

A Comparison of Organizational Structure and Pedagogical Approach: Online versus Face-to-face

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Abstract

This paper examines online versus face-to-face organizational structure and pedagogy in terms of education and the teaching and learning process. The author distinguishes several important terms related to distance/online/e-learning, virtual learning and brick-and-mortar learning interactions and concepts such as asynchronous and synchronous interactions, etc, before deliberating on perceived differences in organizational structure and pedagogical approaches of virtual and brick-and-mortar schools by examining organizational structure, knowledge and pedagogical theories, ideas, and constructs. The roles of mission, vision, and other considerations that contribute to differences between virtual and brick-and-mortar schools are examined. The appropriateness of structure and pedagogy as related to variables such as class size, span of control, and several other factors is discussed. The benefits and drawbacks of both virtual and brick-and-mortar schools are assessed in terms of perceived effectiveness and relation to perceived organizational structural and pedagogical differences before the author presents an informed response to the major thesis of this paper based on pertinent literature and the foregone discussion. After recognizing prevailing practices with regard to organizational structure and pedagogy, and given the pertinent role of technology and several influencing factors such as leadership, and curriculum, among other factors in virtual and brick-and-mortar schools, several recommendations are presented for improving the teaching-learning process.

Key words: Organizational structure, Pedagogical approach, Virtual schools, Brick-and-Mortar, Distance learning, Online learning, Virtual learning, Synchronous, Asynchronous, Virtual learning environment (VLE), Managed learning environment (MLE), Curriculum mapping, Electronic communication, Autopoietic systems theory, Structural contingency theory, Configurational approach, Recursivity-based theory, Learning organization, E-learning.

Introduction

Technology is a powerful tool of change. “Although technology on its own is incapable of engendering significant educational change, when implemented in conjunction with progressive attitude, results can be profound...” (Wolfson & Willinsky, 199, p. 109). Thus, our attitude toward progress has been the most powerful fuel behind the many inventions that have come to affect our institutions in both their organizational structure and differential pedagogies. Higher educational institutions have more than any other social institutions embraced technology in the quest to produce more socially functional members of society. The transformation of the idea of the university over the past several decades has been instrumental in setting precedence for institutions at all levels to apply and integrate technology into their curricula.

Political and economic changes in society require institutions to reshape their strategies to survive in changing environment (Mihhailova, 2006). The emergence of the digital university in our century has been especially important in changing the landscape of schools and ushering education into cyberspace. With the prediction that “The new digital university will have the web rather than disciplines and the library as its virtual center with (nearly) infinite access to the larger peripheral world” (Reinhart, 2008, p. 13), we have witnessed the globalization of education through the Internet, computer-mediated learning tools, and new and emerging perspectives on teaching and learning. The World Wide Web now gives us the capacity to reach individuals directly, point-to-point, for marketing, access to data, and for educational purposes (Reinhart, 2008), and schools, colleges, and universities worldwide are capitalizing on all the advantages that being on the Web offers. Virtual schools have become the new economically sound ventures in the education industry, especially in higher education, and their brick-and-mortar counterparts are developing virtual centers and programs to remain competitive and expand their markets.

Technology and Our Definition of Education

Technology has revolutionized almost every aspect of life and living; from the way we communicate and socialize, the way we work and play, teach and learn, down to the very ways in

which we think and respond to each other on even very intimate levels. It is thus proper to describe our present society as the “technology civilization” not ignoring the fact that previous societies and peoples had amassed technological know-how before us, but on a less significant and less pervasive level. Most importantly, the impact on teaching and learning in formalized settings has been the all-inclusive propagator of change which affects the analytical and problem solving methods that propel the inventions and creations we conjure up to adapt to modern change and face the reality of an uncertain future. The importance of education is now more broadly recognized than in the past owing to the same technology that has transformed its methods and processes; teaching and learning, quality assessment and standard definition and determination. Education is such a vital instrument in the development of an individual and society that it is cherished and fostered in every age and culture (Okeke, 2010). Education has an immense impact on the human society (Goel, 2007), and this impact has become more powerfully apparent in the development and growth of virtual schools and schooling modalities.

Education in terms of formal learning institutions is one of the most fundamental processes in our society; it teaches culture and transmits values across all subfields of learning from one generation to the next, enabling both survival and continuance. According to UNESCO (2010), education is a means to empower children and adults alike to become active participants in the transformation of their societies, and a society where technology has transformed and is transforming depends highly on education to pass along knowledge, understanding and know-how of the technology that leads to transformation. Education is much valued in society because it is a vehicle for imparting knowledge and skills (Okeke, 2010). The transformation that has taken place in our methods and definitions of schools to include impersonal environments and delivery modes characteristics of distance education, virtual schooling, online learning, and a combination of these have expanded our views of teaching and learning, and in so doing, have pushed us to create new standards and criteria for measuring and assessing learning, schools, graduates, and educational quality.

Technology in the form of web-based or online learning, grew out of the adult education movement that created numerous distance programs in and outside major residential universities

and colleges beginning in the late 1960s and early 1970s (Reinhart, 2008). Reinhart argues that by the late 1990s, the appearance of the Internet created opportunities for genuine classroom experiences using first the synchronous chat room, and quickly after, the asynchronous bulletin board to create a seminar and learning community experience for adult students at a distance. Since then, technologies have been created and education and the process of teaching and learning have become fully immersed in space and time as virtual schools can now exist in cyberspace and reach anyone having access to computer-based technologies and the Internet. The number of online, non-traditional students across the globe is exploding.

While we have been wholly accommodating and technology-friendly as a society, there are still many controversial debates and philosophical contemplations and questions that emerge. These controversies stem from misconceptions that students who attend virtual schools lose their ability to engage in social interactions and build social skills, that the curriculum in virtual schools is not as challenging as it would be in traditional brick-and-mortar schools (Greenleaf, 2009), and that virtual schools have poor quality and lower standards. In addition, many have failed to see virtual schools as complements as well as alternatives to traditional schools, rather than replacement, and this fuels opposition and negative perceptions of virtual schools. One of these questions is that concerning the organizational structure and pedagogical approach of virtual schools based on quality perception gaps in regards to virtual schools and their brick-and-mortar counterparts.

Clarifications on Terminology and Demarcation of Discussion

Educational cyberspace is rapidly expanding and competition in this space grows at an equally rapid pace as schools at the K-12 and Postsecondary levels join the bandwagon. Educational cyberspace can be defined as “a cognitive space, accessed by computer, which allows users in educational contexts to interact with texts, avatars and virtual reality” (Russell & Russell, 1999, p. 8). In this space, students and educators are able to participate in both planned and unplanned computer-based learning activities. Avatars are “computer-based representations or characters which are guided in real life by people” (Russell & Russell, 1999, p. 8). Virtual reality encompasses any computer-based version of reality. Cyberspace enables students to participate

in simulations or vicarious encounters which can be based on reality or fantasy. Virtual reality and cyberspace have become the playgrounds of today's generations and this fact makes them ideal as platforms for educating today's and tomorrow's youths.

It is extremely important that technology educators, educators using technology, and those in the business of education and learning using technology, understand the definitions of educational or teaching and learning modalities that make use of technological tools. There is often a lack of understanding and much confusion when it comes to concepts such as distance education, online learning, and virtual learning, among several other related terms (Freeman, 2010). The computer is the major and indispensable tool which facilitates these teaching-learning modalities, and thus, The Journal of Educators Online [JEO] (2010) collectively describes these as "Computer Mediated Learning [CML]", which it describes as occurring "when an individual interactively learns (formally or informally, synchronously or asynchronously) about material via computer means where the learning materials and pedagogy are developed to take advantage of the available technologies" (p. 1), and includes distance, online, electronic, virtual, distributed, blended and mobile learning. Blended learning is part of online education in which instructors combine face-to-face instruction with online learning and reduced classroom contact hours, while electronic and mobile learning are emulative of the same concept of learning defined in time and space (Freeman, 2010).

According to Freeman (2010) distance learning is an educational situation where the instructor and the students are separated by time, location, or both, and it can be either *synchronous* (real-time, instructor-led event in which all participants are virtually "in class" at the same time) or *asynchronous* (interaction between instructors and students occurs intermittently with a time delay) using a variety of distribution methods including technology. There has been much discussion with regards to the terminology related to distance education with several terms being used interchangeably: distance education, distance teaching, distance learning, online education, web-enabled education, distributed learning (Keegan, 2002), electronic learning and e-learning (Homan & Macpherson, 2005; Mutula, 2002). Mihhailova (2006) finds the term e-learning to be the most appropriate term to describe current Internet, web-based, and technology-enabled

distance or virtual learning modes. E-learning describes “a wide set of applications and processes allied to training and learning that include computer-based learning, online learning, virtual classrooms and digital collaboration. These services can be delivered by a variety of electronic media, including the intranet, internet, interactive TV and satellite” (Mihhailova, 2006, p. 271, citing Beamish, Armistead, Watkinson & Armfiled, 2002). Freeman (2010) describes online education as a separation of the teacher and the learner where a computer network is used to present or distribute educational content with two-way communication via the network so that students may communicate with instructors and each other.

According to the Office of the Superintendent of Public Instruction [OSPI] (2010) “Virtual learning is a term frequently used interchangeably with distance learning, online learning, e-learning, or Web-based learning” (p. 1). Thus, virtual learning encompasses both online and distance learning, while Freeman (2010) notes that “distance learning is broader and inclusive of the definition of online learning” (p. 51). Distance education does not have to make use of technology to distribute learning and this is evident in the history of distance education with pioneers such as the International Correspondence Schools (ICS) which operated out of Scranton, Pennsylvania, and several other early pioneers of distance education which used postal mail for decades before the birth of online education and virtual schools. Freeman (2010), providing us with further distinction, argues that online education does not necessarily need to be completely “distance” but can include a combination of modalities which include on-campus or brick-mortar sessions.

Virtual schools are schools that have no physical location and which depend solely on computers and the Internet to facilitate the teaching and learning process or deliver instructions and learning materials to students. A virtual school is “an information system able to handle all the tasks of a school without the basis of an existing physical school” (Paulson, 1988, p. 73) and requires no conventional classrooms and teachers (Russell & Russell, 1999). Brick-and-mortar schools are traditional schools with established physical location where the essential factors of time and place are essential in determining contact between teachers and students, and where students and

teachers meet face-to-face in social communication to facilitate exchange in the teaching and learning process.

Despite the differences existing between virtual schools and brick-and-mortar schools, schools, regardless of modalities have one universal function: the education of individuals for self and societal growth and well-being, progress and survival. Thus, schools fulfill a categorical imperative which makes them indistinguishable in terms of generalized functions and purpose. The Virtual Learning Academy Charter School (2008) supports this belief by stating, “Virtual schools have the same goal as traditional, brick-and-mortar schools: to graduate students” (p. 1). This should be true of any school regardless of level and type. Thus, we can see where e-learning meets the general educational goals and missions of all schools. E-learning can become the tool to prevent the loss of students, to reach new customer segments (e.g. older adult learners), which may be geographically wherever. In this perspective e-learning serves not only as a method to increase literacy and education, but as an internationalization strategy for higher education institutions (Mihhailova, 2006). Furthermore, several authors argue that, “The structure and resources of traditional classrooms often provide quite poor support for learning, whereas technology – when used effectively – can enable ways of teaching that are much better matched to how children learn” (Roschelle, Pea, Hoadley, Gordin & Means, 2000, p. 79). Thus, e-learning and virtual schools are filling potential gaps in education and literacy goals. This is not to say that virtual schools and their host of e-learning tools provide a totally full experience. As Russell and Russell (1999) note, while educational cyberspace can provide a broad range of experiences, teachers and students, or administrators for that matter, should not expect that on-line experiences can be satisfactory alternatives to real life.

Virtual Schools vs. Brick-and-Mortar Schools

Virtual schooling is growing exponentially (Barbour & Reeves, 2009) and this is especially true for online distance education for the K-12 and postsecondary systems in the United States.

Virtual schools have not been around for a long time. In fact, total virtual schools are merely two decades in the making even though the pace of technological growth makes it seem as if they have been around much longer. According to Greenleaf (2009) the mid-1990s saw the birth of

Internet education, and hence potential for the development of what today are absolute virtual schools, schools with no physical existence in terms of classrooms and physical libraries, etc. Before the advent of virtual schools, distance education was a reality made possible through radio, television, and mail. Virtual schools are defined as “educational facilities that are not a physical location, but rather are located on the Internet” (Greenleaf, 2009, p. 1), and which depend highly on the existence of a virtual learning environment (VLE) to facilitate teaching and learning. The virtual learning environment is also called a Managed Learning Environment (MLE). According to TechTarget.com (2008), “a virtual learning environment (VLE) is a set of teaching and learning tools designed to enhance a student’s learning experience by including computers and the Internet in the learning process” (p. 1). Dillenbourg (2000) defines a VLE as “a designed information space” (p. 3). In a VLE the principal components of such a system include *curriculum mapping* [breaking curriculum into sections that can be assigned and assessed], student tracking, online support for both teacher and student, *electronic communication* [e-mail, threaded discussions, chat, Web publishing], and Internet links to outside curriculum resources. In most cases, VLE users are assigned either a teacher ID or a student ID. The teacher sees what a student sees, and also has additional user rights to create or modify curriculum content and track students’ performance. Some examples of VLE software packages in use today include Blackboard, WebCT, Lotus LearningSpace, Moodle, and COSE.

Brick-and-mortar schools have been around from the dawn of man’s fascination with learning and the need to create a safe, sheltered, and special environment where learning could become an intimated social process between teachers and students in an environment exclusive to teaching and learning and unconnected to the more non-systematic social environment, and which was seen as the “ideal temple” for cultivating minds. According to Greenleaf (2009) “The primary difference between a virtual school and a stand-alone brick and mortar school is the latter’s physical interactions among teachers, staff and students” (p. 1). Unlike traditional schools, virtual schools are Internet-based and available 24-7 to provide students the flexibility of any time, anywhere access to rigorous, personalized education. Furthermore, in the virtual classroom, every student is in the front row because he or she has one-to-one interaction with the teacher, and is directly accountable for every query, question or exercise (Virtual Learning Academy

Charter School, 2008). Many individuals will not agree with the “one-to-one interaction” portion of this since the virtual classroom is not “personal” enough. Greenleaf (2009) provides us with some benefits of virtual schools:

Students and parents are able to work at their own pace throughout the day. Academic policies, rules, regulations, schedules, curricula, syllabi, among other components, are always available; they are linked to the virtual school’s website for easy reference to avoid confusion and help keep everyone on task. Students’ work is posted directly online to their virtual classroom. Not only does this help provide proof to parents as to its completion and when it was turned in, but it also allows for quicker grading by teachers. Parents are able to be actively involved in their child’s education by having access to their completed work, grades, assignments, announcements, news, calendars and other pertinent information at all times (p. 1).

Another point that can be made about the benefits of virtual schools is that they eliminate and reduce the potential for and occurrence of social discrimination stemming from race, culture, and other factors that are more predominant in the brick-and-mortar setting which is mainly a traditional, face-to-face approach to learning. In addition, virtual schools can result in great economic benefits in terms of cost savings that would otherwise be incurred in brick-and-mortar schools through such things as transportation costs, increased opportunity costs, overcrowding and sometimes “negative sharing” which results from a kind of externality incurred from learning differences where high and low achievers are trapped in the same physical environment that can create hostility and resentment.

There are certain drawbacks to virtual schools as well. Again, Greenleaf (2009) provides us with some of these disadvantages of virtual schools:

If students are working with a study group or partner, it is more difficult to communicate in order to ensure they are keeping up with their portion of their assignments. Slow Internet connections make downloading or viewing class materials, such as diagrams, charts and videos, time consuming and difficult. In the case of chat room participation, those who can type faster tend to monopolize the conversation. If students are located in

different time zones, arranging schedules for chat room or study group participation is difficult and sometimes overwhelming (p. 1).

These are not the only technical and social issues that affect virtual learning or virtual schools and schooling. Some students can develop feelings of isolation as they recognize the real social gap in terms of physical distance which exists between them and their teachers and classmates, and the need for friendship and association goes unmet. The virtual school learning environment or virtual learning environment (VLE) can also stifle individuals' creativity and capacity for social growth and emotional intelligence as the mechanistic process of the work or learning dominates the social-humanistic side. Some students can become potentially caught up in distractions such as video games and "uncontrolled" tendency to relax because they are in a very personal environment that pulls them into activity norms such as eating and sleeping, watching television and the like.

Brick-and-mortar or traditional schools and classrooms are especially referenced in comparison to virtual schools for their greater sociality (Greenleaf, 2009; Virtual Learning Academy Charter School, 2008). This might hold true considering how much human interaction on a person level matter in the socialization and personal development process (Lenski & Lenski, 1974), which takes a lifetime of social experience and learning. Brick-and-mortar or traditional schools are able to better and more accurately model the real world in which we must live; they are designed to represent and model the larger macro-system and provide us with a mirror where we can magnify those experiences we gain from such a social environment into what Lenski and Lenski (1974) describe as a "macrosociology" perspective which helps us to better understand and adjust to living in society as functional and civilized individuals. Brick-and-mortar schools allow individuals to build better bonds of friendship and genuine likeness as they are able to better understand others in face-to-face encounters and conversations. The greatest drawback to brick-and-mortar schools might be the expense. These schools are in majority more expensive than their virtual counterparts, and in some fields and areas have much longer periods of study and much more work for students. However, brick-and-mortar seems to imply a certain rigor and

quality which because of the limitation on human sociality and communicative personage might be less visible in virtual school settings.

While there is extensive research and literature on the organizational structure and pedagogical approach of traditional brick-and-mortar institutions including schools, there is a paucity of such information and knowledge when it comes to virtual schools. What is certain is that organizational structure has significant impact on overall success, leadership effectiveness, and competitiveness (Jones & George, 2009). Furthermore, pedagogical approach in teaching and learning does matter (McKenzie, 2003), especially as powerful outside forces in the global economy impose changes poorly grounded in theory, research, and practice on what were previously successful traditional methods of teaching in the classroom. Entz (2006) traces the term and process of pedagogy to Ancient Greece by stating that in Ancient Greece a *paidagogos* was a trusted slave who accompanied a child to his or her classes, ensured his or her good behavior in public, cared for his or her needs, and tutored him or her with his homework or assignments. McKenzie (2003) defines pedagogy as how teachers orchestrate classroom learning. The National Board for Professional Teaching Standards [NBPTS] (2010) defines pedagogy as teaching skills teachers use to impart the specialized knowledge or content of their subject areas to students. Entz (2006) defines pedagogy as the science of teaching.

In reference to organizations, the word structure describes the way in which an organization divides its labor into distinct task and then achieves coordination among them (Mintzberg, 1979). Organizational structure is the configuration of the hierarchical levels and specialized units and positions within an organization, and the formal rules governing these arrangements (Rainey, 1997). According to Robbins and Coulter (2007) an organizational structure is a formal framework by which job tasks are divided, grouped and coordinated. Organizational structures are sets of relations between the roles of an organization (Grossi, Royakkers, & Dignum, 2007). Systems theory views organizational structure as the established pattern of relationships among the parts of the organization (Kast, & Rosenzweig, 1972; Walonick, 2010), and virtual schools like their brick-and-mortar counterparts are systems, systems affected by both the internal and external environments in which they exist.

The Importance of Organizational Structure and Pedagogy

Dissanayake and Takahashi (2006) argue that the study of organizational structure has been traditionally linked to three major approaches. The first approach, they argue, is that of Functionalist Organizational Theory which addresses the need for order and integration in organizations based on the orderly and integrated patterns of work structures in organizations or equilibrium theories such as the Bureaucratic Theory of Weber and Administrative Process Theory of Fayol (Dissanayake & Takahashi, 2006). Structural Contingency Theory and Configurational Approach are regarded by Dissanayake and Takahashi (2006) as later developments and decisively process theories, which Hernes and Bakken (2003) contend assumed a more subjective orientation by focusing on the subjective actions of individuals that shape organizational structure through shared values, behaviors, and decisions (Gonzalez, Johnson, & Lundy, 2006; Grossi, Royakkers, & Dignum, 2007).

According to Dissanayake and Takahashi (2006), the third major approach centers on Recursivity-Based theories which offer a non-extremist standpoint in which both structural stability and instability have been taken into consideration. Recursivity-Based theories accommodate a view that both the structure and the process of organizations interact and change through mutual interactions, and the ongoing interactions of organizational actors or subunits recurrently processing resources and information, which occupy self-productive, self-organized spaces. This perspective advocates that self-maintained structures present a view that organizational structures are recursively organized (Hernes & Bakken, 2003). Dissanayake and Takahashi (2006) describe the latter as Autopoietic Systems Theory, which analyzes systems as having a self-productive nature. In other words, such systems are self-organized and self-maintained systems. An Autopoietic System is characterized by an open structure and a closed organization in which the structure becomes a component of its organization (Bausch, 2001; Dissanayake and Takahashi, 2006).

Organizational structure is particularly important for decision making (Suttle, 2010). It is in the context of organizational culture that we make decisions and participate in the decision process

relative to our roles and functions, authority and responsibilities. DeCanio, Dibble, and Amir-Atefi (2000) believe that organizational structure affects both the overall behavior of firms and the situations of individuals and subunits within firms. Walonick (2010) contends that structural deficiencies in organizations can result in low motivation and morale, decisions that are lacking in timeliness or quality, lack of coordination and conflict, inefficient use of resources, and an inability to respond effectively to changes in the environment. This is supported by Thompson, Strickland III, and Gamble (2007) and Wheelen and Hunger (2008) who argue that responsiveness to the external environment shapes and affects strategy implementation, strategic success and competitive advantage.

DeCanio and colleagues argue that failure to recognize the importance of organizational structure on the performance of firms will lead to serious bias in estimation of the costs or benefits of a change in external circumstances. Many organizational theorists have emphasized this point in their writings (Porter, 1980; Wheelen & Hunger, 2008; de Kluyver & Pearce II, 2009, among others), and it should not be taken that there are no truly closed organizations, especially in today's globally competitive and macroscopically intrusive environment where factors filter in and out of organizations through various information systems, product and service interchange, and most importantly, through the various attitudes and behaviors of organizational members who are constantly changing and shaping organizational culture.

The importance of organizational structure is particularly crucial for communication (Suttle, 2010) and this is supported by Walonick (2010) who argues that the relationship between an organization and its environment is characterized by a two-way flow of information and energy. This two-way flow of information defines and determines the level and effect of organizational communication on cultural values and performance. "Organizational structure enables the distribution of authority" (Suttle, 2010, p. 1), and this distribution is vital in facilitating processes such as delegation and collaboration across networks and continents where organizations must play their active part as one category of *dramatis personae* in the global economy. Organizational structure is also important for evaluating employee performance, and it is employees' performances that determine success in terms of how much and how well; efficiency and

effectiveness. Organizational structure is particularly important in achieving goals and results. According to DeCanio, Dibble, and Amir-Atefi (2000) organizational structure can have an effect on companywide measures of performance, such as profitability, or speed in adapting productivity-enhancing innovations. This is especially significant in the case of virtual schools where their entire pedagogical systems and ability to educate depend on the ready adaption of emerging technological tools and concepts. DeCanio, Dibble, and Amir-Atefi (2000) also underscore the importance of organizational structure in affecting individuals or operating units that comprise the organization. Furthermore, they argue that the changes in the external environment can produce “dynamic adjustments in the firm’s internal patterns of communication and connectedness” (p. 1285), which will definitely affect outcomes or the value and quality created and offered to customers or clients. Organizational structure is critical to and helps determine strategy design and implementation (Olson, Slater, & Hult, 2004).

Organizational structure allows for the chain of command, and without a chain of command, virtual schools would lack the leadership, control, and coordination their brick-and-mortar counterparts have successfully used to maintain their competitive edge and become recognizable leaders in the education industry. Organizational structure fosters teamwork, where everyone in the department works toward a common goal. “A firm’s organizational structure determines the rights, responsibilities, and obligations of firm owners with respect to each other and to society in general” (Gonzalez, Johnson, & Lundy, 2006, p. 1). This also helps to shape the response of subordinates to superiors or followers to leaders and determines the conduciveness of developing and developed organizational culture to success and survival. Organizational structure also enables companies to better manage change in the marketplace and marketspace, including consumer needs, government regulation, and new technology. Concurring with DeCanio, Dibble, and Amir-Atefi (2000), Gonzalez, Johnson, and Lundy (2006) agree that organizational structure can have significant impact on performance because of the types of internal incentives that affect performance for teams and individuals. The fact that organizational structures have been conceptualized in social systems theory (Dissanayake & Takahashi, 2006) attests to the interrelated and intricate connections existing between organizational structure, performance, outcomes, and their environments.

Pedagogical approach is important because virtual schools like their brick-and-mortar counterparts must understand both the social and technological aspects of teaching and learning. Most of all, they must understand that as learning organizations, they must increase their capacity for creating and delivering services by engaging in pedagogical and structural quality enhancement processes including change, reengineering, and other quality improvement processes. Learning organizations are organizations that are continually enhancing their capacity to create (Senge, 1990). The nature and quality of the social and emotional interactions between teacher and students is central to any discussion of quality education (McKenzie, 2003; Entz, 2006). This is why pedagogy matters (McKenzie, 2003). Teachers must interact with students on an emotional and social level in order to be truly effective. Virtual schools do detract from the depth and scope of “affective pedagogy” because computers and the Internet or technology cumulative can act as social distance barriers. They are not conducive to face-to-face, personal interaction which many traditionalists believe, based on social learning theory and behaviorism, is extremely important in shaping individuals as they develop socially and emotionally. The advent of emotional intelligence has further added to the recognition that personal and social environments developed between teachers and learners play a great role in learning outcomes and individual success (Goleman, 1997).

Just as organizational structure is important in the success of companies, including traditional schools; instructional structure plays an equally important role. According to Entz (2006) concrete teaching practices are important for all children and are very essential for vulnerable learners, including those not privileged to experience face-to-face learning if they are to achieve positive learning outcomes. Entz (2006) argues that by focusing on pedagogical practices that work in the most challenging and vulnerable environments and with a diverse population of students with differing learning needs regardless of modalities, it is possible to identify the critical elements of teaching that results in successful outcomes for all learners. While many theorists will assert the importance of close social interaction, personable face-to-face interaction in early childhood teaching and learning experiences, many have not emphasized the importance of the same throughout life, especially as regards later years. Entz (2006) argues that the role of a

caring and more knowledgeable person in helping a child learn new skills and concepts does not diminish as the child matures. Thus, the need for care is still present in students of virtual schools as in brick-and-mortar counterparts. Entz (2006) argues that the critical role of the teacher engaged in the active process of teaching in the classroom may be undervalued. This is true when we consider how much the prestige and perceived value and respect regarding the teaching profession has declined over the past several decades. However, there should be a recognition that teachers and the methods they apply to impart knowledge in today's technology-driven global economy is vital in defining and creating quality learners.

Differences in Organizational Structure and Pedagogy of Virtual and Brick Mortar

Organizational structure is important because it shapes pedagogical approach. Olson and Einwohner (2001) argue that institutional context and learning environment affect teachers' pedagogy and that the "Teaching Self" is shaped by the organizational structure of educational institutions that differ in their value and support of teaching. The degree to which such differences in pedagogy prevail as a result of organizational structural and teaching value and support difference needs to be seriously examined, especially as virtual schools seek to develop more robust academic image and survive the competition. The effective use of technology as a learning tool and its centrality in the teaching-learning process serve as a dominant factor in rationalizing existing difference between the organizational structures and pedagogical approaches of virtual schools and their brick and mortar counterparts. When we consider technology importance, integration, dependency, and usage in teaching and learning, as well as organizational-wide operations and functions, we will recognize that hardware and software vary among schools, and there is even greater variation in the ways schools use the technology. Successful use of technology is always accompanied by concurrent reforms in other areas such as curriculum, assessment, and teacher professional development, so gains in learning among institutions are not based on and cannot be assessed by technological usage and integration alone. In addition, rigorously structured longitudinal studies that are able to document the isolated effects of technology are expensive and difficult to implement, and thus relatively few have been conducted to demonstrate superiority of one system over the other, whilst assuming

and recognizing differences has been asserted (Roschelle, Pea, Hoadley, Gordin & Means, 2000).

There is a great diversity of approaches to virtual schools including organizational structures, pedagogies, and the technologies deployed (Compton, Davis & Correta, 2010). Concerning existing and presumed pedagogical differences between virtual and brick-and-mortar schools, we can draw from cognitive research theories that show that learning is most effective when four fundamental characteristics are present: (1) active engagement (2) participation in groups, (3) frequent interaction and feedback, and (4) connections to real world contexts (Roschelle, et al, 2000). The degree to which virtual schools and brick-and-mortar schools facilitate these is important, with much debate and differing perspectives. Some writers for example argue that computer technology encourages asocial and addictive behaviors and taps very little of the social basis of learning (Roschelle, et al, 2000), and Cuban (2001) has time and again commented on the negative impact of technology on social learning, interaction, and students' values and behaviors. Furthermore, Russell and Russell (1999) state that there are concerns that students who participate extensively in a school based in cyberspace may not develop comparable social skills to those who have been educated in the conventional, traditional, or brick-and-mortar contexts. Katz and Aspden (1997) believe that brick and mortar schools facilitate greater richness of friendships, and Kraut, Patterson, Lundmark, Kiesler, Mukopadhyay, and Scherlis (1998) argue that community life and social relationships may be harmed by use of the Internet. On the other hand, Rochelle, et al (2000) argue that, "Students who participated in computer-connected learning networks show increased motivation, a deeper understanding of concepts, and an increased willingness to tackle difficult questions" (p. 81). Pimm (1987) agrees with this by arguing that students in the traditional classroom have very little time to interact with materials, each other, or the teacher. Pimm's argument is consistent with what has been a long-standing and lasting shortfall of traditional or brick-and-mortar classroom education; the failure to teach concepts that readily result in real-world application. Freire (1972) criticizes the brick-and-mortar or traditional paradigm by arguing that it positions learners or students as passive recipients of knowledge and active engagement in learning is minimal. Freire calls this a "Banking Model", which the author of this paper would argue is opposed to an "Investment

Model". This distinguishes the active engagement and progressive approaches of virtual schools as allowed by their technologies as opposed to passive approaches used in many brick-and-mortar schools.

Those advocating e-learning and the dominant advantage of the virtual model believe that computer technology can provide students with an excellent tool for applying concepts in a variety of contexts, thereby, breaking the artificial isolation of school subject matter from real-world situations (Roschelle, et al, 2000). Many researchers also believe that new information and communication technologies (ICT) can bring exciting curricula based and real-world problems into the classroom, and provide scaffolds and tools to enhance learning (Kozma, 2003). This means broader basis for more applicative pedagogy unlike brick-and-mortar or traditional schools and classrooms where pedagogy remains inside the box and are facilitated by the limited use or lack of technology in the teaching and learning processes. Another factor upon which differences in pedagogy of brick-and-mortar and virtual schools can be argued is on the relative degree to which both models provide for experience and exposure. Traditionalists or those in favor of the brick-and-mortar schools argue that more interaction and meaningful social exchanges can be facilitated in the physical classroom, while those in favor of the virtual classroom and its technology believe that computer-based technologies as learning tools can improve what students learn by providing exposure to ideas and experiences that would be inaccessible for most learners any other way (Roschelle, et al, 2000).

We must remember that students in today's learning institutions still require a great degree of supervision (Russell & Russell, 1999), and this does not exclude the virtual classroom and virtual schools, which must somehow integrate this consideration into their approach to teaching, meeting this requirement as well as their brick-and-mortar counterparts. Thus, the need for supervision and evaluation or assessment still prevails between virtual and physical schools in structural and pedagogical arrangements. Furthermore, Russell and Russell (1999) point out a problem that is more of a shortcoming or challenge to the virtual school, and that is, educators are not able to predict which cultural or interest groups will be encountered in cyberspace by students since the nature of computer-based applications and the characteristics of that

environment will simultaneously change unlike in the brick-and-mortar school environment where face-to-face interactions reveal culture and values. This leads to uncertainty in fully integrating relevant social topics in online syllabi, courses, and curricula. Compton, Davis, and Correta (2010) argue that the most pressing pedagogical issues of the virtual school are interaction, teacher feedback, and course rigor, which are of less concern in the brick-and-mortar schools. Many individuals view virtual schools as “automated learning environments driven by technology rather than as environments using technology to support learning” (p. 46), and thus, also believe there is a lack of adequate social interaction which is vital to fuller learning experiences. According to Compton, et al (2010) in a study focusing on pre-service teachers’ perception of virtual schools,

Online interaction through asynchronous discussion boards was viewed as forced or not ‘spontaneous’ and, therefore, not ‘genuine’ interaction, whereas face-to-face online interaction supported by video technology was not accepted as interaction because there is a spatial distance, which affects the validity of the ‘face-to-face’ concept (p. 46).

There is obviously a sense of perceived limited interaction concerning virtual learning. In the study by Compton, et al (2010), there were some participants who expressed skepticism toward the idea of teachers knowing their online students better than in face-to-face classrooms, and others believed that the loss of student-teacher interaction that is a part of the virtual school (VS) affects learning. Furthermore, they believed that VS facilitates delay in teacher feedback that affects the learning process. Despite the perceptions and misconceptions regarding online schooling or virtual schools, emerging technology tools or digital technologies are now being adapted and adopted by educators for their own pedagogical purposes (Reinhart, 2008). Tools such as the Internet offer instructors and students opportunities to create and share research assignments via group web projects, and activities such as blogging and the use of the iPod and wireless connectivity are creating new generations of pedagogical possibilities. Furthermore, the development of electronic portfolios is also changing the teaching strategies and learning approach of educators and students in the virtual school. According to Reinhart (2008),

We see growing interest by faculty and administrators for creating individual portal accounts allowing learners access not only to routine administrative functions like

registration, fee payments, schedules and university news, but as importantly, to maintain a record of their writing, research and creative work. At its most exciting, individual portals afford students opportunities to assemble their own learning tools from among many of those considered here but also from a range of emerging digital learning resources: a student's digital "kit" arrayed in the service of a constructivist learning paradigm (p. 23).

The type of organizational structure that is emerging as technology allows for further expansion and development of the virtual school, while affording the brick-and-mortar school both advantages as physical and virtual existence; hybrid schools, can be seen in what Reinhart (2008) describes as an "organizational metaphor":

The web's capacity to archive and access information, to serve as a repository for enormously powerful software tools and processes, suggests a useful organizational metaphor: like the spider's web it harkens, the internet allows a digital structure: a central organization with infinite points of contact on the periphery: total, non-residential interconnectivity (p. 26).

This will shape how the "Oxbridge Model" transforms totally overtime as administrators of both brick-and-mortar and virtual schools rethink the necessity for physical structures in light of their mission, vision; learning purposes.

The organizational structure of an institution affects the type of pedagogical approach or approaches within that structure toward transmission of knowledge and values. This becomes apparent when we consider for example, that, "The physical structure of the university is a consequence of the hierarchically organization of knowledge, the predominant model from the late middle ages through the industrial era" (Reinhart, 2008, p. 13), and that this structure continues today and is the basis from which even the virtual school which appears so seemingly different to some draws its ideas for structural and process organizational forms. There are several factors that account for perceived differences between the organizational structures of virtual schools and their brick-and-mortar counterparts. These include class size, program

offerings, and the number of faculty in these schools. Virtual schools tend to have larger class sizes than brick-and-mortar schools because there are no physical space considerations that limit the number of students in a class. For example, a course in a virtual school can facilitate as many students as the technological platform will allow, while in a brick-and-mortar school, class size is limited by physical space, where for example in typical large private colleges and universities, classrooms are generally restricted to having around 25 students or less. The number of faculty members varies from school to school, traditional or virtual, as this depends highly on the total enrollment and program offerings. There are some virtual schools with thousands of students, far more than many brick-and-mortar counterparts, and vice versa. The number and types of factors that differentiate virtual and brick-and-mortar schools will change overtime as each model develops and adapts to meet the needs of today's learners and the globally competitive and changing macroenvironment. Table 1 overleaf describes some of the major factors of perceived differences between the virtual and brick-and-mortar schools.

TABLE 1: Factors of Perceived Differences between Virtual and Brick-and-Mortar Schools

School Difference Factor	Virtual	Brick-and-Mortar
<i>Location</i>	Virtual or cyberspace; anywhere, anyplace	Physically or geographically confined to place
<i>Class Size</i>	Extremely large	Small or limited by physical space
<i>Program Offerings</i>	Few/limited and often specialized	Broad curriculum with many different programs
<i>Time</i>	Varies with ongoing enrollment and completion; Shorter duration	Established schedule for enrollment, graduation, program completion and class attendance
<i>Level/Type of Interaction</i>	Impersonal; limited personal communication in some cases	Personal (Face-to-face); limited impersonal communication
<i>Technology Dependency</i>	Highly dependent	Moderately dependent
<i>Cost</i>	More affordable; less expensive	Expensive; less affordable
<i>Communication/Delivery</i>	Electronic (Internet and Computer-based); limited personal communication	Chiefly face-to-face (personal communication), with limited electronic communication
<i>Number of Faculty</i>	Usually small; varies from school to school	Usually large number of faculty; varies from school to school
<i>Convenience</i>	Very convenient	Affords little convenience
<i>Feedback</i>	Sometimes delayed	Immediate in face-to-face contact

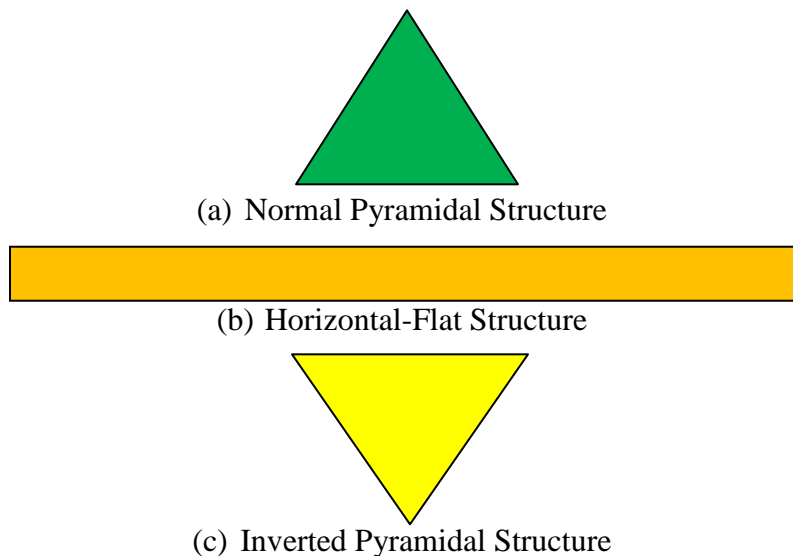
In Table 1 we can readily see some of the factors which contribute to perceived differences between virtual and brick-and-mortar schools or institutions. Location is a primary difference as virtual schools are located in cyberspace, while brick-and-mortar schools are edifices bound by specific time and space or geography. Many of the virtual schools operating today have small curriculums and offer more specialized and fewer programs of studies compared to the traditional brick-and-mortar establishments that were built on ideas of the university and school

as institutions for total or complete learning or studies. In addition, time is a major factor contributing to differences between virtual and brick-and-mortar schools. Virtual schools generally have ongoing matriculation and graduation, continuous course offers and no specific time for program completion as programs are individualized as far as these factors are concerned. In the traditional or brick-and-mortar setting, there are specific periods for enrollment, course and program completion, as well as graduation. The levels and types of interaction has been a strong source of debate between the two with the type of personal or face-to-face interaction in brick-and-mortar schools gaining much praise and favor from writers who constantly stress the role of personal and social relationships in education and individual development. Interaction in virtual schools is usually limited to impersonal communication and cyberspace, and the social distance is believed by some educators to detract from the quality of instruction and feedback. In virtual schools, some researchers believe that there is a delay in feedback because of the ability to store and retrieve communication messages in cyberspace (Reinhart, 2008). When compared in terms of program costs, many virtual schools tend to afford cheaper programs because of shorter duration and cost savings associated with lack of physical facilities such as libraries. In addition, virtual schools are completely technology-dependent unlike their brick-and-mortar counterparts that are moderately dependent on certain technologies.

Virtual schools are able to have smaller organizational structures overall because of the advantage of digital leadership and management where individuals are not spread over physical space, but are bound in working relationships in cyberspace where digital distance is “shorter” and allows for more direct reporting relationships than in the brick-mortar campus environment. Organizational structures are social systems with political relationships and virtual schools are able to operate with smaller organizational structures, though they usually model those of the old system of brick-and-mortar schools in offices, titles, and responsibilities. There are three simple types of organizational structures that can be used to describe how virtual and brick-and-mortar schools are structured since most generally have clear lines of hierarchy consistent with the Oxbridge Model of academic power-position and relations. Thus, titles such as president, deans, chairs, as well as the professorial ranking systems are maintained and become defining aspects of

organizational charts and convey structural forms. *Figure 1* below depicts three simple organizational structures for virtual and brick-and-mortar schools.

FIGURE 1: Organizational Structures of Virtual and Brick-and-Mortar Schools



The type of organizational structure existing in virtual and brick-and-mortar schools will depend on several factors including the size of the organization or school, the type of leadership present and evolving, the number of members including administrators, staff, faculty, and students, the curriculum and number of programs offered, types of programs offered, prevailing and evolving organizational culture, type of ownership which helps to determine the culture and values of the school organization, as well as the mission, purpose, and vision of the organization. Other factors that will affect the type of organizational structure as exemplified in span of control and authority or reporting relationships will include scope of operations; local, national, international, global; economic factors such as organizational wealth and costs structures, and a combination of legal and political factors including type of accreditation or licensure, quality and value philosophy, and organizational history and development plans, as well as its human resources capabilities or talents. Thus, determining organizational structure appropriateness or match depends on consideration of all these factors. In *Figure 1* above, the Normal Pyramidal Structure is the “old model” or traditional structure and is usually characterized by a narrow span of

control. Span of control describes “the number of subordinates that can be managed efficiently and effectively by a superior in an organization” (Juneja, 2010, p. 1). Narrow span of control means a single manager or supervisor oversees few subordinates. This gives rise to a tall organizational structure as seen in *Figure 1 (a)*. The Horizontal-Flat Structure is characterized by a wide span of control. A wide span of control means a single manager or supervisor oversees a large number of subordinates. This gives rise to a flat organizational structure as seen in *Figure 1 (b)* (Juneja, 2010).

According to Juneja (2010), there is an inverse relation between the span of control and the number of levels in hierarchy in an organization, i.e., the narrower the span, the greater is the number of levels in an organization. Thus, organizational structure as dictated by hierarchical factors will vary according to span of control and the many factors identified above. The Inverted Pyramidal Structure depicted in *Figure 1 (c)* above is an anomaly and generally develops or exist in organizations where the number of ordinary members is much smaller than the numbers of leaders and managers; therefore, there are usually one or a few employees or subordinates reporting to several managers. There are several factors that help to determine the span of control in organizations: nature of an organization, nature of job, skills and competencies of manager, employees’ skills and abilities, and the kind of interaction that takes happens between superiors and subordinates (Juneja, 2010). These factors vary among virtual and brick-and-mortar schools. Span of control has some important implications when it comes to organizational structure. Juneja (2010) tells us that:

Narrow span of control is more expensive as compared to wide span of control as there are more number of superiors and therefore there are greater communication problems between various levels of management. Wide span of control is best suited when the employees are not widely scattered geographically, as it is easy for managers to be in touch with the subordinates and to supervise them (p. 1).

The implications for virtual and brick-and-mortar schools structures can be gleaned from this understanding. Virtual schools seem to have less number of superiors than their brick-and-mortar counterparts because of their reduced need for facilities which decrease the number of

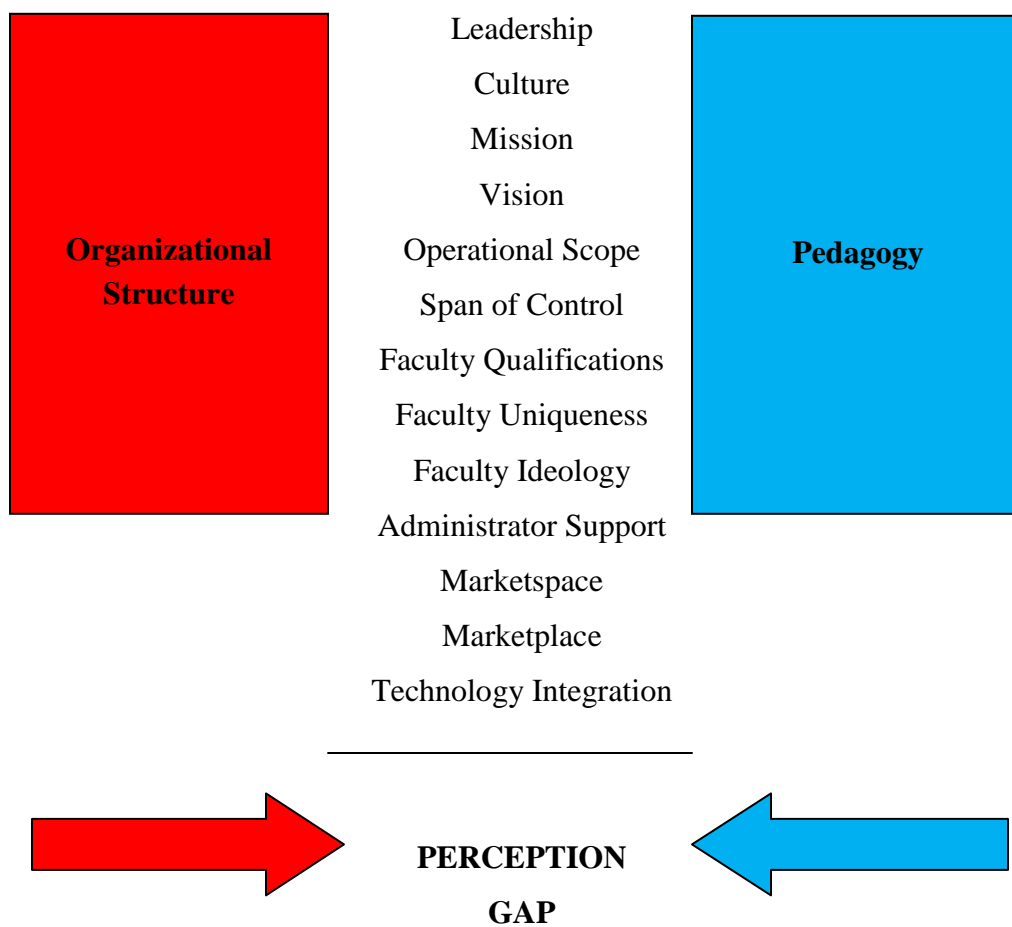
administrators and staff. However, brick-and-mortar schools lacking the cyber-leadership and operational advantages that virtual schools do, must often have many superiors or supervisors to direct programs and operations at various levels, including independent management of technology and information systems as separate and specialized rather than integrative as in virtual schools. Though Juneja (2010) argues that wide span of control is more suitable when employees are not scattered geographically, this does not hold for cyberspace, because while employees in a virtual school can be located anywhere, the available technology sometimes obliterates distance and results in even better time-space coordination and collaboration than in brick-and-mortar schools.

Given our understanding of organizational structure and the many factors to be considered, pedagogy will depend highly on the types of programs, training, education, and experience, as well as qualifications of faculty in both virtual and brick-and-mortar schools. Other factors such as the degree of technological usage and integration, technology knowledge, connection to organizational philosophy and culture, the prevailing ideologies of faculty including worldview, and prevailing leadership and span of control will invariably affect teaching strategies and learning outcomes. Faculty uniqueness can be a powerful determinant of pedagogical approach, especially overtime as individual faculty develops their own unique methods of teaching. The type of leadership from administrators such as deans, as they relate to faculty, will also affect pedagogical approach as their endorsement for faculty uniqueness, intellectual freedom, and support will affect how well faculty teach and what preferred or dictated approaches or methods they use. One thing is certain, virtual schools are better able and more flexible in the kind of organizational structure they choose, and are able to based tasks and responsibilities upon a “span of relationship” rather than a span of control.

Organizational structure and pedagogy are not factors of absolute differences between virtual and brick-and-mortar schools because the range of factors that dictate these in both types of schools range from similar to different when we consider both as educational institutional types with same basic functions, but mainly differing in their degree of technological integration, application, and usage. Thus, the perception gap that exists between virtual and brick-and-mortar

schools stems from factors contributing to perceived differences between physical schools and schools without walls. Organizational structure and pedagogy do however blend to produce distinctive characteristics for both models and impact perceptions of costs, image, quality and value. *Figure 2* below diagrammatically depicts this “perception gap” between virtual and brick-and-mortar schools as a divide of factors dictating and/or regulating their organizational structures and pedagogies.

FIGURE 2: Perception Gap in Organizational Structure and Pedagogy



How the marketplace reacts to the services and products of virtual and brick-and-mortar schools will greatly affect perception and contribute to the perceived differences between both in terms of value and quality. For example, some institutions of higher education seeking faculty are less

likely to consider prospective applicants with degrees from virtual schools, especially very traditional schools with administrators and faculty members opposed to the virtual or digital university model. Such opposition and view can affect perceived value of virtual education, training, and learning, and often stems from perceptions that quality in virtual schools is lower than in brick-and-mortar schools. The marketplace affords a large territory for differences to flourish because it permits higher degrees of innovation in virtual school environments where customization, flexible policies, and rapid adaptation must be part of the space in which such schools operate. Leadership is a very important factor in shaping the organizational structure and pedagogy of virtual and brick-and-mortar schools. Leadership matters when it comes to shaping organizational contexts and future, and the types of teaching and learning systems that prevail in organizations. Dynamic and progressive leadership allows for innovation and strive to develop unique methods and approaches to services delivery or creation, and thus, promote a structure that allows for creative or transformative pedagogy. Leadership more than any factors will shape the pedagogical approaches of emerging virtual schools, especially as competition increases and these schools strive to develop competitive advantage.

Perceptions Regarding Virtual and Traditional Learning Modalities

Schools today face ever-increasing demands in their attempts to ensure that students are well equipped to enter the workforce and navigate a complex world (Roschelle, Pea, Hoadley, Gordin & Means, 2000). The use of e-learning opens up a whole new range of business expansion and internationalization opportunities for many companies including higher education institutions (Roschelle, et al, 2000). Networked technology functions in enabling teachers and students to build local and global communities that can connect them with interested people and places and expand opportunities for learning beyond what traditional classroom approaches allow (Kozma, 2003). E-learning is changing institutions and our attitudes toward teaching and learning (Mihhailova, 2006). This means that more and more students will have to learn to navigate through large amounts of information, and that in addition to using classroom tools such as Blackboard, WebCT, and the like, schools will have to meet increased demands on what students learn from many stakeholders and satisfying these demands will require how educators support learning (Roschelle, Pea, Hoadley, Gordin & Means, 2000). The use of e-learning in university

environment as well as learning overall has gained popularity and the number of e-courses offered has been rising constantly (Mihhailova, 2006), and we are running out of terms to describe the depth and speed of these new technologies (Reinhart, 2008).

Over the last decade, online distance education has become a common mode of study in most states in the United States, where it is known as virtual schooling (VS), but many people have misconceptions about it (Compton, Davis & Correta, 2010, p. 37). Much of the misconception among people concerns the academic and pedagogical issues regarding the idea that virtual schools will automate teaching and reduce opportunities for teaching (Compton, Davis & Correta, 2010). One of the major issues of misconceptions regards the quality and integrity of virtual and online schools because academic dishonesty and equity are raised as serious concerns. According to Compton, et al, (2010), academic dishonesty appears to be a common concern. In a study, several participants reported that they or people they knew had cheated in online courses, with three popular methods of cheating revealing the vulnerability of online or virtual schools education: (1) getting someone else to do the assignment; (2) collaborating with someone else on an assignment; and (3) downloading and saving the quiz in the first attempt, completing the quiz with the help of resources, either books or other people, then entering answers on the second attempt (Compton, Davis, & Correta, 2010, p. 44). Some researchers argue that cheating is more difficult to detect and that there are more opportunities to cheat in virtual schools compared to a traditional classroom setting or in brick-and-mortar schools. Furthermore, collaborative learning opportunities in virtual schools are equated with cheating or are believed to facilitate cheating (Compton, et al, 2010).

The main problems for instructors related to e-learning are lack of time, lack of interest/motivation, lack of co-operation, and arguments and feelings that the existing compensation systems do not take into account the specifics of e-learning, and many instructors are concerned about the quality of teaching in a virtual learning environment (Mihhailova, 2006). The issue of lack of time and inappropriate compensation system are paramount problems and challenges facing e-learning educators (Mihhailova, 2006). According to Mihhailova (2006), while many students in higher education have interest in e-courses, study finds the level of

knowledge regarding the specifics of web-based learning as well as e-courses offered in institutions is unexpectedly low. This may stem from a lack of reading, which is not restrictive to virtual schools, or simply the relaxed attitude and approach some individuals take toward virtual schools, using technology in the learning process, and the teaching strategies and requirements by schools and faculty, among other factors.

The difference between the effectiveness of traditional brick-and-mortar versus virtual schools has created a chasm in understanding the roles of organizational structure and pedagogical approaches in creating competent learners in 21st century schools. This has called for the development of a new learning paradigm as opposed to traditional, instruction-based paradigms, with the difference being learner-centered and instructor-centered. According to Inderbitzin and Storrs (2008):

Barr and Tagg (1995) made an influential pedagogical argument when they suggested that universities should shift from the traditional “instruction paradigm” to a “learning paradigm,” which prioritizes student learning through a wide variety of approaches. Barr and Tagg also recognized the difficulty of implementing a learning paradigm within structures that value and reflect the instruction paradigm (p. 47)

Inderbitzin and Storrs (2008) argue that the institutional interest to focus more seriously on teaching, including developing and implementing more innovative pedagogies and curricula, is shaped in part by the increasingly diverse student body attending state universities and the fierce competition for students in a time of dwindling resources. This is indeed the case, and the demand for more competent learners capable of meeting organizational and societal needs is also directing virtual schools to adapt innovative approaches to teaching and learning using available and emerging technologies. Virtual schools fuel innovation because they present faculty and students with a challenge; and this challenge is one which tests the effectiveness of old pedagogy and forces them to see beyond the dominant instructional paradigm (Barr & Tagg, 1995). As they use technologies to facilitate teaching and learning in a new and virtual environment a transformative pedagogy emerges (Inderbitzin & Storrs, 2008), and is an approach “that relentlessly questions the kinds of labor, practices, and forms of production that are enacted in

public and higher education” (Giroux, 2001, p. 18), and the most important element of this transformative pedagogy, self-reflectivity is an instrument for autonomous improvements. Thus, virtual schools are changing pedagogy of education, and the degree to which their teaching approaches differ from traditional brick and mortar schools will increase overtime.

Analysis of the Structural and Pedagogical Considerations

Over the past two decades, higher education scholars have turned their attention to the study of knowledge legitimation by specifically examining the role of organizational contexts in the social construction of knowledge (Gumport & Snyderman, 2002), and this leads to added interest in understanding organizational structure and pedagogy in current and emerging technology-driven educational institutions and systems. According to Gumport and Snyderman (2002) organizational context plays a role in what comes to count as knowledge, and organizational context cannot be conceived of without structure or pedagogy; specifically, methods of teaching and learning culture and values. Because knowledge drives organizational growth and performance results “several structural dimensions of academic organizations shape what counts as knowledge” (p. 376). Given this understanding, organizational structure and pedagogy are essential as part of the competitive strategic approach that learning institutions; schools, colleges, and universities take to organizing and operating in the 21st century.

In understanding the importance of organizational structure and pedagogy, Gumport and Snyderman (2002) argue that institutions must modify academic structures to enable them to compete for stability and change. This, they argue will also provide a powerful symbolic mechanism that educational institutions are attuned with the external environment, and virtual schools more than their brick-and-mortar counterparts must particularly be mindful of this environment where they exist as more fluid systems. Gumport and Snyderman (2002) believe that the multi-dimensionality of organizational structure has been neglected in education research, specifically in higher education despite the obvious, that organizational structure affects so many aspects of teaching and learning. Perhaps this stems from common understanding that a school or university has been in our history a physical place and the attachments in the form of the “Oxbridge Model” in which the library, the colleges, the lecture halls, the administrative

buildings, faculty governance and the physical architecture of the contemporary university demand these buildings with their associated functions: the paradigmatic architecture (Reinhart, 2008).

Reinhart (2008) comments on how expectations that the old brick-and-mortar structure would disappear have not been met since “the old buildings still stand and more important, the older teaching structures and routines continue apace” (p. 15). Thus, to assume that virtual schools have completely demanded change and completely modified the basic aspects of pedagogy is incorrect as the basic method of imparting instructions through teacher-student interaction remains in fundamental despite technological infusion and integration, as technology serves in assistive and facilitative roles, not as substitute. Reinhart (2008) argues that organizational structures more than pedagogical approach between virtual schools and their brick-and-mortar counterparts have not changed because “Administrators appeared almost simultaneously with disciplines and colleges; their titles remain familiar today: chancellors, vice chancellors, deans, registrars and a host of lesser denizens” (p. 15). In addition, the organizationally similar structures between virtual and brick-and-mortar schools persists today in the display of organizational models with junior lecturers handling the great mass of undergraduate students, while senior instructors or lecturers pursue their own research, offering specialized disciplinary seminars to small numbers of post-graduates. This is very true when we examine the instructional and administrative hierarchies of many virtual schools.

There is no doubt that both organizational structure and pedagogical approach are important to and define schools, both virtual and brick-and-mortar, and also determine their success, effectiveness in teaching and learning, and their overall performance (DeCanio, Dibble, & Amir-Atefi; 2000; Olson, Slater, & Hult, 2004; Gonzalez, Johnson, & Lundy, 2006; Suttle, 2010; Walonick, 2010; Senge, 1990; Entz, 2006). The degree to which both organizational structure and pedagogical approach differ among the two is however, very uncertain, and there is a need for research to uncover any existing differences and the cause or causes of these differences. What is certain from the foregone exploration and analysis of the literature on organizational structure, pedagogy, and virtual schools and technological impact, is that the differences in

modalities require consideration as to what is more effective in one format than the other. Certainly, virtual schools must have and require sound organizational structure simply because they are organizations or systems of individuals, groups, parts and concepts working together like their brick-and-mortar counterparts to achieve certain objectives; that is designing and delivery superior educational value to their students. Furthermore, the delivery of education or the teaching and learning process undertaken by each has the same end; the social, psychological, mental, and conscious development of the individual and this, in response to a broader societal function of education, which is, producing a labor force of men and women equipped to respond to society's needs.

Recognizing that virtual schools have no different fundamental objective or moral obligations than their brick-and-mortar counterparts, their pedagogical approach should not be significantly different. Both virtual and brick-and-mortar schools must articulate desired outcomes, set benchmarks, and establish various types of standards as important steps in designing a quality educational program (Entz, 2006). Thus, both need to concentrate on and effectuate innovations in pedagogical consideration. "An organization is a deliberate arrangement of people to accomplish some specific purpose" (Robbins & Coulter, 2007, p. 17), and if it is a deliberate arrangement of people who through social interaction planned and designed it for specific purpose, then it needs the constant and adaptive teaching and learning practices of those people to expand its capacity for greater creativity – learning organizational conception (Senge, 1990), in order to grow, respond effectively to change, and survive. Thus, pedagogical approach is instrumental in shaping and determining the drives toward outcomes. Given this, virtual schools must like their traditional or brick-and-mortar counterparts exercise in the discipline of pedagogy in order to effectively maximize value creation and delivery in the form of teaching inputs and learning outcomes. Thus, it is the tools that differ rather than the pedagogical approach when it comes to examining virtual and brick-and-mortar schools. Regardless of educational and learning modalities, pedagogical approach matters and need not differ in the veritable art of teaching to educate with care, since mastery of content and curriculum, an appreciation of the various forms of standards, an awareness of assessment, and the ability to organize the lessons and enable students to engage in learning, and knowing students well enough to make appropriate

instructional decisions, all require the art and science of pedagogy (Entz, 2006). Teachers must teach and students must learn regardless of modalities for education to be successful. Finally, assumption of any vast differences in pedagogy between virtual and brick-and-mortar schools is premature at current time and should not simply be assumed as most teachers are yet to fully understand how to fully use technology to change pedagogy and curriculum (Means & Olson, 1995; Means, Penuel, & Padilla, 2001; Sandholtz, Ringstaff, & Dwyer, 1997; Schofield & Davidson, 2002).

Implications and Recommendations for Teaching and Learning

Organizational structure has both objective and subjective elements and factors existing together, and this impact the organization's decision and ability to develop and apply effective pedagogical approaches in communicating organizational shared values and ideas, especially in diverse learning environments where the influence of technology and policies shape decisions and outcomes. Education is a dynamic process and an industry built on accommodation and technology has been a most generous and conducive enabler in affording more individuals the opportunities for learning. At the same time, value and quality perceptions have emerged as change brings both desirable and undesirable results to various stakeholders. Virtual schools have emerged with increased and advancing technology to fill a gap where a large majority were through an inherent, yet almost contentiously natural form of exclusivism, kept away from pursuing learning, especially with time and place or location as barriers or concerns. The virtual school has resolved this problem to a great degree, while the traditional brick-and-mortar school has remained strong in balancing the social pedagogy of care with the technological pedagogical approach being used widely in modern society. The importance of creating a balance between social or affective pedagogy and the pedagogy of technology inclusion and integration might be the ultimate testament of excellent teaching as teachers recognize both the positive and negative aspects of technology as it influences how we learn and survive.

The understanding of the role of organizational structure on institutional performance or outcomes, success, and survival gleaned above would imply that organizational construction

should be both planned and deliberate. According to Dissanayake and Takahashi (2006) “organizational construction includes the recognition of formal structural dimensions in an objective sense, while allowing at the same time, a conceptualization of structure as configured through time-bound and context-bound constructions, resulting in organizational actor-interaction processes at the interaction level” (p. 110). As such, the pedagogical or instructional structure (Entz, 2006) should be a part of the overall structure which drives the organization, in this case, schools, in achieving their goals of educating their pupils or learners. Because educational institutions have similar functions and missions, their organizational structure should not naturally be significantly different even when their process-orientation models differ according to time and location, or time and place issues, or technology issues. Thus, excellence teaching and learning whether completely or in part facilitated by technology, should emerge as the dominant feature of both virtual and brick-and-mortar schools as they seek to educate individuals for success and survival.

Effective use of technology in the classroom requires increased opportunities for instructors or educators to learn how to use technology and this should be a major motivating factor for virtual schools to increase their pedagogical effectiveness given their existing and acquired technology to facilitate teaching and learning. However, the differences that may prevail or could prevail in pedagogical approach between virtual and brick-and-mortar schools stem not only from technology usage, but the type of curriculum adopted by these schools, as such will significantly impact the extent to which technology can be integrated effectively into the teaching–learning process. Thus, virtual schools also have limitations in the application and use of technology. Roschelle, et al (2000) provide us with the understanding of where this limitation originates, “One of the biggest barriers to introducing effective technology applications in classrooms is the mismatch between the contents of assessments and the kinds of higher-order learning supported most effectively by technology” (p. 91).

Many virtual schools like their brick-and-mortar counterparts must still struggle with the problem of appropriateness with both organizational structure and pedagogy in mind. Not all learning can be effectively facilitated by technological infusion and thus, the limitation on what

is a part of online or e-learning curriculum demonstrates the fundamental limitation on pedagogy. Instructors must still impart knowledge to meet common objectives in disciplines and learners must still learn the common contents of such disciplines. This requires what Compton, Davis, and Correta (2010) call innovative curriculum development and design to address pedagogical and technology issues while maintaining focus as learning institutions. Administrators and virtual school designers must also address institutional sources that affect pedagogy such as faculty's view of educational technology and belief systems in order to effectively model technology usage. One important recommendation for virtual schools to improve their perceived quality and integrity is what Reinhart (2008) recommends; they must understand the struggles of the older learning paradigms to better incorporate digital learning and to better evaluate the usefulness of digital instructional tools such as learning objects, learning object metadata, and learning management systems.

The positive and possible beneficial impacts of technology do not come automatically, not even in virtual schools, and thus, Bransford, Brown, and Cocking (2000) argue that much depends on how effectively educators in the virtual school use ICT in their classes. In order to improve technology usage and the performances of both brick-and-mortar and virtual schools, Roschelle and colleagues (2000) argue that these schools should inform future decisions about improving how and what students learn by further exploring effective use of technology and in doing so, must provide technology access and support, instructional vision and a rationale linking both vision and technology usage, make sure that there is a large number of majority of teachers or instructors involved in technology activities, foster a high degree of collaboration among teachers using e-learning technologies, provide support for teachers and instructors in their planning, collaboration, and reporting of technology use, and finally, be strong leaders who understand the role as well as limitations of technology. While the virtual model or school has become very popular in this century, we must remember that just like their brick-and-mortar counterparts, educators who ask students to enter cyberspace also owe a duty of care to those students and the communities across which they operate. Thus, social responsibility should be fostered and embraced by cyber-school leaders as part of quality teaching and integrity.

Technology is progress and provides a rich resource of networking opportunities that we must continue to use to sustain our collaborative communities despite living in different parts of the world (Inderbitzin & Storrs, 2008). Innovative teachers must be resourceful and seek out like-minded others within and outside their institutions and seek possibilities that fuel their willingness to embrace the complications, ambiguity, and conflicts that emerge in the continuous journey to assist students in claiming their education using available and emerging technology (Inderbitzin & Storrs, 2008). The survival and success of both virtual and brick-and-mortar schools will depend on their ability to effectively utilize existing and emerging technologies to meet their mission and respond effectively to student and stakeholder demands. As they attempt to accomplish these goals while surviving change and competition, both their organizational structures and pedagogies will most likely change to reflect adaptive strategies.

References

- Barbour, M. K., & Reeves, T.C. (2009). The reality of virtual schools: A review of the literature. *Computers & Education*, 52 (2), pp. 402-416.
- Barr, R., & Tagg, J.T. (1995). From Teaching to Learning: A New Paradigm for Undergraduate Education. *Change* 27 (November/December), pp. 12-25.
- Bausch, K. C. (2001). *The Emerging Consensus in Social Systems Theory*. New York: Kluwer Academic/Plenum Publishers.
- Beamish, N., Armistead, C., Watkinson, M., & Armfield, G. (2002). ‘The development of E-learning in UK/European corporate organization’, *European Business Journal*, Vol. 14, No. 3, pp. 105-115, In Homan, G., Macpherson, A. (2005). ‘E-learning in the corporate university’, *Journal of European Industrial Training*, Vol. 29, No. 1, pp. 75-90.
- Bransford, J., Brown, A., & Cocking, R. (2000). *How people learn: Brain, mind, experience, and school*. Washington, DC: Academic Press.
- Compton, L., Davis, N., & Correta, A. (2010). Pre-service teachers’ preconceptions, misconceptions, and concerns about virtual schooling. *Distance Education*, May 2011, 31, 1: ProQuest Central, pp. 37-54.
- Cuban, L. (2001). *Oversold and Underused: Computers in the Classroom*. Cambridge: Harvard University Press.
- DeCanio, S.J., Dibble, C., & Amir-Atefi, K. (2000). The Importance of Organizational Structure for the Adoption of Innovations. *Management Science*, Volume 46, Issue 10; October 2000, pp. 1285 – 1299.
- de Kluyver, C.A., & Pearce II, J.A. (2009). *Strategy: A View From the Top, Third Edition*. Upper Saddle River: Pearson Education, Inc.
- Dillenbourg, P. (2000). *Virtual Learning Environments*. EUN Conference 2000: “Learning in the New Millennium: Building Educational Strategies for Schools”. Workshop on Virtual Learning Environments: University of Geneva, pp 1-30. Electronic access: <http://tecfa.unige.ch/tecfa/publicat/dil-papers-2/Dil.7.5.18.pdf>
- Dissanayake, K., & Takahashi, M. (2006). The Construction of Organizational Structure: Connections with Autopoietic Systems Theory. *Contemporary Management Research*, Vol.2, No.2, September 2006, pp. 105-116.

- Entz, S. (2006). *Why Pedagogy Matters: The Importance of Teaching in a Standards-Based Environment*. Urbana, Illinois: The Forum on Public Policy.
- Freeman, V.S. (2010). Focus: Online Education and Technology Introduction. *Supplement Clinical Laboratory Science*, Vol. 23, No 3; Summer 2010, pp. 51-52.
- Freire, P. (1972). *Pedagogy of the Oppressed*. Harmondsworth: Penguin.
- Giroux, H. (2001). Pedagogy of the depressed: Beyond the new politics of cynicism. *College Literature*, 28 (3): pp. 1-33.
- Goel, M. (2007). The Importance of Education. *SearchWarp.com*; Icollogic, Inc. Retrieved November 2, 2010, from <http://searchwarp.com/swa230219.htm>
- Goleman, D. (1997). *Emotional Intelligence: Why It Can Matter More Than IQ*. New York, NY: Bantam, Random House Publishing Group.
- Gonzalez, C., Johnson, N., & Lundy, M. (2006). *Social Capital and Organizational Structure in Colombian Enterprises*. Research Workshop on Collective Action and Market Access for Smallholders, 2-5 October 2006, Cali, Colombia.
- Greenleaf, J. (2009). Definition of Virtual School. *eHow Inc.*, September 10, 2009. Retrieved November 2, 2010, from http://www.ehow.com/about_5370360_definition-virtual-school.html
- Grossi, D., Royakkers, L., & Dignum, F. (2007). Organizational structure and responsibility: An analysis in a dynamic logic of organized collective agency. *Artif Intell Law* (2007), 15; pp. 223–249.
- Gumport, P.J., & Snyderman, S.K. (2002). The Formal Organization of Knowledge. *The Journal of Higher Education*, May/June 2002; 73, 3, ProQuest Central, pp. 375-408.
- Hernes, T., & Bakken, T. (2003). Implications of self-reference: Niklas Luhmann's autopoiesis and organization theory, *Organization Studies*, 24(9), pp. 1511-1535.
- Homan, G., & Macpherson, A. (2005). E-learning in the Corporate University. *Journal of European Industrial Training*, Vol. 29, No. 1, pp. 75-90.
- Inderbitzin, M., & Storrs, D.A. (2008). Mediating the Conflict between Transformative Pedagogy and Bureaucratic Practice. *College Teaching*. Washington: Winter 2008. Vol. 56, Iss. 1; pp. 47-52.

- Jones, G.R., & George, J.M. (2009). *Contemporary Management, Sixth Edition*. Boston: McGraw Hill-Irwin.
- Juneja, H. (2010). Span of Control in an Organization. *SelfGrowth.com*. Retrieved December 28, 2010, from http://www.selfgrowth.com/articles/Span_of_Control_in_an_Organization.html
- Katz, E.J., & Aspden, P. (1997). A Nation of Strangers? *Communications of the ACM*, 40(12), pp. 81-86.
- Kast, F.E., & Rosenzweig, J.E. (1972). General systems theory: Applications for organizations and management. *Academy of Management Journal*. 15 (4): 451.
- Keegan, D. (2002). "Definition of Distance Education", *Distance Education: Teaching and Learning in Higher Education*, Pearson Custom Publishing, Boston, MA, In Bryant, M.S., Kahle, J.B., Schafer, B.A. (2005) "Distance education: a review of the contemporary literature", *Issues in Accounting Education*, Vol. 20, No. 3, August, pp. 255-272.
- Kozma, R.B. (2003). Technology and Classroom Practices: An International Study. *Journal of Research on Technology in Education*, Fall 2003; 36, 1; ProQuest Central, pp. 1-14.
- Kraut, R., Patterson, M., Lundmark, V., Kiesler, S., Mukopadhyay, T., & Scherlis, W. (1998). Internet Paradox: A Social Technology that Reduces Social Involvement and Psychological Well-Being? *American Psychologist*, 53, pp. 1017-1031.
- Lenski, G., & Lenski, J. (1974). *Human Societies: An Introduction to Macrosociology, Second Edition*. New York: McGraw-Hill Book Company.
- McKenzie, J. (2003). Pedagogy Does Matter! *The Educational Technology Journal*, Vol. 13, No 1, September 2003.
- Means, B., & Olson, K. (1995). *Technology's role in education reform: Findings from a national study of innovating schools*. Washington, DC: U.S. Department of Education, Office of Educational Research and Improvement.
- Means, B., Penuel, W., Padilla, C. (2001). *The connected school: Technology and learning in high school*. San Francisco: Jossey-Bass.
- Mihhailova, G. (2006). E-learning as internationalization strategy in higher education: Lecturer's and Student's Perspective. *Baltic Journal of Management*, Vol. 1 No. 3, pp. 270-284.

- Mintzberg H. (1979). *The Structuring of Corporations: A Synthesis of the Research*. Englewood Cliffs, New Jersey: Prentice Hall, Inc.
- Mutula, S. (2002). E-learning Initiative at the University of Botswana: Challenges and Opportunities. *Campus Wide Information Systems*, Vol. 19, No. 3, pp. 99-109.
- National Board for Professional Teaching Standards [NBPTS]. (2010). Pedagogy. Retrieved November 2, 2010, from <http://www.nbpts.org/>
- Office of the Superintendent of Public Instruction [ISPO]. (2010). Virtual learning. *State of Washington*. Retrieved November 2, 2010, from <http://www.k12.wa.us/alternativeed/FAQ.aspx>
- Okeke, A. (2010). Assessing the importance of education. Helium.com. Retrieved November 2, 2010, from <http://www.helium.com/items/620528-assessing-the-importance-of-education>
- Olson, E.M., Slater, S.F., & Hult, G.T.M. (2004). The importance of structure and process to strategy implementation. *Business Horizons*, Volume 48, Issue 1, January-February 2005, pp. 47-54.
- Olson, T., & Einwohner, R. (2001). Forming and transforming the teaching self in different institutional environments. *Teaching Sociology*, 29 (4), pp. 403-422.
- Paulson, M.P. (1988). In Search of a Virtual School. *T.H.E. Journal*, 15(5), pp.71-75.
- Pimm, D. (1987). *Speaking Mathematically: Communication in mathematics classrooms*. London: Routledge.
- Porter, M.E. (1980). *Competitive Strategy: Techniques for Analyzing Industries and Competitors*. New York: Free Press.
- Rainey, H. G. (1997). *Understanding and Managing Public Organizations*. San Francisco, California: Jossey-Bass.
- Reinhart, C.J. (2008). Constructing the Café University: Teaching and learning on the digital frontier. *On the Horizon: Bradford*: 2008. Vol. 16, Iss. 1; pp. 13-33.
- Robbins, S.P., & Coulter, M. (2007). *Management, 9th edition*. Upper Saddle River, NJ: Prentice Hall.
- Roschelle, J.M., Pea, R.D., Hoadley, C.M., Gordin, D.N., & Means, B.M. (2000). Changing How and What Children Learn in School with Computer-Based Technology. *Children and Computer Technology*, Vol. 10, No. 2 Fall/Winter 200, pp. 76-101.

- Russell, G., & Russell, N. (1999). Cyberspace and School Education. *Westminster Studies in Education*, Vol. 22, 1999, ProQuest Central, pp. 7-17.
- Sandholtz, J., Ringstaff, C. & Dwyer, D. (1997). *Teaching with technology: Creating student-centered classrooms*. New York: Teachers College Press.
- Schofield, J., & Davidson, A. (2002). *Bringing the Internet to school: Lessons from an urban district*. San Francisco: Jossey-Bass.
- Senge, P. (1990). The art & practice of the learning organization in *The New Paradigm in Business: Emerging Strategies for Leadership and Organizational Change* (eds. Ray, M. and Rinzler, A.) 1993, by the World Business Academy. pp. 126-138. New York: Jeremy P. Tarcher.
- Suttle, R. (2010). The Importance of Organizational Structure. *The Houston Chronicle*. Retrieved November 2, 2010, from <http://smallbusiness.chron.com/importance-organizational-structure-2783.html>
- TechTarget.com. (2008). Virtual Learning Environment. Retrieved November 2, 2010, from http://whatis.techtarget.com/definition/0,,sid9_gci866691,00.html
- The Journal of Educators Online [JEO]. (2010). Computer Mediated Learning (CML). *Journal of Educators Online*. Retrieved November 2, 2010, from <http://www.thejeo.com/>
- Thompson, A., Strickland III, A.J., & Gamble, J. (2007). *Crafting and Executing Strategy: The Quest for Competitive Advantage: Concepts and Cases, 16th edition*. Boston: McGraw-Hill Irwin.
- UNESCO. (2010). The Role of Education. *Social and Human Sciences*. Retrieved November 2, 2010, from <http://www.unesco.org/new/en/social-and-human-sciences/themes/human-rights/fight-against-discrimination/role-of-education/>
- Virtual Learning Academy Charter School. (2010). *History of Virtual Schools*. Exeter, NH: Virtual Learning Academy Charter School. Retrieved November 2, 2010, from http://www.vlacs.org/index.php?option=com_content&view=article&id=60&Itemid=86
- Walonick, D.S. (2010). Organizational Theory and Behavior. Retrieved November 2, 2010, from <http://www.survey-software-solutions.com/walonick/organizational-theory.htm>
- Wheelen, T.L., & Hunger, D.L. (2008). *Strategic Management and Business Policy, 11/e*. Upper Saddle River, New Jersey: Prentice Hall.

Wofson, L., & Willinsky, J. (1998). Situated Learning in High School Information Technology Management. *Journal of Research on Computing in Education*, 31, pp. 96-110.