a journey not a blueprint. Change is nonlinear and is loaded with uncertainty and excitement and is sometimes perverse.

- Problems are our friends. Problems are inevitable and you can’t learn without them.

- Vision and strategic planning come later. Premature vision and planning will blind you.

- Individualism and collectivism must have equal power.
Neither centralization nor decentralization works. Both top-down and bottom-up strategies are necessary. 

Connection with the wider environment is critical for success. The best organizations learn externally as well as internally. 

Every person is a change agent. Change is too important to leave to the experts; personal mind set and mastery are the ultimate protection. (Fullan, 1993, pp. 21-22) 

**Systems Thinking**

Systems thinking is the fifth discipline. It is the discipline that integrates the disciplines, fusing them into a coherent body of theory and practice. …Without a systemic orientation, there is no motivation to look at how the disciplines interrelate. By enhancing each of the other disciplines, it continually reminds us that the whole can exceed the sum of its parts. (Senge, 1990, p. 12) 

This quote from Senge’s *The Art and Practice of the Learning Organization* synthesizes the whole notion and quest for ways that affect change in the school of this study. This study focused on the discipline of “systems thinking” to enable the school leaders to wisely plan for school change. To achieve this goal, it was essential for the school leaders to understand different roles of each and every part of the school system and to see how different “parts” of the “whole” system relate to, connect with, integrate into, and affect one another during the change process. 

The conclusion reached by scientists concerning systems theory came after their long observations that no matter how different the components of different systems are, all systems share a common set of rules. It was the German philosopher Hegel who suggested that the whole was more than the sum of its parts, that the whole determined the nature of the parts, and that the parts were dynamically interrelated and could not be understood in isolation from the whole. Meanwhile, Hall and Fagan (1956) defined a
system as a set of objects together with relationships between the objects and between their attributes. For a given system, the environment is the set of all objects whose attributes affect the system and also those objects whose attributes are changed by the behavior of the system (pp. 18-21). In addition, Ackoff (1981) looked at a system as a whole that cannot be divided into independent parts. His definition stated that “two of the systems’ most important properties are derived: every part of a system has properties that it loses when separated from the system, and every system has some properties—its essential ones—that none of its parts do” (p. 15).

This study focused on one of Senge’s (1991) fifth principle—systems thinking—using it as framework and tool to affect change within a complex educational system. The study also intended for the school leaders to see each element of the school system as a “big picture” and not just one or some parts within the whole complex system of the organization. Throughout the findings of this study, it was obvious that most of the participants, who were members of the new school board, perceived many characteristics of systems thinking when looking at the current issues of the world and, in particular, at the setting and its educational systems. In fact, the participants saw both the small and big pictures of the system, with its mixtures of weaknesses or problems and strengths during the transformation processes.

The participants perceived that some important environmental factors affecting the school systems included the economic recession, globalization, intervention of the government and parents, mass media and technology trends, the influx of cultures, and the high expectations of society and parents on the quality of education and effective
management of the school. The participants finally viewed different meanings of these impacts from the environment and proposed a variety of ways to improve the system to produce desired outcomes for school in the future. Some of the common key elements mentioned by the participants for future improvement included a comprehensive system of education and school management, coordination and support from different boards of the school, parents, and members of the communities, strong leadership, emphasis on teaching and learning, short-and long-term personnel development, provision of motivation and incentives, an effective assessment system, sufficient learning facilities, a conducive learning environment, and limitation of enrollment.

It is important to note that systems thinking was the primary objective of this study. It is implied that the school board members understood what constituted a system and how to think in terms of systems thinking. It was obvious from the study that systems thinking was employed as a tool by the school leaders and it helped them look at the school organization as a big picture, and understand how each part within the system related to, connected or integrated with, and was affected by one another. In other words, systems thinking is not a top-down or bottom-up of organizational change, but requires the participation of all levels. Senge’s (1995) review of systems thinking involved the dynamics and interrelated actions within an educational setting. This study’s findings revealed that the participants saw relationships among different parts and components of the system and understood how these parts and components have cause-effect relationships between and among themselves. There is much evidence to support the conclusion that the participants were systems thinkers when they viewed the school
system in terms of cause-effect relationships but little evidence that they saw systems in term of the big picture, feedback, or the external environment.

**School Effectiveness**

One of the main objectives for the application of the information gained through this study is that the school will be transformed and become more effective in its management and stronger in its academic instruction. Though school effectiveness is considered as “what should be?” goals, it should go along with the contexts of the change process and of systems thinking. Oshry’s (1995) four types of system blindness: spatial, temporal, relational, and process are crucial factors for the school leaders to consider because the costs of blindness— of misunderstanding, prejudices, antagonism, opposition, destruction, disharmony, and disintegration—are obstacles for school effectiveness. Chaotic and unpleasant situations take place in the organization when members within the system lose sight of the organizational relationships, have conflicts and misunderstanding among one another, and develop poor interpersonal relationship with other members. To improve the organization, the school leaders should overcome systems blindness that they themselves and some of the school members might have. To effect change in the system, the school leaders need to understand and see systems holistically and to study and understand the diverse relationships and interconnectedness of each part to the others, the relationships between and among all parts of the school system, and each part’s boundaries. Regarding spatial blindness, the school leaders have to see everything in the school as a system, to see others as both the individual teachers,
parents, and other school board members that they are, and in connection and relationship with each other. The school leaders should also promote a productive and positive working atmosphere, and in doing so satisfy the need that school members and local community members have to stay in relationship and partnership with one another.

Regarding temporal blindness, it is the responsibility of the school leaders to let every member of the school community see and understand the school’s present in connection with its past. It is also the duty of school leaders to allow the school members to reflect how they got to where they are. By seeing how the patterns and process of the whole of the organization have developed from the past to present, the school members should gain insights, enrichment, and a deeper understanding of the school systems at present and of the aims for in the future.

To overcome relational blindness, it is also a challenge for the school leaders to increase awareness among themselves and among school members to see patterns of relationships within the school system. It is important to let everyone in the school see himself or herself in relationship with other co-workers and not as autonomous entities in isolation. The school will become more effective when every school member is conscious of his or her different role and responsibility in the workplace and of the relationships with others regardless of the status, position, role, rank, assignment, or duty they might hold at the moment. By fostering those relationships among the school members through sharing, teamwork, coaching, and supporting one another, the school will be transformed and become more effective. Finally, to overcome process blindness, the school leaders need to integrate different elements of the school, including politics, policies, individuals,
norms, cultures, and the environment into a whole or a system. When the school leaders see the system as “whole” with different supports, connections, relationships, and integration with each other in the systems process, it allows the school leaders to create a better school system and to initiate effective change in the school.

The findings of this study revealed that most of the participants viewed the component of school effectiveness as serious and very important. The participants also viewed and determined various factors of the actual situation of the educational systems and considered many other related components that might affect the school’s effectiveness. By seeing the cause-effect relationship and each phase of the system process, the participants were able to suggest improvement and changes to of the school learning and teaching systems. The success of the school management lies in identifying the key elements of school effectiveness and selecting appropriate approaches to improve the educational systems of the school.

It appears that school leaders were aware of many factors that constitute an effective school. This study supported the premise that every school board member was familiar with at least some elements of school effectiveness, ranging from strong, professional leadership and management, shared vision and goals among school members, climate of the school and learning environment, emphasis on curriculum and teaching, high expectations, student self-esteem and discipline, and teacher development and focus on learning and teaching, to support and involvement from parents and local community.
Leadership

As the world moves along, we also witness different changes in our lives, and change by all means affects the school organization as well. As a group of scholars (Banathy 1991, 1992; Glickman, 1993; Goodlad, 1984; Perelman, 1987; Reigeluth and Garfinkle, 1994) called for a systemic change of the educational systems, it is evident that the reform process is essential. This responsibility has been entrusted to school leaders. The National Commission on Education (1993, p. 229) affirmed this notion and emphasized time and again that leadership is one of the key features of successful change in schools. James and Connolly (2000) expressed a similar conviction, saying there is no doubt that leadership is important; in fact, its importance seems to be increasing. “In education everywhere, leadership is being emphasized increasingly as a factor, if not the factor, that ‘makes the difference’” (p. 32). Though change can be approached at a variety of ways and levels, Fullan (2002) emphasized: “Effective school leaders are key to large-scale sustainable education reform” (p. 16).

Participants in this study reported that effective change in the school incorporates and requires strong leadership. They identified the leadership role as one of the most essential parts of the change process in the school at present and in the future. The individual participants in this study identified different factors that directly connected in some ways with characteristics of good school leaders. Good leadership is determined by effectiveness, devotion, and dedication to serve the institution and the society. One participant noted, “I’ve seen them quite often when I was invited to give a talk. I’m so impressed with the administrators who sincerely and devotedly use their time and energy
to impart knowledge to students without reservation” (4.70-74). Other participants commented on school leaders who made swift decisions by themselves (15.85). Four participants used similar criteria to judge the effectiveness of the private school systems. In fact, they saw “efficiency” in school management of the school leaders as a strength (2.94; 3.52; 5.83; 12.71-72). One participant agreed by saying: “The school can move fast into a new direction once a decision is made” (5.83-84). Another participant believed the school had strong leaders when he witnessed many large school projects being completed by the initiatives and responsibilities of different principals.

The study also revealed that the school management was affected each time the school changed leaders. As one participant pointed out, “…I see that the school changes its leaders quite often these years. As a result, the school management has to change along with the new principal and it makes the entire school system suffer or at least not function well” (6.47-48). The factor of leadership style also counted here. One participant observed: “Individual principals have different approaches to management. One leader on the one hand emphasizes the academic area, while another on the other hand just switches his focus to construction of buildings and physical development” (14.98-102). The findings revealed that there was also a relationship gap between the school administrators and the teachers that resulted from a lack of communication, individualism, personal indifference, conflict of interest, and favoritism. One participant wished that the school administrator would be more dynamic and brave enough to lead. “They do not think creatively but instead are afraid to apply those innovative ideas into practice” (7.239-243). The findings also revealed that participants recognized the important roles of the
school administrators and urged them to have shared vision and common goals, as well as shared policy with the teachers and the parents. The participants believed that school leaders were the key factor of the school system. One participant said, “The school will move fast and effectively if it has a strong leader” (9.15), and another one said, “I think if the school has a strong leader with good teams of teachers with him, the school surely will move faster and it will be difficult for any school to compete” (2.135-137).

This research study relied on extensive works on the values and characteristics of leadership. It should be obvious from the study that the school organization expects from the school board members well-developed qualities of leadership in order for them to lead the school at this time of change. Welte (1978) suggested that a school board needs one quality of leadership, that is, “natural and learned ability, skill, and personal characteristics to conduct interpersonal relations, which influence people to take desired actions” (pp. 630-632). Terry (1960) suggested another characteristic of leadership, the ability to influence people to strive willingly for group goals. Fiedler et al. (1976) proposed the ability to consult, manage conflict, inspire loyalty, and imbue subordinates with a desire to remain on the job as necessary leadership qualities. Rost (1991) emphasized the type of leadership that “influences relationship among leaders and followers who intend real changes that reflect their mutual purposes” with the credibility of character, courage, competence, composure, and caring (p. 102).

It is hoped that the individual school board members in this study realize the values and the characteristics of leadership and equip themselves with these values and the characteristics, along with their personal experiences, knowledge, skills, and
determination to lead the school organization toward a lofty goal of effective change in educational systems and sustainable transformation of the school organization in the future.

Recommendations for Future Research

This study investigated the school leaders’ perspectives and understandings of systems thinking and how it affects change in the school organization. The study also wanted to assess needs and include information that would be used to design instruction help the school board and the school members gain knowledge and understanding more about systems thinking. Future research should be considered in the areas discussed below.

First, this particular study of school leaders’ perspectives of effective change in the school through systems thinking can be revived once again at the same location. It can be conducted as a follow-up study on the same group of participants after they have administered the school for a period of time (two years, for example) and after they have come to know each other and the members of the school community better. The study can focus on the questions of what they have really perceived and understood of systems thinking so far in regard to the school context. What perspectives might the school leaders have after using systems thinking as a tool to cause change in the school system for a period of two years?
Second, future research can focus on this particular research question: After reviewing the evidence accumulated through the case study on “school leaders’ perspectives on effective change in the school through systems thinking,” does “systems thinking” appear to be a continuous, categorical, or Boolean variable? In other words, is systems thinking something you “do” or “don’t do,” or is it a matter of degree? And, are there certain stages through which people appear to pass in becoming expert systems thinkers?

Third, further study concerning individual participants involved in change efforts and their relationship to the group of school leaders, to the school, and the other members of the school communities could be enlightening. As a group, how will they deal with improvement or change of one or more parts or areas of the school systems? As individuals, what role will they play? Do systems thinkers play different roles from others? To what extent should the roles of the school board stand as singular or shared responsibilities, or be passed to the teachers to handle, or assigned to a new department or group of individuals, and what, when, why, and how might that be done?

Fourth, a new study on systems thinking can involve a greater number of school personnel. If so, the focus should be on one particular area of interest of the school, such as the issue of learning and instruction or on teacher’s improvement programs. The time frame of the study should be sufficiently long to not become a burden to the school members. The participants should include some members of the school board, teachers, student representatives, and parents.
Fifth, I encourage other schools, both public and private, to conduct a study on the same topic of systems thinking as a means to affect change in their schools. The results of the findings from a variety of perspectives of school boards can be used to compare, contrast, exchange, and adopt across the entire school system and beyond.

**Summary**

This chapter summarized and synthesized what the participants found in the school system when they were asked to respond to current issues in the school. The findings revealed that the participants perceived a variety of characteristics of systems thinking and defined them as related to and interconnected with key elements or components of the school system, which include structure, policy, function, tradition, culture, practices, norms, peoples, and environment. The implications and recommendations for the school leaders are that they view the school system as a whole unit with lots of parts and elements within the system that relate to, connect with, and affect one another in the manner of cause-effect relationships. The success of school change will depend on leaders who possess a variety of leadership characteristics and look at the school as a “big picture” and think of it as a system or an entire unit using the framework of systems thinking as their guide. As Patton (1990) affirmed: “The parts are so interconnected and interdependent that any simple cause-effect analysis distorts more than it illuminates. Changes in one part lead to changes among all parts and the system
itself. Nor can one simply add the parts in some linear fashion and get a useful sense of
the whole” (p. 79).

Effective management of a school organization requires managing the interactions
of its parts, not the actions of its parts taken separately (Gharajedaghi and Ackoff, 1985,
pp. 23-24). The school leaders should integrate other parts in the school system and also
consider the key aspects of school effectiveness, which include professional, strong
leadership; shared vision, mission, and goals; a conducive learning environment or
atmosphere; a focus on teaching and learning; meeting expectations and needs of parents
for high-quality education; positive reinforcement and motivation of school personnel;
monitoring school progress with reliable assessment tools and systems; supervising
student’s behavior, rights, and responsibilities; building positive relationships with
parents and local communities; and incorporating the elements and characteristics of
leadership into practice.

As the new school board prepares to take its journey, to lead, to plan change, and
to transform the school’s educational system, a final thought given by Dr. Charuaypon
Torranin, the Deputy Permanent Secretary for Education in the Ministry of Education,
Thailand, when I met with her at the Ministry of Education on November 19, 2002, to
discuss this research study appears to be constructive and valuable. In her words:

I believe the Thai parents now understand why the educational system must be
revived to meet the needs of educational reform and the globalization. It is in fact
that the school board must reflect on the emerging needs of the parents about
how the school should be transformed and administered more effectively. I hope
that the school board will become the most effective tool in supporting the school
management with a variety of resources and their vast knowledge and
experiences that we cannot really buy from anywhere. Last but not least, the
school board should find an effective system that all the parents can access to
gain information and be informed often and well by reports on the development
of the plans and projects of the school and the regularity of the school board’s management. (Charuaypon Torranin, November 19, 2002)

Finally, the school board members should take sound advice from George Bernard Shaw, whose powerful and challenging statement echoes worldwide.

“You see things and say why, but I dream of things and say why not.”
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APPENDICES
APPENDIX A

Letter for Permission to Access the Study Site

July 25, 2002

Subject: Requesting for an access and permission to conduct a research study

Dear Brother Director/Principal,

I'm a doctoral student at the Pennsylvania State University, in the United States. At the moment I’m preparing a doctoral dissertation prospectus to the committee for an approval. I’m interested in studying about change and school effectiveness. In fact, the topic of this research study is: “School Leaders’ Perspectives on Effective Change in School Through Systems Thinking: A Case Study.”

I’ve learned that your school has a new school board this year and change in the school management is effective right after. In this circumstance, I find your school as relevant to this study.

In order to complete my research study, please allow me to use your school as the site for investigation, to make observation, to gather data from the school’s documents, and to have an interview with your school board members during the months of October and November 2002.

Thank you so much for your kind permission.

Sincerely yours,

(Anant Prichavudhi)
APPENDIX B

Interview Questions—English

1. What is your perspective on the current Thai educational systems?
2. From your own perspective, what is the status quo of the private school systems?
3. What is your perspective about this particular school?
4. What do you see as the most important health-related issues the world faces at the moment, and what do you think should be done to resolve them?
5. Why is the current unrest in the Middle East important to nations around the world, and what do you think might be done to resolve the problems?
6. How are different components of the school interrelated or linked with one another?
7. What elements within the school systems do you perceive as critical?
8. As a school leader, what could an organization like this school do in order to be (more) successful?
9. Have you heard of “Systems Thinking?” If so, what is it? (If not, explain it to them by reading a paragraph description.)
10. Do you think that Systems Thinking might be important in causing school change? If so, how? If not, why not?
APPENDIX C

Interview Questions in Thai

1. ท่านมีความคิดเห็นหรือมุมมองอย่างไรต่อระบบการศึกษาของประเทศไทยที่เป็นอยู่ในขณะนี้?
2. ในทัศนะของท่าน ท่านมองเห็นสถานภาพของโรงเรียนเอกชนโดยรวมเป็นเช่นไร?
3. ความคิดเห็นหรือมุมมองของท่านที่มีต่อโรงเรียนอัสสัมชัญธนบุรี?
4. อะไรบ้างที่ท่านคิดว่าเป็นปัญหาหรือปัจจัยที่คุกคามความปกติสุขของโลกอยู่ในขณะนี้ และคิดว่าจะมีวิธีการใดบ้างที่จะลด หรือแก้ปัญหาดังกล่าว?
5. เพราะเหตุใดสถานการณ์ที่สังเคราะห์และความไม่สงบในตะวันออกกลางในขณะนี้จึงมีผลกระทบต่อประชาคมโลกโดยทั่วไป และท่านคิดว่าปัญหานี้ว่าการการณ์ต่าง ๆ เหล่านี้ ควรได้รับการแก้ไขอย่างไร?
6. องค์ประกอบด้านต่าง ๆ ของโรงเรียน มีความสัมพันธ์กันอย่างไรบ้าง?
7. มีส่วนใดบ้างในระบบบริหารและการจัดการของโรงเรียนนี้ที่ท่านเห็นว่าเป็นตัวปัญหาหลักอยู่ในขณะนี้?
8. ในฐานะท่านเป็นคณะกรรมการบริหารสถานศึกษาที่มีความสัมพันธ์ ท่านเห็นว่าโรงเรียนแห่งนี้ควรปฏิบัติต่อสิ่งปัญหาหรือปฏิบัติทางใดต่อไป เพื่อที่จะทำให้โรงเรียนมีความเจริญก้าวหน้ามากขึ้น?
9. ท่านเคยได้ยินคำว่า “การคิดอย่างเป็นระบบ” หรือการคิดอย่างเป็นองค์รวม หรือการคิดอย่างเป็นมุ่งมั่น การคิดอย่างเป็นมุ่งมั่นมากกว่าหรือไม่ ที่เคยทบทวนมาก่อน กรุณาอธิบายว่าหมายถึงอะไร?
( หากไม่เคยทบทวนมาก่อน ควรอธิบายแนวคิดนี้ให้ผู้ตอบคำถามได้ทราบด้วยการอ่านหน้าที่ให้รายละเอียดของแนวคิด)
10. ท่านคิดว่าการคิดอย่างเป็นระบบ หรืออย่างเป็นองค์รวม หรืออย่างเป็นมุ่งมั่นการนี้จะเป็นสิ่งที่สำคัญอย่างไรหรือไม่ ที่สามารถนำมาใช้เป็นเครื่องมือเพื่อท้าทายเกิดการเปลี่ยนแปลงในระบบบริหารและการจัดการด้านการศึกษาของโรงเรียน? หากใช้ท่านคิดว่าจะใช้แนวความคิดนี้เป็นเครื่องมือเพื่อก่อให้เกิดประโยชน์ต่อโรงเรียนอย่างไร? ถ้าไม่ ท่านมีเหตุผลใดที่เห็นเป็นเช่นนั้น?
APPENDIX D

Letter for Permission to Conduct a Pilot Study

October 21, 2002

Dear Principal Chaiwan Pornprasit:

As a school leader, I'm convinced that you’re aware of the importance of leadership role in sharing the school's mission, vision, goals, educational activities, achievements, and perhaps some problems with other school members. In the process of school management, you might have used various approaches to bring about change and improvement for your school.

I'm a graduate student at the Pennsylvania State University in the United States. I’ll be conducting an individual interview with a group of new school board members for my doctoral research project. The topic of study is: “School Leader’s Perspectives on Effective Change in School Through Systems Thinking: A Case Study.” The purpose of this study is to investigate the school leaders’ perspectives and understanding of systems thinking, their opinions on current issues of the Thai educational systems, and issues about change in the school system.

To improve the interview instrument, please allow me to conduct a pilot study with your three school leaders: a school administrator, a teacher, and a parent or a scholar, at his or her convenient location and time.

Thank you very much for your kind permission and support of this research study.

Sincerely yours,

Anant Prichavadhi

(Anant Prichavadhi)
APPENDIX E

Letter of Approval to Conduct the Research Study

August 2, 2002

Subject: A request for access and permission to conduct an interview with the school board

Dear Mr. Prichavudhi:

I’ve learned with delight that your adviser and the committee members allowed you to conduct a doctoral research study at our school using the new school board members as research participants.

As the principal, I personally find your doctoral dissertation topic on School Leaders’ Perspectives on Effective Change in School Through Systems Thinking: A Case Study an interesting topic and believe that it will be useful to improve our school and the educational system in the future.

I write to you to confirm of my full support to this study. I’m very glad to allow you to conduct an interview with the individual school board members, make observations on school activities, and gather information from the school’s documents during the months of September to November 2002.

My full permission and supports are extended to your doctoral dissertation project and the commitment to this study. Should you and the Behavioral and Social Sciences Committee of the Institutional Review Board (IRB) at Penn State University have any question concerning the investigation, I’ll be more than happy to answer to you questions and to the committee members of the Institutional Review Board. You may contact me at the above school address and phone numbers.

Sincerely,

(Rev. Bro. Dechachai Sripicharn)
Director and Principal
APPENDIX F
Letter of Approval from Penn State to Conduct the Research

Date: August 27, 2002
From: Jodi Mathieu, IRB Administrator
To: Anant Pritchavudhi
Subject: Results of Review of Proposal - Expedited (IRB #14732)
Approval Expiration Date: August 27, 2003
“School Leaders’ Perspectives on Effective Change in School Through Systems Thinking: A Case Study”

The Social Sciences Committee of the Institutional Review Board has reviewed and approved your proposal for use of human participants in your research. This approval has been granted for a one-year period.

COMMENT: Please provide verification of the Thai and English versions of the letter to school board members requesting their participation in the study.

Approval for use of human participants in this research is given for a period covering one year from today. If your study extends beyond this approval period, you must contact this office to request an annual review of this research.

Subjects must receive a copy of any informed consent documentation that was submitted to the Research Protections Office for review.

PLEASE NOTE: Beginning July 1, 2002, we will no longer require investigators to send to the Office for Research Protections the signed informed consent forms for archiving. Instead, the principal investigator will be expected to maintain the original signed consent forms along with the IRB research records for each research project. Unless the research falls within the purview of the Food and Drug Administration (FDA), the investigator is responsible for retaining the signed consent and assent documents and IRB research records for at least three (3) years after termination of IRB approval. For research that falls under the FDA’s authority, the investigator is responsible for retaining the signed documents and IRB research records for the period specified in valid FDA regulations.

By accepting this decision you agree to notify the Research Protections Office of (1) any additions or procedural changes that modify the participants’ risks in any way and (2) any unanticipated subject events that are encountered during the conduct of this research. Prior approval must be obtained for any planned changes to the approved protocol. Unanticipated participant events must be reported in a timely fashion.

On behalf of the committee and the University, I thank you for your efforts to conduct your research in compliance with the federal regulations that have been established for the protection of human participants.

JLM/slk
cc: Kyle L. Peck
    Department Head, Adult Education, Instructional Systems, and Workforce Education & Development
    Research Dean, College of Education
APPENDIX G

A Self-introduction Letter to the Individual Participants

[Letter content]

[Signature]

(Professor, Department)

Chairman
APPENDIX H

Telephone Script for Self-introduction

<table>
<thead>
<tr>
<th>Topic of study:</th>
<th>School Leaders’ Perspectives on Effective Change in School: A Case Study.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Purpose:</td>
<td>Self-introduction and request for an access and an individual interview with the individual school leaders</td>
</tr>
<tr>
<td>Researcher:</td>
<td>Anant Prichavudhi</td>
</tr>
<tr>
<td>Participants:</td>
<td>A group of 15 school board members.</td>
</tr>
<tr>
<td>Setting:</td>
<td>Assumption College Thonburi, in Bangkok, Thailand.</td>
</tr>
<tr>
<td>Date:</td>
<td>Periods from last week of October to November 2002.</td>
</tr>
<tr>
<td>Duration:</td>
<td>One hour</td>
</tr>
</tbody>
</table>

- Hello, may I speak with Mr./Ms. ………………………………. (so and so)?
- Good morning, Sir. My name is Anant Prichavudhi and I’m a doctoral student at the Pennsylvania State University, in the United States.
- I hope you already received a self-introduction letter from the school sent out last week and by now you should know me, my personal background, and the purpose of my research study from the principal.
- Today, I’d like to inform you that this research study is part of my doctoral dissertation. The topic of my study is: “School Leaders’ Perspectives on Effective Change in School: A Case Study.” The main purpose is to find out from you, a member of school board, your perspectives and understanding of the current issues of the Thai educational systems. I also would like to find out what you think about change, school effectiveness, and improvement of educational systems at Assumption College Thonburi.
- Are you willing to meet with me so that I may interview you for this purpose?
- Yes, thank you very much for your kind cooperation and support.
- What date and time would be good for you, and where would you like to meet?
- Yes, both day and place are good to me too. And I’ll be visiting you at……………..by …………….o’clock on ……………..…(day) next week.
- Thank you very much and good-bye.
APPENDIX I

Penn State Informed Consent Form for Social Science Research

**Title of Project:** School Leaders’ Perspectives on Effective Change in School: A Case Study

**Principal Investigator:** Anant Prichavudhi
841-B9 Southgate Dr.
State College, PA 16801
Tel: (814) 867-2291
Email: axp261@psu.edu

1. **Purpose of the Study:** The purpose of the study is to investigate the school leaders’ awareness of and understandings on effective change in school in current practice at Assumption College Thonburi, in Bangkok, Thailand, and to take into consideration those perceived problems and proposed solutions of the school leaders and describe those means and processes required for a successful and sustainable change in the school in future.

2. **Procedures to be Followed:** Participation in this research will include fifteen school board members at Assumption College Thonburi, in Bangkok, Thailand. Participant will be asked ten questions during this study. If you agree to take part in this study, you will be asked to participate in two interviews.

3. **Discomforts and Risks:** There is no physical and psychological risk in participating in this research study. However, there may be a risk on social aspect if participant openly attacks on the school and its educational systems where his or her child is currently attending.

4. **Benefits:**
   a. Participants will benefit from this study by voicing concerns, opinions, perspectives, and expectations openly of what, why, and how the school and the school’s educational systems should be improved, changed, or transformed in various aspects especially on learning, teaching, administration, management, communication, and participation of the stakeholders.
   b. The significant of this research will also benefit to Saint Gabriel’s Foundation, Thailand, and the current school administrators with more understanding on effective change in school and improvement of the school’s educational systems in future. Meanwhile, members of the school, the communities, and other private and public schools in the country will recognize and better understand on the leadership role of school board as crucial in school management.

5. **Duration/Time:** The participants will spend about an hour during each of the two interview sessions of this study.
6. **Statement of Confidentiality**: Your participation in this research is confidential. Only myself who is the investigator will have access to your identity and the information that can be associated with your identity. In participating in this study, you are not expected to experience any risk. This study will involve the use of audio tape recording. I myself will be responsible to keep the tapes and lock them in the cabinet at my apartment. The data and tapes will be destroyed after the end of the 2003 spring semester.

7. **Right to Ask Questions**: You may ask any questions about the research procedures, and these questions will be answered. Further questions should be directed to the investigator at 841-B9 Southgate Dr., State College, PA 16801 Tel: (814) 867-2291, Email: axp261@psu.edu. If you have questions about your rights as a research participant, please contact Penn State’s Office for Research Protection at (814) 865-1775.

8. **Compensation**: You will not receive any compensation in return for participating in this research study.

9. **Voluntary Participation**: Your participation is voluntary. You are free to stop and may withdraw from participating this research study at any time by notifying me who is the person in charge or to decline to answer any specific questions without penalty.

You must be 18 years of age or older to consent to participate in this research study. If you consent to participate in this research study and to the terms above, please sign your name and indicate the date below.

You will be given a copy of this consent form to keep for your records.

______________________________________  _____________________
Participant Signature                 Date

I, the undersigned, verify that the above informed consent procedure has been followed.

______________________________________  _____________________
Investigator Signature                 Date
แบบอนุญาตเพื่อทำการวิจัยเชิงสังคมศาสตร์
มหาวิทยาลัยแห่งรัฐพนมชัย

หัวข้องานวิจัย : " การศึกษารายกรณีในทัศนคติของผู้นำสถานศึกษา ดังแนวทางการปรับเปลี่ยนระบบบริหาร การจัดการทางการศึกษาในโรงเรียน อย่างมีประสิทธิภาพ "

ผู้ทำการวิจัย : นายอานันท์ ปรีชาวุฒิ
841 – B9 ถนนแซทเทลลิตี, จังหวัดพระนคร, 16801
โทร : (814) 867-2291 อีเมล : axp261@psu.edu

1. วัตถุประสงค์ของการราวกวิจัย : การวิจัยครั้งนี้ มีวัตถุประสงค์ที่จะรับทราบจากท่านในฐานะที่เป็นผู้นำท่านหนึ่งของสถานศึกษาด้านความเข้าใจ และการตรวจสอบถึงวิธีการต่าง ๆ อันจะทำให้เกิดการเปลี่ยนแปลงในการจัดการศึกษาของโรงเรียนที่มีประสิทธิภาพ จากการต้องยอมรับในปัจจุบัน นอกจากนี้ การวิจัยยังมีจุดมุ่งหมายที่จะช่วยทำความคิดและวิธีการแก้ปัญหาต่าง ๆ ตามที่ท่านเสนอไปเป็นแนวทางในการวางแผนปรับปรุงและเปลี่ยนแปลงระบบการศึกษาของโรงเรียนให้เจริญก้าวหน้ายิ่งขึ้นตลอดไปในอนาคต

2. ขั้นตอนการดำเนินการวิจัย : คณะกรรมการบริหารสถานศึกษาขั้นพื้นฐานของโรงเรียนมีผู้แทนจำนวน 15 ท่าน เบื้องต้นท่านที่มีส่วนร่วมในการวิจัยครั้งนี้ โดยแต่ละท่านจะตอบ 10 คำถาม ในระหว่างการให้สัมภาษณ์ที่จะมีขึ้นสองครั้ง ทั้งนี้เมื่อท่านอนุญาตให้ผู้ทำการวิจัยได้ทำการศึกษาแล้ว

3. ความเสี่ยงต่าง ๆ : ท่านจะไม่ได้รับผลกระทบ หรือความรู้สึกอันตรายใด ๆ จากการสัมภาษณ์ที่จะส่งผลต่อภาวะรุนแรงหรือการเปลี่ยนแปลงใด ๆ ที่เกิดขึ้นในโรงเรียน และจะมีความคิดเห็น หรือแสดงออกซึ่งความรู้สึกอย่างชัดเจนไทย

4. ประโยชน์ที่จะได้รับ

4.1 ทุกท่านที่เป็นกรรมการของคณะกรรมการบริหารสถานศึกษาขั้นพื้นฐาน จะได้รับโอกาสแสดงความคิดเห็น การให้ข้อเสนอแนะ ตลอดจนความคิดเห็นว่า โรงเรียนควรจะได้รับการพัฒนาปรับปรุง หรือเปลี่ยนแปลง ไปในทิศทางใด ท่านจะได้รับการพัฒนาปรับปรุง หรือเปลี่ยนแปลง ไปในทิศทางใด ท่านจะได้รับการพัฒนาปรับปรุง หรือเปลี่ยนแปลง

4.2 มูลนิธิคณะเซนต์คาเบรียลแห่งประเทศไทย และคณะผู้บริหารสถานศึกษา จะได้รับความเข้าใจถึงแนวความคิดและกระบวนการปรับปรุงระบบการศึกษาของโรงเรียน ขณะเดียวกันคณะกรรมการบริหารสถานศึกษาเอง จะได้รับการยอมรับว่ามีส่วนสำคัญเป็นอย่างยิ่ง ถือที่เป็นตัวแปรของการเปลี่ยนแปลง
ที่มีประสิทธิภาพต่อสถาบัน รวมไปถึงการยอมรับจากกลุ่มโรงเรียนเอกชนด้วยกัน และจากโรงเรียนในส่วนของรัฐบาลทั้งประเทศด้วย

5. ช่วงและเวลาการสัมภาษณ์ : การสัมภาษณ์ จะมีขึ้นสองครั้ง ครั้งละประมาณ 1 ชั่วโมง

6. การเก็บรักษาข้อมูลและความลับ : การมีส่วนร่วมในการวิจัยต่าง ๆ ของท่านจะถูกเก็บไว้เป็นความลับ ยกเว้น กรมสมทบการทำวิจัยพิเศษผู้ติดต่อที่จะเป็นผู้เข้าถึงข้อมูลนั้น ขณะเดียวกันท่านจะไม่ได้รับผลกระทบใด ๆ จากการให้ข้อมูล ระหว่างการให้สัมภาษณ์จะมีการใช้กล้องเทปบันทึกเสียง ซึ่งผู้สัมภาษณ์จะเป็นผู้เก็บข้อมูลไว้ที่บ้านพัก และข้อมูลที่ได้รับทำหมดจะถูกทำลายหลังจากงานวิจัยเสร็จสิ้นแล้ว ทั้งนี้ภายในสิ้นภาคการศึกษาของฤดูใบไม้ผลิปีพุทธศักราช 2546

7. ลักษณะในการสอบถามต่าง ๆ : ท่านมีสิทธิที่จะสอบถามได้ทุกเรื่อง ถึงขั้นตอนของการการทำวิจัยครั้งนี้ และจะได้รับคำตอบของท่านจากผู้สัมภาษณ์ หรือท่านสามารถติดต่อผู้สัมภาษณ์ได้ ตามที่ต้องการได้ หากท่านประสงค์จะให้ข้อมูล ท่านจะไม่ได้รับผลกระทบใด ๆ ต่าง ๆ ที่มีผลต่อ การมีส่วนร่วมในการวิจัยนี้ ท่านจะไม่ได้รับผลลัพธ์ใดเป็นการตอบแทน เพื่อเป็นการแลกเปลี่ยนกับการมีส่วนร่วมในการวิจัยนี้

8. ความสมัครใจในการมีส่วนร่วม : ท่านเป็นผู้ที่สมัครใจเองที่จะเข้าร่วมในการวิจัยนี้ และท่านสามารถที่จะหยุดหรือยกเลิกการให้สัมภาษณ์เมื่อใดก็ได้ ตามที่ท่านเห็นสมควร นอกจากนี้ท่านสามารถที่จะไม่ตอบคำถามบางคำถามได้ โดยจะไม่ได้ผลกระทบใด ๆ กับท่าน ทั้งนี้ขอให้แจ้งให้ผู้วิจัยทราบ หากท่านมีอายุมากกว่า 18 ปี และเป็นผู้มีสิทธิอนุมัติในการทำวิจัยครั้งนี้ ท่านจะได้รับค่าตอบแทน การทำวิจัยนี้ จึงขอพร้อมวันที่ที่ให้การสัมภาษณ์ข้างท้ายของเอกสารฉบับนี้
APPENDIX K

Interview Protocol and Field Notes

**Topic:** School Leaders’ Perspectives on Effective Change in a Thai Catholic School Through Systems Thinking: A Case Study.

**Participant:** …………………………………………………………………………………………………………………
**Pseudonym** ……………………………………………………………

**Setting:** ……………………………………………………………………………………………………………………………

**Date:** ……………………………... **Time:** ………... **Duration:** …………………………………………………

1. What is your perspective on the current Thai educational systems?
ท่านมีความคิดเห็นหรือมุมมองอย่างไรต่อระบบการศึกษาของประเทศไทยในปัจจุบันหรือไม่?

2. From your own perspective, what is the status quo of the private school systems?
ในทัศนะของท่าน ท่านมองเห็นสถานภาพของโรงเรียนเอกชนอย่างไร?

3. What is your perspective about this particular school?
ความคิดเห็นหรือมุมมองของท่านเกี่ยวกับโรงเรียนอัสสัมชัญธนบุรีได้อย่างไร?

4. What do you see as the most important health-related issues the world faces at the moment, and what do you think should be done to resolve them?
อะไรบ้างที่ท่านคิดว่าเป็นปัญหาหรือปัจจัยที่คุกคามภาวะปกติสุขของโลกอยู่ในขณะนี้ และคิดว่าจะมีวิธีการใดบ้างที่จะลด หรือแก้ปัญหาดังกล่าว?

5. Why is the current unrest in the Middle East important to nations around the world, and what do you think might be done to resolve the problems?
เพราะเหตุใดสถานการณ์ที่ตึงเครียดและความไม่สงบในตะวันออกกลางจึงมีผลกระทบต่อประชาคมโลกทั่วไป และท่านคิดว่าปัญหาหรือสถานการณ์ต่าง ๆ เหล่านั้นควรได้รับการแก้ไขอย่างไร?

6. How are different components of the school interrelated or linked with one another?
องค์ประกอบต่าง ๆ ของโรงเรียน มีความสัมพันธ์เกี่ยวข้องและเชื่อมโยงกันอย่างไรบ้าง?

7. What elements within the school systems do you perceive as critical?
มีส่วนใดบ้างในระบบบริหารและการจัดการของโรงเรียนนี้ที่ท่านเห็นว่าเป็นตัวสำคัญหลักในปัจจุบันหรือไม่?

8. As a school leader, what could an organization like this school do in order to be (more) successful?
ในฐานะที่ท่านเป็นคณะกรรมการบริหารสถานศึกษาที่รักษาโรงเรียนอัสสัมชัญธนบุรีท่านเห็นว่าโรงเรียนแห่งนี้ควรปฏิบัติหรือปรับปรุงเปลี่ยนแปลงในด้านใดบ้าง เพื่อที่จะทำให้โรงเรียนมีความสำเร็จหรือก้าวหน้าขึ้นหรือไม่?

9. Have you heard of “Systems Thinking?” If so, what is it? (If not, explain it to them by reading a paragraph description.)
ท่านเคยได้ยินคำว่า  “การคิดอย่างเป็นระบบ” หรือการคิดอย่างเป็นองค์รวม หรือการคิดอย่างเป็นบูรณาการหรือไม่ หากเคยทราบมาก่อน กรุณาช่วยว่าเป็นอย่างไรเท่าที่ท่านทราบ (ถ้าไม่เคยวิจารณ์การอธิบายจากข้อความนี้ให้ท่านตอบคำถามให้ครบถ้วนด้วยการอธิบายต่อไปนี้ที่ให้รายละเอียดของแนวคิด)

10. Do you think that “Systems Thinking” might be important in causing school change? If so, how? If not, why not?
ท่านคิดว่าการคิดอย่างเป็นระบบ หรือการคิดอย่างเป็นองค์รวม หรือการคิดอย่างเป็นบูรณาการ น่าจะเป็นสิ่งสำคัญอย่างไรหรือไม่ ท่านสามารถนำมาใช้เป็นเครื่องมือเพื่อช่วยให้เกิดการเปลี่ยนแปลงในระบบการบริหารและการจัดการด้านการศึกษาของโรงเรียนหรือไม่ หากใช่ ท่านจะหมายถึงเชื้อความคิดนี้เป็นเครื่องมือเพื่อช่วยให้เกิดประโยชน์ต่อโรงเรียนอย่างไร ถ้าไม่ ท่านเห็นเหตุผลใดที่เป็นเหตุผลนั้น?
# APPENDIX L

Excerpt Transcript from Thai with Annotation (Interviewee #9)

<table>
<thead>
<tr>
<th>Transcription</th>
<th>Annotation</th>
</tr>
</thead>
</table>
| **Me:** What is your perspective on the current Thai educational system?  
**Participant:** It is rather broad, heavily leaned towards what is international. Namely, we have opened our educational system to the (that) culture quite considerably. The good thing is the extended knowledge for Thai children as they learn more from the media. Therefore, at the national level, Thai kids are no less capable compared to other (foreign) children. They are doing quite well in competitions.  
**Me:** Explain more what you think about it?  
**Participant:** In the educational system, there are many more aspects. Besides the academic aspect, general knowledge and the ability to adjust are all crucial to children. All the information suggests that the students who have gone through this system will experience some success for a certain period in such professions as physicians or architects before the tendency of a precipitating livelihood begins to set in. In my opinion, we need to address this issue in Thailand’s educational system. This is the duty of those entrusted to the responsibility. If schools want to adjust, parental cooperation should work because of the diverse types of parents. Some are more concerned academically, obsessed with their children’s competitiveness. What we can integrate here is the way of living. Parents should understand that life does not depend exclusively on competition. Under the circumstances, they will be able to provide their children with healthier support. In my opinion, parents represent the most important individuals. They are followed by ideas. These, I think, are what schools should change.  
**Me:** What do you view as problems in the system?  
**Participant:** It is the environment. By that, I mean things that have direct contact with the children, namely advertising, fashion and culture. For example, the value currently held by teenagers in the belief of little work and plenty of money. That is a narrowed perspective. Every system must be quality certified with system. I believe that the Prathom, Mathayom and University all count on quality certification.  

Thai’s Educational system is much affected by outside environments and they cause both positive and negative impacts on system.  
Educational system has many aspects. Learning is one of them. So, to pass an exam is not enough. Students need to have other aspects in order to succeed in their lives.  
Parent’s cooperation is one of the essential elements of the school system.  
Competitive learning has no meaning if factors of human values and personal development, e.g., are not included.  
School is affected by environment and it has to adjust itself and management accordingly in order to survive.
APPENDIX M

Example of Level 3 Data Analysis (Interview Question #1)
## APPENDIX N

Schools of Saint Gabriel’s Foundation, Thailand

<table>
<thead>
<tr>
<th>Number</th>
<th>School</th>
<th>Year Established</th>
<th>Region</th>
<th>Teacher M/F</th>
<th>Students</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Assumption College</td>
<td>1885</td>
<td>Bangkok</td>
<td>141/301</td>
<td>6,555</td>
</tr>
<tr>
<td>2</td>
<td>Saint Gabriel's College</td>
<td>1920</td>
<td>Bangkok</td>
<td>116/123</td>
<td>4,521</td>
</tr>
<tr>
<td>3</td>
<td>Montfort College</td>
<td>1932</td>
<td>North</td>
<td>157/159</td>
<td>4,603</td>
</tr>
<tr>
<td>4</td>
<td>Assumption Commercial College</td>
<td>1939</td>
<td>Bangkok</td>
<td>24/40</td>
<td>1,252</td>
</tr>
<tr>
<td>5</td>
<td>Assumption College Sriracha</td>
<td>1944</td>
<td>East</td>
<td>95/157</td>
<td>4,126</td>
</tr>
<tr>
<td>6</td>
<td>Saint Louis College</td>
<td>1948</td>
<td>East</td>
<td>45/151</td>
<td>3,624</td>
</tr>
<tr>
<td>7</td>
<td>Assumption College Lampang</td>
<td>1957</td>
<td>North</td>
<td>73/198</td>
<td>4,286</td>
</tr>
<tr>
<td>8</td>
<td>Assumption College Thonburi</td>
<td>1961</td>
<td>Bangkok</td>
<td>96/172</td>
<td>4,786</td>
</tr>
<tr>
<td>9</td>
<td>Assumption College Rayong</td>
<td>1963</td>
<td>East</td>
<td>26/89</td>
<td>2,568</td>
</tr>
<tr>
<td>10</td>
<td>Assumption College Ubonrathani</td>
<td>1965</td>
<td>N. East</td>
<td>27/81</td>
<td>1,538</td>
</tr>
<tr>
<td>11</td>
<td>Assumption College Nakhonrathasima</td>
<td>1967</td>
<td>N. East</td>
<td>49/112</td>
<td>2,330</td>
</tr>
<tr>
<td>12</td>
<td>Assumption College Samrong</td>
<td>1979</td>
<td>Bangkok</td>
<td>64/121</td>
<td>3,688</td>
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<td></td>
<td>Total</td>
<td></td>
<td></td>
<td>2,617</td>
<td>43,877</td>
</tr>
</tbody>
</table>

**Source:** Saint Gabriel’s Foundation, Bangkok, Thailand, as of November 25, 2002.
VITA

NAME: Anant Prichavudhi
PLACE OF BIRTH: Nakhon Nayok, Thailand
DATE OF BIRTH: October 21, 1951

GRADUATE AND UNDERGRADUATE SCHOOLS ATTENDED:
The Pennsylvania State University, University Park, Pennsylvania, U.S.A.
Syracuse University, Syracuse, New York, U.S.A.
Sri Nakharinwirot University, Bangsaen, Chonburi, Thailand

ACADEMIC QUALIFICATIONS:
2003 Doctor of Education (D.Ed.) in Instructional Systems,
The Pennsylvania State University
1997 Master of Arts (M.A.) in Educational Communications,
S.I. Newhouse School of Public Communications,
Syracuse University
1989 Certificate of Advanced Studies (C.A.S.) in Instructional Design,
Development, and Evaluation, Syracuse University
1988 Master of Science (M.S.) in Instructional Design, Development, and
Evaluation, Syracuse University
1978 Bachelor of Education (B.Ed.) in English with a Minor in
Educational Technology, Sri Nakharinwirot University

PROFESSIONAL EXPERIENCES:
1998 Interim Dean, Faculty of Communication Arts,
Assumption University, Hua Mark, Bangkapi, Bangkok, Thailand
1992-98 Director and Principal, Assumption College Thonburi,
Bangkok, Thailand
1989-98 President, International Catholic Association for Cinema and Audio
Visuals (OCIC), the Catholic Social Communications, Thailand
1989-92 Director and Principal, Assumption College Sriracha (ACS),
Chonburi, Thailand
1981-87 Director and Principal, Assumption College Lampang (ACL),
Lampang, Thailand
1979-81 Principal, Assumption College Lampang (ACL), Lampang, Thailand
1975-79 Teacher, Assumption College Sriracha (ACS), Chonburi, Thailand
1973-75 Teacher, Assumption College Rayong (ACR), Rayong, Thailand