

ORGANIZATIONAL LEARNING THEORY AND DISTRICTWIDE CURRICULUM REFORM: PRINCIPALS' PERCEPTIONS

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BOSTON COLLEGE

Lynch School of Education

Department of
Educational Leadership and Higher Education

Professional School Administrator Program (PSAP)

**ORGANIZATIONAL LEARNING THEORY AND
DISTRICTWIDE CURRICULUM REFORM:
PRINCIPALS' PERCEPTIONS**

Dissertation in Practice

By

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ORGANIZATIONAL LEARNING AND DISTRICTWIDE CURRICULUM REFORM:
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by

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Dr. Rebecca Lowenhaupt, Chair

Abstract

This qualitative case study examined the organizational learning mechanisms utilized by a district superintendent and their impact on principals' learning. Examining recent curriculum reform efforts, the study concentrated on a small sample of building principals within a mid-sized urban public school district. Grounded in both organizational and situated learning theories, the research focused on organizational learning mechanisms and the interplay created by their implementation through the analysis of interview data and documents. Findings highlighted how the superintendent interpreted and distributed information to principals. In addition, findings showed the impact that superintendent-initiated processes, behaviors, and structures had on principal learning. The study provided strong evidence that the superintendent under study took steps to create district structures to support organizational learning. Moreover, principal data showed the impact of these structures on principals' perceived learning.

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Dedication

This dissertation is dedicated to my parents, Eileen and Morris Duermyer. Mom, your strength and courage have been a guiding force throughout my life. Dad, your patience and commitment have forever shaped who I am as a man. Thank you for never giving up on me and always being my rock. I love you both very much.

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Chapter 1¹

Introduction

Educational leaders are faced with a complex mix of competing interests, shifting demographics, and comprehensive reform demands (NCEE, 1983; NCLB, 2001; RTTT, 2009). Since the publication of *A Nation at Risk* (1983), American public schools have achieved mixed results in their pursuit of substantive and sustainable change (Bryk, Sebring, Allensworth, Luppescu, & Easton, 2010; Duncan & Murnane, 2014; Higgins, 2011; Payne, 2013). Recent interdisciplinary research has established the efficacy of systems and structures that support organizational learning and suggests that school leaders who establish learning organizations may position their schools and districts to more effectively manage change and turbulence in public education (Koliba & Gajda, 2009; Knapp, Copland, Honig, Plecki, & Portin, 2010; Schlechty, 2009; Senge, 1990; Spillane, J. Parise, L. & Sherer, J., 2011; Waters & Marzano, 2009).

Supporting complex reform agendas and adapting to new conditions and demands requires highly skilled learning organizations (Argyris & Schon, 1976; Collinson & Cook, 2007; Elmore, 2006; Fullan & Hargreaves, 2012; Honig, 2008; O'Day, 2009; Shilling, 2013). When applied in the public school setting, organizational learning theory may support the development of schools and districts as successful learning organizations (Bryk, Gomez, & Grunow, 2011; Bryk, Camburn, & Louis, 1999; Bryk & Schneider, 2002; Collinson & Cook, 2007; Leithwood & Louis, 2000). While there is clarity around the need to build the organizational learning capacity of public school systems, doing so

¹ This chapter was jointly written by the authors listed and reflects the team approach of this project: Andrew M. Berrios, Tracy R. Curley, Marice Edourd-Vincent, Bobbie F. Finocchio, and Ian Kelly

successfully and sustainably remains a tenacious problem of practice (Bryk, Sebring, Allensworth, Luppescu, & Easton, 2010; Duncan & Murnane, 2014; Higgins, Ishimaru, Holcombe, & Fowler, 2012; Payne, 2013).

This study explored organizational learning in the public school context and attempted to gain valuable insights into how school and district leaders leverage organizational learning theory to implement and support strategic curriculum reforms. It is our hope that this study will (a) add to and complement the existing research base on the use of organizational learning theory to enhance school performance and (b) provide school and district leaders with specific guidance on the application of organizational learning theory in practice. We believe that this study will support leaders by (a) building their understanding of organizational learning theory and organizational learning mechanisms, (b) providing insights into how information and knowledge moves within a district and where problems with organizational learning can occur, and (c) providing guidance in using organizational learning theory to support reform agendas at the school and district level.

Research Question

How do district and school leaders use organizational learning theory to implement and support curriculum reform?

Literature Review

Changing Instructional Practice

Raising academic achievement for all students remains a high priority for legislators, policy makers, and educators (NCEE, 1983; NCLB, 2001; RTTT, 2009). In addition to legislative demands, the labor market continues to emphasize the need for

specific skills and competencies that support success in today's knowledge economy (Crawford & Irving, 2009; Casner-Lotto & Benner, 2006; Hepworth & Smith, 2008; Lloyd, 2010). Adjusting curriculum, instruction, and assessment practices to reflect these demands requires fundamental changes to how local education agencies approach teaching and learning. Specifically, educational leaders have struggled to implement substantive and sustainable curricular reforms that have a lasting impact on teaching and learning (Burney & Elmore, 1997; Duncan & Murnane, 2014; O'Day & Quick, 2009; Payne, 2013; Shilling, 2013).

Successful school reform and improvement rely heavily on the knowledge and capacity of professionals at all levels of school district operations (Bryk, 2010; City, Elmore, Fiarman & Teitel, 2009; Elmore, 2006; Kruse, 2003). As such, building the knowledge and capacity of professionals at all levels of a district's organizational hierarchy is an instrumental endeavor for public education systems (Fullan, 1992). All school systems engage in organizational learning, the question central to this study focuses on (a) what types of mechanisms are in place to support professional learning and (b) the extent to which the efficacy of those mechanisms can be determined by examining the alignment of and agreement between professional perceptions of district curriculum reform priorities. Organizational learning theory (Argyris & Schon, 1978) and organizational learning mechanisms (Popper & Lipshitz, 1998; Schechter & Atarchi, 2014) provide a structured framework through which the district's approach to implementing and supporting curriculum reform was analyzed.

The following pages provide an overview of both the theoretical literature and empirical research associated with organizational learning theory (OLT) and

organizational learning mechanisms (OLMs). Building a fundamental understanding of OLT clarified our research focus and highlighted the conceptual framework in which we situated our research methodology. In addition, this review of the literature provided critical information about what constitutes organizational learning and the unique characteristics associated with this theoretical framework.

The review first addresses Understanding by Design. While this curriculum design framework was not central to the study, it was one of the primary ongoing curriculum reform initiatives in the Belvedere Public Schools at the time of this study. As such, this reform represented a concept and vernacular familiar to participants in the study. This familiarity was key to the study as it provided a medium through which the research team could discuss and study the unfamiliar concepts embedded in the OLT and OLMs theoretical framework.

The review then moves into a discussion of OLT in which embedded concepts including theory of action, theory in use, mental maps, and single/double loop learning are addressed. The review briefly address differences between individual learning and organizational learning before moving into a review of literature and research associated with the secondary conceptual framework for this study, organizational learning mechanisms (OLMs).

Curriculum Reform: Understanding by Design

The district selected for this research study was engaged in a focused, inter-district curriculum reform effort that began in 2012. The district and its partners selected and implemented an approach to curriculum planning known as Understanding by Design

(Wiggins & McTighe, 1998). This approach to curriculum planning relies on a three-stage process that engages professionals in what is known as a backward design method.

The first phase asks professionals to identify desired results in terms of learning outcomes for students. Backward design focuses educational professionals on broad understandings and essential questions before considering how to teach a concept or skill. Once identified, the second stage of the backward design process requires professionals to determine acceptable evidence. This stage of the process answers the question, “How will we know students have learned and do they demonstrate understanding of the established learning outcomes?” The third and final stage of the backward design process engages educators in planning learning experiences and instruction based upon the desired learning targets established in the second phase of backward design.

Organizational Learning

Organizational learning can be defined as a change in organizational knowledge or behavior that is a result of experience over time (Argyris & Schon, 1978; Argote & Miron-Spektor, 2011; Fiol, 1994; Fiol & Lyles, 1985; Levitt & March, 1988; Schulz, 2005). Learning within an organization is influenced by socio-cultural factors (Bransford, Brown, & Cocking, 2006; Bruning, Schraw, & Norby, 2011; Vygotsky, 1978) and is most effective when professionals are given the opportunity to learn from one another within the context of their work (Brown & Duguid, 1991; Elmore, 2006; Hargreaves & Shirley, 2009). This broad definition of organizational learning provided a framework through which we explore concepts embedded in organizational learning theory.

Organizational Learning Theory

March and Simon (1958) examined the theory of formal agencies in their work, *Organizations*. At the time, the concept of organizational learning was relatively undefined and lacked a substantive theoretical base. March and Simon (1958) captured this problem succinctly, “Much of what we know or believe about organizations is distilled from common sense and from the practical experience of executives. The great bulk of this wisdom has never been subjected to the rigorous scrutiny of the scientific method” (p.24). March and Simon’s (1958) early work set the stage for the development of organizational learning theory (OLT) and identified the need for future research into how organizations (a) engage individuals, (b) strategically plan for growth and learning, and (c) develop personnel and, as a result, the collective organization.

Building on the work of March and Simon, Argyris & Schon (1978) further published *Organizational Learning: A Theory of Action Perspective*. This seminal work provided a conceptual frame for researchers and practitioners to study and analyze learning within the context of organizations. In this work, the authors described the fundamental concepts that compose organizational learning theory: task systems, theory of action, theory in use, mental models, single-loop learning, and double-loop learning. These concepts clarify the experiences of both the organization and individual within the learning process, specifically, the interaction between the organization’s intended outcomes and how those at the individual level are educated or learn in the process of pursuing those intended outcomes.

Theory of action. Collinson and Cook (2007) describe an organization as "a collective that forms for a specific purpose that is beyond the reach of a single individual" (p. 8). The specific purpose that Collinson and Cook referred to is almost always paired

with actions that the organization believes will result in attaining that purpose. This relationship between purpose and action is what Argyris and Schon (1978) referred to as theory of action (ToA). The causal relationships embedded in a ToA reflect the norms, strategies, and assumptions that organizations rely upon to pursue their specific purposes and goals (Argyris & Schon, 1978; DuFour & Eaker, 1998; Fullan, 2001; Fullan, 2007).

No Child Left Behind (2001) provides a salient case illustrating theory of action. NCLB's desired outcomes included ensuring that all students had access to (a) highly qualified teachers, (b) a standards based curriculum, and (c) an equal opportunity to achieve at high levels. NCLB articulated a number of actions to achieve these goals. These included but were not limited to (a) more stringent requirements and monitoring of teacher licensing practices, (b) increased standardized testing, and (c) high-stakes accountability mechanisms to monitor the progress of schools. The causal relationships drawn between the desired outcomes for students and the regulatory mechanisms designed to achieve them provide insight into the norms, values, and assumptions of the educational reform context at the time the legislation was written.

Spillane, Parise, and Sherer (2011) conducted a case study that provides valuable insight into the theory of action concept. Their work focused on school leaders' use of organizational routines to couple government regulations and instructional practices at the classroom level. Spillane and colleagues built on the work of Feldman and Pentland (2003), utilizing organizational routines as a portion of the theoretical framework for their study. In their discussion of these routines they describe the ostensive and performative aspects of organizational routines. Paralleling the work of Argyris & Schon (1978), the ostensive aspect of organizational routines refers to the ideal or schematic

form of a routine (ToA), while the performative aspect refers to the actual enactment of the ToA. Feldman and Pentland (2003) state this idea succinctly, “The ostensive aspect of the routine is the idea; the performative, the enactment” (p. 101). Argyris and Schon (1978) discussed how organizations enact ToA through task systems. Task systems provide the second portion of the conceptual framework for this study.

Task systems. Task systems are shaped by an organization’s theory of action and are “a design for work and a division of labor” (Argyris & Schon, 1978, p.14). In school settings, task systems can be found at all levels of the organization with a broad range in complexity. Task systems manifest in the processes and procedures that teachers use to transition children from math to lunch and the broad strategic planning processes executed by central office administrators to formulate multi-year improvement plans for an entire district (Halverson, 2003; Spillane, Parise, & Sherer, 2011; Spillane & Thompson, 1997). The notion that task systems are shaped by and reflect the district’s most fundamental norms, strategies, and assumptions (the districts ToA) is an essential understanding when considering an analysis of district practices through the organizational learning framework. The bridge between the idea and the enactment is spanned by how members within the organization perceive the ToA and the extent to which they understand the ToA. The individual’s perception, understanding, and enactment of ToA embody two additional concepts embedded in Argyris and Schon’s (1978) organizational learning theory, theory in use and mental models.

Theory in use and mental models. Theories of action are abstract concepts. As stated earlier, they articulate a causal relationship between the desired goals of an organization and the behaviors that the organization believes necessary to attain those

goals. In contrast, theory in use represents the observable behaviors of the organization or individuals within the organization (Argyris & Schon, 1978). Put another way, theory in use is what an observer can see the organization or individuals within the organization doing. It is the observable behavior that sets theory in use apart from the norms, strategies, and assumptions that compose an organization's theory of action.

What the organization is actually doing is a function of individual behavior and, within the context of organizational learning, individual behavior is driven by individual perceptions of the organization's theory of action. These individual perceptions of what the organization wants and how they plan on getting it are formed through the individuals' experiences with and learning from other individuals within the organization and with the organization itself. These interpretations are known as mental models.

Through direct experiences and interactions with the organization over time, individuals construct, continuously review, and revise mental models that represent the organization's theory of action and task systems (Argyris, 1976; Argyris & Schon, 1978; Hedberg, 1981). The development of mental models is heavily influenced by the interactions between the individual and the organization. These mental representations of ToA and task systems help the individual understand and, ultimately, drive the execution of their perceived responsibilities within the organization. Mental models represent another critical element in the conceptual framework that frames the current study.

District and school leaders design task systems intended to implement the working theory of action. Teachers and other education professionals work within those task systems and, over time, accumulate experiences that shape how they perceive and understand the district's theory of action. These perceptions and understandings are the

mental models that individuals construct and, consequently, use to guide their current and future work (Mohammed & Dumville, 2001). It is the actions of individuals that are the observable behavior known as theory in use.

Theory of action, task systems, theory in use, and mental models are key concepts that frame and, in the following pages, distinguish between two distinct types of learning within an organization; single-loop learning and double-loop learning (Argyris & Schon, 1978). Single-loop learning refers to changes in behavior that maintain the current theory of action. Double-loop learning refers to changes in behavior that redefine the norms, assumptions, and strategies that constitute the organization's theory of action. Both types of learning rely on a phenomenon known as error detection.

Error detection. The concept of error detection is essential to understanding learning within the context of OLT (Shaw & Perkins, 1992). Errors refer to a perceived incongruence between observable behavior and an individual's expectation of behavior relative to their mental models of the organizational theory of action and task systems. In simple terms, an error occurs when an individual acts in a way or observes others acting in ways that are incongruent with their current perception (mental models) of the organizational theory of action and supporting task systems. It is here that the true power of mental models becomes clear. Given that error detection is a function of an individual's observation of behavior that is perceived to be incongruent with the organizational theory of action, the accuracy of and the extent to which individual mental models reflect the ToA articulated by the organization determines what is and is not considered an error.

An individual who holds accurate mental models of the organizational theory of action and task systems will potentially detect true errors that present opportunities for organizational learning. An individual who holds inaccurate mental models of the organizational theory of action and task systems may (a) fail to recognize errors or (b) interpret behaviors that are consistent with the organizational ToA as errors. In the case of inaccurate mental models, opportunities for individual and organizational learning are stifled or missed all together. In some instances these situations may result in learning that is counterproductive and harmful to the organization. As we can see, mental models, accurate or not, play a significant role in whether and how organizational learning will occur (Argyris, 1976; Argyris & Schon, 1978).

Single-loop and double loop learning. The process of single and double loop learning begins with error detection. When an error is detected the individual or the organization seeks to correct the perceived problem. The manner in which the perceived problem is corrected determines whether the organization is engaged in single loop learning or double loop learning. In a single-loop learning scenario, the error correction seeks to maintain the status quo and preserve the current theory of action (Argyris, 1976; Argyris & Schon, 1978). Double loop learning, on the other hand, refers to error correction on the part of individuals or the organization as a whole that initiates a fundamental shift in the norms, strategies and assumptions of the organization (Argyris, 1976; Argyris & Schon, 1978). In this situation, the error or problem is so incongruent with the current theory of action that it cannot be resolved through the minor behavioral adjustments of single loop learning. In the case of double loop learning, the organization

must look critically at its theory of action and redefine that theory to better match current demands.

The work of March and Simon (1958) and Argyris and Schon (1978) provided the foundational theoretical and conceptual frameworks for the current study. Theory of action, task systems, theory in use, and mental maps/images gave shape and direction to the development of data collection protocols and the subsequent analysis of organizational learning in service of the district's curriculum reform efforts. The research and literature in the decades following the work of March and Simon (1958) and Argyris and Schon (1978) defined the remaining elements of the theoretical and conceptual framework for the research team's investigation of organizational learning and curriculum reform. The following pages provide a brief treatment of this literature and research as well as an in depth review of organizational learning mechanisms.

Organizational Learning Mechanisms

During the two decades following Argyris and Schon's (1978) work research continued to explore and define organizational learning theory (Cook & Yanow, 1993; Duncan & Weiss, 1979; Fiol & Lyles, 1985; Herritt, Levinthal & March, 1985; Huber, 1991; Klimecki & Lasseben, 1998; Levinthal & March, 1981; Levitt & March, 1988; Nonaka, 1994; Senge, 1990; Walsh & Ungson, 1991; Weick, 1991; Weick & Roberts, 1993). This body of work provided further definition for and understanding of OLT. As the field developed and so to did a significant theoretical division within the research community.

The central problem and debate involved (a) the fundamental relationship between individual learning and organizational learning and (b) whether or not

organizations were capable of learning in the same way that humans learn. Popper and Lipshitz (1998) explored these issues through an exhaustive review of relevant literature and contributed a viable theoretical bridge between the various perspectives on these issues. The power of their work was based on (a) the identification and articulation of three divergent theoretical positions on the debate and, most relevant to the current study, (b) the articulation of organizational learning mechanisms as a concrete lens through which researchers could study organizational learning while circumventing the quagmire of individual vs. organizational learning.

Popper and Lipshitz (1998) articulated three positions taken by the theoretical community on the question of how individual and organizational learning are or are not related and congruent. The first position answered the question with a qualified yes. This theoretical position held that organizations are able to learn like human beings. The second position answered the question with an implied yes. Scholars here held that organizations were able to learn but that organizational learning was an extension of individual learning. The third and final position answered the question with a firm no. This theoretical position held that organizations do not possess systems and structures that parallel the biological cognitive networks involved in human learning and, therefore, organizations cannot learn as individuals learn.

While these theoretical positions provided structure and insight into the debate at the time, the theoretical bridge that Popper and Lipshitz (1998) offered to span this divide in the research community was the major contribution of their work. Building on the work of Cook and Yanow (1993), Popper and Lipshitz proposed that organizational learning mechanisms provide a concrete framework through which researchers could

study the “structural and procedural arrangements” (p.167) that result in learning. While the research and theoretical community could not agree on the questions surrounding the relationship between individual and organizational learning, the notion that all organizations engage in strategic activity to achieve goals is universally accepted and provided a path forward in studying organizational learning.

Popper and Lipshitz (1998) identify organizational learning mechanisms (OLMs) as a way to draw attention to the concrete, observable systems within an organization that promote individual and group learning (Popper & Lipshitz, 1998; Popper & Lipshitz, 2000). OLMs are institutionalized procedures and practices that organizations use to collect, analyze, store, disseminate, and use new information in service of organizational goals (Ellis, Margalit, & Segev, 2012; Ellis & Shpielberg, 2003; Popper & Lipshitz 1998, 2000; Schechter, 2008; Schechter & Asher, 2012; Schechter & Quadach, 2012; Schechter & Atarchi, 2014). Schechter and Feldman (2010) explain that OLMs function across various settings within organizations when individual members share and analyze knowledge. When organizational learning mechanisms effectively increase an individual's knowledge, the individual's newly acquired knowledge adds to the collective learning of the organization, thus, supporting the concept that OLM's support organizational learning.

Organizational learning mechanisms are closely tied to theory of action, task systems, theory in use, and mental maps (Argyris & Schon, 1978). OLMs are formal and informal task systems that organizations use to promote individual and organizational learning in service of the theory of action. OLMs can promote single or double loop learning by leveraging the errors that organizations and individuals detect based on

comparisons between theory in use and mental models. OLMs are composed of five distinct learning processes (Schechter & Atarchi, 2014). These processes are explored further in the following pages.

Organizational learning mechanisms: Five processes for organizational learning. Research exploring organizational learning mechanisms (OLMs) identifies five distinct but interrelated processes embedded on OLMs. These include organizational memory, information acquisition, information distribution, information retrieval, and information interpretation (Schechter & Quadach, 2013; Schechter & Atarchi, 2014). Building upon organizational learning research, Popper and Lipshitz (1998) identified organizational learning mechanisms as a way to draw attention to the concrete, observable systems within an organization that promote individual and group learning (p.170). More specifically, these mechanisms represent the systems and structures that organizations use to acquire, retain, and transfer knowledge (Fiol & Lyles, 1985; Huber, 1991; March, 1991). Table 1.1 provides detailed definitions of each embedded learning process.

Table 1.1

*Elements of organizational learning mechanisms**

Attribute	Definition
Organizational Memory	The process and means by which organizational experiences are stored and coded into organizational memory for future use.
Information Acquisition	The process of obtaining knowledge.
Information Distribution	The process of sharing information that leads to understanding.

Information Retrieval	Organizational members draw on the encoded information to guide their decisions and actions.
Information Interpretation	A socio-cognitive process that ties meaning to the distributed information (Schechter & Quadach, 2012).

*Note: Adapted from “Toward an Organizational Model of Change in Elementary Schools: The Contribution of Organizational Learning Mechanisms,” by Schechter, C. & Qadach, M., 2012, *Educational Administration Quarterly*, 48

Organizational memory. Organizational memory refers to stored information that an organization accumulates through experience over time (Argote & Ingram, 2000; Argote & Miron-Spektor, 2011; Arrow, McGrath, & Berdahl, 2000; Kruse, 2003, Walsh & Ungson, 1991). At the individual level, knowledge is stored in the brain using a series of complex cognitive mechanisms for rehearsal and retrieval. At the organizational level, the storage of information is distributed across members, tools, and tasks (McGrath & Argote, 2002) and stored within individuals, culture, transformations, structures, and the ecology of the organization (Walsh & Ungson, 1991). In developing a theoretical framework for this study, it was critical to consider (a) where organizational information was stored and (b) the types of information stored. Schechter (2015) delineates between hard information and soft information, “Organizational memory includes hard data (rules and measurable facts) as well as soft information (e.g., tacit knowledge, expertise, and details about strategic decisions)” (p. 6).

A curriculum review committee in Belvedere, which may consist of district and building level leaders and teachers, serves as an illustrative example of organizational memory. As this committee works to solve problems of practice, they accumulate experience and knowledge and, therefore, learn. The knowledge generated through the committee’s work is stored within the members of the committee and the products of

their work (McGrath & Argote, 2002). The soft information (Schechter, 2015) stored in organizational memory might include the operational procedures and routines of the committee, the historical development of the committee, etc. The hard information (Schechter, 2015) might include meeting agendas, meeting minutes, curriculum maps, etc.

Information acquisition. Information acquisition involves gaining new information and knowledge through (a) the knowledge and expertise of those currently in the organization, (b) direct experience over time, (c) drawing upon the knowledge of individuals outside of the organization, (d) hiring new staff with specialized knowledge and skills, and/or (e) observing and collecting information from other organizations (Huber, 1991; Schechter, 2015). Through these different approaches to acquiring new information, organizations engage in a phenomenon referred to as search (Huber, 1991). As organizations work to actualize the articulated theory of action, they may, depending on their circumstances and needs, engage in a search for new information. Search can involve (a) scanning the organization for new knowledge, (b) a focused search to identify alternative plans and paths, and (c) organizational performance monitoring.

Information distribution. Once information is acquired, organizations and individuals engage in both direct and indirect distribution of information. Direct distribution of information can happen through written communications, meetings, memos, policies, etc. Indirect distribution can happen through informal conversations between individuals within the organization or the modeling and behavior that individuals enact and observe through their work within the organization (Burch & Spillane, 2003; Schechter, 2015).

Information interpretation. The last domain of the learning cycle, information interpretation, involves learning through sense making (Weick, 1995; Coburn & Talbert, 2006). Individuals and groups hold preexisting beliefs that influence how information is interpreted, yet increased learning transpires when multiple interpretations are made and shared within the organization. These interpretations can range from large group meetings and trainings in organizations to physical pieces of paper such as reports. It is the responsibility of central office leaders to ensure that the new information is properly understood.

Information retrieval. The ways in which organizations make decisions and take action depends, to some extent, on how information is retrieved (Walsh & Ungson, 1991; Weick, 1979). Like other elements of organizational learning mechanisms, retrieval is related to and influenced by all of the other elements embedded in OLMs. Within the context of OLMs, retrieval is heavily influenced by (a) information interpretation and (b) how and where information is stored in organizational memory.

The interpretation of organizational information influences the relative accuracy and quality of information that is drawn upon through retrieval to inform decisions. As individuals take in information, it is interpreted through their mental models of the organization (Argyris & Schon, 1978). These interpretations, as seen through these lens of error detection, vary in accuracy and quality based upon individual mental models. This variation can lead to broad interpretations of the organizational information that is ultimately retrieved and, as a result, can have less than positive influences on organizational decision-making.

The repositories and formats of organizational information also hold significant roles in the retrieval of organizational information. As Walsh and Ungson (1991) suggested, information is stored in locations that include individuals, culture, transformations, ecology, and structures. Schechter (2015) suggests two primary format domains for information storage, hard information and soft information. Hard information is tangible and can be seen (i.e. processes, policies, documents, etc.), soft information is often intangible and ambiguous (i.e. specialized expertise of individuals, social dynamics, etc.). The locations and formats of stored organizational information influence retrieval in that (a) the locations may or may not be known to those seeking information and (b) the quality and clarity of information may vary widely based upon individual interpretations of information.

Organizational learning mechanisms (OLMs) are “institutionalized structural and procedural arrangements that allow organizations to systematically collect, analyze, store, disseminate, and use information relevant to the performance of the organization and its members” (Popper & Lipshitz, 1998, p. 170). These OLMs encapsulate five distinct learning processes (Schechter, 2015). These processes are information acquisition, information interpretation, information distribution, organizational memory, and information retrieval. Taken together these five learning processes represent the systems and structures that district and school leaders may use to implement curriculum reform.

Organizational Learning in Practice

Professional learning communities (PLCs) represent a concrete application of organizational learning theory and mechanisms and can provide clarity on the interrelated concepts embedded in the OLT and OLM literature (DuFour & Eaker, 1998; Stoll &

Louis, 2007). PLCs can be defined as a team of professionals who (a) share a vision and goals for their work, (b) seek collaborative solutions to problems of practice, (c) support ongoing professional learning, and (d) rely on performance data and other sources of information to make informed decisions (DuFour & Eaker, 1998; Levine & Shapiro, 2004). The defining characteristics of PLCS provide a meaningful context for the concepts embedded in organizational learning theory and mechanisms.

The notion that PLCs are built on shared vision and goals for the future (DuFour & Eaker, 1998) conceptually reflects the concept of organizational theory of action. The shared vision and goals of a PLC articulates the causal relationship that the group draws between desired outcomes and the behaviors it believes necessary to achieve them. Seeking collaborative solutions to problems of practice reflects the concepts of error detection (the PLC perceives a problem relating to their practice), information retrieval and acquisition (the team seeks information and resources to solve the problem), and, depending on the outcome, single or double loop learning (the PLC solves the problem of practice and, as a result, learns). The solutions to problems of practice generate knowledge that is stored in organizational memory as either hard information (lesson plans, curriculum materials, etc.) or soft information (new teaching practices, new understandings about learning, etc.).

Organizational learning and curriculum reform. School systems that leverage organizational learning theory (OLT) and organizational learning mechanisms (OLMs) may be better equipped to manage rapid changes in educational reform efforts and achieve successful outcomes for students (Collinson & Cook, 2007; Schechter & Atarchi, 2014). Schechter and Feldman (2010) suggest with the use of OLMs across settings,

individual members can more effectively gain and share information that is central to individual and organizational learning. Given the growing body of research connecting school success and organizational learning, it is critical to continue exploring how organizational learning theory is understood and implemented in school settings.

The current study investigated how district and school leaders thought about and applied organizational learning theory to implement and support ongoing curriculum reforms. This research looked closely at how district and school leaders constructed theories of action and how those theories of action were brought to life via organizational learning mechanisms. The study analyzed the mental maps of professionals throughout the district and the extent to which those mental maps agreed or did not agree with the district's theory of action. This project adds to the growing body of work focusing on organizational learning in school districts. In addition, this work makes specific contributions to the body of literature providing practicing school leaders with direct guidance in the application of organizational learning theory in the school setting. In the next chapter we detail the methodology employed to carry out this study.

Chapter 2²

Research Design

This study aimed to examine how district and school leaders use organizational learning theory (OLT) to implement and support ongoing curriculum reform. For the purpose of this research, we define organizational learning as a change in organizational knowledge or behavior that is a result of accumulated experience (Argote & Miron-Spektor, 2011; Argyris & Schon, 1978; Fiol & Lyles, 1985; Levitt & March, 1988; Schulz, 2005). Organizational learning mechanisms (OLMs) are “the concrete, observable organizational systems operated by individual organization members” that promote individual and group learning (Popper & Lipshitz, 1998, p. 170). OLMs provide the context in which individuals gain experience and build shared knowledge about and understanding of the organization’s priorities and goals (Collinson & Cook, 2007; Schechter & Atarchi, 2014). Given our team’s desire to gain insight into how school and district leaders used OLT to implement and support curriculum reforms, a qualitative case study methodology was selected and shaped to execute that inquiry (Creswell, 2008; Yin, 2009).

This study utilized a qualitative single case study design. Yin (2009) states, "A case study is an empirical inquiry that investigates a contemporary phenomenon within its real-life context, especially when the boundaries between phenomenon and context are not clearly evident" (p. 18). In this case, the OLMs that were deployed by the district represented the phenomenon that Yin (2009) was referring to while the individual professionals represent the context in which OLMs were situated. A case study design

² This chapter was jointly written by the authors listed and reflects the team approach of this project: Andrew M. Berrios, Tracy R. Curley, Marice Edourd-Vincent, Bobbie F. Finocchio, and Ian Kelly

allowed the team to (a) study the experiences of individuals from across the district's organizational hierarchy and (b) leverage an analysis of the collective experiences of individuals to make inferences about the presence and function of OLMs in the Belvedere Schools.

To gain these insights, the research team utilized archival document review and semi-structured in person interviews to collect data and triangulate information (Maxwell, 2013; Merriam, 2009; Yin, 2009). Data collection instruments and processes were designed to examine district practices through the OLT and OLM theoretical frameworks that give shape to this study. The following pages provide a detailed description of our collective methodology.

Site Selection

Selection of a research site that would allow for an effective analysis of OLT and OLMs within the context of curriculum reform required careful consideration on the part of the research team. To support the site selection process, the team employed criterion-based sampling (Creswell, 2008; LeCompte & Preissle, 1993; Maxwell, 2013; Miles & Huberman, 1994; Patton, 2002). Two criteria were identified that would qualify districts as potential research sites. These criteria were:

1. The district must, through review of strategic planning documents, evidence the implementation of curriculum reforms for at least three continuous years.
2. The district must serve between 5,000 - 10,000 students.

The team believed that the duration of the curriculum reform was important in that district's that had committed less than three consecutive years may not provide the

level of insight necessary for a thorough analysis of OLT and OLMs. The team considered the size of the district to be a relevant selection criteria based on the logic that a smaller district may conflate the results due to a lack of organizational complexity. On the other end of the spectrum, the team believed that the organizational complexity of districts serving populations greater than 10,000 students may be too broad to study effectively and, therefore, compromise the efficacy and quality of analysis.

Participant Selection

The research team's desire to gain a broad and rich understanding of OLT and OLMs within the context of Belvedere's ongoing curriculum reform efforts required careful consideration of participant selection. Drawing on qualitative case study literature, the team found Patton's (2002) notion of purposeful sampling compelling. Patton suggested, "the logic and power of purposeful sampling lies in selecting information rich cases for study in depth. Information rich cases are those from which one can learn a great deal about issues of central importance to the purpose of the inquiry..." (p. 230). In considering those participants from whom we might learn the most, the team purposefully selected the superintendent (n=1), central office administrators (n=3), principals (n=4), instructional coaches (n=4), and classroom teachers (n=6). This pool of eighteen participants represented the district's organizational hierarchy and provided a sample sufficient to make inferences and generalizations based on our data. While there is little clarity on the issue of appropriate or standards for sample sizes in qualitative research, the team sought to balance research goals and purposes, drawing a representative perspective from the district, and the time and resources available for the project (Mason, 2010; Patton, 2002).

Instrumentation

The research team developed in-person interview and document review protocols that were tuned to reflect key concepts embedded in the theoretical frameworks of organizational learning theory and organizational learning mechanisms. The context and associated vernacular of the ongoing curriculum reform provided the language in which we framed our questions and embedded concepts from the theoretical framework. Key concepts situated within interview questions about the curriculum reform included Schechter & Atarchi's (2014) five elements of organizational learning mechanisms (information acquisition, information distribution, information interpretation, organizational memory, and information retrieval) and select elements (theory of action, mental maps, single loop learning, double loop learning, and theory in use) from the work of Argyris & Schon (1978).

Interview protocols. The team employed semi-structured interviews to explore the district's use of organizational learning mechanisms to support ongoing curriculum reform efforts (Creswell, 2008; Merriam, 2009). Semi-structured interviews balanced the need for systematic data collection while providing flexibility to pursue topics that surfaced through dialog with participants (Mason, 2010; Yin, 2009). In order to develop the protocols, the research team used a multi-step process to ensure that questions addressed the theoretical framework, were conceptually clear and accessible to participants and met the data collection requirements for all five individual studies (Maxwell, 2013; Merriam, 2009; Patton, 2002; Weiss, 1995).

Development of protocols began with a standard bank of interview questions adapted from the work of Schechter and Atarchi (2014). This starting point ensured that

initial draft questions were tied closely to the theoretical frameworks guiding the study. From here, the team worked to frame the questions in the vernacular of Belvedere's ongoing curriculum reform efforts. Taking this step ensured that participants would understand the questions and, therefore, provide the rich data necessary to conduct our analysis of OLT and OLMs within the district. Once questions were reformulated to reflect the district's curriculum reforms, interview protocols were subjected to a number of reliability and validity checks.

Cognitive interviews were conducted to assess the construct validity of the questions (Hill, Thompson, & Williams, 1997; Merriam, 2009). During cognitive interviews, participants were asked to review interview questions and described to the interviewer what they believed the questions were asking them. As a result, the research team gained important feedback concerning the clarity and specificity of interview questions. Interview protocols were revised using the data gathered through cognitive interviews and were then subjected to formal pilot interviews. During pilot interviews, participants engaged in a mock interview scenario. All questions were asked and responses recorded. Participant responses were reviewed by the research team to assess the extent to which the questions elicited the data necessary to examine organizational learning theory and mechanisms. Here, again, interview protocols were revised and finalized based on data gathered through the pilot interview process. Final interview protocols can be found in Appendices A through D.

Document review. Review and analysis of documents provide a rich source of data and information in qualitative research projects (Creswell, 2008; Merriam, 2009; Patton, 2002). Document review and analysis took place prior to and during fieldwork.

In preparing for fieldwork, document review protocols served as a means to develop a meaningful context for the ongoing curriculum reform efforts of the district. This approach provided important background information that supported data collection throughout the project. In addition to building context and supporting the research team's orientation to the subject, the initial archival document review served "as a stimulus for paths of inquiry that can be pursued only through direct observation and interviewing" (Patton, 2002, p. 294). During fieldwork, additional documents and work products were acquired for review during interviews. These documents were reviewed in light of our ongoing data collection and served to confirm or disconfirm data gathered during in person interviews (Merriam 2009; Patton, 2002).

Procurement and selection are two considerations that the team considered in developing a document review protocol (Berger, 2014; Creswell, 2008; Patton, 2002; Merriam, 2009). Initial documents selected for review consisted of publicly available materials accessed via the district's website. These artifacts included district improvement plans, district strategic plans, district professional development plans, school improvement plans, and curriculum documents relative to the ongoing reform effort. Access to organizational documents not publicly available and relevant to research were requested and gathered during in person interviews (Patton, 2002) by asking participants if they would be willing to provide any documents that they believed to be relevant to the ongoing curriculum reform efforts of the district. These documents included teacher-generated assessments, teacher generated lesson plans, professional development materials, internal communications, etc.

Authenticity of documents (Merriam, 2009) and confidentiality of documents (Patton, 2002) were also important considerations in developing the document review protocol. Merriam (2009) suggests that researchers consider the origin, purpose, author, and the context in which the document was produced. The team integrated authenticity checks into the document review protocol by having no fewer than two members examining the same documents. Confidentiality was also addressed through the document review protocol. When considering requirements for confidentiality, the research team relied on the work of Patton (2002). The identities of participants and the research site were protected by ensuring that private documents were not cited directly in the final report and by redacting all identifying information in documents maintained in hard copy by the research team.

Confidentiality and Consent

Informed consent and participant confidentiality were essential to both the well being of participants and the validity of data (Butin, 2010; Merriam, 2009). In the current study, these ethical issues were of central importance due to the inclusion of supervisors and subordinates in the participant pool. Protection of subordinates was critical because participants provided information that supervisors may perceive as critical or objectionable. Recognizing that participants who had any cause to be concerned about being identified or suffering adverse consequences as a result of participating in the study would likely withhold information or refrain from being open and honest in their responses, we sought informed consent from all participants, ensuring their confidential participation. Prior to data collection and in adherence with Institutional Review Board

(IRB) guidelines, institutional and individual forms of informed consent were reviewed and signed by site administrators and participants involved in this research study.

In addition to the confidentiality of individual participants, it was also important that the identity of the research site be protected (Creswell, 2008). Balancing external validity with the need to protect the identity of the research site was carefully considered. Pseudonyms for the district and individual schools were selected and used in the preparation of all documentation related to this research project. Beyond the basic protection of identity, the team thought carefully about the use of descriptive data as a possible threat to the anonymity of the district. Providing rich descriptive information to define the context for the current study was important to the transferability of our results (Lincoln & Guba, 1985). That being said, this rich contextual information could also provide readers with enough information to narrow locations and possibly identify the research site. The team reviewed and selected descriptive data that balanced the need to establish transferability with the ethical imperative to maintain the anonymity of the participating district.

This research project leveraged semi-structured interviews, and an archival document review to triangulate evidence to examine organizational learning via organizational learning mechanisms in a district engaged in ongoing curriculum reform. The following pages provide a detailed description of data collection and analysis procedures.

Data Collection and Analysis

Data collection. After acquiring IRB and research site approval, the research team engaged in fieldwork between August and December of 2015. During that time the

research team conducted semi-structured interviews and the collection and review of archival documents. Final protocols can be found in Appendices A through F. To ensure accurate and complete collection of data, in person interviews were recorded with the explicit permission of participants.

Data storage was a key consideration for the research team. A collaborative, web-based platform was preferred but needed to be balanced with the storage and safety of the data. Prior to selecting a service, privacy and data security policies were reviewed to ensure (a) compliance with all regulatory requirements and (b) appropriate protections against theft and loss of data. Once the review was complete, a secure, encrypted web-based service was selected for use. All print, digital and audio files were then stored using this service for the duration of this project.

Data analysis. The team employed a collaborative data analysis process to conduct coding, narrative analysis, and the development of research memos/journals for this project (Coffee & Atkinson, 1996; Maxwell, 2008). The team approach to analysis of documents and interview transcripts protected the analysis from research bias by ensuring that single interpretations did not compromise the validity data (Yin, 2009). This collaborative process ensured that two or more team members were involved in the coding of each document and transcript.

As suggested by Yin (2009), team members read all documents and transcripts in their entirety as the first stage of document and transcript analysis. In doing so, we gained perspective on whether and to what extent data sources could be used to further or increase knowledge around the curriculum reform and the district's use of organizational learning theory. Our initial reading further informed our understanding of participants'

experiences and the language and definitions of the district's reform efforts. Employing this additional step within the analysis process supported a comprehensive and valid review of district practices regarding curriculum reform and organizational learning.

The second phase of document and transcript analysis involved a line-by-line review of each document to identify key words and phrases that (a) referred specifically to the ongoing curriculum reform efforts, and/or (b) reflected elements of the organizational learning theoretical framework (Argyris & Schon, 1978; Schechter & Atarchi, 2014). This phase of analysis by the team served dual purposes. First, it provided initial insights into participant perception of the ongoing curriculum reform and the organizational learning mechanisms deployed to support them. Secondly, the collaborative review of documents and transcripts provided multiple opportunities for the research team to calibrate operational definitions of concepts within the theoretical framework and, as a result, enhance the inter-rater reliability of our coding processes.

The third phase of the document and transcript review process attempted to identify and establish the extent to which ongoing curriculum reform efforts and district organizational learning mechanisms were aligned across the district. Using the theoretical and conceptual framework coding conducted in the previous round of review, the research team then identified the documents and transcripts in which those coded keywords and phrases appeared. As a result of this two-pronged coding mechanism, the team was able to gain insight into the extent to which district curriculum priorities and organizational learning mechanisms were aligned between and agreed upon throughout the district.

In person interviews and document review provided rich data sources that the team used to investigate the presence of organizational learning mechanisms (OLMs) within the district and the efficacy of those OLMs. Yin (2009) writes, “The same single case study may involve more than one unit of analysis. This occurs when, within a single case, attention is also given to a subunit or subunits” (p. 50). Applied to our study, these subunits included the Superintendent, central office administrators, principals, instructional coaches and teachers.

Data analysis focused upon providing insights into how district and school leaders leveraged organizational learning mechanisms to implement and support curriculum reform. Our data analysis proved to be ongoing and often coincided with ongoing data collection. Through this approach, the research team engaged in multiple opportunities to refocus and hone processes and protocols thereby strengthening the validity and reliability of our findings. (Maxwell, 2008). Data analysis consisted of three primary approaches, including coding, narrative analysis, and memos/displays.

Coding. Coding utilized an a-priori framework as a starting point for the process (Crabtree & Miller, 1999; Maxwell, 2008). This a-priori coding system reflected Schechter and Atarchi’s (2014) five elements of organizational learning mechanisms (organizational memory, information acquisition, information interpretation, information distribution and information retrieval). Subsequent rounds of collaborative coding built on the initial theoretical coding. These secondary and tertiary rounds of collaborative coding included theoretical coding utilizing concepts that included theory of action, theory in use, mental maps, and task systems (Argyris & Schon, 1978) and concrete conceptual information driven by the district’s ongoing curriculum reform priorities.

While a-priori coding was the primary mechanism deployed by the team, codes and coding evolved through a constant comparative methodology in which data were continuously reviewed and discussed throughout the collection and analysis process (Miles, Huberman, & Saldana, 2014). As the team became more familiar with the ongoing work of the district, team perceptions and priorities shifted and codes and coding processes were modified to reflect the team's learning and experience within the district.

Narrative analysis. Narrative analysis supported the team in analyzing transcripts and archival documents, and identifying relationships between statements and actions within the context of the district under investigation and the OLT/OLM theoretical framework (Atkinson, 1992). The narrative analysis added value to findings and recommendation in that it uncovered relationships and patterns that the categorical nature of coding may have neglected. As such, the narrative analysis not only added analytical value, but also contributed to the internal and external validity of the overall study (Maxwell, 2008).

Memos. Memos added a third layer of analysis to the current study (Maxwell, 2013) and offered the research team opportunities to further deepen their collective understanding of the curriculum reform efforts and organizational learning mechanisms of the district. In addition the production of memos, journals entries, and graphics brought further clarity to the team's understanding of both the theoretical framework and its manifestation in the Belvedere Public Schools. As a result, the shared understanding developed by the team enhanced the overall reliability and validity of our findings and recommendations.

Validity and Reliability Considerations

Four tests are commonly used to establish the quality of social science research. These include construct validity, internal validity, external validity, and reliability (Yin, 2009). Each is addressed in the following pages.

Construct validity. Construct validity refers to the identification of the “correct” measures of the concept studied (Yin, 2009). The team worked to ensure a comprehensive and shared understanding of key concepts embedded in the theoretical and conceptual frameworks for the study. A collective review of the literature and research addressing organizational learning theory and organizational learning mechanisms was a key starting point for the development of construct validity. Through this review, the research team developed the conceptual definitions that would support the formulation of methodology and the subsequent collection and analysis of data.

As the methodology for this study was developed, the team worked to ensure construct validity through use of cognitive interviewing and pilot interviews (Merriam, 2009) in developing interview protocols. Through cognitive interviews, educators were asked to review the interview questions and tell the researcher what they thought the question was asking them. In this way we were able to assess whether or not the questions were addressing the concepts they were designed to capture. Pilot interviews were then conducted to get a sense of the kinds of data the questions would elicit in the field. Feedback from cognitive and pilot interviews were used to revise and improve interview questions.

The constant comparative approach applied during the data collection and analysis phases of this project also helped to bolster construct validity (Miles, Huberman,

& Saldana, 2014). Throughout data collection and analysis, the team met regularly to review data, discuss the project, and clarify our current understanding and perceptions of the district's work. As such, the team consistently reviewed its working definitions of concepts embedded in the theoretical framework in light of the ongoing research and data collection.

Internal validity. While the current study was not designed to draw a direct causal relationship between curriculum reform and the district's application of organizational learning theory, the research team aimed to understand and explain the relationship between ongoing curriculum reform efforts and the district's use of organizational learning theory to support that work. As such, the internal validity of this study was considered as the team designed and executed the current study. Using Yin's (2009) guidance, Table 2.1 presents the mechanisms employed by the team to strengthen internal validity.

Table 2.1

Internal Validity Checks

<u>Strategy</u>	<u>Explanation</u>
Peer review	The research team will present findings to colleagues who are both familiar and unfamiliar with the topic and study. The research team will provide peer colleagues with guiding questions to support critical analysis of the study and its findings.
Rival explanations	The research time will search for confirming and disconfirming explanations that may shed light on the relationships between constructs.

Methods and data triangulation	This study will employ multiple methods (interviews and document review). Data collected from these methods will be triangulated to analyze the constructs under investigation.
Investigator triangulation	Throughout the data collection and data analysis the research team will engage in collaborative inter-rater reliability checks and collaborative coding.
Participant feedback	Participants will be provided the opportunity to review interview transcripts for accuracy. Once complete, preliminary data analysis will be shared with participants to gather their insights and feedback.

External validity. External validity refers to the extent to which a study's findings can be generalized. The context of the current study was an important consideration in framing findings and recommendations. Every school district is unique in terms of, amongst other things, its size, composition and operational policies and procedures. Given the wide variation between school systems and their organizational complexity, it was important that the team provide sufficient descriptive data to couch and contextualize our findings and recommendations. Doing so supported external validity by ensuring that findings and results are extrapolated carefully to settings in which it is reasonable for them to be applied.

Participant selection was also considered by the research team as a means to further support external validity. The scope and focus of the current study created a situation in which building a participant pool representative of the district was

imperative. In building a representative sample the team also enhanced external validity by ensuring that participants from all hierarchical strata were represented in the sample.

Reliability. The reliability of this study related to whether or not the replication of the study would yield the same results (Merriam, 2009). To support reliability, the team employed the use of a case study design protocol and a case study database (Brereton, Kitchenham, & Budgen, 2008; Yin, 2009). The case study protocol utilized a format adapted from EASE (2008) to clearly spell out the processes, procedures, and decision-making criteria for all elements of the current study. In addition to a structured protocol to support the development of the study, the team also worked to ensure clarity and specificity in articulating all methodology so that others may repeat this work in future studies.

Chapter 3

Introduction: Organizational Learning Theory & Curriculum Reform

The collective research project aimed to explore organizational learning in a public school setting and gain insights into how school and district leaders leveraged organizational learning mechanisms to support the district with ongoing curriculum reform. Supporting complex reform agendas and adapting to new conditions and demands requires highly skilled learning organizations (Argyris & Schon, 1976; Collinson & Cook, 2007; Elmore, 2006; Fullan & Hargreaves, 2012; Honig, 2008; O'Day, 2009; Shilling, 2013). When applied to a public school district, organizational learning theory may support the development of schools and districts as successful learning organizations (Bryk, Gomez, & Grunow, 2011; Bryk, Camburn, & Louis, 1999; Bryk & Schneider, 2002; Collinson & Cook, 2007; Leithwood & Louis, 1999). While there is agreement around the need to build the organizational learning capacity of public school systems, doing so successfully and sustainably remains a tenacious problem of practice (Bryk, Sebring, Allensworth, Luppescu, & Easton, 2010; Duncan & Murnane, 2014; Higgins, 2011; Payne, 2013). Attempting to provide meaningful insight specific to this challenge, our collective research focus explored and investigated how district and school leaders utilized organizational learning theory to implement and support curriculum reform.

Purpose of the Group Study and Individual Study

In exploring the larger research problem of practice, the team utilized a multifaceted approach to investigate the interplay of various agents within our selected public school system. This methodology provided the opportunity for the team to collect valuable data from key sources and synthesize our results across a wide range of data points. My study subsection focused on the relationship between a public school superintendent and her school-level principals. I was specifically interested in both principals' perceptions of their learning and the superintendent's perceptions of her role as a developmental leader. Recent district-level curriculum reform efforts provided the empirical focus from which structures, activities, and/or experiences were investigated. I speculate that these organizational functions and behaviors may leverage principal learning and thus clarify perceptions of teaching and learning for both principals and the superintendent. The organizational learning mechanisms that a superintendent utilizes and how they are perceived or in fact learned from by their school-based principals, is essential to understanding organizational learning and its implications within a public school setting.

I speculate that principals do not perceive their role and actions in the organization's progression as learning moments but rather as a function of their position. It seems like the daily tasks initiated and executed by building principals were recognized as part of their conscious experience. However, it appeared that their new experiences with the job were not viewed as opportunities to learn, so much as they were seen as tasks to complete as part of their role. Additionally, I surmise this may also be the case for the superintendent; nevertheless, I feel as though these interactions and activities serve as the premise for teaching and learning amongst district- and school-level leaders. Leaders who

account for the learning of their organization consider not only the processes and procedures of how to complete given tasks but how these items are learned (Senge, 2006).

Research Question

School superintendents must take into account how their practice affects the learning and development of their leadership team. This is especially vital as information moves from central office to school-based leaders. Leaders who approach their work with the learning of their subordinates in mind will likely have greater success. Leaders should strive to create situations where members of the organization are able to engage in meaningful interactions that serve to increase their learning and ultimately efficacy. Specific to my research focus, examining the interactions and situated activities principals are exposed to by their superintendent, will help to determine their impact and offer insight as to where improvements in teaching and learning may be applied to the development of school-based leaders. In an effort to empirically examine these assertions, I will focus upon the following research questions:

1. What are principals' perceptions of their learning from their district leaders' organizational learning mechanisms?
2. How does a district leader perceive their role in developing principals through organizational learning mechanisms?

Literature Review

Socially influenced learning provides a firm base to develop an understanding of how external variables impact individual learning. In exploring how environmental

factors influence an individual's cognitive functioning and development, our literature review will explore social psychology and provide a foundational understanding of the influences of experience and environment on learning. The origins of learning theories and the historical works that influenced my theoretical focus, situated learning theory, are explored through a historical approach. This review of the literatures will serve to contextualize the interplay between the individual learner and situated learning theory.

Both Russian and American schools of psychology provide the backdrop for our literature review and understanding of situated learning theory. Russian-developed cultural-historical psychology (Vygotsky, 1978) and American social psychology (C. S. (S. Peirce 1839-1914, 1998; Vygotsky, 1978) share in the idea that an individual learns from their social environment, thus developing their cognitive capabilities. In setting a theoretical framework, the literature review will first explore the Russian-based contributions to situated learning followed by American-based efforts. Finally, I will review empirical studies that further theorize situated learning theory.

Cultural-Historical Psychology

Lev Semyonovich Vygotsky (1896-1934) was the pioneer of cultural-historical psychology and refined its application to social and cognitive development throughout his short life. Vygotsky's contemporaries, Alexander Romanovich Luria (1902-1977) and Alexei Nikolaevich Leontiev (1903-1979), built upon and deepened Vygotsky's noteworthy theoretical and pedagogical work.

Utilizing integrative theoretical applications, cultural-historical theory focuses upon human culture and biosocial development (Yasnitsky, 2011). Namely, that learning is context-dependent and ultimately prompted and enhanced through activities that

generationally evolve to become meaningful to the learner over time (Leontiev, 2005). This new meaning is then applied within their “system of social behavior” (Vygotsky, 1978, p. 30). In children, these meanings build upon their basic ability to participate within a given social environment; however, as the child matures into an able-bodied adult, their biological and cultural functioning flourishes to higher levels (Miller, 2014). Vygotsky (1978) describes this process as follows: “The path from object to child and from child to object passes through another person. This complex human structure is the product of a developmental process deeply rooted in the links between individual and social history” (p. 30). Essentially, a child’s social context shapes access to the activities and tools that will inevitably stimulate the learner in constructing knowledge.

Vygotsky’s final contribution involves his “zone of proximal development” (ZPD) theory (1978, p. 86). This theory asserts that the zone of proximal development is what has already been developed and what new skills the learner may potentially learn or build upon. The tools from which the learner may further develop their mental function are determined by their environment or “in collaboration with more capable peers”(1978, p. 86). The caveat to ZPD is that it is not strictly dictated by environmental factors. The individual has autonomy to access and alter the environment they interact with. Shifting inter- and intra-personal dynamics are regulated by human emotion and provide an added layer of complexity to understanding ZPD (Mahn & John-Steiner, 2002)

In summary, Vygotsky’s cultural-historical psychology work and its application to context-based learning propose several key principles that deepen our understanding of situated learning. First, generational practices influence and ultimately establish cultural norms for new generations. Second, these cultural norms establish the frame from which

learners may access activities and tools to develop their cognitive functioning. Third, adult learners arrive with established mental function but the extent to which they expand upon these cognitive resources is both individually and environmentally dependent. Lastly, assuming the individual chooses to participate in their environment, they contribute to its cultural and social knowledge production, thus building upon its collective function. The language utilized by Vygotsky's ZPD construct shares similar theoretical perspectives later advanced by Lave and Wenger (1991). These theoretical similarities will be considered in another section of our literature review.

Social Psychology

In close proximity to thought and historical development, American philosopher Charles Sanders Peirce (1839-1914) provides us with an experimentally based theoretical frame from which we can trace attributes of situated learning. Peirce explored conscious and its interplay with the development of belief (thought) and ultimately its role in determining what action (habit) an individual will elect to use within a given environment (Peirce, 1998). He proposes that the collective development of these beliefs and their associated actions may be considered *learning*. Peirce (1998) supports his pragmatic theory by stating, "The essence of belief is the establishment of a habit, and different beliefs are distinguished by the different modes of action to which they give rise" (p. 41); that is, mental functioning, or in our case, learning, is spawned from beliefs that interact with their environment (social or cognitive). This interaction creates habits or behaviors that conscious retrieves when environmentally triggered. Peirce defined pragmatic thought as the "inseparable connection between rational cognition and rational purpose" (1905, p. 163). Supporting and contributing to pragmatic thought, George Herbert Mead

(1863-1931), William James (1842-1920), and John Dewey (1859-1952) provide theoretical evidence of the effects of social experience (environment) on an individual's cognitive development.

Mead (1977) elaborated on pragmatic thought and its application to social psychology. He asserts that an individual's actual behavior within the environment separates him from the environment in the strictly physical sense. He identifies the nature of this behaviorally constructed environment as the social environment. The social environment provides an experience to the individual who is immersed within it. Mead (1977) captures this eloquently by stating:

It is important to note that in immediate experience the environment and the things within it extend both spatially and temporally, that things are therefore at distances from one another, that they change qualitatively and move, and that these relations of extension in immediate experience are always with reference to the here and the now of the individual that answers to the particular environment.

(Mead, 1977, p. 90)

In other words, Mead contends that the individual determines their social conduct in a group setting, which may dynamically shift the social environment. The value and meaning an individual places within this social construct is dependent upon their actions (or acting as an agent) (Mead, 1977). William James shares in Mead's pragmatic philosophies and theories concerning environmental factors and their impact on social self.

James (1968) propounds an even sharper notion of social environment as the cursor to experience. In his activity experience theory he posits, “Everything real must be experienceable somewhere, and every kind of thing experienced must somewhere be real” (1968, p. 279). In its broadest interpretation, inactivity is dormant while activity is our lived experience. The lived experience is the only reality within pragmatic theory. James develops his ideas further by suggesting that experiences are the molds that hold a moment in time within our conscious. These molds of thought are retrieved when experienced connections trigger them; however, this is not to say that these molds cannot be reordered given environmental variables. Dewey adapts many of the mentioned theorists’ pragmatic ideologies and applies them to the field of education.

Dewey’s (1915) work is heavily focused upon the educator-to-student instructional approaches utilized in American public schools during his lifetime; however, his pragmatic approach may be applied to adult learners as well. Dewey’s application of pragmatics to learning is in alignment with his contemporaries, in that applicable and experienced life situations are the key to learning. He subscribed to the belief that the mind was able to expand its cognitive function and thus build a greater capacity of conscious. Dewey (1915) theorizes the interaction between the individual and their environment as follows:

The fundamental point in the psychology of an occupation is that it maintains a balance between the intellectual and the practical phases of experience. As an occupation it is active or motor; it finds expression through the physical organs—the eyes, hands, etc. But it involves continual observation of materials, and continual planning and reflection, in order

that the practical or executive side may be successfully carried on.

(Dewey, 1915, p. 92)

Within Dewey's *Pedagogic Creed* (1915) he provides further detail on how learning is a social exercise that must be developed within meaningful social relationships. Dewey maintains, social environmental factors and experienced learning opportunities are what truly influence individual learning.

The work of George Whitehead (1861-1947) is influential in the development of our theoretical frame. Not closely associated with pragmatic works, Whitehead's research spanned across several academic disciplines; however, it is his work within education and social philosophy that supports and synthesizes the theories considered above. Committed to the notion that learning must be based upon present and relevant activities, Whitehead (1959) was staunchly opposed to teaching "inert" information or processes to learners (p. 197). In summary, Vygotsky and the American pragmatists both insist that social environments and direct experiences are what cultivate individual learning.

Situated Learning

Situated learning is a relatively new construct utilized within the field of education and studied within social psychology. First explored as situated cognition by Brown, Collins, and Duguid (1996), they describe situated learning as taking place within authentic activities. The ways in which these activities and interactions transpire within a given social framework are the "practices of the culture" (Brown, Collins, & Duguid, 1996, p. 25). Vygotsky's cultural-historical theories are apparent within this work as the authors suggest "Conceptual tools similarly reflect the cumulative wisdom of the culture

in which they are used and the insights and experience of individuals” (1996, p. 23).

Again, these experienced interactions are where Vygotsky described the zone of proximal development is activated. Any new skills learned will likely allow the individual to participate within the community or culture when compelled or required. Lave and Wenger (1991) build upon Vygotsky’s ZPD theory with their research on legitimate peripheral participation.

Lave and Wenger (1991) assert that legitimate peripheral participation allows inactive members of communities to learn from simply observing or being apart of a given activity. They contend this participation to be especially true for new community members. Inexperienced participants will learn from their more experience colleagues, therefore experiencing peripheral participation. Lave and Wenger (1991) do not support the notion that Vygotsky’s ZPD theory is strictly internalized scaffolding cognition by the learner or historically driven by cultural or generational factors; instead, they propose a broader view of ZPD and its application to learning. They identify “shared practice” as the vehicle for collective learning among experienced and inexperienced community members (p. 28). These *communities of practice* embed participation as the root of learning about a given community (Daniels, 2008; Lave & Wenger, 1991).

Lave and Wenger present their theory by exploring five different types of apprenticeships across varying industries (1991). They analyzed five individual case studies on the apprenticeship experiences of midwives, tailors, naval quartermasters, butchers, and nondrinking alcoholics to explore their theoretical frame. They found variance in the nature of the apprenticeship and how individuals were taught; however, their findings uncovered compelling themes within their analysis. For example, the

quartermaster apprenticeship study conducted by Hutchins (1993) provides example after example of how new seamen relied upon their more knowledgeable superiors. It also highlighted the work of Vygotsky in the cultural-historical sense. For example, young navigators are first taught historical tools utilized by prior generations who relied upon celestial patterns as a means of naval navigation. Although taught in the utility of a tool, the activity learned starts with *observation* which leads to Lave and Wenger's (1991) first theme.

First, individual learning begins with observing the community and later evolves to replication of activities. During this time participants are observing the norms of community members, social interactions, and how production is accomplished. Second, the learning curriculum is viewed from the lens of the apprentice. Essentially, a learning curriculum is what is absorbed and considered important to the learner. Ultimately, this is the learner's interpretation and perception of their environment: it is not formed in isolation but rather *situated* in accordance with a community of practice (Davydov, 2008; Lave & Wenger, 1991; Lave, 1993).

Drawing upon research literature on cultural-historical and social psychology, we have explored and analyzed the role environment plays within an individual's learning. Specifically, I explored how social environments form communities and provide a situated frame from which individual and collective learning emerges.

Research Methods and Design

As stated above, this study aims to examine the following questions: (a) What are principals' perceptions of their learning from their district leaders' organizational

learning mechanisms? (b) How does a district leader perceive their role in developing principals through organizational learning mechanisms? For the purpose of this research, I define *organizational learning* as a change in the organization's capacity or in its collective behaviors that are the result of learned experiences (Argyris & Schon, 1978; Argote & Miron-Spektor, 2011; Fiol & Lyles, 1985; Levitt & March, 1988; Schulz, 2005).

My research is grounded in the idea of organizational learning theory as encompassing the deliberate use of *organizational learning mechanisms* (OLMs) to allow the organization to learn and grow (Collinson & Cook, 2007; Schechter & Atarchi, 2014). If effectively organized, these collaborative structures will create *situated learning* experiences for members of the organization (Lave & Wenger, 1991). This section details my overall research design including site and participant selection, instrumentation, and data collection and analysis. A detailed account of the collective research project's methodologies can be found in Chapter 2 of this dissertation in practice.

This study employs an exploratory qualitative case study design. Yin (2008) states, "A case study is an empirical inquiry that investigates a contemporary phenomenon within its real-life context, especially when the boundaries between phenomenon and context are not clearly evident" (p. 18). In this case, organizational learning mechanisms represent the studied phenomena within the district context. A case study design allowed me to study multiple entities within the district, focusing on

personal experiences with identified OLMs and situated activities. This study used two data sources to support a triangulated approach to data collection and analysis: document review and semi-structured interviews (Maxwell, 2013; Merriam, 2009; Yin, 2009).

This case study uses a single theoretical framework, OLMs, as a way to understand and make sense of how individuals learn from their involvement in curriculum reform efforts. Through this research, I will examine the social interactions and activity exchanges between a superintendent and her school principals.

Site Selection

I employed criterion-based sampling in selecting the site for this research project (Creswell, 2002; LeCompte & Preissle, 1993; Maxwell, 2013; Miles & Huberman, 1994; Patton, 2002). My criteria for district selection included that it had a roughly 5,000 to 10,000 student population and was engaged in curriculum reform work.

Data Collection

This case study utilized in-person interviews and review of archival documents for the purpose of data collection. Data was shared and cross-referenced, as “a major strength of case study data collection is the opportunity to use many different sources of evidence” (Yin, 2009, p. 114).

Interview protocols. Interviews serve as a primary tool to uncover phenomena, behaviors, and experiences (Creswell, 2008; Merriam, 2009). I conducted semi-structured interviews to explore the superintendent’s use of organizational learning mechanisms to

support principal learning. These semi-structured interviews offered systematic and flexible data collection practices that allowed the exploration of topics as they surfaced during interviews (Mason, 2010; Yin, 2009). Using this approach, I utilized a preliminary list of interview questions to ensure continuity of collected data while relying on the underlying theoretical framework of organizational learning theory, organizational learning mechanisms, and situated learning. This practice proved beneficial during interviews, as I was able to pursue deeper inquiry when relevant sub-topics emerged.

Document review. Review and analysis of documents can provide a rich source of data and information in qualitative research (Creswell, 2002; Merriam, 2009; Patton, 2002). Document review and analysis took place prior to and during fieldwork. In preparing for fieldwork, document review protocols served as a means to develop a meaningful context for the ongoing curriculum reform efforts of the district. This context provided important background information that supported data collection throughout the project. In addition to building context and supporting the research team's orientation to the subject, the initial archival document review served "as a stimulus for paths of inquiry that [could] be pursued only through direct observation and interviewing" (Patton, 2002, p. 294). Additional documents and work products were acquired for review during fieldwork and data analysis. These documents were reviewed and served to confirm or disconfirm data gathered from interviews (Merriam 2009; Patton, 2002).

As mentioned above, this study drew on two data sources: the interview protocol provided key findings while the document review confirmed or disproved presumptions. Twenty-plus questions were asked of the superintendent and school principals: these questions were embedded with code-targeted questions that focused on my research questions and specific elements of organizational learning (OL) and organizational learning mechanisms (OLMs). The data collected from these particular questions provided the basis for much of my analysis and concluding discussion. The document review supplemented the analysis, supporting or disproving primary sourced information.

Data Analyses

After the data were collected, the data set analysis included interview transcriptions, documents, and associated notes. Team members coded the interview transcripts and notes from document review to identify themes relevant to the research questions and conceptual framework proposed in this study. Subsequent rounds of coding were used to identify sub-themes, adding specificity to the relevant themes and individual studies. Moreover, the data from the principal interviews were examined alongside data collected from interviews with other school and district entities to note converging lines of inquiry (Yin, 2009, p. 115).

Validity and reliability. Ethical research practices are intimately tied to validity and reliability in qualitative research (Merriam, 1998). Researchers have a responsibility to participants as well as practitioners to present accurate and meaningful findings. Therefore, each of the following four aspects of validity and reliability were examined: construct validity, internal validity, external validity, and data reliability.

Construct validity. Construct validity refers to the identification of the “correct” measures of the concept studied (Yin, 2009), meaning that the measures describe what they claim to describe. To overcome issues associated with construct validity, I used multiple data sources, including interviews and documents, to ensure that findings were consistent across participants. While some documents were collected prior to on-site interviews, others were identified by and provided by interview participants, potentially providing a more valid means of studying the practices of the principal. During the drafting of interview protocols, the team drew upon feedback from pilot interviews in an effort to ensure that the questions were relevant to the study. Following the interview process, coding and analysis, interview participants were given an opportunity to review the draft of the study to verify the data represented and allow for further validation of the practices chosen.

Internal validity. Internal validity relates to the extent to which research findings represent what is actually happening (Merriam, 1998) at a specific case study site. In an effort to establish internal validity of the study, multiple data sources were utilized, including interviews and documents. In addition, multiple researchers were engaged in data collection and analysis. The use of multiple researchers and varied sources of data offered opportunities to check for consistency of findings across researchers and data sources.

External validity. External validity relates to “generalizable beyond the immediate case study” (Yin, 2009, p. 43). Due to the exploratory nature of this study, findings were not expected to be generalizable to the larger population of principals, and were only intended to provide insight and understanding of how four principals in the

same district support organizational learning for the purpose of curriculum reform. However, as the purpose of this study was to understand more deeply the role of the principal in organizational learning for curriculum reform, the generalizability of the study may be strengthened by comparing findings with those from similar studies (Merriam, 1998).

Reliability. In confirming reliability of the study, a researcher seeks at the most basic level to ensure that “results are consistent with the data collected” (Merriam, 1998, p. 206). Taking it one step further, Yin (2008) suggests that in ensuring reliability of the study, a researcher makes sure that if another researcher conducted the same study, using the same procedures in the same setting, using the same data set, the second researcher would arrive at the same conclusions. To increase reliability, a case study protocol was developed and documentation of processes was prioritized.

Participant selection. This qualitative research study explored organizational learning mechanisms utilized by a district superintendent and perceived by both building principals and the superintendent. Given the exploratory aims of this project, purposeful sampling was the most appropriate method for participant selection. Patton (2002) captures the power of purposeful sampling in qualitative research, “... the logic and power of purposeful sampling lies in selecting information rich cases for study in depth. Information rich cases are those from which one can learn a great deal about issues of central importance to the purpose of the inquiry...” (p. 230). Four principals were selected from among both elementary and middle school levels.

Researcher positionality. Serving as a secondary school principal, I brought bias based upon my experiences and interpretations of what effective curriculum reform should look like. I also brought assumptions based upon my experiences within the two specific school districts from which I have been employed. The norms and established standards of these districts likely influenced my interpretation during data analysis. In attempt to remove these distractions, I utilize strict adherence to the interview protocol and remained focused upon how the collected data applied to the theories explored.

Key Elements and Terms

Before presenting the results section, I reintroduce key concepts and definitions associated with organizational learning theory, organizational learning mechanisms, and situated learning. The key elements of organizational learning have been identified as the following: theory of action, task systems, theory in use, mental maps, and single-loop and double-loop learning (Argyris & Schon, 1978). Table 1 provides a brief overview of each concept:

Table 3.1

Elements of Organizational Learning

<u>Element</u>	<u>Definition</u>
Theory of Action	The norms, strategies, and assumptions that organizations rely upon to pursue their specific purposes and goals (Argyris & Schon, 1978; DuFour & Eaker, 1998; Fullan, 2001; Fullan, 2007).
Task Systems	A design for work and division of labor to accomplish intended theory of action

(Argyris & Schon, 1978, p.14).

Theory in Use	The observable behaviors of the organization or individuals within the organization (Argyris & Schon, 1978).
Mental Maps	Direct experiences and interactions with the organization over time cause individuals to construct mental images and maps of theory of action and task systems (Argyris & Schon, 1976; Argyris & Schon, 1978; Hedberg, 1981).
Single-loop Learning	Minor individual or organizational change in behavior to correct perceived/detected errors of alignment to theory of action (Argyris, 1976; Argyris & Schon, 1978).
Double-loop Learning	Major individual or organizational change in behavior to correct perceived/detected errors therefore altering the intended theory of action (Argyris, 1976; Argyris & Schon, 1978).

In an attempt to contextualize and apply these concepts to a public school setting, district and school leaders design *task systems* intended to implement their intended *theory of action*. Teachers and other education professionals work within those task systems and, over time, accumulate experiences that shape how they perceive and understand the district's theory of action. These perceptions and understandings are the *mental maps* and images that individuals construct to guide their current and future works which manifest in their observable behaviors known as *theory in use*. The flow from theory of action to task systems to mental maps and images to theory in use is essential to my analysis of the both principals' perceptions of their learning and the superintendents perception of her role in principal development.

Theory of action, task systems, theory in use, and mental maps are key concepts that frame and help to distinguish between two distinct types of learning within an organization; single-loop learning and double-loop learning (Argyris & Schon, 1978). Single-loop learning refers to changes in behavior that maintain the current theory in use. Double-loop learning refers to changes in behavior that redefine the norms, assumptions, and strategies that constitute the organization's theory of action. Both types of learning are explored further in the following analysis.

Organizational learning provides a robust framework to anchor and guide this study but I intend to investigate the two key concepts that lie at the core of organizational learning. First, organizational learning mechanisms (OLMs) are the embedded arrangements and protocols that function to support organizational learning. These OLMs are the concrete, observable systems within an organization that promote individual and group learning (Popper & Lipshitz, 1998, p. 170). More specifically, these mechanisms represent the systems and structures that organizations use to acquire, retain, and transfer knowledge (Fiol & Lyles, 1985; Huber, 1991; March, 1991). These units appear to function in a cyclical manner and exist in varying degrees of complexity and efficiency. Current research identifies five key concepts associated with OLM function: organizational memory, information acquisition, information distribution, information retrieval, and information interpretation (Schechter & Mowafaw, 2013; Schechter & Atarchi, 2014). Table 2 provides detailed definitions of each embedded learning mechanism.

Table 3.2

Elements of an Organizational Learning Cycle

<u>Attribute</u>	<u>Definition</u>
Information Acquisition	The process of obtaining knowledge.
Information Interpretation	A socio-cognitive process that ties meaning to the distributed information (Schechter & Qadach, 2012)
Information Distribution	The process of sharing information that leads to understanding.
Organizational Memory	The process and means by which organizational experiences are stored and coded into organizational memory for future use.
Information Retrieval	Organizational members draw on the encoded information to guide their decisions and actions.

Adapted from “Toward an Organizational Model of Change in Elementary Schools: The Contribution of Organizational Learning Mechanisms,” by Schechter, C. & Qadach, M., 2012, *Educational Administration Quarterly*, 48.

The second concept that ties OL and OLM to individual learning is participation in one’s community or environment. Lending to constructivist theories of learning, individual learning benefits from interactions within a community of practice. In the context of this study, the administrative community of practice creates the framework for these interactions. Individual interpretations and perceptions are *situated* in accordance with their community of practice (Lave & Wenger, 1991; Lave, 1993). Learning and professional development are thought of as a “situated activity” in which learners’ participate in the organization, thus promoting and developing individual and organizational learning (Lave & Wenger, 1991, p. 29). The more situated an individual is to actively participate within their community of practice the more likely they are to learn

and develop. Units of OLM provide the operational structures from which a learner may participate and access their individual learning processes/cycles. District leaders must be able create and effectively influence multi-layered and dynamic communities of practice at both district- and school-levels. Figure 1 provides a visual interpretation of these theories in practice:

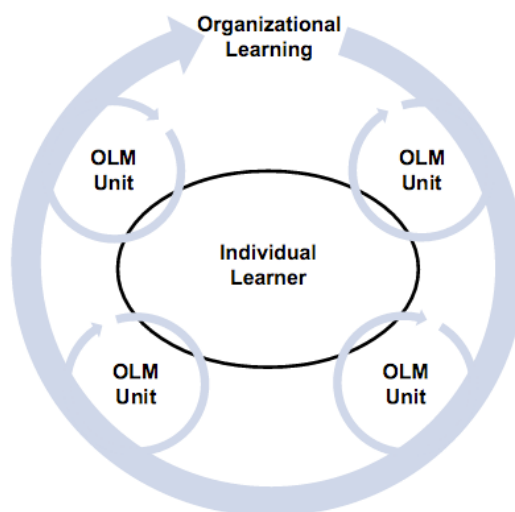


Figure 3.1: Organizational Learning Operationalized by Active OLM units

Findings

My findings provided key insights into how OLMs operationalize within an organizational setting and their impact on professional learning. The data suggested that OL is supported by effectively situated OLMs. It appeared that the better situated an OLM, the more likely principals would be able to access new knowledge and thus ultimately learn. My research questions will serve to frame my data findings in the following section.

My first research question asked, “What are principals’ perceptions of their learning from their district leaders’ organizational learning mechanisms?” Throughout analysis, my data provided key findings and emergent themes relevant to “how” and “if”

principals learned from the manner in which their leader operated the district. The data revealed several key structures, activities, and behaviors utilized by the superintendent to complete district tasks. These identified elements served as research themes and provided a foundation for deeper analysis. Two key findings emerged while analyzing the collected data: (1) superintendent-initiated and cabinet-led meetings are a central organizational structure; and (2) principal-initiated and just-us-led meetings serve to clarify principals' interpretations and communicate with the superintendent.

Cabinet Meetings as an OLM Unit

First, all of the principals interviewed confirmed that much of their information was acquired from the superintendent through her use of electronic mail (email). Principal Homer provided insight by stating; "Anything that is time-sensitive will come directly in an email from the superintendent." I did not find data that would substantiate that email is being utilized to increase principal learning outside of basic communications. I anticipated finding evidence that would have pointed to the use of email in distributing organizational- or educationally-relevant literature or resources. This information could have taken form in academic research reports/journals, educational websites, or book sections, but I was unable to locate evidence that supported this as a regular or existent practice of the superintendent. However, I was able to determine that much of organizational- or educationally-relevant literature or resources were communicated at their pre-year and monthly cabinet meetings with the superintendent. Data presented in the following paragraphs provides clarity surrounding the role and functional characteristics of cabinet meetings.

All four principals provided data that confirmed their participation in the pre-year and monthly administrative meetings with the superintendent. In first exploring cabinet meetings, Principal Homer explained: “Cabinet and admin meetings are organized and facilitated by the superintendent and the assistant superintendent.” Principal Plato corroborated this information as he shared, “We have monthly cabinet meetings, where all of the principals meet with the superintendent.” The members of the cabinet meeting consist of the superintendent, two assistant superintendents, and three directors. Principal Plato elaborated, “The monthly cabinet meetings we have are with central office, the directors, and principals. Usually it’s all the central office personnel and the superintendent and the two assistant superintendents.” In the words of Principal Socrates the cabinet meetings are where “a lot of information is pushed out” to the leadership team. Cabinet meetings take place once a month and involve both school- and district-level leaders.

Probing further into my research findings, I was interested to uncover whether or not principals learned from these meetings. In this circumstance cabinet meetings appeared to create conditions where principals interact with fellow administrators and are exposed to new units of knowledge. Principal Plato stated: “I think those cabinet meetings are very important because you talk” also adding, “I think the most beneficial is the face-to-face meetings when we’re together, because I think that’s the time that you learn the most.” This data shows that human interactions within the cabinet meeting influenced principals’ perceptions of their learning. Principal Socrates elaborated further on the purpose of these meetings by stating, “If you have any questions, those all administrative meetings or cabinet meetings are really good times to answer questions, to

help discussions.” This finding shows that collegial interactions served as a crux in how information was shared and experienced by buildings principals. Principal Aristotle corroborated these findings: “Through our monthly meetings with central office, the principals and directors [engage in] an open forum to discuss, to clarify, [and] make sure we understand, well we have a common understanding.” The data indicated that cabinet meetings served to provide a forum to distribute new knowledge and establish shared interpretations.

These data sets implied that cabinet meetings were a vital organizational structure by which the superintendent distributed new knowledge and promoted a shared interpretation amongst principals. Through an OLM lens, it may be inferred that these meetings permit the superintendent to *distribute* information to *acquiring* principals where shared *interpretation* is hopefully gained. Furthermore, the meeting’s documented agenda, human interactions, and scheduled monthly time slot all serve to support the *organizational memory* and ability for *information retrieval* by organization members. The data also suggested that cabinet meetings served to push the superintendents intended theory of action forward. Figure 2 provides a visual interpretation of the interplay between superintendent-driven district learning and an organizational structure intended to drive her theory of action: cabinet meetings. The outer ring represents the district-level or organizational learning functions while the inner ring depicts the cabinet meetings and its use as an organizational learning mechanism to support principal learning.

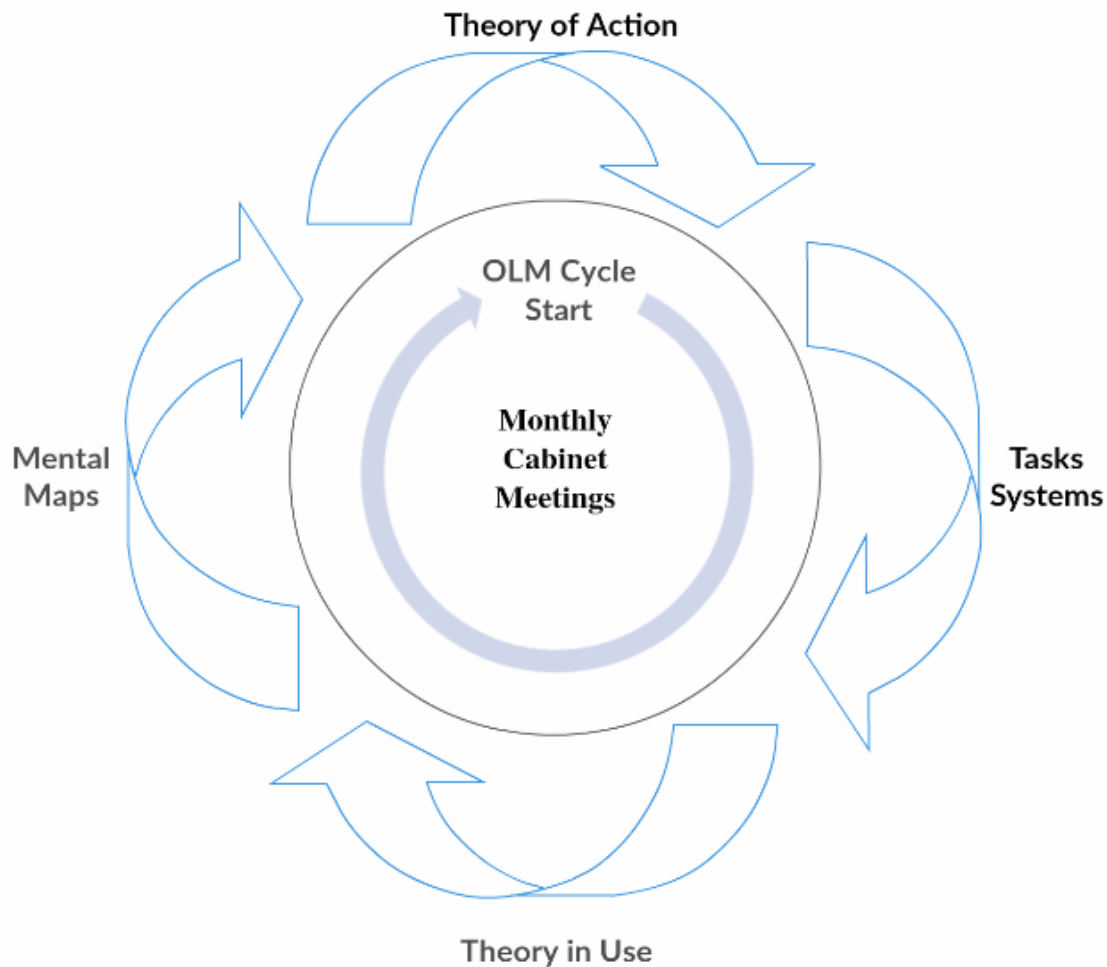


Figure 3.2: Interplay Between District Organizational Learning and Cabinet Meetings

This analysis suggests that principals affirmatively perceived an influence on their learning due to cabinet meetings; however, what appeared to solidify the impact of cabinet meetings as operationalized learning mechanisms was its replication by school-level principals.

Just-Us Meetings as a Situated OLM Unit

Interviews also revealed the existence of a principal-exclusive meeting that also took place once a month. This meeting, coined the *just-us* meeting, served as a place where principals confided in one another or sought clarification around new knowledge.

Principal Socrates provided key insights surrounding these meetings: “The principals also have a monthly ‘Just Us’ meeting, they call it. The cabinet includes district level administration of central office and the district directors. The ‘Just Us’ meetings are just the eleven principals.” Adding further that the meetings provided, “a chance to kind of hash out what you need to do, things that are building specific or level specific.” Deeper analysis of the data supported this information with Principal Homer’s confirming statement: “The principals have what we call a ‘just us’ meeting, where it’s only principals, no one from central office.” The establishment of this organizational structure in many ways mirrored that of the cabinet meetings. Probing further, we were provided with some key information to delineate the two meetings.

These principal-only meetings appeared to serve as a venue where principals confidentially and collectively shared their thoughts and interpretations of new information that was distributed at the cabinet meeting. One principal commented that at these meetings “often times we’ll find that we don’t have clarity amongst ourselves, and one of us will be delegated to reach out to the superintendent for clarification.” It may be inferred that cabinet meetings served principals by providing a venue where information was further interpreted or clarified.

In reviewing both cabinet and just-us meeting agendas their scheduled dates suggested that just-us meetings transpired after cabinet meetings. A reviewed cabinet meeting agenda recorded a date of October 20th, 2015 with the just-us meeting scheduled approximately one month later on November 20th, 2015. This data was essential in understanding the just-us meeting as a subunit of the cabinet meeting. The just-us meeting appeared to act in a manner that sought clarification to gain an organizationally-

shared interpretation of new knowledge. This was supported as Principal Homer clarified what the protocol was when a thorough interpretation was not gained at the principal meeting. He shared, “one of us [principals] will be delegated to reach out to the superintendent or assistant superintendent about more information or clarity.” This data suggested that the clarification required of a disjointed interpretation was a process of error detection and ultimately served as an indication of learning.

In an attempt to explore this data further I analyzed both the cabinet and just-us agendas. These agendas were collected from meetings that were scheduled in close proximity to one another. To reiterate, the data revealed that just us meetings were purposely scheduled after cabinet meetings and served to provide a venue where principals could gain a deeper interpretation and gain clarification around information shared at cabinet meetings.

In support of curricular reform efforts, the district is utilizing a web-based intervention program titled: Achievement Network (ANet). During my document review it was discovered that ANet was addressed at a cabinet meeting in October. The information regarding ANet was the following: “ANet Data – A1 Belvedere ELA Performance by Grade Level.” This information was corroborated by information found in the November just-us meeting agenda. This agenda provided the following data, “ANet Testing for Elementary Schools. One or two days for math? Should be consistent throughout elementary schools.” The principals then had an area titled: “Questions for Central Office” where areas of further clarification or guidance were indicated. This identified transfer of information between organizational structures supports not only the interplay between the superintendent and principals but that curriculum reform efforts are

situated within the core of these units. Perceptions of learning and teaching appear to contextualize within these processes and arrangements.

The data suggests that cabinet meeting are where new knowledge is shared with building principals. Consequential and deliberate, just-us meetings serve as a venue to interpret and clarify new knowledge shared at cabinet meetings. It may be suggested that just-us meetings are the replication of cabinet meetings with the delineating factor being principal exclusivity. The creation of this organizational structure by principals serves as evidence of perceived learning placed into practice. Figure 3 provides an example of how principals were involved in a central organizational structure (cabinet meetings) that appeared to prompt the creation of their own structure (just-us meetings). In exploring principals' perceptions of their learning from their superintendent's cabinet meeting, I discovered key findings in the data that supported her impact on their learning. This information will be explored in the following section that addresses research question two. Figure 3 provides a brief overview of the findings for research question one .

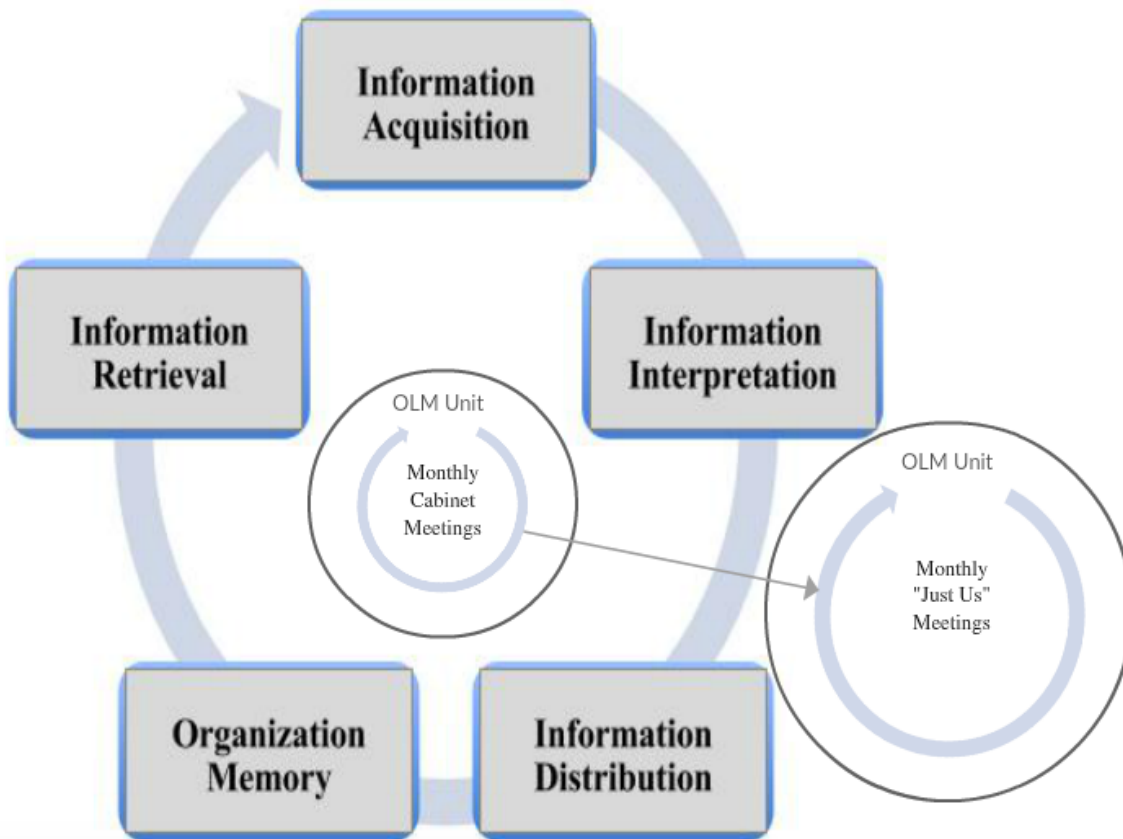


Figure 3.3: OLM Replication

While investigating the findings for research question one, I found several key themes. First, the superintendent and principals are very reliant upon the cabinet meetings for varying purposes. The superintendent's role and perception of these meetings will be further investigated in research question two's analysis, but it worth mentioning and the data suggested, that the main function of cabinet meetings was to distribute information. Second, and more relevant to research question one, was the effect that these meetings appeared to have on principals. That data suggested that cabinet meetings created the need for principals to create an organizational structure for purposes of clarification and interpretation. This shift in behavior and creation of just-us meetings suggests that cabinet meetings were the main catalyst. The data revealed that new knowledge shared at

cabinet meetings is further analyzed and explored at just-us meetings. This exploration of new knowledge with the intent of gaining a shared interpretation or to have questions clarified by the superintendent reveals perceptions of learning.

Collaborative Structures for District Improvement

The second research question asked, “How does a district leader perceive their role in developing principals through organizational learning mechanisms?” Investigating this research question, I was interested in exploring the perceptions and actions of the superintendent; specifically, are her initiated organizational structures, actions, and/or behaviors supporting principals’ learning and development? Several key findings emerged during analysis and served to guide the exploration of principal learning. The data identified superintendent-initiated items that appeared to have an impact on principals were the following: (1) collaborative structures, (2) district improvement plans, and (3) superintendent behaviors and actions. Before presenting my findings, it is important to mention and understand that as a hierarchal and organizational extension of this superintendent’s level of responsibility, central office personnel play a key role in the structures and manner in which the organization functions. By default, members of the central office leadership team essentially serve as OLMs acting on behalf of the superintendent. The superintendent often utilized the plural “we” during her interview, which is representative of her central office administrative members.

To present the identified themes and data in a clear manner, my analysis begins with exploring where the superintendent acquired information to set district goals. Starting with where knowledge is acquired and how an organization’s leader interprets it emerged as a logical investigative start point. She was asked, “How do you identify

district priorities around curriculum?” Her response appeared to indicate standardized test scores as the catalysts for driving much of her prioritization and decision-making processes. She stated, “We turn to the testing a lot. If we notice a weak area that’s showing up at different schools, that’s something that we want to tackle on a district level.” This data finding was further validated as she stated, “We measure success through our scores.” Adding, “We also measure anecdotally by visiting classrooms and collecting data that way through observations of teachers and students. We definitely use that to inform our work.” From these key data points, standardized test scores appear as the catalyst to influence the superintendent’s interpretation and prioritization processes.

This data reveals that the superintendent is acquiring information from standardized test scores and through analytical interpretation with central office members, drafts a set of goals. She explained this process, “One of the things that we saw in the last couple of rounds of testing is that our students don’t perform as well on questions that demand higher cognitive tasks so we’ve put a real effort on paying attention to those and making sure that they become a part of our schoolwork.” She anticipated that making this a priority for the district would prepare students for when they “encounter something like that on a test, they will be more inclined to tackle it and persist and try then struggle to answer.” The superintendent shared that these goals guide the development of a draft-version district improvement plan (DIP). Clarity surrounding the superintendent’s personal behaviors and processes will help to contextualize the data that emerged from identified themes.

Collaborative Practices to Support Principal Learning

In investigating this process further and in support of presented data, it was uncovered that the district improvement plan is shared at a large administrators-only meeting prior to the official start of the school year. The superintendent explained that this pre-year meeting allows her to introduce and distribute district goals. This is also when school-level principals experience their first interpretation of the superintendent's drafted DIP. The superintendent and principals' interpretations of the DIP appear to evolve into a collaborative and thus organization-based theory of action as principal input is elicited. The superintendent explained, "We shared our goals with them [principals], invited them to edit them as they saw fit to meet building needs." This fusion of district- and school-level interpretation appears to set the framework for the identification of behaviors, protocols, and artifacts that will serve as the desired targets and outcomes required to fulfill the DIP.

Data indicated that this finalized DIP evolves into "the focus for the year." She supported this interpretation by stating, "The all administrator meeting sets the frame for the administrative team and then the all-staff PD day sets the frame for everybody else." She ensured these goals are kept a priority by charging principals "with discussing those [goals] at every meeting they have as well." She added further that this is "so that teachers understand also that these really are priorities and not just talking points." This evidence appears to suggest that DIP goals are initially delivered and embedded within the organizational memory of each school by its building principal. After the pre-year meeting and DIP refinement, the finalized DIP is distributed to the entire school district.

District Improvement Plan in Support of Principal Learning

Analysis of the district improvement plan provided evidence to support its role as both a complex task system and multilayered OLM unit. Serving dual purposes, the DIP appears as both an operationalized memory subunit and retrievable source of information for members of the district. Further investigation uncovered the complexity of the DIP and its function across many units of the organization. There appears to be one key DIP with three subunit DIPs serving to support its function. The district-specific “District Guidance Initiatives Improvement Plan” appears to serve as an umbrella for smaller subunit DIPs: Humanities DIP, Science-Technology-Engineering-Mathematics (STEM) DIP, and English Language Learners (ELL) and Foreign Language (FL) DIP. Each DIP is targeted in its listing of plan-specific indicators. Figure 4 features the organizational characteristics and OLM Units of this multi-tiered plan.

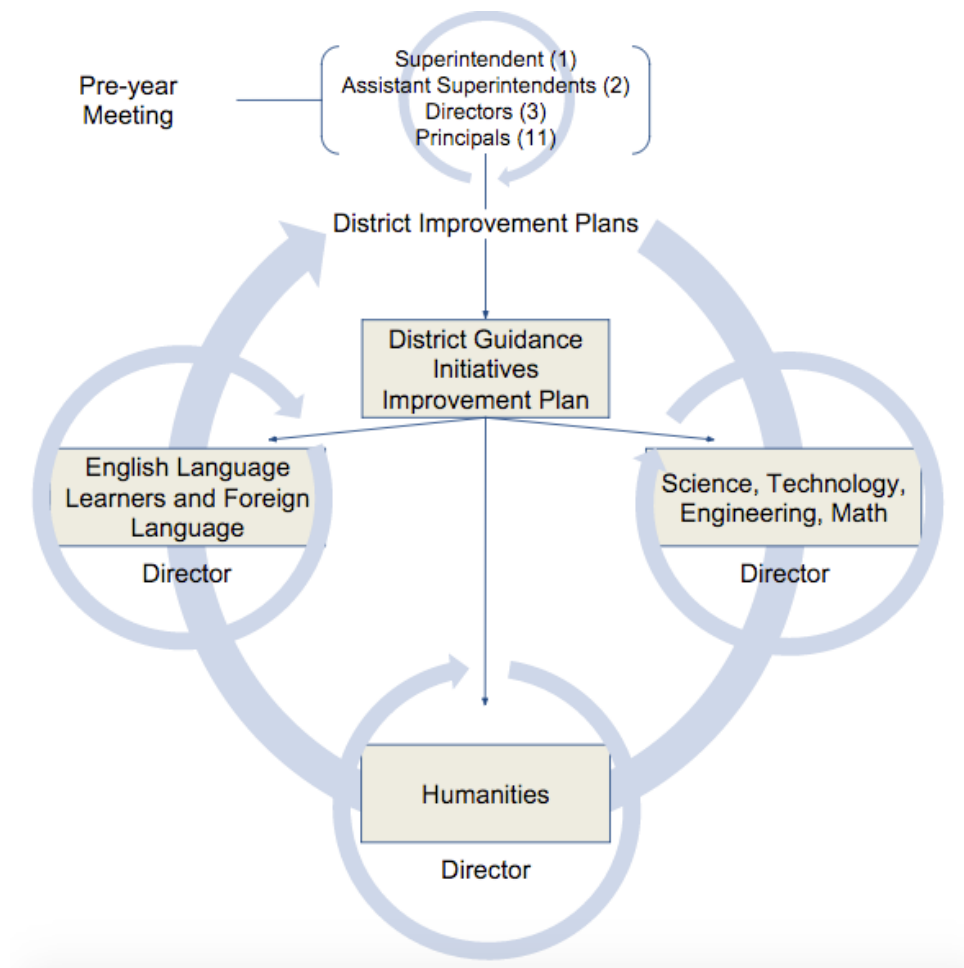


Figure 3.4: District Improvement Plan and OLM-Related Units

Principals were involved in the creation and shared interpretation of the District Guidance Initiatives Improvement Plan (DGIIIP). Their participation and influence upon this key OLM Unit and ultimately its subunits appears to create a situated learning experience for principals. The presence of these collaborative structures seems to provide principals the venue to exchange information, learn new knowledge, and exert influence over the task systems of the district.

The school improvement plans (SIP) provided substantial data to indicate an influential link between the DIP and SIP goals. Utilizing ANet as a curricular data point,

the intervention programs use was indicated in every SIP Plan with the Belvedere Public School District. The DIP serves as an organizational structure that interlinks with SIPs across the district. The overlap of shared goals supports the idea of transferred knowledge amongst these units. The collaborative process utilized to create the DIP and its direct impact upon SIPs implies that the superintendent is purposeful in her actions and behaviors thus indicating the perception of her influence.

Situated Activities in Support of Principal Learning

Exploring the superintendent's behaviors provided key data points in assessing her perceived role in developing principals. We have identified superintendent-led cabinet meetings, pre-year meetings, and the DIP as key organizational structures where principals acquire and interpret information; however, the data revealed the superintendent's use of classroom and school observations also emerged as a significant finding.

Observations conducted by the superintendent, appear to serve both as an organizational assessment and opportunity to set a behavioral expectation or standard. The superintendent revealed acknowledgement of these assertions as she stated: "I set the frame for [district goals] when we do our all staff professional development day at the start of the school year;" adding further, why the goals are important and what behaviors or actions are to be expected at the classroom level. In her words, "I visit all of the schools twice a year. Every time I'm in a classroom that's what I'm going to be looking for. I shared with them the data that I was going to collect every time I was in a classroom." This data suggests that the superintendent is modeling behaviors to her

building-level principals that not only should be replicated but reinforce her and ultimately the districts priorities.

Discussion

This research study provided tangible evidence to suggest that the use of effectively situated OLM Units support both individual and organizational learning. In referring to *situated*, I am asserting that OLM Units serve as communities of practice when multiple entities are involved; however, it is also important to recognize that a human OLM Unit may function as an independent entity and provide situated learning opportunities as well. Nevertheless, regardless of the activity, learners' must actively engage with the OLM Unit if learning is an anticipated outcome. Organizational leaders should develop the ability to create structures and mindsets where learning is not only valued but remains an organizational priority.

In exploring both the principals' perceptions of their learning and the superintendent's perception of her role in the development of principals, the data showed that OLM Units as providing a means to both teach and learn. The data suggested that the superintendent orchestrated the fundamental principles behind organizational learning with the use of organizational learning mechanisms thus creating situated learning opportunities. In exploring her approach to district-level operations, I learned about her perceptions of her role in the development of school-based principals and principals' perceptions of their learning. Principals' perceptions of their learning will be presented first followed by the superintendent's perception of her development role.

Principals' Perceptions

The cabinet meeting identified by both the superintendent and principals is a vital organizational structure from which both parties participate. This OLM Unit was identified as an arrangement where information is distributed by the superintendent and interpreted by build-level principals. In connecting this structure to theory, there is a clear cycle of learning that takes place both at the organization and individual levels as a result of these meetings. This assertion is based upon how double-loop learning is applicable to the creation of just-us meetings. The cabinet meetings played an integral, if not defining role, in the existence of just-us meetings. This change in behavioral norms by principals supports the assertion that superintendent-generated cabinet meetings had a direct impact on the learning of principals as they changed norms and replicated her behaviors. Any knowledge that is unclear from cabinet meetings is then delegated to a specific principal who is charged with reaching out to central office for clarification on particular matters.

Exposure to new knowledge requires errors in detection to be explored until the learner achieves full mastery of the concept or task. This single-loop learning experience is evident in the actions of the collective group of principals. Errors in detection or in this case interpretation are eradicated as clarity is sought. The transfer of knowledge and interplay between both cabinet and just-us meetings served as a situated learning experience and thus provided clarity of principals' perceptions. It also may be proposed that a double-loop phenomenon has transpired as a result of cabinet meetings. This is suggested because just-us meetings were created as a result of misinterpretations acquired at cabinet meetings. The principals purposefully changed their behavior to create an organizational structure loosely based upon the framework of cabinet meetings. The

cabinet meetings provided an operationalized blueprint from which principals appeared to simply recreate. This transfer of knowledge was the product of a situated superintendent-initiated organizational learning mechanism.

These OLM Units were contextualized in a manner that promoted active engagement and relevance to practice amongst members. In replicating an OLM Unit the principals appeared to have created their own community of practice. The OLMs operationalized these structural arrangements for both cabinet and just-us meetings; however, what delineates OLMs from situated learning is the learners' participation within the community of practice. These participatory interactions are what determine if a learner is going to experience transferred knowledge from the community (Lave & Wenger, 1991). In exploring the superintendent's perceptions of her role in developing principals, the data provided key findings to indicate OLMs functioning in a developmental manner.

Superintendent's Perceptions

To reiterate what the data revealed, the superintendent shared that her pre-year and cabinet meetings are where information is distributed and interpreted by all administrators. These shared interpretations translate into actions or expectations that are carried out within individual schools and classrooms across the district. It appears as though the superintendent's intention is to ensure that her administrative team has a clear understanding of their shared expectations prior to district-wide distribution. Specific to the pre-year meeting, goals and interpretations are refined and evolve into a formalized district improvement plan and distributed to the entire district.

The DIP serves as both retrievable and stored knowledge within the DIP-specific OLM Unit. The entire DIP process serves as an active OLM Unit and produces a tangible product based upon members situated learning experiences. Additionally, the DIP process also serves as a situated experience in that it provides a framework for principals to follow in the creation of their school improvement plans. These meetings provide the environment where the superintendent may model and exhibit techniques or activities that she values. School-based leaders may choose to select some or all of her techniques in this work dependent upon their perception of its effectiveness and their ability/experience level. Nevertheless, the superintendent has created conditions from which a multi-layered approach to developing principals is possible.

The pre-year and cabinet meetings serve as a “situated activity” where district and school leadership participate in a “community of practice” (Lave & Wenger, 1991). One of the foundational beliefs of OL is the concept of an organization gaining new knowledge (Argyris & Schon, 1978; Argote & Miron-Spektor, 2011; Fiol & Lyles, 1985; Levitt & March, 1988; Schulz, 2005). The method by which this district leader implements and facilitates her pre-year and cabinet meetings provides ample evidence to support the perception of her role in the development of her principals. These meetings represent multiple OLM cycles of learning and provide a situated structure from which principals have replicated with their just-us meeting.

In closing, the principals and superintendent are deeply immersed within their community of practice. The superintendent has created effective organizational structures throughout the district, which have provided situated activities for principals to access. Through the use of cabinet meetings, she has created a community of practice that was

replicated by her principal team. She has also created structural units in the form of a multi-tiered DIP to which principals may access organizational knowledge. If community of practice is not applicable, the DIP provides a key organizational memory and retrievable mechanism for principals. These collaborative structures and practices are further reinforced by the superintendent's observation round visits. It is clear from the data that she leads with the intention of providing example after example of what she expects of the organization's members. In this case, the principals gain knowledge from her actions and activities that influence their perceptions and behaviors.

Implications for Practice

Analysis of the data suggests that the functioning of both organizational learning and organizational learning mechanisms operationalize in a similar manner. These characteristically cyclical units emerged throughout the organization and appeared embedded in various systematic/structural, electronic, and human arrangements. These units appeared to exist in both independent and overlapping forms and took on multi-layered functions and/or behaviors in specific circumstances. There also appeared to be a link between a unit's rate of activity and the impact upon those responsible for its function. In theory, it appears that OLM units must be effectively *situated* for maximum impact upon individual and organizational learning. Figure 5 provides an example of an effectively situated educator whereas classroom practices would likely be impacted by this educator's exposure to effectually functioning OLM Units.

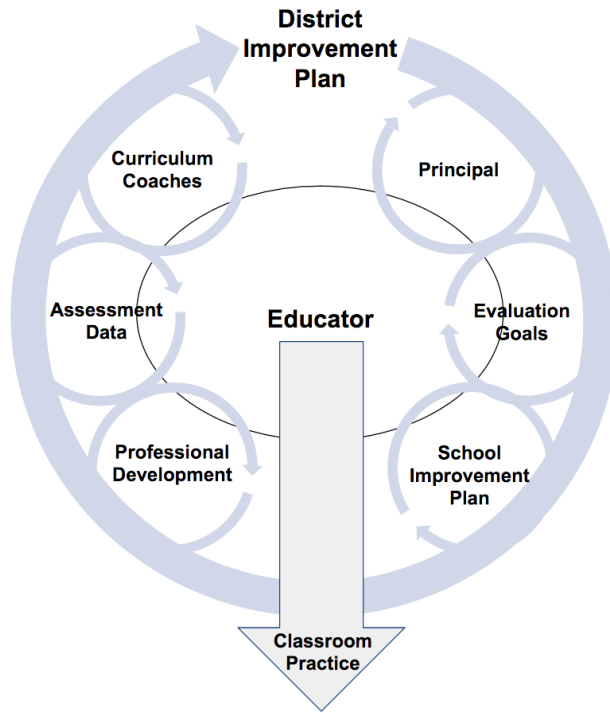


Figure 3.5: OLM Units Support District Improvement Plan

Hence, learning if principals perceive their involvement in the organization as opportunities to learn or not, may prove valuable in thinking about approaches to the development and learning of school-based leaders. The learning for both the organization and individual was based upon the experience provided. Due to the cyclical nature of the learning process, all facets of how new knowledge is experienced by the learner must receive careful consideration by organization leaders. Starting with effective organizational learning mechanisms and a situated activity mindset, district leaders should revisit how they plan the professional learning of their organization. The implications for theory and practice are hard to foresee, but it may be suggested that knowledge-rich organizations are likely implementing successful practices to ensure the organization learns. These practices and mindsets will vary from organization to

organization but leaders who have the wherewithal to identify and leverage situated OLMs will create a meaningful community of practice.

Limitations

The limitations of this study are undoubtedly time and scope. The study was carried out in a few short months, which inadvertently affect the breadth and depth from which I was able to probe. Conducting four in-depth principal interviews was effective in collecting a meaningful data set, but more time would have been ideal to interview all the principals in the district. This would have permitted me to engage in a deeper cross analysis of perceptions across the district.

Conclusions

While analyzing my dissertation teams interview data and comparing with my own findings, I found compelling evidence that suggests principals within this school district take on more of a managerial role rather than an instructional leadership role. This was not the primary focus of my study so I did not explore further, but glaring themes emerged that indicated directors and curriculum coaches are the instructional leaders within this organizations leadership structure. The principals appeared to take on the operational pieces of running a school rather than instructional leadership. It is assumed this is by design and appears to work well for a district of this size, but it was hard for me as a school principal to accept the principal role not connected to instructional leadership.

Accountability measures at the state- and national-levels have likely influenced the hierarchal structure and distributed leadership within this district. As my data analysis moved away from the superintendent, I found more and more evidence that communicated less focus on the principal as an instructional leader and more emphasis

on the coach's role in district-level reform. It became clear that directors and coaches take on more of an instructional leadership role, which may influence educators viewing their principals as instructional experts.

A central office director who stated, "I have a literacy coach for every elementary school. We also have them for middle school, high school, as well as math coaches. So part of it is that they are the voice for the directors back to the administration" which provided key insight on how this arrangement operates. He also echoed the importance of information interpretation by stating, "I think the key here is making it a uniform message. I have six elementary schools, that the message I'm giving is the same message that is given to all six of the schools." Confirming that information is distributed and interpreted in the same manner supports the use of OLMs but also displays how principals are removed from curricular responsibilities.

I propose that the district take steps to create an organizational structure that promotes collaboration between curriculum coaches and building principals. The two units appear to operate on different planes, which may distort interpretations and cause confusion amongst educators. Furthermore, as mentioned above, the curricular expertise of the principal is underutilized. Perhaps the superintendent could situate the coaches to meet with principals across the district and report out about their successes, challenges, and/or interpretations of curricular work. The principals and coaches could co-create new situated knowledge for the district that may inform teaching practices throughout the district. This partnership could support principals to gain deeper insight and share this in-depth curricular knowledge with their faculty.

District leaders who incorporate organizational learning theory into their approach of reform efforts are more likely to see results. Utilizing an OL lens, superintendents will gain greater insight as to how their leadership team learns and develops. This information will prove beneficial in *situating* professionals, structures, or activities to access new knowledge. Knowledge that is readily shared, interpreted, and distributed by organizational members will increase both the efficacy and capacity of the organization. Knowledge that is effectively introduced and adapted by organization members will support the development of professional growth and ultimately serve to leverage the greatest pursuit: learning.

Chapter 4³

Conclusions, Findings, and Recommendations

School districts are large and complex human organizations. Historically, school systems have struggled to establish broad and sustainable change efforts due to their size and complexity. Organizational learning theory presents district and school leaders with a valuable theoretical framework that may support effective and sustained reforms in their districts and schools. As researchers, we sought to understand how district and school leaders used organizational learning theory to implement and support curriculum reform. Specifically, the current study aimed to develop a rich understanding of (a) the systems and structures employed by a school district to support organizational learning and implement curriculum reform and (b) district practices and procedures that enhanced or limited opportunities for organizational learning.

To investigate these problems of practice, the research team employed a qualitative case study methodology across five individual studies. The studies utilized an extensive review of district documents and eighteen in person interviews with a representative sample of administrators and teachers from three elementary and one middle school. Upon analysis, the results of individual studies produced four major themes that served as the basis for our collective findings:

1. The district had established effective collaborative structures that appeared to support individual and organizational learning
2. The district had established effective collaborative structures, however, inequities in time available for professional learning between traditionally

³ This chapter was jointly written by the authors listed and reflects the team approach of this project: Andrew M. Berrios, Tracy R. Curley, Marice Edourd-Vincent, Bobbie F. Finocchio, and Ian Kelly

scheduled and non-traditionally scheduled schools appeared to impact the use and perceived efficacy of existing organizational learning mechanisms.

3. The district had established strong leadership teams to carry the curriculum work forward, but these teams lacked strategic overlap to support effective organizational learning.
4. The district had established directors and coaches as the instructional leaders of district- and school-level curriculum reform efforts, thereby diminishing the connection of principals to the organizational learning process.

Based on these findings, the team developed a series of recommendations that aim to build on the existing strengths of the Belvedere schools and to enhance organizational learning. The recommendations included: (1) providing equitable time for professional learning across all schools, (2) building strategic connections between key district leadership teams, and (3) integrating principals into the existing teaching/learning mechanisms of the district. The following pages provide a detailed summary of each finding before concluding with the chapter recommendations and a discussion of implications for practice.

Group Findings

Integrated Collaborative Structures

Belvedere's collaborative structures support the distribution of critical organizational information from one level of the district to the next. Data analysis identified a number of primary collaborative structures used to distribute through the

organization's hierarchy. The collaborative structures at each level of the district are summarized in Table 4.1. During interviews, participants answered a series of questions that asked them to identify (a) to whom they go for information and (b) how they distribute information. Interestingly, and as Table 5 highlights, faculty meetings were the only collaborative structure identified for which there was not agreement between participants who perceived the structure as a distribution point (principals) and participants who were the target audience for that information (teachers and coaches). Agreement in perceptions between those distributing and those receiving information appears to support the notion of relatively stable distribution of information throughout the district's hierarchy, supporting the finding that the cohesive nature of the collaborative structures facilitates organizational learning.

Table 4.1

Collaborative structures in the Belvedere Schools

Level	Structure	Distribution Point(s)	Acquisition Point(s)	Agreement
Central Office	Cabinet Meeting	Superintendent Assistant Superintendent	Principals Directors	Yes
Directors/ Principals	Directors Meeting	Director	Coaches	Yes
	Faculty Meeting	Principal	Faculty	No
Teacher/ Coach	Common Planning time	Coaches/ Teachers	Coaches/ Teachers	Yes
	Professional Learning Communities	Coaches/ Teachers	Coaches/ Teachers	Yes

Individual and Organizational Learning: The Impact of Cohesion

As stated earlier, the cohesive nature of Belvedere's collaborative structures appears to support the accurate and efficient distribution of organizational information and, thereby, supported organizational learning. Participant responses, particularly at the teacher/coach level, suggest that these collaborative structures were critical to their professional learning and growth. At the teacher and coach level, the common planning time (CPT) and professional learning community (PLC) structures were identified as central to the ongoing growth and learning of teachers and coaches. In both structures, teams of teachers, coaches, and other licensed professionals worked to implement and refine curriculum, plan assessments, analyze student performance, and resolve other pressing problems of practice.

Consistent with research on human learning, these collaborative structures provide teachers and instructional coaches with socially mediated learning opportunities in communities of practice. These structures are situated in direct proximity to teaching and learning and, therefore, represent organizational learning mechanisms that are of critical importance to the implementation and efficacy of district curriculum reform priorities. While these collaborative structures were present and identified by all participants, transcript analysis uncovered a difference in the perceived efficacy of these structures by teachers and coaches working in schools with traditional schedules and those working in schools with non-traditional schedules.

Inequitable Time for Professional Learning

Our analysis indicated that (a) the Belvedere Schools took intentional and strategic measures to deploy an integrated system of collaborative professional structures

throughout the district's hierarchy; (b) these structures appeared to have a positive impact on individual and organizational learning; and (c) there were significant differences in terms of time available for and, therefore, access to these professional learning opportunities. As we shall see, the collaborative structures employed in Belvedere represented a strong foundation for organizational learning while, at the same time, presented with clear opportunities for growth.

Time and equitable opportunities for professional learning. While data indicated that Belvedere had deployed an effective system of collaborative structures that supported the distribution of information and organizational learning, there were disparities across the district in terms of the time available for and, therefore, the ability to access the collaborative structures. Two of the four participating schools operated non-traditional school schedules. These non-traditional school schedules included additional time on learning for students as well as additional collaborative time for teachers and other professionals. The other two participating schools operated traditional school schedules that did not include additional time on learning for students or collaborative time for teachers and other professionals. As we shall see, the variance between school schedules appeared to be the primary cause of differences in both the implementation and perceived efficacy of common planning time and professional learning communities.

Common planning time (CPT) was the organizational learning mechanism most impacted by the differences in school scheduling. Teachers and instructional coaches in schools operating traditional schedules reported having CPT once per week while teacher and coaches in schools operating non-traditional schedules reported having CPT daily. Each CPT was forty-five minutes in duration which, over the course of a 180 day school

year, created a significant discrepancy in time afforded to professionals for collaboration and learning. Further exacerbating this inequity, schools operating non-traditional schedules also afforded teachers and instructional coaches two hours of release time each week. Over the 180 day school year the cumulative impact amounted to approximately 26.25 hours of common planning time and collaborative work time for teachers in traditionally scheduled schools and approximately 205 hours of common planning time and collaborative work time for teachers in non-traditionally scheduled schools. Put simply, teachers and instructional coaches in traditionally scheduled schools appeared to access roughly 13% of the common planning and collaborative learning time of their colleagues in non-traditionally scheduled schools. This discrepancy manifested in (a) differential performance on standardized tests and (b) differing teacher perceptions of efficacy between participants across the two school scheduling models

Student achievement and time for professional learning. State standardized test results were collected and analyzed to gain a general understanding of student performance in traditionally scheduled and non-traditionally scheduled schools. Four years of data were acquired for three of the four participating schools.

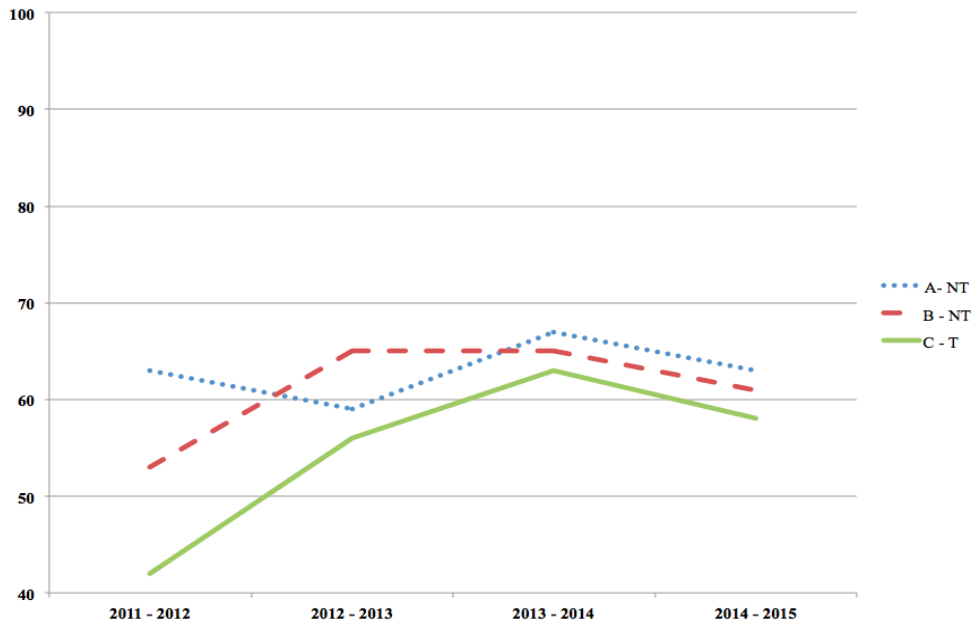


Figure 4.1: District Mathematics MCAS Performance

The fourth was excluded from the comparison due to the fact that it served different grade levels than the other three schools. Two of the elementary schools in the comparison were non-traditionally scheduled and the third was traditionally scheduled. Figures 4.1 and 4.2 summarize four years of student performance data in ELA and Math. Dashed lines represent the performance of non-traditionally scheduled schools, solid lines represent the performance of the traditionally scheduled school.

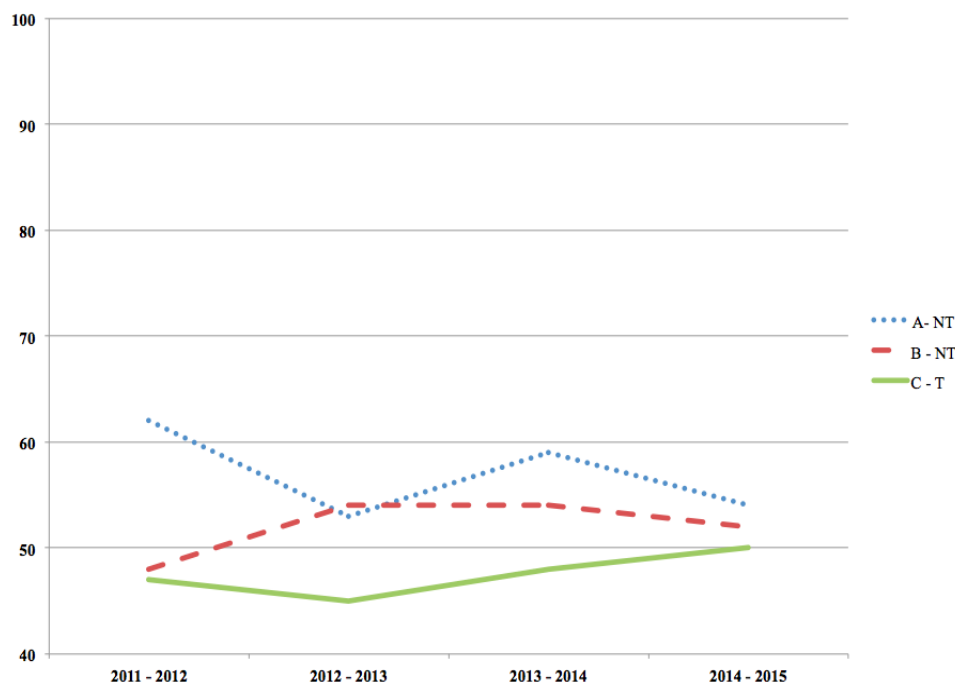


Figure 4.2: District ELA MCAS Performance

While it was not possible to draw a direct correlation between increased student performance and the additional professional opportunity to learn in non-traditionally scheduled schools, it was worth mentioning the difference in performance. Across four years of data on two standardized test measures the non-traditionally scheduled schools outperformed the traditionally scheduled schools.

Teacher/coach perceptions of efficacy. Beyond differences in student performance, teacher and coach perceptions of efficacy varied significantly between traditional and non-traditionally scheduled schools. One central office administrator recalled their experience in a non-traditionally scheduled school, “I was in a non-traditionally scheduled school, so we had more time, more consistent time to be able to do those things [work in collaborative teams].” Consistent with the notion that affording more time for professional learning is beneficial, one principal qualified the difference as such, “This particular school has had a major turnaround because we, as a group with

non-traditional schedules, we're a different school." Both administrators expressed perceptions of advantage in the non-traditionally scheduled schools and spoke to the belief that the additional time enhanced school performance.

Consistent with administrators, classroom teachers articulated perceived advantage and perceived benefits to school performance. A teacher who has worked in schools with both scheduling models made a poignant comparison, "In our school we have a 45-minute block every day to common plan within our grade level team because of the non-traditional schedule. Previously I had come from a school that we were lucky to get 45 minutes a week. Even then it was often getting taken over by data meetings or you know coaches and stuff. We have a lot of ownership. We do a lot of creating." This teacher's comments referred to (a) the advantage in terms of opportunities to learn in communities of practice through common planning time every day and (b) the benefits in terms of ownership and creativity.

Teachers and coaches in traditionally scheduled schools indicated that the scheduling inequities created a situation in which (a) they were not able to use the collaborative structures effectively due to time constraints, (b) the inequity acted as a basic limitation in their ability to effectively support students, and (c) tension between professionals with and without additional student and professional learning time was common. In their commentary, one professional in a traditionally scheduled school described the situation as such, "They all had an extra week [referring to additional time for student and professional learning]. Now you have in-district arguments amongst teachers. You're comparing us with them and they had an extra week and they get extra time in their day. They can do more with their kids than we can. There is friction in the

district with that.” This professional’s sentiments effectively captured those of other professionals in traditionally scheduled schools and reflected the ways in which this inequity may have had a negative impact on individual and organizational learning.

The district developed and implemented collaborative structures to support organizational learning relevant to ongoing curriculum reform efforts. While these collaborative structures were found consistently across the district, their implementation and perceived efficacy varied significantly between traditionally and non-traditionally scheduled schools. Schools that afforded teachers additional time to use the collaborative structures appeared to outperform schools that did not provide this time. Through our analysis of the collaborative structures used by the district, it also became evident that opportunities for individual and organizational learning may have been hindered in situations where the collaborative structures lacked strategic connections and overlap.

Collaborative Structures and the Need for Strategic Overlap

The collaborative structures employed by the Belvedere schools represented the primary mechanisms by which the district promoted professional learning relevant to curriculum priorities. As discussed earlier, these collaborative structures, particularly at the teacher/coach level, were perceived as effective professional learning mechanisms. While they were regarded as such, perceptions of efficacy did not explain the broad discrepancies between professional perceptions of district curriculum priorities within and across the hierarchical structure of the district. Further analysis of participant interview data uncovered that, while these mechanisms were effective in many ways, key collaborative structures at the district and central office level lacked strategic overlap that

may have contributed to the lack of clarity around district priorities and, as such, had a deleterious effect on organizational learning.

The superintendent held monthly meetings with central office staff, building principals, and curriculum directors and indicated that this collaborative structure was one of the primary mechanisms used to distribute information to district leaders. Moving from the superintendent's meetings, curriculum directors and principals held meetings that either (a) distributed the information from the superintendent's meeting to their respective level of the organization or (b) processed and interpreted the information from the superintendent's meeting. In either situation the distribution and/or interpretation of this critical organizational information took place in isolation from other leaders. The actions taken by these discrete groups to work with and distribute information independently created a situation in which these key OLMs missed opportunities to strategically overlap as teams and process the district information in a broader community of practice. Figure 4 captures the existing structure of the district's OLMs while at the same time hi-lighting the missed opportunities for strategic overlap between the OLMs.

Areas A, B, and C of the Venn diagram each represent one of three collaborative teams that operated as OLMs at the central office level (ELA curriculum meetings, STEM curriculum meetings, and principal meetings). In each area, a key group of district leaders, independent of the other groups represented by areas A, B, and C, distributed or interpreted information acquired during the monthly superintendent's meeting. Here we saw the missed opportunities for more strategic and intentional connections between these OLMs.

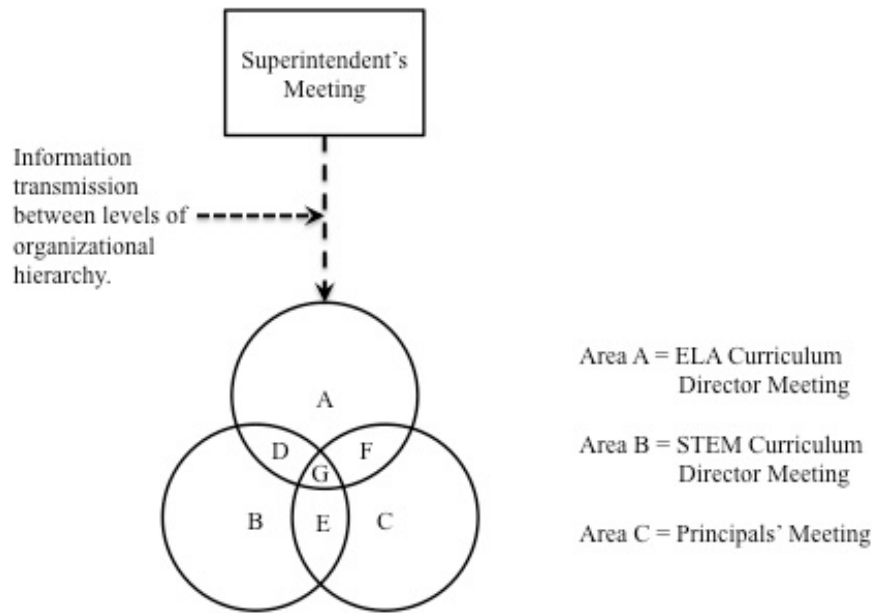


Figure 4.3: Strategic connections for information distribution and interpretation

As seen in areas D, E, and F of Figure 4.3, there were situations in which key district leaders distributed and/or interpreted information together but these overlapping areas of OLMs were not systematically employed across the district. Area D represents the overlap of math and ELA instructional coaches that happened informally at the building level. Area E represents the overlap of principals and math coaches while area F represents the overlap between principals and ELA coaches. The interactions represented in areas D, E, and F are all informal OLMs that may or may not, depending on the composition of building and practices of principals and coaches, operate in all schools.

Area G represented the point of strategic overlap and connection that was not identified by any participant as an operational OLM within the district. Area G represents the possibility for a strategic and intentional overlap between the three leadership teams and, as we will discuss in our recommendations, an opportunity to increase the clarity of

critical district information and agreement between stakeholders on district curriculum priorities.

Disconnect Between Teaching/Learning and Building Principals

Through the collection and analysis of data two distinct operational task systems were identified in the Belvedere Public Schools. These task systems, for the purpose of this discussion, are referred to as (1) management and operations and (2) teaching and learning. Management and operations functions included budget, policy, scheduling etc., while teaching/learning functions included all aspects of curriculum development, curriculum implementation, and students' achievement. Participants indicated that the superintendent and central office administrators straddled both domains and coordinated primarily with building principals on the management and operations of the district. Curriculum directors, instructional coaches, and teachers were consistently identified as the professionals responsible for the teaching and learning task systems. While the structure of district responsibilities appeared to support individual and organizational learning in Belvedere, two primary obstacles to improving organizational learning appear to exist.

The first obstacle to improving organizational learning manifested in the operational task systems within the district. This arrangement of management/operations and teaching/learning task systems created a situation in which participants perceived principals to be disconnected from the teaching/learning task systems of the district. When teachers and coaches were asked to identify to whom they go for (a) information relevant to the current curriculum reform and (b) expert professional advice, building principals were not identified. Instead, classroom teachers identified job alike colleagues

as their primary sources, while instructional coaches identified curriculum directors. These data points illuminated the composition of the teaching/learning task system of the district and underscored the extent to which building principals were perceived as separate from those systems. While the disconnect between building principals and the teaching/learning mechanisms of the district were perceived by participants from across the district's hierarchy, those perceptions were reinforced by structural processes and procedures within the district.

More specifically, this structural division begins centrally and, as a result, are reflected at the building level. As illustrated in Figure 4, district leaders move away from the superintendent's meeting into job-alike or department-specific meetings that served to distribute and/or interpret that information. As coaches came together with curriculum directors at this level, principals were not present. Conversely, building principals convened meetings as a team to process and interpret the same information without curriculum directors or instructional coaches present. This may have contributed to the perception that principals were not a part of the curriculum director/curriculum coach instructional team and, therefore, disconnected from the teaching and learning task systems of the district.

The second obstacle to improving organizational learning manifested in the building based task systems that appeared to reinforce (a) the meeting structures at the district level and (b) the perceived disconnect between principals and teaching/learning task systems. This perception was rooted in data from transcripts indicating that instructional coaches were more involved when it came to providing support for teachers' professional development and learning. Instructional coaches and classroom teachers

indicated that coaches facilitated weekly common planning time, contributed to professional learning groups, and coordinated with directors to plan/facilitate monthly professional development. Described by principals as anything from “point people” to “gatekeepers” with respect to curriculum information and expertise, they were perceived as responsible for the performative aspects of the teaching and learning task systems at the building level. From the teachers’ point of view, coaches provided instructional leadership, while the principals assumed responsibility for the management and operations task systems.

Interestingly, teacher perception of principal involvement with teaching and learning task systems contradicted principal perceptions of their own involvement in teaching and learning. As one principal explained,

Formally, I meet with my literacy and math coaches, and my assistant principal every week, so that's an opportunity for them to fill me in on their weekly meetings and then also for me to check for understanding, to make sure that we're all on the same page when I come back from cabinet meeting or an all-admin meeting.

This data indicated that teachers may not possess information about how coaches interacted and communicated with building principals and other administrators that meet, weekly, to “strategize around how to support the coach and how to support the teachers.” Regardless of the practices of principals and coaches, teachers appear to perceive a division of task systems that positions instructional coaches as a primary resources for information and expertise relating to teaching and learning.

The Belvedere Public Schools have developed and deployed effective mechanisms for collaboration, leadership, and enhancing the practice of teachers and coaches throughout the district. With minor adjustments to these practices and procedures, the Belvedere schools can leverage established strengths to further support organizational learning and, potentially, enhance the implementation of curriculum reforms. In an effort to build on Belvedere's existing strengths and extend organizational learning, we move the following recommendations.

Recommendations

Data indicated that the Belvedere schools utilized a number of integrated systems and structures to support professional learning in service of ongoing district curriculum reform efforts. While these integrated systems were found to be effective in many ways, findings also indicated specific opportunities for growth that, if leveraged, may enhance opportunities for individual and organizational learning across the district.

Ensure Equitable Time for Professional Learning Across All schools

Opportunities for socio-cultural learning in communities of practice are central to learning. At the building level in Belvedere, common planning time (CPT) and professional learning communities (PLC) provided this research based learning context and were perceived by teachers and coaches as central to their professional learning. Schools participating in the current study operated both traditional and non-traditional school schedules. Non-traditional schedules afforded additional time for student and professional learning and, therefore, created inequities in opportunity to learn for students and staff. It is our strong recommendation that the district look for creative solutions that

would provide schools and professionals across the district with equitable access to the collaborative professional learning structures deployed in Belvedere.

At the time of this study, teachers and coaches in traditionally scheduled schools had access to one CPT block per week (26.25 hours per year), while teachers and coaches in non-traditionally scheduled schools had access to one CPT block per day (135 hours per year) and, in addition, two hours of release time for collaborative work each week (70 hours per year). The cumulative impact of these inequities on opportunities for professional and, therefore, organizational learning cannot be understated. To make the comparison clear, this discrepancy creates a situation in which professionals in traditionally scheduled schools access 12.8% of the total common planning and collaborative learning time as their colleagues in non-traditionally scheduled schools.

Beyond limitations to opportunity to learn, this significant inequity in access between schools creates friction amongst professionals and feelings of helplessness in teachers and coaches working in traditionally scheduled schools. Participants in traditional schools expressed frustration that they were compared to colleagues and schools who had clear advantages over them. We believe that in finding a way to provide equitable opportunities for professional and student learning across the district, Belvedere will enhance organizational learning and support collegiality across the district.

Establish Strategic Overlap Between Key Leadership Teams

Belvedere has implemented effective collaborative structures and leadership teams throughout the district's hierarchy. Through our data collection and analysis, however, it became clear that a subset of the key leadership teams were not connected in strategic, intentional ways that support the effective interpretation and accurate

distribution of key organizational information. More specifically, we found missing connections between meetings that included curriculum directors and coaches, and those that included building principals. Data indicates that this disconnection may result in disparate perceptions of district priorities throughout the district. As such, it is our recommendation that the district establish these connections by bringing curriculum directors, instructional coaches and building principals together, regularly at the district level, to discuss and address issues relevant to the district's curriculum priorities. In doing so we project that the district would (a) increase clarity about district priorities throughout the district; (b) elevate the efficacy of existing collaborative structures; and (c) as we will discuss later, connect building principals more closely to the teaching and learning mechanisms in Belvedere.

Increase clarity around district priorities. The broad range and limited alignment of perceived district priorities identified by participants in the current study reflected the breadth of individual interpretations of Belvedere's primary strategic curriculum reform initiatives. Information moves through organizations via individuals and groups of individuals. As organizational information moves among and between groups, it is interpreted based upon individual mental models of the district's priorities. As such, individual interpretations are not uniform and can alter, for better or for worse, the information before it is distributed further into the organization. This alteration of information is exacerbated as it is interpreted by and passes through additional individuals. This is analogous to the broken phone game and presents a logical

explanation for the discrepancies between participants' identification of district priorities.

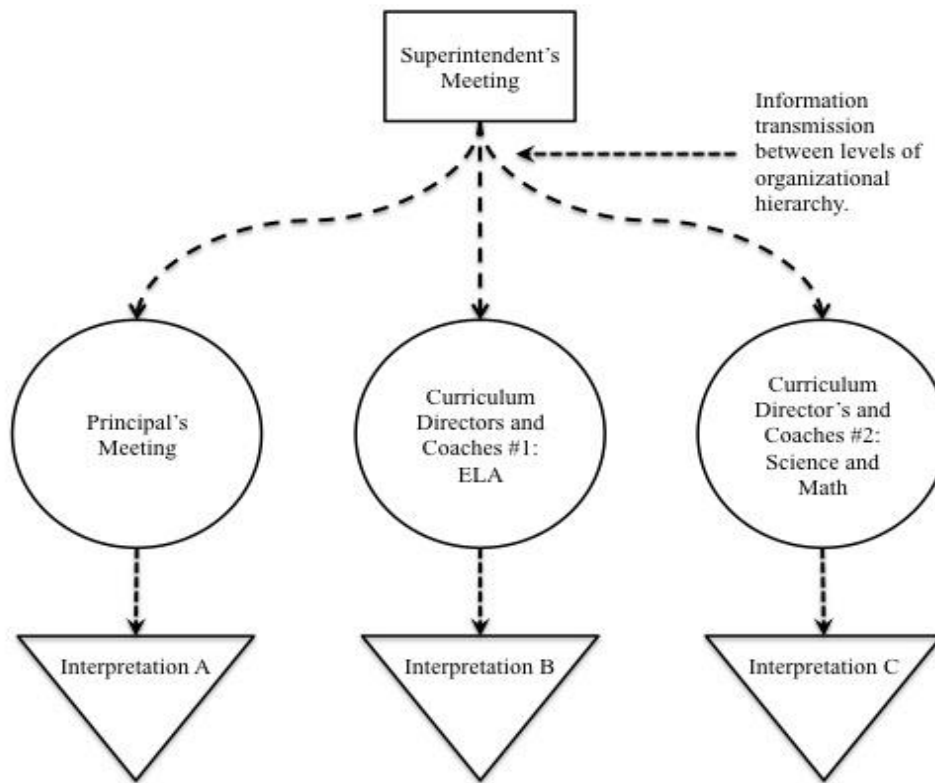


Figure 4.4: Structural influences on information interpretation.

As described by participants, the current leadership structure (See Figure 4.4) situates the superintendent's meeting as a focal point for the distribution of key organizational information. From that meeting, participants indicated that the information acquired during superintendent's meetings is then distributed via (a) meetings with instructional coaches from across the district, and (b) meetings between building principals. This structural arrangement between teams, as seen in Figure 5, creates multiple venues for the interpretation of critical information regarding district priorities and, as such, sets the stage for a higher degree of variance further into the human structure of the district.

Considering the impact of isolated interpretations of organizational information on the fidelity of that information as it is disseminated through the organization, the importance and impact of shared interpretations comes into focus. Connecting curriculum directors, instructional coaches and building principals to process, interpret, and develop a shared understanding of district priorities (organizational information) before distributing that information further into the district is an important step that may increase clarity and consistency around the district's strategic curriculum initiatives.

By bringing these key instructional leaders together to building shared understandings and interpretations, Belvedere may create a situation in which a continuous interpretation of Belvedere's strategic initiatives is more likely across individuals and groups throughout the district. In addition to this primary benefit, the district will also further its support of and coherence to the existing system of collaborative structures at the teacher/coach level.

Elevating the efficacy of existing collaborative structures. Common planning time (CPT) and professional learning communities (PLC) were the primary collaborative structures for professional learning identified by teachers and coaches. Our evidence suggested that these meetings were productive and support (a) individuals with their practice and (b) the district in moving curriculum reform priorities forward. It is our belief that by aligning the interpretation of district curriculum priorities between curriculum directors, instructional coaches, and building principals the district stands to enhance the existing efficacy of CPT and PLC structures.

When discussing the collaborative structures in which they distribute and acquire organizational information, curriculum directors, principals, and coaches described team

meetings in which they (a) bring and share important organizational knowledge and perspective, (b) work to interpret this shared pool of organizational information and knowledge, and (c) use this shared pool of organizational information to make decisions that influence their collaborative work at the building level. These behaviors are consistent with socio-cultural theories of human learning within communities of practice (Brown, Collins, & Duguid, 1996; Kimbell & Hildreth, 2008; Kolb, 1984; Lave & Wenger, 1991; Orr, 1997; Vygotsky, 1978) and have the potential to greatly enhance individual and organizational learning. The pressing issue, here, is that these three teams use a pool of information to inform their thinking and decision making that is naturally limited by the meeting structure currently employed by the district. Figure 4 captures the structure and portrays the isolated nature of these three teams of instructional leaders.

Each team's ability to process organizational information and make effective operational decisions is limited by the absence of rich organizational knowledge embedded in the other two teams. As a result, each of the three teams operates at less than optimal capacity and individual members of those teams carries structurally limited interpretations of district priorities and district needs back to their buildings. These narrow interpretations of district information and priorities are transferred back to each building and used to inform the professional collaboration that occurs in CPT and PLC structures. Here we see the direct link between district instructional leaders' mental models and the potential efficacy of building level CPT and PLC structures.

To further enhance the efficacy and rigor of the CPT and PLC structures, we believe that the district must bring together curriculum directors, instructional coaches and principals for the purpose of building shared mental models of district curriculum

priorities. Doing so may enhance CPT and PLC work by ensuring coherence within and between professional teams and, consequently, ensuring more cohesive and valuable feedback/organizational information loops back from the CPT/PLC structure to the instructional leadership team. As a result, these instructional leadership teams would have the opportunity to enhance their work to identify critical issues relevant to teaching and learning across the district.

Integrate Principals into the District's Teaching/Learning Mechanisms

Principals in the Belvedere schools represent an integral part of the district's task systems. As we discussed earlier, building principals are perceived as an instrumental part of the management and operations task systems that support teaching and learning. Creating the conditions for professional and organizational learning is important, but the role of building principals must be perceived more broadly in Belvedere to include the role of instructional leader. Schools in which principals operate as instructional leaders are more likely to provide successful opportunities for professional and organizational learning (Mitchell & Sackney, 2006; Schechter & Qadach, 2012). With this in mind, we make our final recommendation to strategically integrate the building principals into a more direct and obvious role in the teaching and learning task systems of the district.

Strategic is a key qualifier in the articulation of this recommendation. The management and operations of the district are in good working order and building principals should not be removed from their key roles within those task systems. With minor adjustments to existing systems and structures on the teaching and learning side of the organization, the integration we recommend can be accomplished. More specifically we believe that by (a) combining district level meetings between curriculum directors,

instructional coaches, and building principals and (b) ensuring that all principals meet with instructional coaches on a regular basis at the building level, the district will enhance its support of professional and organizational learning.

As suggested earlier, bringing curriculum directors, instructional coaches and building principals together to process and build shared mental models of critical district information will potentially support greater clarity around district priorities throughout the district and enhance the existing efficacy of PLC/CPT structures. Additionally, making this structural adjustment clearly ties principals to the teaching and learning task systems of the district. Centrally connecting district level instructional leaders supports the notion that the district should ensure that individual principals connect with instructional coaches at the building level on a regular basis.

In some instances, data indicated that principals in Belvedere make it a practice to meet regularly with the instructional coaches in their buildings. Doing so provides a critical opportunity for individual and organizational learning in that (a) the principal was able to check for understanding and alignment around district curriculum priorities and (b) the principal was able to access important organizational information about the implementation and efficacy of the ongoing curriculum reform efforts. In buildings where this is not the practice of principals, opportunities for district alignment and organizational learning are missed. In prescribing this practice the district ensures that principals are more closely tied to and informed about the teaching and learning task systems within the district and, consequently, are better equipped to engage in those teaching and learning systems.

Limitations

The development and implementation of the current study was limited by a number of factors and readers should carefully consider the results and their ability to be generalized within the context of the following limitations.

Participant sample size represents a significant limitation to the current study. The study included semi-structured in person interviews with eighteen individuals representing central office administrators, principals, directors, coaches, and classroom teachers. The sample size represents a small portion, approximately 3.3%, of the district's overall teaching and administrative work force. While the in-depth interviews provided a rich perspective on organizational learning within the district, a broader sampling of participants would have added validity and supported generalization of results. Future research including a larger professional sample would support results that are more easily generalized.

The data collection and analysis ability of the current study was limited due to the time constraints of the research project. Due to time limitations, the research team was unable to employ direct observations of organizational learning mechanisms within the district. This data collection method would have complemented data collected through archival document review and in-person interviews thereby providing a more thorough and rich analysis of organizational learning.

Researcher bias must also be taken into account when considering the results of this study. While many steps were taken to mitigate the influence of potential bias on the part of the research team, the composition of the team may have influenced the results. At the time of the study, four members of the research team were building principals and one

member was a central office administrator. A more diverse research team that included classroom teachers and/or non-education professionals may have provided additional and valuable perspective on organizational learning within the district.

It was beyond the scope of this study to explore the influence of the district's organizational learning mechanisms on teacher and coach perceptions of equity and, therefore, their perceptions of district values and beliefs about the professionals they employ. It was clear in many interviews with professionals in traditionally scheduled schools that they believed the district did not value them in the same way they valued professionals in non-traditionally scheduled schools. These perceptions are subtle and represent affective barriers to individual and organizational learning. Future inquiry into disparities in opportunities for professional learning would strengthen the existing research as it relates to organizational learning in school settings.

Conclusion

The current study explored how one district leveraged organizational learning theory to implement and support ongoing curriculum reforms. Through a qualitative case study methodology, the research team conducted an extensive review of archival documents and in-depth in person interviews with eighteen professionals in Belvedere. Participants included the superintendent, central office leaders, principals, instructional coaches, and classroom teachers.

Through the collection and analysis of data, it became clear that the Belvedere Public Schools employed an integrated system of organizational learning mechanisms (OLMs) that appear to support both individual and organizational learning. These OLMs included print/digital resources, human information networks, and collaborative teaming

structures. While these OLMs appeared to be effective, the research team identified specific recommendations that may enhance overall organizational learning. These recommendations included: (1) Ensuring equal time for professional learning across the district's schools, (2) Establishing strategic connections between key human organizational learning mechanisms, and (3) the strategic integration of principals into the teaching and learning organizational learning mechanisms of the district.

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Appendix A

Superintendent/ Chief Academic Officer Interview Protocol

Position:

Years of experience in Education:

Years of experience in current role:

1. What are the district's major curriculum priorities/initiatives?

Probe: Can you tell me specifically about the UbD curriculum reform?

2. What is the district's plan for addressing those priorities?

3. How do you identify district priorities around curriculum?

4. How do you communicate district priorities around curriculum to central office leaders? Principals? Teachers?

5. How do you know if central office leaders and principals understand the goals and priorities associated with the UbD curriculum reform?

6. How Do you check that district's goals and curriculum priorities are implemented?

Probe: How do you check?

Probe: How do you know if there is alignment between district and school priorities in regards to the UbD curriculum reform?

7. How is information about district goals share with principals? Central office? Teachers?

8. With whom, other than your staff, do you regularly communicate information about school and district curriculum priorities?

9. How do you assure all information about UbD and curriculum resources are accessible for central office leaders? Principals? Teachers?

Probe- How do you know if the methods are effective?

10. How do you know whether the leaders that need the information about the curriculum reform actually get it?

11. What do you do if you realize there is a communication breakdown?

12. Are there any other documents you think I should look at?

Appendix B

Central Office Interview Protocol

Name:
Position:
Name of District:
Years of experience in Education:
Years of experience in current role:

Optional Questions

Gender:

Race:

Age Span: ie. 20-30, 31-40, 41-50, 51-60, 61-70

Question 1: Tell me about how you get information before you select a curriculum reform initiative (UbD)?

Probe: Do you feel you get the information you need?

Probe: Is it enough information or too little?

Focus: Information acquisition

Question 2: What are the district's major curriculum priorities/initiatives?

Probe: Can you tell me specifically about the UbD curriculum reform?

Focus: Organizational memory

Question 3: How did you select this curriculum reform initiative (UbD)?

Focus: Information acquisition

Question 4: How do you inform principals about this curriculum reform initiative (UbD)? How do you make sense of it? How do you inform teachers?

Probe: How do you get the information you need to support English Language Learners?

Probe: How do you get the information you need to support Students With Disabilities?

Focus: Information acquisition, information interpretation

Question 5: How do you provision before you distribute the information to the principals? How do you provision before you distribute the information to teachers? (IA, ID, II, OM)

Focus: Information acquisition, information distribution, organizational memory

Question 6: How do you present it to principals? How do you distribute it (curriculum reform initiative/UbD) to schools? How do you present it to teachers? How do you distribute it?

Focus: Information distribution

Question 7: What skills do you feel principals need to lead the implementation of a curriculum reform initiative (UbD)? What skills do you feel teachers need?

Focus: Information acquisition, information interpretation, information interpretation, organizational memory

Question 8: So how do you build effective skills for principals around this curriculum reform initiative (UbD)? How do you build effective skills for teachers?

Focus: Information acquisition, information distribution

Question 9: How does that equate to what is offered to the principals? How does that equate with what is offered to teachers? (OM, IR)

Focus: Organizational memory, information retrieval

Question 10: How do you attempt to ensure clarity of communications and expectations around curriculum reform (UbD) to schools?

Focus: Information interpretation, information distribution

Question 11: How do you gather evidence of your own progress when working with schools? (OM, IR)

Focus: Organizational memory, information retrieval

Question 12: Do you have any documentation that would support what you just shared?

Probe: Do you have any documentation related to UbD?

Focus: Information retrieval

Appendix C

Principal Interview Protocol

Name:
Position:
Name of District:
Years of experience in Education:
Years of experience in current role:

Optional Questions

Gender:

Race:

Age Span: ie. 20-30, 31-40, 41-50, 51-60, 61-70

Question 1: What are the district's major curriculum priorities/initiatives?

Focus: Theory of action, theory in use, task systems, mental models

Probe: Can you tell me specifically about the district's implementation of Understanding by Design (UbD)?

Probe: Where might I or someone else find evidence of these initiatives?

Question 2: Who determined the district's curriculum priorities and what processes/structures were utilized to set those priorities?

Question 3: And how does central office communicate district priorities around curriculum initiatives?

Probe: Who, in particular, is responsible for communicating those priorities?

Question 4: What is the district's plan for addressing those priorities?

Question 5: What specific methods does your superintendent employ to communicate her plan of action associated with those intended goals/priorities?

Question 5a: And how about the Executive Administrator for Curriculum and Assessment? What is her role in communicating district priorities around curriculum?

Question 6: Once district priorities are communicated, how do you make sense of what's important?

Probe: What steps, if any, do you take to make sure you and superintendent are on the same page?

Question 7: How do you communicate your understanding of district priorities around curriculum back to the superintendent? How does she know whether you're on the same page?

Question 8: In turn, how do you communicate that same understanding to your staff?

Question 9: What methods do you use at the building level to check for teacher understanding of the priorities?

Probe: What steps do you take to ensure you and your staff are on the same page?

Question 10: What are the school-based priorities around curriculum?

Question 11: What are your plans for addressing them?

Question 12: What school-based structures exist to support professional development around the curriculum initiative?

Probe: What role do you play in and around these structures?

Question 12: What professional learning and/or development has to take place in order for priorities to be addressed?

Probe: At the district level?

Probe: At the school level?

Question 13: What role does your superintendent play in the professional development of school principals?

Probe: Identify specific actions of your super.

Question 14: In turn, what role do you play in the professional development of your staff?

Specifically, how do you support the development of your staff in terms of the curriculum reform efforts?

Probe: Identify specific practices, actions, activities.

Question 15: What superintendent actions do you find most beneficial in your learning both personal and professional?

Question 16: As you consider your actions, which do you think contribute most to the development of staff? How do you know?

Question 17: In what ways have you grown/developed since the start of the district's curriculum reform efforts?

Question 18: In what ways do you believe your staff has grown/developed in terms of the reform efforts? How do you know?

Question 19: In general, and even outside of the efforts around curriculum reform, how does the superintendent get important information to principals?

Question 20: How do you get important information to your staff?

Question 21: Where does documentation of this reform effort live?

Probe: Where is information stored at the district level?

Probe: At the school level?

Probe: Where can people go to access new and old information?

Question 22: What role, if any, does your superintendent play in making sure information is accessible to staff? What role do you play?

Appendix D

Teacher Interview Protocol

Name:
Position:
Years of experience:
Years of experience in current role:

Optional Questions

Gender:

Race:

Age Span: ie. 20-30, 31-40, 41-50, 51-60, 61-70

Question 1: What are the district's major curriculum priorities/initiatives?

Probe: Can you tell me specifically about the district's implementation of Understanding by Design (UbD)?

Probe: How do you define UbD?

Question 2: What is the district doing to support the curriculum priorities that you mentioned?

Question 3: What opportunities do you have to engage in these curriculum priorities/initiatives?

Probe: In the development and planning of curriculum?

Probe: In training that is relevant to the curriculum changes?

Question 4: What opportunities do you have to learn about these curriculum priorities/initiatives?

Probe: If specific professional development opportunities are mentioned, ask the participant to describe:

Probe: Who facilitated the session(s)?

Probe: What did you do during the session(s)?

Probe: What did you learn as a result of the session(s)?

Question 5: Are you provided opportunities to attend workshops and training sessions outside of the district? (Information acquisition)

Probe: If no, what type of training interests you most?

Probe: If yes, what kinds of workshops and training have you attended?

Probe: Does the district expect you to share information with your colleagues? (Information distribution)

Question 6: When you need information about curriculum priorities/initiatives, where do you go to get it?

Probe: Are there specific resources or people in the district who you can go to for support?

Question 7: Who do you seek out for expert professional advice? (Information distribution, organizational memory, information retrieval)

Probe: When considering who you reach out to, what criteria inform your choice?

Question 8: Are you provided opportunities to work collaboratively with colleagues? (Information distribution)

Probe: If so, what are those opportunities?

Probe: How do you use that time?

Question 9: How does the district get information about curriculum priorities/initiatives to you?

Probe: How do those work for you?

Probe: Are there ways that you prefer to get information?

Question 10: What is happening at the school level to address district priorities around curriculum?

Question 11: With whom, other than your staff, do you regularly communicate information around school and district priorities?

Question 12: Would you be willing to provide me with a few lesson plans and teacher generated assessments for review in our study?

Question 13: What, if any, opportunities do you have to provide your input and feedback to the school and district on curriculum reform efforts?

Probe: Do you believe that your feedback is accounted for and used in the ongoing curriculum reform efforts of the district?

Question 14: How have you used the year long plans and UbD units on your practice?

Probe: What factors drive your decision making in the implementation of these units?

Question 15: How would you rate the quality of the UbD units?

Scale: 1 – Low quality 3 – Reasonable quality 5 – High quality

Probe: When you consider the quality of the UbD units of study, what criteria factor into your rating of quality?

Appendix E

Consent to Participate in Interview

Boston College Lynch School of Education

Informed Consent for Participation as a Subject in the Research Study

District and School Leaders Methods of Implementing and Supporting Curriculum Reform

Researchers: Andrew M. Berrios, Tracy R. Curley, Marice Edourd- Vincent, Bobbie F. Finocchio,
and Ian Kelly

Why have I been asked to take part in the study?

- Because you are a district leader, central office administrator, school leader or teacher over the age of 18
- Because you work with curriculum reform in schools

What do I do first?

- Before agreeing, please read this form.
- Before agreeing, please ask any questions you may have.

What is this Study about?

- What methods district and school leaders use to create and support curriculum reform.

Who will take part in this Study?

- **Approximately 30** school leaders involved in curriculum reform (i.e. superintendents, curriculum development administrators, school principals, and teachers) from Belvedere Public Schools.

If I agree to take part in this Study, what will I be asked to do?

1. Answer questions related to your experience with curriculum reform in your district for approx. 60 minutes.
2. If you do not wish to answer a question, you may choose to skip it.
3. Allow the *confidential* * interview to be recorded.
4. If you do not wish to have your answers recorded, please inform the interviewer, and your answers will not be recorded.

**Note: None of the Study participants will be identified by name. The recording will also be password protected in a secure research database. The recording will also be destroyed, without record, after May 01, 2016.*

What are the risks to being in the Study?

- There is a very small but potential risk that some school leaders and administrators, though unnamed, may be easily identified due to the uniqueness of their job title. This risk is minimal for teachers who participate in this Study.
- **There may be unknown risks at this time.**

What are the benefits to being in the Study?

- Information gathered in this Study may help administrators improve curriculum reform.

Will you be paid for participating in this study?

- There will be no payment to participate in this Study.

Will I be paid for conducting this study?

- There is no cost to you to be in this research study.

How will things I say be kept private?

- All records (physical and electronic) collected during this study will be kept private. All interview transcripts and physical research materials are maintained in a locked office with the principal investigator. All electronic materials are stored in a secure database provided by Boston College.
- In any report published as a result of this study, the research team will not include any information that will make it possible to identify you. Doing so involves the use of pseudonyms for all individuals and schools participating in this study. The research team also considers carefully the use of direct quotes and the formats in which data are reported to further ensure confidentiality of participants.
- All electronic information will be coded and secured using a password-protected file. All members of the research team Ian Kelly-Principal Investigator (PI), Andrew Berrios, Bobbie Finocchio, Marice Edouard-Vincent, and Tracy Curley will have access to the audio recordings. After May 1, 2016, all audio files will be permanently deleted by Ian Kelly, Principal Investigator.
- Only the research team will have access to information you provide. The Institutional Review Board at Boston College and internal Boston College auditors may review the research records upon request.

What if I choose to not take part or leave the Study?

- Taking part in the study is voluntary.
- If you choose not to be in this study, it will not affect your current or future relations with the University.
- You are free to quit at any time, for whatever reason.
- You will not be penalized or lose benefits if you stop taking part in the study.

- During the research process, you will be notified of any new findings from the research that may make you decide that you want to stop being in the study.

Will I be asked to leave the Study?

- We ask that you follow directions the best you can.
- If you are unable to do so, or the sponsor cancels the study, you may be asked to leave.

Who can I contact if I have any questions?

- The researchers conducting this study are Ian Kelly-Principal Investigator (PI), Andrew Berrios, Bobbie Finocchio, Marice Edouard-Vincent, and Tracy Curley. For questions or more information concerning this research you may contact Ian Kelly, Principal Investigator, at 774-292-6857 or ian23505@gmail.com.
- If you believe you may have suffered a research related injury, contact Rebecca Lowenhaupt at Rebecca.lowenhaupt@bc.edu who will give you further instructions.
- If you have any questions about your rights as a person in this research study, you may contact: Director, Office for Research Protections, Boston College at (617) 552-4778, or irb@bc.edu

Will I get a copy of this consent form?

- You will be given a copy of this form to keep for your records and future reference.

Statement of Consent:

- I have read (or have had read to me) the contents of this consent form.
- I have been encouraged to ask questions.
- I have received answers to my questions.
- I give my consent to be in this study.
- I have received (or will receive) a copy of this form.

Signatures/Dates:

Study Participant (Print Name): _____ Date _____

Participant or Legal Representative Signature : _____ Date _____