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**Dynamism of Collaboration:
Examining Four Teachers' Experience of Implementing Inclusion Using Nonaka's Theory of
Knowledge Creation**

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**DYNAMISM OF COLLABORATION:
EXAMINING FOUR TEACHERS' EXPERIENCE OF IMPLEMENTING
INCLUSION USING NONAKA'S THEORY OF KNOWLEDGE CREATION**

Kristen Robertson-Grewal

**Thesis submitted to the Faculty of Graduate and Postdoctoral Studies at the
University of Ottawa in partial fulfillment of the requirements for the
Master of Arts in Education**

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Dedication

“Tough times never last, but tough people do.”

Robert H. Schuller

The completion of my Master's theses is the culmination of events beginning with my battle with literacy. As a child, instead of slaying dragons on a quest for treasure in an enchanted castle, I fought numbers, letters, and symbols. My heroes were not the Knights of the Round Table, but my family. My family has always been my champions, righting wrongs, and forging new paths to overcome my obstacles. I have won my battle because of the heroes who fought beside me, and I strive to make them proud. My heroes deserve recognition for their part in helping me become the confident, stubborn, and the happy person I am today. Helen S. Robertson, whose infectious love of both literature and her granddaughter turned the most unlikely candidate into a bibliophile. Alice Niskala, my personal motivator and sage, provided comfort when she said, “There is no word impossible; it is possible to spell it incorrectly.” My siblings, Victoria and Joseph Robertson, made my childhood fun, even when it seemed the world was conspiring against me. My father's patience and dedication are the foundation of support for me to achieve my dreams. I stand tall, and proud because of my mothers' love and determination; she is my most important role model. She never quit, and I never did either. Arjun Grewal, my knight in shining armor, your unwavering confidence in my abilities gives me that extra boost when I need it the most.

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My friends deserve a special mention because they helped to keep my priorities in check when my research consumed me. Four wise men once said, "I get by with a little help from my friends" and I know exactly what they meant.

Abstract

This qualitative study explored four Eastern Ontario public school teachers' experiences of implementing inclusion through collaboration. The framework for investigating these experiences was Nonaka's (1994) theory of organizational knowledge creation, the crux of which is the mobilization and conversion of tacit (or experiential) knowledge. Data were collected through semi-structured interviews and analyzed inductively. The findings showed that these teachers wanted to collaborate to implement inclusion, but the organizational structures and culture were not in place to promote this activity. Although Nonaka's (1994) theory has the potential to describe how teachers create knowledge through collaboration, it did not occur in this research. Practical implications and future research are discussed.

Keywords: inclusion, collaboration, Nonaka, tacit knowledge, knowledge creation

Contents

Abstract	4
Chapter One: Introduction	8
Chapter Two: Review of Literature	
The Literature Searches	11
Ontario Policy	12
Inclusion	14
Attitudes Towards Inclusive Education	15
Barriers to Inclusive Education	18
Collaboration	19
Collaboration in Professional Learning Communities	19
Collaboration through Co-teaching	21
Chapter Three: Theory of Organizational Knowledge Creation	
Core Concepts of Knowledge	25
How Knowledge Creation Occurs	29
Styles of Management	30
Top-Down Management	30
Bottom-Up Management	31
Middle-Up-Down Management	32
Organizational Structure	32
Lemieux-Charles, McGuire, and Binder Study	33
Chapter Four: Methodology	
Purpose and Research Questions	36
Rationale for Methodological Framework	36
Researcher's Perspective	37
Participants and Recruitment	38
Data Collection	40
Data Analysis	41
Trustworthiness	42
Chapter Five: Findings	
Freddie's Profile	44
William's Profile	52
Shirley's Profile	60
MA's Profile	68
Cross-Case Analysis	79
Chapter Six: Discussion and Conclusions	
Research Question One	83
Research Question Two	88
Research Question Three	90

Research Question Four	91
Contributions to Theory	93
Contributions to Practice	96
Limitations	96
Future Research	97
Conclusions	97
References	99
Appendices	
Appendix A: Knowledge Spiral	107
Appendix B Theory of Organizational Knowledge Creation	108
Appendix C Hypertext Organization	109
Appendix D Table 1 Categories and Sub-Categories	110
Appendix E Table 2 Comparison of Profiles	111

CHAPTER ONE

INTRODUCTION

The practice of educating students with special needs in regular classrooms, known as inclusion, evokes both negative and positive emotions from teachers (Fisher, Frey, & Thousand, 2003). Teachers with negative experiences with inclusive education cite teacher isolation, and lack of resources and support as the primary barriers to inclusion (Edmunds 2000; Fisher, Frey, & Thousand, 2003; McLeskey & Waldron, 2002b; Wilkins & Nietfeld, 2004). Findings of recent research show that teachers have positive experiences with inclusive education when knowledge is transferred and shared among educators (Barton, 2001; Coombs-Richardson & Mead, 2001; Cook, Tankersley, Cook & Landrum, 2000; Lombardi & Hunka, 2001; McLeskey & Waldron, 2002a; Praisner, 2003; Snyder, Garriott, & Williams Alyor, 2001; Treder, Morse, & Ferron, 2000; Wilkins & Nietfeld, 2004). Smith, Polloway, Patton, Dowdy, Heath, McIntyre, and Francis, (2009) also report an increase in the use of co-operative teams to provide support for teachers of students with exceptionalities in general education classrooms. They applaud this development as “creative use of human resource to effectively implement an inclusive teaching model” (p. 44) and stress that collaboration may be an effective way to share information about students and practices that meet their needs.

In his theory about organizational knowledge, Nonaka (1994) emphasizes that “collaboration to exchange ideas through shared narratives and ‘war stories’ can provide an important platform on which to construct shared understanding out of conflicting and confusing data” (p. 24). He posits that “innovation can be better understood as a process in which the organization creates and defines problems then actively develops new knowledge to solve them” (p. 14). A central activity involves the dialogue between explicit and tacit knowledge. Nonaka (1994) views explicit knowledge as knowledge that

is readily codified and recorded in such platforms as libraries, archives, and databases and includes laws, regulations, and policies. It is viewed as the absolute. He sees tacit knowledge as dynamic, personal, contextual and based primarily on experience which is more difficult to convey. Hence, Nonaka's (1994) theory of organizational knowledge creation may provide a useful lens through which to examine knowledge creation among teachers who work collaboratively to implement inclusion.

Presently, the majority of the information on collaboration and inclusive education is based on sources from the United States and there is a need to understand the phenomenon in Canada. Moreover, some of the previous studies, particularly those discussing successful collaborative methods and the positive outcomes in inclusive education, did not consider the interplay between explicit and tacit knowledge and the potential for this dynamic in inclusive education. Therefore, the purpose of this qualitative research is to examine teachers' experiences of collaboration in inclusive education. The central question is: How does collaboration impact the dynamic of explicit and tacit knowledge in the implementation of inclusion? The findings of this study will shed light on *how* teachers collaborate and on the potential for Nonaka's (1994) theory to explain the knowledge creation process.

CHAPTER TWO

REVIEW OF LITERATURE

In this chapter a discussion of the literature related to this research is provided. How the literature search was conducted is described and a brief overview of Ontario's educational policy on inclusion is presented. Then, I examine inclusion in general, teacher attitudes towards inclusion, and barriers to inclusion. Collaboration among teachers is then described and two types of collaboration (professional learning communities and co-teaching) are examined.

The Literature Searches

Much of the research used in this section¹ was found using the following search engines: *ERIC*, *Education Full Text*, *Education: A SAGE Full-Text Collection @ Scholars Portal*, and *E-Journals @ Scholars Portal*. Sometimes smaller, more specific search engines were used to find a particular article in a journal. However, the majority of information was found using the four above mentioned search engines. It is important to note that when conducting searches for my literature review on inclusion or collaboration, the majority of the information found was from American sources, that is American journal publications and American authors, all of whom used American data. This is not to say that there is a lack of information on inclusion or collaboration from Canadian sources. What it does indicate is the dominance of American literature in my previous search results. To compensate for this, I searched specific Canadian journals using the same key words such as "*inclus**" and "*collabor**". Although successful, it was time consuming and somewhat frustrating that these additional efforts had to be made in order to access Canadian data. It should be noted that, some of the previous

¹ The Education Act, R.S.O. 1990, C.E. 2, as amended, referred to hereafter as the Education Act, or the Act.

studies, particularly those discussing successful collaborative methods and the positive outcomes in inclusive education, did not consider the interplay between explicit and tacit knowledge and the potential for the dynamic to influence inclusive education.

Ontario Policy

The Education Act of 1990 (the Act) is the principal legislation that sets out the core definitions, roles, responsibilities and service levels that govern the development and implementation of special education programs and services in Ontario.² The elements in the Act are interpreted and further elaborated in the regulatory structure that supports the Act and by the actions of those governed by the Act and its regulatory infrastructure (Ontario Ministry of Education, 2001). It is the discretion that is exercised within this cascading interpretative structure that has within it the potential for divergence from the letter and spirit of the Act and is therefore a main focus of any analysis dealing with how the Act is being implemented.

The Act requires the Ontario Minister of Education to ensure that all exceptional students (a defined entity that has five categories of exceptionalities) have free access to a special education program that is based on a pupil's individual assessment and has a learning plan with both specific objectives and an outline of the educational services required to meet the needs of that pupil (Ontario Ministry of Education, 2001).³ The

² The Education Act, R.S.O. 1990, C.E.2., as amended, referred to hereafter as the Education Act, or the Act.

³ A pupil whose behavioral, communicational, intellectual, physical or multiple exceptionalities are such that he or she is considered to need placement in a special education program by a committee, established under subparagraph iii of paragraph 5 of subsection 11 (1), of the board,
 (a) of which the pupil is a resident pupil,
 (b) that admits or enrolls the pupil in other pursuant to an agreement with another board for the provision of education, or

special services are facilities and resources, including support personnel and equipment, necessary for developing and implementing a special education program (Ontario Ministry of Education, 2001). The Act assigns specific roles and responsibilities to this end, in a descending hierarchical structure to the following entities: the Ministry of Education, the district school board or school authority, the teacher, the special education teacher, the parent/guardian and the student.⁴ The Act also identifies its interface with related legislation. In such a manner, the necessary legal and operational infrastructure for the development and implementation of special education programs and services has been established by the Act.

Inclusion

Inclusion generally refers to educating all students in the regular education classroom and facilitates the development of a learning environment that addresses the needs of an increasingly diverse population (Ontario Ministry of Education, 2005). As outlined in the Ontario Ministry of Education's (2009) document, *Ontario's Equity and Inclusive Education Strategy*, inclusion is also purported to increase opportunities for equity in education. In this study, inclusion will be more narrowly focused on the practice of educating students with special needs in the regular classroom.

Inclusion marked a philosophical shift in the Canadian educational systems, as it put an end to separate systems of special and regular education (Smith, Polloway, Patton,

(c) to which the cost of education in respect of the pupil is payable by the Minister

⁴ For more information on the Roles and Responsibilities in Special Education please see sections on: The Ministry of Education; The District School Board or School Authority; The Special Education Advisory Committee; The School Principal; The Teacher; The Special Education Teacher; The Parent/Guardian; and The Student. Ontario Ministry of Education, *Special education: A guide for educators*, October 2001, pp. A6-A-10

Dowdy, Heath, McIntyre, & Francis, 2009). Within the inclusive education paradigm, the needs of students with exceptionalities are accommodated within the regular education classroom, sometimes with the assistance of the special education teacher and other support personnel (Edmunds, 2000). This approach marks a change from having students educated in separate classrooms or withdrawn from the regular education classroom (Edmunds, 2000). To accommodate the needs of students with exceptionalities, collaboration between classroom teachers and special education teachers is required (Culatta & Tompkins, 1999), particularly in the areas of lesson development and delivery. Another requirement for successful inclusion is for teachers to have positive beliefs, values, and attitudes towards it (Andrews & Lupart, 1993).

The Province of Ontario adopted the universal design for learning (UDL) as one of the strategies to implement inclusion of all learners, and those with exceptionalities in particular. It is based on the premise that all students benefit from a flexible curriculum offering clear goals, multiple pathways for reaching those goals, and fair and accurate assessment (Hitchcock, Meyer, Rose, & Jackson, 2002). Implementing UDL involves designing instructional experiences and the environment so that they are accessible to *all* students, regardless of disability or skill level (Ontario Ministry of Education, 2005). Additionally, teachers recognize that the accommodations required by a particular student with disabilities may be useful for all students (Ontario Ministry of Education, 2005).

Inclusion involves designing learning programs in which everyone can participate and a social environment that is accepting of all students. Within the context of inclusive classrooms, “everyone belongs, is accepted, supports and is supported by his or her peers and other members of the school community in the course of having his or her

educational needs met” (Stainback & Stainback, 1990, p. 3). The social norms of respect, compassion, and caring that are developed by students in the classroom extend beyond the schools into the community (Walther-Thomas, 2000).

Attitudes toward Inclusive Education

Several studies suggest that teachers’ attitudes towards the inclusion of students with exceptionalities are pivotal in determining its success or failure in the classroom (Guskey, 1989; Pudlas, 2003; Silverman, 2007; Siperstein, Parker, Norins-Bardon, & Widman, 2007; Treder, William, Morse, & Ferron, 2000; Wilkins & Nietfeld, 2004). For instance, Praisner (2003), Silverman (2007), and Van Reusen, Soho, and Baker (2006) all used survey data to examine teachers’ attitudes towards inclusion and reported that attitudes are linked to understanding about it. Specifically, training to improve understanding about inclusion was positively correlated with teachers’ attitudes. Additionally, Van Reusen, Soho, and Baker (2006) reported that teachers with higher levels of special education training are more inclined to seek additional resources on inclusive education than teachers with lower levels of training.

Although training is linked to positive attitudes towards inclusion, teaching experience is not (Ghaith & Yaghi, 1997). Gaith and Yaghi (1997) investigated the relationship among teachers’ experience, efficacy, and attitudes toward the implementation of instructional innovation. Twenty five teachers completed three separate questionnaires given directly after a four-day staff development program on cooperative learning at the American University of Beirut, Lebanon. Data analysis revealed that experience did not influence teachers’ willingness to implement new instructional practices. There was an inverse relationship between teacher’s accumulated

experience and enthusiasm for adopting new instructional innovation and the teacher's sense of self-efficacy in implementing it (Ghaith & Yaghi, 1997). In other words, more experienced teachers were less confident about implementing new methods and were less eager to do so.

The results of other studies found that teachers who have positive attitudes towards inclusion make accommodations for students with special needs, which in turn improve student performance (Smith, Polloway, Patton, Dowdy, Heath, McIntyre, & Francis, 2009). Teacher expectations for performance have also been shown to be linked to positive attitudes towards inclusion and student achievement (Cook, Tankersley, Cook, & Landrum, 2000). Examining data from 12 teachers in nine different inclusive schools in Ohio, researchers conducted interviews, attended staff meetings, and observed participants in their classroom environment (Cook, Tankersley, Cook, & Landrum, 2000). The authors concluded that student learning is directly affected by the expectations the teacher sets for academic performance. If a teacher's expectations of the students are high, then student performance will reflect this, and if they are low this too will be reflected in outcomes. In summary, the studies above demonstrate that much of the success of inclusion remains connected with the teachers' personal epistemological beliefs concerning it (Silverman, 2007).

Resistance to inclusive education by teachers stems from such factors as classroom procedure concerns, the number and types of disabilities present within the classroom, and the lack of support for classroom challenges (Ghaith & Yaghi, 1997; Wilkins & Neitfeld, 2004). Wilkins and Neitfeld used survey data to compare the attitudes toward inclusion between teachers from Project WINS (Winning Ideas Network

for Schools) and teachers from non-Project WINS schools. There were a total of 89 participants, 27 teachers from Projects WINS schools and 62 teachers from non-Project WINS schools. The results of the study were surprising to the researchers, as the data did not reveal any significant difference between the two groups. The teachers who received Project WINS training did not view inclusion more favorably than the teachers without the training. The researchers speculated that attitudes regarding inclusion are likely to be stable beliefs that are built upon previous experiences rather than being directed by situational factors. Therefore, future training and education programs must invest time, resources, and training focused on daily interactions with classroom teachers on a long-term basis to detect changes in attitudes.

Teacher education programs have been identified as an important mechanism to address potential resistance towards inclusion, as pre-service education may alleviate the procedural concerns regarding a teacher's perceived ability to implement inclusive education (Clarke & Hollingsworth, 2002; Cook, Tankersley, Cook & Landrum, 2000; Guskey, 1989; Michael & Beloin, 1998; Smith, Polloway, Patton, McIntyre, & Francis, 2009; Wilkins & Nietfeld, 2004). In-depth training for teachers on working with students with various exceptionalities also helps to reduce resistance by improving understanding about how to adjust instructional practices to accommodate a variety of learning needs (Paterson & Beloin, 1998). It is clear that the quantity and quality of training may help teachers feel more positively about inclusion. Perhaps this level of comfort may also be achieved with greater levels of collaboration amongst teachers who share their experiences about how to implement inclusion.

Barriers to Inclusive Education

Several studies suggest there is a relationship between the school climate and attitudes towards inclusion that seems to influence the perception of and reactions to inclusion (Dedrick, Marfo, & Harris, 2007; DeSimone & Parmar, 2006; Heiman, 2001; Weisel & Dror, 2006). As previously noted, lack of self-efficacy among teachers may incite resistance to inclusion. The school climate and organizational structure may also present barriers that affect overall teacher attitudes toward inclusion.

While inclusive education is the norm in the Canadian educational system and in other countries, the success of inclusion depends on the teachers' attitudes which are influenced by the school climate. In a qualitative study conducted in Israel, 139 female teachers answered open-ended questions about attitudes towards inclusion, the school atmosphere, and the teachers' belief in their abilities (Weisel & Dror, 2006). The data revealed that a negative school climate seems related to negative teacher attitude towards inclusion.

The role of organizational structure as a barrier to implementing inclusion has also been studied. In a qualitative study conducted over the course of one school year, Mamlin (1999) analyzed data from a series of interviews with six teachers and field notes from participant observation conducted in a school in the United States. Mamlin (1999) draws attention to a failed attempt to promote an inclusive school environment that was linked to the organizational structure in the school. In this situation, there was a low level of support from the administration that was demonstrated by the lack of resources and time for teachers to collaborate. It was also found that teachers also did not exhibit strong leadership in regard to the implementation of inclusion.

In summary, teacher attitudes towards inclusion appear to be an important factor in its implementation. Teachers with positive attitudes and toward inclusion seem to provide accommodations and have high expectations of their students, which lead to more equitable outcomes. Although some authors contend that attitudes are stable, it has been shown that training on how to implement inclusion, school climate (culture of collaboration), and the school's organizational structure may influence teacher attitudes.

Collaboration

Collaboration is recognized as contributing to the successful implementation of inclusion and may result in a thriving relationship between special and general education teachers (Arthaud, Aram, Breck, Doelling, & Bushrow, 2007; Clarke & Hollingsworth, 2002; Coombs-Richardson & Mead, 2001; DuFour, 2004; Edmunds, 2000; Guskey, 1988; Mastropieri, Scruggs, & McDuffie, 2007; McLeskey & Waldron, 2002a). Several elements contribute to the development of a collaborative environment amongst teachers and they are discussed in the next section.

Collaboration in Professional Learning Communities

Collaboration involves teachers working together in order to improve their classroom practice and student outcomes. Professional learning communities is a structure in a school that has the potential to provide a forum for teachers to collaborate on problem solving when implementing innovations. Within the professional learning community, teachers meet to talk about innovations, problems in their implementation, and develop strategies to address the difficulties. They have been shown to contribute to teacher professional development, successful implementation of innovations, and improved student outcomes (McLaughlin & Talbert, 2006).

However, Dufour (2004) reports that although teachers may be well-intended, collaboration is not easy. He identifies the steps that often lead to failed collaboration and implementation: initial enthusiasm for an idea, confusion concerning the concepts driving the initiative, problems with implementation, and failure of the innovation to bring about the desired results. To avoid this pattern, DuFour (2004) recommends three core principles of professional learning communities. First, there must be a shift of focus from teaching to student learning. When so doing, the centre of attention becomes the student and careful consideration is given to practices that are most successful in helping all students achieve at a high level. Second, the school must have a culture of collaboration. Educators who are building a professional learning community must work together to achieve their collective purpose. The organizational structure must promote a collaborative culture reinforcing “a systematic process in which teachers work together to analyze and improve their classroom practice. Teachers work in teams, engaging in an ongoing cycle of questions that promote deep team learning” (DuFour, 2007, p. 9). Third, teachers who work in professional learning communities must have a strong focus on student outcomes and judge their effectiveness on the basis of their results. Every teacher team participates in a continual process of identifying the current level of student achievement and then establishes a goal to improve it. DuFour (2004) contends that using these three principles will lead to improved communication patterns within the school, the use of better practices among teachers, a sense of camaraderie, and a consensus about operational procedures. At the core of the professional learning communities is a respectful, on-going dialogue among teachers that is sparked by a desire to make improvements in their practices that will benefit students (DuFour, 2004).

Collaboration through Co-Teaching

Wolfe and Hall (2003) assert that to address a student's special education needs, as identified in an Individual Education Plan (IEP), teachers must collaborate on program planning and the use of instructional strategies. These researchers described a case study in which a regular classroom teacher and a special education teacher worked together to develop a social studies program that incorporated the accommodations outlined in the boy's IEP. This case study showed how a special education teacher can provide support outside of the classroom for teachers implementing inclusion. Mastropieri, Scruggs, and McDuffie (2007) describe types of collaboration that occur within a regular classroom. They refer to collaboration, as co-teaching and as the practice of pairing a general education teacher with a special education teacher in an inclusive classroom (Mastropieri, Scruggs, & McDuffie, 2007). In the classroom these partners work together to create an environment that benefits all students.

In their research on co-teaching, Mastropieri, Scruggs, and McDuffie (2007) highlight five different methods of co-teaching used in classrooms. The degree to which each variation is used in the classroom depends on the preferences of the teachers. The *one teach, one assist* (or drift) is the most popular approach and involves the pairing of a general education teacher with a special education teacher. Typically, the general education teacher assumes the primary teaching responsibilities and the special education teacher "drifts" to provide individual support where needed. This approach is easy to implement and clearly fits within the already established boundaries and routines of the classroom. *Station teaching* refers to the creation of specific learning areas in the classroom where the co-teacher provides students with individual support that is not

necessarily related to the classroom activities. In *parallel teaching*, teachers give the same or similar content to different groups of students. In both station and parallel teaching, the two teachers plan together but work with different groups of students.

Another form of co-teaching is *alternative teaching*, which varies slightly from the previous three methods. Alternative teaching involves the removal of small groups of students to a location outside of the regular classroom for a limited period of time for specialized instruction. Alternative teaching permits students to receive more individualized and specific instruction in an area where further focus is needed. The last type of co-teaching is *team teaching*. In team teaching, both teachers share the teaching responsibilities and are equally involved in leading the instructional activities. Although beneficial to students, it is the least utilized method of co-teaching because it requires the most time for teachers to meet, talk, and prepare the lessons. According to Masropieri and her colleagues (2007), the success and degree of collaboration varies from classroom to classroom, which further complicates how it is understood and how it facilitates the implementation of inclusion.

Summary

Collaboration is identified in the literature as being linked to successful implementation of inclusion. Two types of collaboration were discussed: professional learning communities and co-teaching. What has not been shown is *how* teachers collaborate when they meet to discuss and plan for inclusion.

CHAPTER THREE

THEORY OF ORGANIZATIONAL KNOWLEDGE CREATION

In this section, I focus on Nonaka's (1994) and Nonaka and Takeuchi's (1995) theory on knowledge creation, which is used as the lens through which to study teacher collaboration when implementing inclusion. The authors posit that through a continuous dialogue, management and frontline, workers can create new knowledge to address problems facing the organization.

The epistemological question concerning how knowledge is created is at the heart of many intellectual traditions. I have focused on a singular theory to navigate such deep philosophical waters. Nonaka (1994) and Nonaka and Takeuchi (1995) conceptualized knowledge creation by drawing from both Western and Asian philosophical traditions. Nonaka and Takeuchi (1995) integrated the approach that separates the subject who knows from the object that is known⁵ with the teachings of Buddha and Confucius⁶. What is unique to this theory of knowledge creation is that the two intellectual traditions are combined. The authors believe them to be complementary and argue that a strong theory of knowledge creation must contain and respect elements of both traditions (Nonaka & Takeuchi, 1995).

This chapter is divided into three sections. First, the core concept of knowledge creation and how knowledge creation occurs continuously and at all levels of the organization is described. I next turn to a discussion of the traditional styles of

⁵⁵ Nonaka and Takeuchi (1995) discuss in great length this tradition in chapter 2, and give considerable attention to the Cartesian split between subject (knower) and object (the known), mind and body, or mind and matter (p. 20). Nonaka and Takeuchi trace the history of Western philosophy for the past two centuries in the effort to better understand the knowledge approaches of today.

⁶ The three distinctions of the Japanese intellectual tradition are: (1) oneness of humanity and nature; (2) oneness of body and mind; and (3) oneness of self and other. Nonaka and Takeuchi (1995) highlight how these traits have formed the Japanese view towards knowledge creation.

management and the organizational structure most conducive to knowledge creation.

Then, the Lemieux-Charles, McGuire, and Blinder (2002) study is described and how the Nonaka and Takeuchi (1995) theory may be applied to better understand and improve the overall knowledge creation process is presented.

Core Concepts of Knowledge Creation

Nonaka and Takeuchi (1995) identified a problem with most organizational theories: they focus on the acquisition, accumulation, and use of knowledge instead of examining knowledge creation itself.⁷ Nonaka (1994) argues that organizational knowledge adapts to the changing environment and thus it is important to understand how organizational knowledge is created.

At the core of Nonaka and Takeuchi's (1995) unique approach to understanding how organizations create new knowledge is the distinction between tacit and explicit knowledge. Explicit knowledge is knowledge that is readily codified and recorded in such platforms as libraries, archives, and databases and includes laws, regulations, and policies. It is viewed as the absolute, static, and nonhuman nature of knowledge (Nonaka, 1994). Tacit knowledge on the other hand is dynamic, personal, contextual and based primarily on experience which is much more difficult to convey (Nonaka, 1994). The creation of organizational knowledge can only come about through the continuous interaction between tacit and explicit knowledge in which actors are not passive users of knowledge but instead are the creators or re-creators of the knowledge they will use.

To further their understanding of the origin, nature, methods, and limits of knowledge creation, Nonaka and Takeuchi (1995) questioned the levels of knowledge

⁷ Such a perspective follows the tenants of the Western epistemological tradition.

creating entities (i.e., the individual, group, organizational and inter-organizational entities). Issues surrounding the epistemological and ontological dimensions of knowledge creation were brought to life in the “spiral” (Nonaka & Takeuchi, 1995). The spiral emerges when the interaction between explicit and tacit knowledge intensifies. The core of the theory is best exemplified through describing how this spiral emerges. (See Appendix A for a figure showing the spiral of organizational knowledge creation.)

Four modes of knowledge conversion are created through the interaction of explicit and tacit knowledge. The first mode of knowledge conversion is tacit knowledge to tacit knowledge. It is basically a process of creating tacit knowledge through shared experience, which Nonaka (1994) refers to as “socialization.” The second mode, tacit knowledge to explicit knowledge, is a process of articulating tacit knowledge into explicit concepts, which Nonaka (1994) refers to as “externalization.” The third and fourth modes of conversion also involve both tacit and explicit knowledge. One is the conversion of explicit knowledge using a process of systematizing concepts into a process called “combination”. The other is the conversion of explicit knowledge into tacit knowledge, known as “internalization”.

These four modes of knowledge creation may be experienced by individuals who solve organizational problems collaboratively (Nonaka & Takeuchi, 1995). While each of the modes may create knowledge independently, knowledge creation is optimized when all four modes are managed and form a continual cycle. Socialization begins with the building of a team or a field of interaction where experiences and perspectives are shared. This dialogue promotes the use of a metaphor to articulate experience and perspectives that leads to the externalization of that knowledge. The externalized concepts are

combined with existing data and other external knowledge for further elaboration, thus creating a combination process. As these concepts are better articulated and emerge in concrete form, a process of experimentation or implementation occurs, that triggers further internalization through a process of learning by doing. Learning by doing creates new tacit knowledge which feeds back into the field of interaction and the cycle repeats itself. These mechanisms of knowledge creation are articulated and amplified both into and throughout the organization for success in knowledge creation (Nonaka & Takeuchi, 1995).

There are five conditions that support the spiral model of knowledge creation. The first condition, intention, is the strategy that develops the organizational capability to acquire, create, and exploit new knowledge. It is the vision concerning what kind of knowledge should be developed and made operational for future implementation. Operational intention provides the opportunity to judge the value of information or knowledge perceived or created (Nonaka & Takeuchi, 1995). The organizational standards of intention can be used to evaluate and justify the created knowledge.

The second condition, autonomy, is that all individual members of an organization should be allowed to act autonomously, as far as the circumstances permit. Through fostering autonomy, organizations increase their chances of introducing unexpected opportunities, and individuals are more likely to motivate themselves to create new knowledge (Nonaka & Takeuchi, 1995).

The third condition, fluctuation and creative chaos, stimulate the interaction between the organization and the external environment. Nonaka and Takeuchi (1995) report that, “fluctuation is different from complete disorder and is characterized by order

without recursiveness” (p. 78). If an open attitude is adopted towards activities in the external environment, opportunities are available to exploit these activities and create new knowledge (Nonaka & Takeuchi, 1995). Fluctuation is important to an organization when creating new knowledge, as it encourages the questioning of previous routines, habits, and procedural frameworks (Nonaka & Takeuchi, 1995). Creative chaos is the phenomenon of developing “order out of chaos”. Chaos begins when an organization faces a crisis that has a direct impact on performance because of the changes in the environment. For Nonaka and Takeuchi (1995) creative chaos “increases tension with the organization and focuses the attention of organizational members on defining the problem and resolving the crisis situation” (p. 79).

The fourth condition, redundancy, is the “existence of information that goes beyond the immediate operational requirements of organizational members” (Nonaka & Takeuchi, 1995). Redundancy is the intentional overlapping and entanglement of information concerning organizational activities, management responsibilities, and the organization as a whole (Nonaka & Takeuchi, 1995). A critical component of redundancy is the sharing of information that leads to the sharing of tacit knowledge because the individuals have a better idea of what others are experiencing.

The final condition of the knowledge spiral is requisite variety. The diversity of an organization’s environment must reflect the diversity of its surroundings. For optimal output, the individuals within the organization must have rapid and unencumbered access to a broad and varied range of information (Nonaka & Takeuchi, 1995; Numagami, Ohta & Nonaka, 1989). (See Appendix A for figures showing Nonaka’s Knowledge Spiral)

How Knowledge Creation Occurs

An empirical study illustrates how the core concepts of knowledge creation, as embodied in the spiral, explain the development of new knowledge. Nonaka (1987) studied the development of the Matasushita Home Bakery, the first fully automatic bread-making machine for home use. The Matasushita case represents knowledge creation occurring continuously and at all levels of the organization. This mixed-method study applied both qualitative and quantitative methods to understand this product development story. An in-depth case study of the development and manufacturing of the Home Bakery was conducted. Data analysis was carried out using the engineering designs to mark the evolutionary process of the development of the bread machine. A series of nine interviews was also conducted between November 1984 and November 1985 and the data were used by the researchers to demonstrate how personal knowledge was converted into organizational knowledge through a repetitive process (Nonaka & Takeuchi, 1995).⁸

The researchers found that the development of the Home Bakery mobilized the four modes of knowledge conversion and exemplified the conversion of explicit knowledge into tacit knowledge. Difficulties arose when the bread machine failed to produce good quality bread. Searching for a solution, the software engineer apprenticed with a Master Baker to learn the proper method to make bread. During his apprenticeship, the software engineer learned the mechanics of kneading, an important component of bread making that was lacking in his current prototype. After adjusting the mechanics of the bread maker to mimic the kneading process more successfully, the end result was

⁸ For more information please read Chapter 4 of *The knowledge creating company: How Japanese companies create the dynamics of innovation*.

favorable (Nonaka & Takeuchi, 1995). The software engineer demonstrated that the most powerful learning comes from direct experiences that produce tacit knowledge.

In the above mentioned example of the Matsushita Corporation's development of the Home Bakery, *Socialization* is the software engineer and the Master Baker discussing the techniques of bread making. *Externalization* is the software engineer understanding the kneading process and reconsidering how the machine operates against the new knowledge. *Combination* is the exchange of knowledge that lead to the understanding that the kneading element was the problem in the machine. *Internalization* is the modification of the design to produce the desired effect. (See Appendix B for a figure showing Nonaka's 1994 theory of organizational knowledge creation.)

Styles of Management

As the epistemology for knowledge creation shifted its focus from acquisition, accumulation, and utilization of existing knowledge to how knowledge adapts and responds to changing environments, a change in the management process ensues. This change facilitates the organization of knowledge creation (Nonaka & Takeuchi, 1995). The shift in the management process emerged from the limitations of the two previous dominant models of management, the top-down model and the bottom-up model. What these two models fail to do is allow for the interactive process in the middle that is needed in knowledge creation.

Top-Down Management

Top-down management is the traditional hierarchical model. In this model, knowledge creation is understood within the confines of the information-processing perspective (Nonaka and Takeuchi, 1995). Visually, this traditional model is shaped like

a pyramid and information from within the organization is disseminated upwards and downwards within such confines. Nonaka and Takeuchi (1995) provide the following summary:

Simple and selected information is passed up the pyramid to top executives, who then use it to create plans and orders, which are eventually passed down the hierarchy. Information is processed using division of labour, with top management creating basic concepts so that lower members can implement them... execution becomes largely routine. (p. 125).

A fault of the top-down management is that only top managers are able to create new knowledge, and this knowledge can only be processed or implemented. Knowledge in such a culture has the potential for ambiguity, as there may not be a common understanding of it. Knowledge is also strictly functional in its origin, as knowledge it is only a means, not an end.

Bottom-Up Management

Bottom-up management is an alternative to top-down management. Knowledge is both created and controlled by the front-line employees, as few orders are given from upper management. Knowledge is created by the employees who operate as independent and separate actors (Nonaka & Takeuchi, 1995). Preferring to work on their own, employees have little contact with other members of their organization, as autonomy is a key feature of this style of management. It is the interaction of certain individuals, and not a group of individuals, that results in the creation of new knowledge (Nonaka & Takeuchi, 1995).

Middle-Up-Down Management

The management process best suited to both support and create organizational knowledge differs from the two types of management styles previously discussed. As Nonaka and Takeuchi (1995) note: “What distinguishes the knowledge-creating company is that it systematically manages the knowledge-creation process” (p. 125). Middle-up-down management, though an odd term, captures the dynamism of the knowledge creation process. Knowledge is created by middle managers through a spiral conversion process that involves both top management and front-line workers (Nonaka & Takeuchi, 1995). Hence, middle managers are poised to receive (and later disseminate) information from upper and lower sectors within the company. An essential feature of middle-up-down management is continuous innovation from within the company because the knowledge creation process is flexible.

Organizational Structure

Nonaka and Takeuchi (1995) posit that the knowledge creation process also has implications for the structure of organizations. To support the process of middle-up-down management, Nonaka and Takeuchi (1995) developed the concept of the *hypertext organization*. They assert that it supports the effective and efficient creation of organizational knowledge. The hypertext organization permits teams to be assembled from different sectors of the organization, and they are tasked to work on a specific project team until completion. The knowledge-based layer is embedded into the organizational culture of the company and provides the direction for future development. This layer orients the mindset and action of the employees (Nonaka & Takeuchi, 1995).

(See Appendix C for a figure showing the visual representation of hypertext organization).

Lemieux-Charles, McGuire, and Blinder (2002) Study

Lemieux-Charles, McGuire, and Blinder (2002) used Nonaka's organizational theory to understand the knowledge creation process that occurred when a new protocol for heart and stroke patient care was implemented in Ontario. Tracking the development of the strategy used for heart and stroke patient care over two and a half years, this longitudinal comparative case study collected both qualitative and quantitative data. Data were collected using templates (designed to standardized minutes, documents, and reports), semi-structured interviews, a survey, and a stroke registry.

In the results of their study, Lemieux-Charles, McGuire, and Blinder (2002) showed how each of Nonaka's (1994) four modes of knowledge creation occurred within the implementation of the protocol. For example, socialization occurred when health care professionals shared their own tacit knowledge of stroke care at provincial and regional committee meetings, collaborative forums, workshops, outreach, and consultation. The outcome of the socialization process was the increased understanding and knowledge of the care delivery system. Challenges and opportunities across disciplines and between managers, clinicians, and policy makers were also identified. Externalization happened when shared stroke knowledge was crystallized and resulted in the development of best practice tools, protocols, and documents. The outcome was the articulation of concepts for changes in stroke care involving more than one organization. Combination occurred when stroke evidence and other knowledge were shared through provincial and regional committee meetings, collaborative forums, workshops, training manuals and

formal/informal training. The outcome of the process was identified as being an increased understanding and knowledge of stroke care and evidence within and between different disciplines and between managers, clinicians, and policy makers. Internalization happened when the new stroke care protocol was implemented. The outcome of that internalization was increased clinical and collaboration skills, reallocation of resources, and new joint-practices and routines. This study shows that Nonaka's (1994) theory may be applied to better understand and improve the overall knowledge creation process in fields other than business.

Summary

This chapter summarized Nonaka's (1994) and Nonaka and Takeuchi's (1995) theory of organization knowledge creation. It involves the interaction of explicit and tacit knowledge through four phases that form a knowledge spiral. The style of management that supports this process of knowledge creation is middle-up-down, where individuals in middle management are at the centre of the knowledge creation process as they work with both senior administrators and front-line workers. Nonaka and Takeuchi (1995)'s hypertext organization, which also supports knowledge creation by bringing teams together to collaborate, was also described. Finally, a study in the health care field in which Nonaka's (1994) ideas were used to examine the development of a new protocol was described.

CHAPTER FOUR

METHODOLOGY

In this chapter the methodology used in the research is described. The purpose of the study is stated and the research questions are listed. A rationale for the methodological approach is explained, and the researcher's perspective is described. The mechanics of the method are then discussed in the remaining sections of the chapter.

Purpose and Research Questions

The purpose of this research was to explore teachers' experiences implementing inclusion through collaboration. Using Nonaka and Takeuchi's (1995) organizational theory of how teachers collaborate to create knowledge. The research questions were as follows:

1. How do four teachers collaborate? How does the dynamic of explicit and tacit knowledge occur? (Socialization)
2. How are the results of collaboration shared with others? (Externalization)
3. How are the results of collaboration used by others? (Combination)
4. How have inclusive practices changed? (Internalization)

Rationale for the Methodological Framework

To effectively address my research questions, I felt that a qualitative paradigm was appropriate to understand how knowledge creation is experienced among teachers as they implement inclusive practices. In qualitative studies, researchers examine participants' experiences of a phenomenon and the meaning they ascribe to it (Merriam, 2002). A phenomenological approach seemed best suited to this qualitative study, as phenomenology aims to develop a rich description of how a person perceives a phenomenon from which is derived a general meaning from individual stories (Moustakas, 1994). In-depth interviewing is the predominant data collection technique

used in phenomenological research (Marshall & Rossman, 2006; Moustakas, 1994). This method permits the participant's views on the phenomenon to unfold (the emic perspective) rather than the researcher's perspective (the etic perspective) (Marshall & Rossman, 2006).

Husserl, a founder of phenomenology, asserts that in order to study the structure of consciousness, differentiation is needed between the act of consciousness and the phenomenon (cited from Welton, 1999). In order to obtain the essence of knowledge, assumptions must be bracketed (Welton, 1999). This phase of inquiry is the epoche and occurs when the interview is actually conducted. This is followed by phenomenological reduction whereby the researcher identifies the essence of the phenomenon (Patton, 1990). The final phase, structural analysis, involves an exploration of "all possible meanings and divergent perspectives" (Creswell, 2007, p. 159) and results in a description of the essence of the phenomenon.

Researcher's Perspective

In this study, my uncommon educational background in which I overcame various obstacles and barriers, affords me the opportunity to examine ideas, concepts, and theories from "the other side of the fence". As a child of a diplomat, I was educated in private and public schools in Asia, Europe, and Canada. Having a learning disability and attention problems sometimes presented challenges at each new school. My unique perspective is advantageous in helping me develop bonds with my participants, as I understand first-hand the challenges students with learning disabilities face. I believe the participants opened up to me because of our mutual understanding of these experiences. I am aware that my experiences as a special education student may be interpreted as a

limitation that could influence the participants' responses. However, I only shared my educational background as an introduction to the research and did not refer to it in the interview. If asked about my experience after the completion of the interview, I freely discussed it and answered questions posed, as this interaction would not affect the interview data.

Phenomenological research aims to develop a rich description of how a person perceives a phenomenon from which is derived a general meaning from individual stories (Moustakas, 1994). I endeavored to maintain the purity of voices of my participants but my experiences as a special education student likely presented a lens through which I interpreted the data. In phenomenology the idea that the researcher cannot be separated from the analysis of data and that such a separation is neither attainable, nor desirable is accepted. However, it is important for the researcher to describe his or her perspectives so that the reader is aware of them (Creswell, 2007).

Participants and Recruitment

I sought to involve four to six teachers working in Ontario to individually participate in one 90 minute interview to examine their experiences of teaching and collaborating in an inclusive environment. The participants were recruited from English teachers enrolled in Additional Qualifications (AQ) course in special education and graduate courses offered at faculty of education at an Ontario university. The requirements for participation were that the teachers must be certified by the Ontario College of Teachers and they must have experience implementing inclusion and collaborating with peers.

Participants for this study were recruited through a variety of ways. In June 2009, I contacted the Director of the Professional Development Programs (PDP) and the Director of Graduate Studies Program at the university to request permission to contact the instructors of the PDP and graduate courses. The Director of the Professional Development Program contacted the professors on my behalf and later gave me a list of the instructors who were interested in having me come to their class. The Director of Graduate Studies Program gave me permission to contact instructors directly to arrange the meeting. I then sent the instructors a detailed email that gave a brief overview of my study, the requirements for participation in the study, a copy of the consent form, a copy of the ethics certificate, and my contact information. A time to meet the students in the class was arranged with the instructor and I verbally described the study and provided my contact information to anyone who was interested in participating. Potential participants got in touch with me, and we decided on a time and a location to conduct the interview.

Using this recruitment process, I contacted a total of eleven instructors. A reply was received from all three of the instructors from the PDP programs, but I was only able to do two recruitment presentations. From the nine professors I contacted from the courses in graduate studies, I received a reply from five. Recruitment presentations were done in all five classes. During the seven recruitment presentations, a lot of interest was shown by potential participants. However, the timing of my data collection was near the end of the summer session (July 2009), which made actual participation difficult as it fell over the summer holidays (August 2009). Additionally, there were a few individuals who were interested in my study but they were not certified by the Ontario College of Teachers, as they were from outside the province. Also, there was one newly graduated

and certified teacher, but she did not have much experience implementing inclusion and collaborating with peers. All of my four participants (three females and one male) were recruited from my presentations, though none of them was from the same class.

Data Collection

Data for this study were collected through semi-structured interviews which allowed for maximum freedom of discussion while maintaining a common structure (Creswell, 2007). The number of participants, as agreed upon by my thesis committee, was to range between four and six individuals. The four participants, who volunteered for the study, did not receive any compensation for their time. The interviews were conducted between late July and early August 2009 at various locations that were convenient for the participants (e.g., restaurants, libraries, and homes) and they were all audio-taped.

Given the nature of the interviews, participants had the opportunity to “construct answers using their own words” (O’Leary, 2004, p. 159). During the interview I maintained a conversational tone to help develop a rapport with the participant. Although every question in the protocol was asked, the order in which they were asked varied as each interview developed its own flow. It was stated from the outset that the participants would be given an opportunity to review (as many times as necessary) their transcript, during which time they would be able to add to and/or clarify their responses. I felt this helped remove some of the pressure of “performance anxiety” in the interview, as the participants knew they would have an opportunity to review the transcript. Since the prior experience involved in research varied among the participants, a few of them felt it was

extremely helpful to be informed of the research process and said it helped them to relax in the interview.

Data Analysis

Data analysis began by transcribing each audio-taped interview verbatim. After the interview was transcribed, the transcription was sent to the respective participant via email to ensure the validity of its contents (Mertens, 2004). Three of the participants returned their transcripts adding more detail to the content of the data but did not substantially change their initial responses. One participant edited the tone and content of her responses in the transcript extensively. Only approved transcripts were used in the data analysis.

The data were analyzed inductively (Patton, 2002), and I began by reading and re-reading the transcript for each of the participants. Key statements were underlined and notes were made in the margins. From this analysis, I developed a list of key statements and they were coded. These statements gave me a better understanding of the commonalities and differences amongst my participants. I took these statements and grouped them into four major categories, and then into sub-categories, which further described the major categories (Denzin & Lincoln, 2007; Mertens, 2004). The four categories were personal characteristics, support, collaboration, and inclusion (see Appendix D for a table showing the categories and sub-categories). A cross-case analysis was then conducted to compare and contrast the individual cases.

Trustworthiness

Lincoln and Guba (1985) placed an emphasis on trustworthiness and authenticity in qualitative research so that it is balanced, fair, and conscientious in taking account of multiple perspectives, multiple interests, and multiple realities. The two measures of trustworthiness used in this study were credibility and transferability. Credibility refers to the correspondence between the researcher's portrayal of the participants' viewpoints and the way those individuals themselves perceive the phenomena (Mertens, 2004). The credibility of these findings was enhanced by conducting member checks and negative case analyses. Each participant received a copy of the transcript, read it, and approved it. As noted, all of the participants made corrections to the transcript. Transferability permits the reader to envisage how he or she would use the findings of the study and it was achieved through the use of multiple cases and a lengthy description of each participant's profile.

Summary

In this chapter a rationale for selecting a phenomenological approach was provided, the researcher's perspective was described, and the methodology used in the research was explained.

CHAPTER FIVE

FINDINGS

In this section, the profiles of the participants are presented and their unique teaching experiences and stories are described. The participants' feelings and opinions about their teaching experiences and collaborative relationships amongst colleagues, and their thoughts about inclusion are also expressed. All but one of the participants was from the same large school board in Eastern Ontario and they all selected their own pseudonyms. Although each of the perspectives and experiences is unique, there are many over-arching themes. The participant's profiles are arranged according to the four categories identified in the data analysis: personal characteristics, support, collaboration, and inclusion.

Freddie's Profile

Freddie is a Grade 1 French Immersion teacher, and having taught for three years, she is relatively new to the profession. However, Freddie comes from a family of teachers and is aware of some of the challenges faced by educators today. Freddie's recent inauguration into teaching provides insight into the perspective of those who have just completed their formal training to become educators. Her story also allows us to better understand how she perceives the concepts of inclusion and collaboration. Freddie's frankness in her interview provides insight into the successes and challenges she has faced with inclusive education and collaboration amongst colleagues. Freddie gives honest insight into the trials and tribulations of a young classroom teacher, and she meets these challenges with poise.

Personal Characteristics

Freddie entered the teaching profession with apprehension, which developed from her first-hand experience of observing her parents navigate through their own difficulties

as educators. However, her experience working with children, both as a coach and in summer camps, brought her to the field of education. Despite the challenges, responsibilities, and the high level of personal dedication involved in teaching, Freddie knew she had chosen the right profession for her because “I could not think of something I would want to do more [than teaching], I love working with kids.”

As a teacher, Freddie enjoys the work and takes her job very seriously. She describes herself as a person who likes to take on challenges and finds herself stimulated by the challenges presented in the classroom environment. She tries to develop innovative responses to these challenges and said, “Because now we say everyone does things differently and it is fine. [As long as] we all come to almost the same academic goal, we are okay.” Motivated by her students’ success, Freddie constantly searches for new and innovative means to further improve her teaching methods. Her educational philosophy is centered on the belief that “everyone can learn; you just have to figure out how”. Perhaps this is the reason why one of her favourite aspects of teaching involves working with students on an individual level. She elaborated on her teaching philosophy, “Just play around with how they learn and what they like and find out what they need and use those tools to pull it out of them.” During the interview, Freddie expressed how much she enjoys the challenge and the reward she feels when she has success helping a student learn.

Freddie stated that she is very attuned to her classroom environment and thus reactively changes her instructional approaches to correspond to the energy of the classroom. Understanding the importance of the dynamic of the classroom is valuable, and Freddie is quick to capitalize on its advantages. Recognizing both the academic and

social benefits that all students gain from working with each other, Freddie uses her classroom as a platform to understand, accept, and incorporate difference.

The biggest thing that they [the students] need to learn is socialization, how to work together, how to work in a group, how to [work] individually in a group, how to work with all these kids around, and still get their work done... not being fazed by something different. Not letting someone's different opinion or different way of thinking or different way of learning or acting or speaking... not to see it as weird, not to see it as different, and not to be prejudice towards it; just accept it now that people are different.

Reacting to her classroom environment and taking advantage of an opportunity is an aspect in Freddie's teaching that she is proud of. She does not shy away from challenges, believes that everyone can learn, accepts differences, and wants her students to develop social skills.

Support

When Freddie started teaching three years ago, she received a lot of support from her friends and family. With many family members in the teaching profession, Freddie took advantage of learning from their past experiences and knowledge of students. She also asked them about what methods facilitated a positive learning experience in the classroom.

While Freddie feels supported by her family and friends, she also understands that teachers must also feel supported by their administration and colleagues. Therefore, external factors can affect the classroom environment: "What affects teachers' attitudes is definitely the amount of support they get. If they feel like they are getting support and are

feeling appreciated by what they are doing, then they will continue to do it.” Freddie suggested that difficulties arise when teachers do not get the support they need.

When Freddie encounters an obstacle in teaching that is not overcome by using the advice and support from her family, she seeks information from other sources. She will read Ministry of Education documents and books recommended by the school board, and if the answer to her question is not found there, she will continue her quest for answers online through teaching-based websites and Google. Notably, Freddie does not immediately identify her colleagues as individuals to whom she would go for support. In such a scenario, Freddie states that:

I would go and talk to as many experienced people whose opinions I respect to make sure I understand every possible angle, to get a broader understanding of whatever is challenging me. From there, I would come to a solution to the challenge based on my own assumptions and experience, combined with the information I got from what other people learned or experienced. And I would try it and if it didn't work, I would try another way.

Another potential source of information is staff meetings and professional development sessions. However, Freddie commented that the presentations have not been useful: “The knowledge that I gained, I wouldn't say changed anything.” In Freddie's experience, these meetings do not further her knowledge in the areas discussed or lead to collaborative problem solving, nor have they offered any new ideas about how to address the issues differently. Freddie does save the written information from the meetings, and files it to share later with people who may find it more useful. In summary, Freddie does not confine herself to a single method of problem solving. She has a range of sources of

support that she consults in order to address her challenges. However, she does not usually turn to colleagues or professional development sessions as sources of information that could be used to solve problems.

Collaboration

Collaboration and working as a team is not something that occurs effortlessly at Freddie's school. It is one of the things Freddie finds difficult within her school environment, and it is evident as she does not easily identify her colleagues as individuals who support her in teaching. Freddie does not enjoy working with her colleagues, and sharing ideas and teaching strategies does not seem to be the norm among the staff. She feels that at her school, collaboration is viewed negatively. Freddie often feels isolated by her colleagues' resistance and, at times, refusal to work together. Freddie feels that there is a chasm among the staff with regard to age and experience. Most of the teachers are older with more experience, and Freddie feels they dismiss her ideas based on her status as a novice. Therefore, attempts at forging a working relationship based on sharing ideas, teaching strategies, and experiences are not fruitful. These negative feelings have had an impact on the effectiveness of collaboration. Freddie does not feel that she works in an environment that facilitates the advancement of student success through teachers' shared collaboration in knowledge creation.

Another obstacle in the collaborative environment at Freddie's school is the effectiveness of staff meetings and professional development days in which collaboration and inclusion are promoted. Freddie commented: "I hear from the older teachers that they don't appreciate it and they feel like they are being told how to teach." As difficult as Freddie finds the collaborative environment at her school, she understands the many

positive benefits collaboration has on knowledge creation designed to solve problems. As a result, Freddie continues to keep open the line of communication with her colleagues and hopes that eventually collaboration will become the norm. Freddie's ideal collaborative environment would be one in which all teachers would

[H]ave a set of rules or similar ideas on accepting differences and different ways of learning recognizing that as long as the knowledge is demonstrated it is good and you don't need to have to demonstrate it through a written report, or oral report – you can do what is best suited to you.

Freddie wants her students to work together and respect each others' ideas, and she expects that teachers should collaborate in a similar way. However, knowledge creation with regard to inclusion at her school does not occur through collaboration. She also feels that professional development sessions are not useful and that colleagues show no interest in working together to solve problems.

Inclusion

The biggest obstacle to implementing inclusion for Freddie is the varying level of acceptance of the practice amongst her colleagues. Freddie feels that some of her colleagues do not accept full inclusion. However, she does not let their attitudes lessen her own efforts to implement it. The following is Freddie's definition of inclusion:

The term inclusion means to me having special education students in my class without any functional supports like special education teachers, or EAs [Educational Assistants] or whoever – just me and my kids. I do the IEP [Individual Education Plan] and differentiation within the classroom... I am solely responsible for their learning regardless of their academic success.

Reflecting on her experiences of inclusion, Freddie is quick to point out her bias towards inclusive teaching which is all she has ever known. Unlike some of her colleagues, she has little experience with homogeneous classrooms. As such, Freddie works hard to ensure that her classroom environment is conducive to meeting the needs of all her students. However, with little support from collaborative relationships with her colleagues, the bulk of the responsibility falls on her shoulders. In her experiences, many teachers do not share the same perspective on, or the awareness of, the necessary teaching practices that support differentiated learning in the classroom.

We need to get the other teachers on board, the ones who don't want to. We need to get them to understand that different kinds of students are going to be in French Immersion now and we need to work together to develop a better plan.

As a young French Immersion teacher, Freddie does not accept the belief held by some teachers regarding special education, English as Second Language (ESL), and French Immersion students. Specifically, some educators believe that only top students should be in French Immersion programs, and if students are facing difficulties, they should be removed from the program entirely. Freddie struggles with such beliefs, as she respects the changing environment in schools and the importance many parents place on their children learning French.

I have a lot of ESL kids who don't even speak English. They learn English in the playground and then French with me, so it creates a more challenging classroom. But my colleagues don't like that. They feel that these ESL students shouldn't be there.... And when I try to explain different things, they say, "Well, that is really not fair." Well, it is fair because they are still demonstrating the same knowledge, just in a different way.

Freddie does not feel that some classroom teachers at her school have the time or desire to look into the backgrounds of their students to find out for themselves the individual efforts and barriers these students struggle to overcome to learn with their peers. She feels that if teachers open up more opportunities for these students and help them with their individual challenges within the classroom, all students will benefit from these efforts.

Freddie is also enthusiastic about sharing her positive experiences with inclusion and the aspects that facilitate a positive learning experience for her students. However, in her conceptualization of inclusion, Freddie is not blind to its obstacles.

Not all teachers are committed to the practice of inclusion. Even teachers like myself who are [committed to inclusive education], we run out of time, we run out of resources, money, and in our community, we run out of parental support.

There are other barriers too. One is that the amount of time required both inside and outside school hours to plan lessons and forge the relationship among staff needed for optimal success in inclusive practices is not adequately recognized in the school. She reported that she does most of her planning alone and at home, a practice that is not conducive to collaboration. However, at her school there is not sufficient common

planning time scheduled. Freddie also stated that the level of inclusion in each classroom varies according to the level of commitment of the teacher. A final barrier is the lack of financial support from the administration, “There isn’t enough support from up high to give all the kids what they need.” Money is required to purchase resources that could be used to help students with special needs learn French.

Despite the lack of time, resources, and support of colleagues and administrators, Freddie feels that inclusion is very important in education. She stated that if inclusion were not a part of her educational philosophy, she would be failing in her teaching practices. In the absence of her colleagues’ support and collaboration for inclusion, Freddie uses inclusive practices and teaches collaboration to her students, telling them that “We all need to work together because everyone benefits from inclusion.” She acknowledges the obstacles and challenges in reaching this goal and that doing the right thing is “never easy.” However, as a teacher, she feels that she needs to lead by example and is determined to implement inclusion in her own classroom.

William’s Profile

William has been a teacher for over 20 years and has a wealth of experience, having taught mainstream and special education students from primary to high school. Recently switching school boards, William is taking this opportunity to re-examine his teaching philosophy and further his knowledge in the field of education by enrolling in an AQ course. William stated that “Teaching is part of my being or soul, as I am continually drawn to it.” His experiences have given him a wealth of knowledge and the perspectives of a “seasoned” teacher.

Personal Characteristics

William became an educator over two decades ago, and he continues to enjoy the challenges associated with teaching. Having worked with youth as a coach and a teacher, William's "mind and body approach" to learning extends beyond the four walls of the classroom. Pairing his role as a teacher with his role of the coach, William's focus remains on the students.

It's not just challenging myself but the individual. Helping them [the students] to recognize strengths and to improve, but also to focus on abilities. I like seeing the developments, the progression.

The desire to improve his practice and continually challenge himself led William to upgrade his qualifications by taking more professional development courses. His decision to return to university as a student was guided by the realization that experience is one aspect of teaching: "I have so much to learn... my skills for a long time were at a stalemate, so when I actually took a break and looked at my skill set, I realized I needed more." The recognition that his knowledge of teaching strategies and methodologies were not current, combined with his desire to learn, motivated William to further his own learning.

William's teaching mantra is "Just keep going", which reflects his ability to see difficulties as challenges to overcome through focusing on the "bigger picture." Reflecting on the meaning behind his mantra, William highlights the underlying issue that challenges do not disappear.

Some challenges I avoided, and those are the ones that resurface. Eventually, everything you face, good or bad, you are better for it. Such as a subject matter that challenges me, eventually it can in fact become the most gratifying to teach and result in a sense of accomplishment.

Support

William draws support for the challenges he faces in teaching from people within the educational community. His support is largely derived from the people around him. He sees the struggles that a close friend overcomes on a daily basis and it helps him gain perspective towards challenges.

My friend, she was a special needs person and we were good friends and she influenced me to become a special education teacher... Sometimes I go back to an image of this friend, and I see her crawling up my driveway on her hands and knees just to see me.

William perceives life as a challenge, and different people have different challenges, but it is how these challenges are met that defines the person.

William touches upon an interesting aspect of support. There are people who provide support in measurable forms, whether it is advice on an issue, help with a student, or through providing teaching resources for a specific challenge. However, there are individuals who provide support without consciously being aware of doing so. These individuals, such as students, parents, colleagues, and custodians, also add to William's positive teaching experience.

The kids have been supportive. I mean, it is them who keep me going... Those same kids become adults and I have been fortunate that some have remained connected at various levels, and it is a very supportive and also challenging form of relationships...

The responses William receives from students through his efforts in teaching or coaching also encourage future ventures. Without positive feedback and reinforcement, it is difficult for him to continue.

While William devotes considerable time and energy to his role as a teacher, he thinks of himself first and foremost as a coach. William finds support from his experiences coaching and applies these lessons to his teaching. Coaching has taught him to address challenges as they occur and to make modifications to the “game plan” as the actions occur. There is only a certain amount of planning ahead; the rest is reactive. In making these changes, William feels that the educational community can provide a certain level of support, but the majority of the responsibility rests with individual teachers.

William has faced many challenges throughout his career, and he feels they have shaped his educational experience. His perceptions of teaching were constructed from the levels of support and his educational experience and background.

Collaboration

Initial efforts for collaboration amongst teachers in William’s school were in response to inquiries from the individuals in higher levels of administration:

You know, a vice principal or somebody might come and ask my thoughts on this person being involved in a class I am teaching or a department head asking what I think about [this or that]... and then sometimes myself, perhaps going to a team member – for lack of a better term – [to ask a question].

William viewed these informal conversations as a type of collaboration among staff.

There were very few guidelines or directions from the administration on how teachers should collaborate, which made it difficult for William to know where and how to start.

Building collaborative relationships with other teachers was difficult, and the lack of direction diminished its potential. Hence, the knowledge creation process for collaboration at William's school was disjointed due to the lack of guidelines for the collaborative model. However, William and some of his colleagues created a collaborative process that addressed their needs and provided the support lacking in some areas. The essence of this process of collaboration is two-way communication. The mode of communication amongst William and his colleagues varied according to level of comfort and personality. William cites an example of collaboration resulting from informal communication. He told of an incident whereby a colleague left a flyer for a coaching clinic in which he thought William would be interested. As a direct result of this colleague's attempt at collaboration, William attended the coaching clinic where he gained a skill set in his teaching and coaching that may have otherwise been missed.

He also recognizes the negative consequences that poor communication and collaboration can have on student learning and success.

You know, there have been times admittedly that there hasn't been collaboration and as a result, I can cite examples where students are repeating courses. The same courses with different names, and some of them I taught and it was just a lack of communication within the department itself. It created a bit of a stalemate, but when there is collaboration it allows for healthy discussions.

William believes that successful collaboration has a momentum behind it that extends into "healthy discussions" and knowledge sharing. Without the momentum, collaboration is difficult, as positive outcomes stimulate future ventures. A lack of momentum in the environment often results in a breakdown in communication. This breakdown in communication may affect student learning as teachers should collaborate in the development of course content and implementation. William stated, "A student in a setting from age 13-21 benefits from stages of programs and these require upgrades and intensive collaboration and if not, at the least, extreme knowledge from the department head or curriculum specialist." William feels that teachers do not meet the needs of students with disabilities, "In many examples, the curriculum for the course of a special education student is teacher-driven and life skill-based with a whole lot of room for personal interpretation." He also believes that collaboration in program planning for students with special needs is desirable and it has the benefit of reducing the responsibility for any one teacher. However, according to William, the ideal collaborative environment and the real collaborative environment can be diametrically opposed. For William, the ideal environment includes communication and organizational structures that support collaboration, personal commitment by teachers, and innovative thinking.

The Physical Education Opportunity Program for Exceptional Learners

(PEOPEL) was a program William worked in that embodied characteristics of a collaborative environment he valued most. PEOPEL was developed to provide academic credits for youth who did peer tutoring work in a physical education setting at school and within the community. William cites his involvement with PEOPEL as a positive learning experience, especially in his collaborative relationships with several other teachers.

We had to collaborate for it to be effective. We had to talk about forms and evaluation so we could be consistent with our expectations for the special needs students and with the students we were going to be meeting. I mean, the collaboration was ongoing while you are in that program... So, collaboration is paramount; communication is paramount.

William believes that everyone benefits from this style of organization. His work with PEOPEL helped him establish his own understanding of collaboration through experiencing how collaboration benefits students, teachers, and the administration. This led William to consider developing other collaborative ventures aimed at including more students in other activities.

Inclusion

Inclusive education is not a new concept to William. However, he recently experienced some new aspects of inclusion. Previously, the term inclusion and its practices were used primarily in special education circles. Throughout his career, William witnessed how the term 'inclusion' evolved from jargon in special education to mainstream classroom application.

It's interesting, because when you think of the term inclusion, you immediately think of a person being excluded and think "How do we include them?" But inclusion might also mean opportunity because now when I think of inclusion, I also think of a student who might have a challenge finishing a test. Then I need to provide time, and I need to find somebody to help me with script – to me, that is a mode of inclusion too, to provide for inclusion specifically.

William believes in the importance of students learning about inclusion and being more inclusive towards others in their own activities. He questions why inclusive education is primarily directed at the professionals and not, to the same extent, at the student population. William feels that addressing inclusive education from as many avenues as possible is the best way to promote its growth and development.

Linking inclusion with opportunity, supporting student success through inclusive practices is an important part of William's teaching philosophy. One of his greatest teaching accomplishments stemmed from his efforts to create a more inclusive learning environment.

There was this special needs student and I was able to be a part of including him in an athletic program and he really excelled and I got such good feedback. And it really comes back to making [a] difference for that one person. That really jumped out at me.

Clearly, this experience extended beyond the successful inclusion of an exceptional student in the classroom. It had an impact on William as an educator because his actions had such a positive effect on the student. The knowledge William gained through this experience has the potential to be applied in other areas both inside and outside of the

classroom. While proud of his own successes in including students with disabilities, he is also aware of the barriers to implementing inclusion. William feels that the current structure is inadequate to meet the needs of students and teachers in inclusive settings. He also acknowledges that he is not always as inclusive as he would like to be.

I have my moments. There have been moments that I haven't recognized. And I think it's healthy to question yourself... to take the time to take a step back and observe and take a few courses so it just that a lot of what I say is in the past, but right now I am more active and I am seeing the reflections of it.

However imperfect, some aspects of inclusive education are presently found in William's school, and he believes in what he is doing.

It's worth it. It's worth it but it's not easy. Just do it! Don't just look at it as positive or negative. I can be that. It just is. So, do it and work it and redo it and rework it.

Shirley's Profile

Shirley is a French Immersion teacher at an elementary school. She started as a supply teacher, but has been working as a full-time teacher for the last four years. Shirley always wanted to become a teacher and cites her own struggles in school as one of the motivating factors in her decision. Shirley puts her students' best interests first and spends countless hours of her own time developing new and innovative ideas to meet the needs of her students. She takes pride in helping her students realize their full potential and works hard to create a supportive and nurturing environment in her classroom. Shirley's story provides us with a candid account of the personal commitment of an individual within the teaching profession and how it shapes her opinions and beliefs.

Personal Characteristics

From a young age, Shirley can remember wanting to become a teacher. Her youthful aspiration was fuelled by her experiences as a student and the desire to make a difference in people's lives. As an adult, Shirley works hard to meet the goals she set for herself as a young girl. Her teaching philosophy is centered on developing a positive rapport with each student.

The reward I get from teaching is building that rapport with them [the students] and talking about how they are feeling those life issues and achievements. If you can impact somebody and connect with somebody on a human level, that means more than teaching them something academic. It impacts their whole way of thinking about life and ultimately their happiness.

For Shirley, academic achievement will come for every student, but life lessons in such areas as self-esteem are not elements addressed by the curriculum. Shirley feels that it is her professional responsibility to teach her students to build academic and social skills to help develop self-esteem. She contends that these skills improve students' coping strategies to meet challenges they will ultimately face in various settings throughout their lives.

Shirley's passion for teaching is derived from a positive attitude towards her students' future and their personal success.

It's what drives me and motivates me to keep me going [i.e., seeing personal growth], and I don't think that everybody can connect with people that way and so I think that is what I can bring to the profession and what I think is one of the most important things I can do.

Shirley feels that her ability to develop a rapport and personal connection with her students is her strength.

A positive attitude towards teaching is very important to Shirley, and she finds it "insulting" to work with individuals who remain focused on negative aspects.

Honestly, how do you cope when people are complaining that they have such-and-such in their classroom and that they make it very difficult to teach and they have so much disruption in their class and they have negatively affected other students blah, blah, blah. How do you tell another colleague, another teacher that?

For Shirley, teaching is a choice and if you choose to teach, then you have chosen to meet the challenges in the profession to the best of your ability and with a positive attitude.

Support

After taking a year off from teaching to finish her Master's degree, Shirley gained a new perspective towards the challenges in the teaching profession. Questioning whether or not to tackle the challenges alone or with others is a dilemma she often confronts.

Working in a French Immersion program, Shirley feels she does not have the same human resources that other teachers have.

Because I am only one person, I don't have EAs [educational assistants] in my class. I don't have the same degree of support that other people do because it is not the same in the French Immersion program. So, I mostly did it on my own. You know, I felt good because I felt that I was doing what was right by my kids and I felt good.

She is aware of the positive benefits of support among teachers, through exchanging ideas and developing a shared understanding of the challenges and rewards of classroom teaching. However, Shirley stated that there is little collaboration at her school and she does not receive much support from her colleagues.

Like the other participants, Shirley is buoyed by the relationships she has developed with her students. She stated, "My underlying thing is that you can teach skills when you build the foundations of the classroom with respect and good confidence in your students". Parental involvement as a form of support is also a helpful resource for Shirley. Although there is a potential for a clash in ideologies between diverging parent and teacher philosophies, Shirley has had only positive experiences.

Shirley also solves problems by drawing from her graduate work and tries to analyze them and apply theory to them.

[The dynamic between students and teacher] is what takes time to understand as a teacher, which is why it is important to keep learning so you can add to your teaching tricks. It's about taking a theory, applying the theory and having that awareness, which is key to understanding a problem as you go backwards to try and figure out what you can do to help. Even if you don't have support, you have your own mind and you can be talking with other colleagues, reading books, talking to another parent even gives you the awareness.

Despite the support from students, parents, and her own learning, Shirley sometimes feels her efforts are undermined by her colleagues who permit English to be spoken in the French Immersion Program and who also speak English themselves. As a result, she feels unsupported in her efforts to expose and teach her students French. The negative experiences for Shirley have come from other teachers "who don't maybe see education the same way that [I] do".

Collaboration

The lack of support Shirley feels from colleagues has negatively influenced future collaborative ventures. She does not feel as though her professional relationship with her colleagues is cohesive enough to work as a collaborative team. Moreover, Shirley does not believe that her colleagues are consistently helping the students the way they need to be supported in the classroom.

While Shirley now works alone, she successfully collaborated with a colleague in another school. Both teachers taught the same grade and collaborated in two different ways. The first was through shared responsibilities and planning. The second was through

team teaching whereby both teachers had equal involvement in leading an activity. She explained,

We made a poster, created a lever on it to demonstrate how forces work. We also made a little machine to demonstrate how forces work. I would model the workings of the lever while my colleague would read or show something else. It all fit together and we were complimenting each other to improve the richness of the class.

Sharing ideas and working together for the benefit of the students was a common goal of the two teachers. Shirley found her collaboration with this colleague very stimulating and she looked forward to working together. The two teachers had a similar work ethic. They stayed after school hours and shared ideas, resources, and experiences.

It was more exciting having that other person to be with, especially after hours when a lot of people are gone for the day. It's not lonely. I really loved that about that school; I kind of wish I would have that everywhere else because before my whole philosophy didn't jive with everyone else so it was nice when it did.

With this other teacher, Shirley felt she had a colleague to go to for support and discuss how best to address a difficulty. For Shirley, there is a connectedness between support and collaboration, as the former cannot exist without the latter.

The collaboration [with my former colleague] has made a huge positive impact, the right positive impact. However, collaboration can sometimes be a waste of time and that is why I usually say “forget it”; I will do it my way... I wish there would be more collaboration, but I am kind of leery about the type of collaboration I do use, and I was fortunate to have that colleague a couple of years ago.

Shirley would like to be collaborative with her colleagues, however finding the time to develop a positive working relationship with them is an obstacle. Shirley also feels that the school organization does not support collaboration, as there is no time in the schedule to meet with her colleagues. She also feels that some of her colleagues do not have the same level of commitment towards establishing this collaborative environment.

[Again] collaboration can sometimes be a waste of time.... I guess the school does not really [as whole] do a lot of collaboration. Some people really don't believe in it and that makes it difficult for the ones who do. It can be really difficult to implement with the obstacles, as you are fighting, to make a differences and it is just so hard.

At this point, Shirley does not collaborate with her colleagues. There are differences in approach and a lack of time to work together and develop relationships. Hence, she solves problems by relying on her own personal resources. As important as collaborating is to Shirley, at her present school she works alone. She feels a strong sense of responsibility for her students' success and will not compromise their educational experience through dividing her time between her students and establishing a collaborative environment with her colleagues. Consequently, Shirley's efforts remain

focused on the students in her classroom and she continues to find new ways to enhance their educational experience through creating a dynamic classroom.

Inclusion

Inclusion is an important element in Shirley's teaching philosophy. For her, inclusion is not just a practice mandated by the Ministry of Education, it is a natural approach for teaching and learning.

Inclusion to me [means] no one student fits into a cookie-cutter model of learning.

There are different styles of learning which change and develop throughout school... and [there are] different ways to understand what people need developmentally to understand what is being taught. So, inclusion for me is making accommodations. I think accommodations help all students not just the kids with 'special needs'.

An important element of Shirley's concept of inclusion is that she is able to help any student who needs it, not just the identified students who are traditionally labeled as "special needs." Although the French Immersion program is open to everyone, in comparison to colleagues in the English program, Shirley does not have many students with exceptionalities. Though she would like to work with students with more severe needs, she is unable to do so because "the way the system is set up now, it is difficult for one teacher to handle and I don't think the school system, well the French Immersion system, is ready to do this or handle this just yet."

Shirley acknowledges the differences in her ideas about inclusion between her and her colleagues, and this leads to her "frustration with other teachers... [because] everybody puts different levels of effort into what they do." Shirley is also dissatisfied

with the administration's attempts to address these problems through professional development sessions and staff development meetings.

HA! Professional development activities – some teachers think that's going for a beer after work.... [Professional development] can become just one more thing to do and any information you receive just gets piled onto a shelf.

Shirley does not share this view about professional development activities. Sometimes she gleans practical advice, but more often, Shirley finds them to be helpful "in the sense of reinforcement and building on my own teaching philosophy."

In sum, from Shirley's experience, collaboration really does work. She feels it enhanced her teaching practices, especially when working with another teacher to plan lessons and team teach. In her experience, inclusion happened more easily because there were two adults involved in the process: "It just makes so much sense to me, because you are able to teach to various styles and have more resources and support." However, in her present school she does not collaborate with colleagues, and there is little inclusion in French Immersion classes.

***MA*'s Profile**

MA has taught in Ontario for over 15 years and at all grade levels. Her teaching experience includes being a division head, music specialist, teacher-in-charge, and union representative. She completed her principal's qualifications and is presently a graduate student in an Ontario university. *MA* symbolizes her teaching experience as a journey downstream in a canoe. Elements of her career have been a struggle in raging waters, but there have also been moments of calm and balance. *MA* feels her determination has been the metaphorical canoe paddle stirring her career, knowledge, and teaching

philosophies. Her journey provides insight into the struggle of a teacher trying to meet the needs of her students while not receiving the necessary supports.

Personal characteristics

MA embraces the opportunities in her life and the experiences that come from these opportunities. Her educational philosophy reflect this idea: challenges in teaching are opportunities. These opportunities then become the unplanned experiences in her teaching career. *MA* reflects on these experiences and feels that the best things that happen in her career are the opportunities she embraces without reservation.

MA feels a sense of duty in teaching: “I belong in front of a classroom, mingling amongst the students, and delivering the excellent education that I have to them.” *MA* also has a passion for learning that extends far beyond her own classroom. She completed many professional development courses and a Master’s degree in Education, and is presently working towards her doctorate in education. *MA* thinks that her educational background is an important element in her teaching. She also feels that her education gives her the tools she needs to better advocate for her students, understand educational policy, and cope with the challenges in the curriculum. However, *MA*’s level of education also causes her to feel isolated in her teaching.

Depending on the people on the staff, my level of education has sometimes been detrimental. When people and parents alike find out that I am a doctoral student they kind of straighten up and talk to me differently, and so the label is problematic. Sometimes, because I might not have the same tastes as everyone else, and I guess they are aware of that, but I am definitely not a mainstream teacher. I am a teacher who is an artist, is a musician, who lives outside labels and boxes.

The isolation *MA* encounters in her career is something she tries to address and use as a teaching tool for her students and colleagues to feel more comfortable with difference. Instead of remaining in isolation, *MA* works towards dismantling these barriers through her own actions: “I am all for modeling what it [teaching without barriers] looks like. I was once told by a very respected teacher on another staff that ‘You don’t need to tell people how educated you are; you show them.’”

Although isolated from colleagues, *MA* feels she has a positive relationship with her students and being a positive role model for them is very important to her. One of the rewards of teaching cited by *MA* is positively influencing her students’ lives, and her greatest accomplishment as a teacher reflects this sentiment.

My greatest accomplishment was reaching [out to] one student who was gravely injured. At a local hospital when I visited her, she took nine steps to show me that she was going to recover. The staff had said that she refused to walk for them, and for her mother. But she walked for me. This incident reflected back to my notion of faith and determination that I make a point of modeling for my students.

MA thrives on her students' success, takes pride in her students' individual accomplishments, and strives to make each student feel special and included in her classroom. Given the challenges and stresses that are associated with teaching, this is a difficult task but one on which *MA* is not willing to compromise.

Support

Feeling let down by her school's poor administrative support of its teachers, *MA* has tried to fill this role through supporting herself. To do so, *MA* draws from her experiences as a union representative to gain insight she feels that the administration at her school lacks to properly support its teachers. As a result *MA* advocates for her colleagues.

I am an advocate for the underdog. And in 1996 when administration was taken out of our union, the separation between teacher and administration began. The principal is no longer a teacher in charge; they have taken on more of a supervisory role. I don't say boss; I say supervisor. The school board is my boss. But administrators think they are your boss and that upsets the power balance. Some of the challenges? What do I do? Well, I advocate. I advocate for my teachers; I read. I read the Education Act up and down and backwards so I know our rights as teachers and I think that is how I receive and tackle the challenges.

Despite the lack of support from her administration, *MA* creatively develops solutions to these challenges. In doing so, she provides support not only for herself but for her colleagues, which benefits the whole community because “if teachers are happy, then the school is happy.”

MA supports her teaching needs independently because of her school’s situation, although she prefers to work in a team environment.

[W]hen you can’t do it on your own, you have to rely on colleagues who have different talents than your talents and they can help you along. And for me, there are a couple of colleagues at school who have more experience than I do, and I find myself going to them.

MA finds that the knowledge she gains through talking to some of her colleagues informs her own teaching practices. This type of support is experienced-based and has many classroom applications. She tries her best to learn from her surroundings. The lessons learned beyond the classroom environment are as important to her as the lessons she learns from within.

Collaboration

MA feels strongly about establishing collaborative relationships with others, and believes there is an element of inclusion within her perception of collaboration. With her keen sense of awareness about other individuals and their desire to be included, *MA* uses this opportunity to connect and share ideas. For *MA* collaboration occurs informally and with different groups of people.

It doesn't happen in the staff room. It happens when I am just having a [informal] conversation with a colleague. I have chosen the conversation, I have chosen the colleague, I have ownership over what I need from this person, and we are sharing about something and that colleague could say something off the cuff that I will take back to my classroom. Very practical and very skillful, and it is not just my colleagues who have more experience than I do, it could be, you know, the teacher I can't stand, or the teacher fresh from teachers' college who has more energy than I can shake a stick at. And sometimes it is a parent. Unfortunately, it hasn't really been my administrator.

MA demonstrates that she is open to receiving information that may assist her in solving problems from colleagues. She decides which teachers may be of use to her and solicits their thoughts. Unfortunately, the administration has not been much help to her.

MA also recognizes that teachers' attitudes towards collaboration may impede efforts. For *MA*, the willingness to collaborate extends beyond the belief in the practice, as it also depends on relationships between colleagues.

Some teachers might not be open to revealing their lack of skill set. You know, it really depends on the person and it depends on past behaviour. I mean, if someone has misinterpreted you somewhere down the line, it can snowball and they can get totally the wrong picture of what you are about. And so, they will choose not to associate with you.

For *MA*, there is a positive correlation between personal belief and confidence in teaching abilities and willingness to collaborate: "You find that the same teachers who are a part of certain committees want to be there and then you can tell the teachers who

are there because the principal has them there but they don't want to." Indeed, the overall collaborative environment is affected by the interpersonal dynamic of the group. *MA* feels that a positive environment is more likely to encourage collaboration amongst teachers than a negative one. Additionally, without strong leadership, collaborative efforts wane. Hence, the overall environment and group dynamic may determine the success of the collaborative venture.

Despite the obstacles, *MA* perceives that there are benefits to collaborating with certain colleagues.

What I have learned about collaborating with other people is that I feel better. I've learned that I enjoy the company of certain people and I seek out that company because it validates me and turns the mirror back "it's not about me" I validate them as well.

The nature of the collaborative relationship between *MA* and her colleagues is reciprocal. Her expectations of collaboration have been met because she seeks out the information she needs, and chooses those with whom she wishes to work. The lack of support from the school's administration does not affect how *MA* collaborates with her colleagues.

Inclusion

The concept of inclusion extends beyond the field of education for *MA*. Her perception of inclusion is "the ability to walk into a room and be welcomed by the people in it, to not be ignored, to be included and drawn into the conversation, to be drawn into the discussions." Being part of a group, and feeling included has been important to *MA*

on an individual level since she was in Kindergarten. This early introduction to the idea of inclusion helped to shape her perspective of inclusive education.

Well, inclusion is very important in the education system because if one teacher is not included, then they run the risk of not delivering an effective program to their students because they are not in the loop at school. There is another very ugly side to inclusion; if you are not part of a clique at school in terms of teachers, you can feel very left out, very singled out, and you feel less of a value on staff and this is a whole other dimension to inclusion. I think the role and goal of the administrator at school is to ensure, to cement in stone, the fact that every staff member is included as a valued part of the staff. And of course, if the teacher feels included, it is hoped that they pass that on to their students, modeling for them what it means to accept the other.

MA identifies a different dimension of inclusion: including all staff members. The association between effective program delivery and teacher appreciation is an interesting dynamic to consider as its implications are far-reaching. When teachers feel included and valued by the administration, they are more likely to have a positive teaching experience. Feeling supported by colleagues through constructive relationships furthers the feeling of inclusion. Teachers with a positive experience of inclusion are more likely to model inclusive practices within their own classroom, as they have experienced the benefits first-hand.

Commitment is another element that can determine the successful implementation of inclusion. Some teachers are more committed to inclusive education than others and this affects how inclusion is practiced. For *MA*, commitment towards inclusive

education is influenced by the teacher's attitude. In her experience, we need more inclusion within the classroom because it addresses the complexities of behaviour management.

Well, we need more of it. You know, and if we don't have inclusive classrooms first of all, the first symptom is, you are going to have problems with classroom management. Students want the model, they want you to sit down and read, they want to be shown how to interact with people, they want to make sense of how you are interacting with people for themselves, and they will respond to you as you respond to them. So, if you are inclusive with them, and they witness your cue for validation, they will then respond to your cues.

In her conceptualization of inclusion, it is the teacher's responsibility to model inclusive practices within the classroom. The challenge is that there are not enough classroom resources to support inclusion. Consequently, greater preparation and planning is needed to fill this gap.

MA is frustrated with the information presented at professional development (PD) workshops at her school. Designed to improve teaching practices, in *MA*'s opinion, they fall short of their objective.

Most of the professional reading I get is boring. It's really boring... I don't know if it's a problem at my school board, or if it is my problem, but I have been to so many professional development meetings that are lecture style and they bore me to tears. Like, I could burst into tears I am so bored, and I don't want to appear arrogant, I don't want to appear, you know, higher than everyone else, but I try to go with the flow and I look at this as a challenge. But after 15 years, I just keep seeing the same material coming back at me again with different packaging and a different publisher. And it is still written at a Grade 3 level and it's not helpful sometimes.

While *MA* believes that PD workshops are important, she does not think that the current structure and dissemination of information is useful. In her opinion, it is the same information marketed, using the same mediums and does not offer new ideas or practices for inclusion. In order for PD workshops to be more useful, she hoped that more innovative approaches to inclusion would be introduced, particularly ones that would involve the provision of more support and resources for teachers.

Despite the PD workshops, *MA* is able to identify the positive outcomes of inclusion from an individual level. She stated:

Students that are better able to express themselves and the emotions that they are having, the trust that students have for their teachers and parents, students that try, students that are interested in something and that's not just students but adults as well, adults that want to come to work, that want to stay past the bell, you know, adults that are, I don't want to say happy, I want to say well-adjusted. Well-adjusted for the challenges they face in the year. Because they are being validated and because they are being respected and acknowledged.

In her conceptualization of inclusion, the ideas of respect, acknowledgement, and support are important for the individual to feel validated and included. However, the obstacle in *MA*'s perspective is that the current structure of the education system is not designed to support the successful implementation of inclusion.

There is no doubt about it, the structure of the school system. It's archaic, ancient, it doesn't work. Students shouldn't be behind desks in giant boxes called classrooms. The structure of the school system is damaging inclusion because it is not including students who need these things who need to be outside, who need to experience creative outlets, who need to be outside playing regardless of the rain or the cold, kids need to understand it's okay to be dirty, in the dirt. Kids need to be exploring and that is just how I feel.

There are not enough resources in the current educational structure to support all of the student needs within the classroom. *MA* feels very strongly that all students should have the supports required for their individual learning styles. She feels it is her job as an educator to provide these supports and is frustrated she is unable to do so. *MA* hopes

that in the future her school will have the resources to better support the implementation of inclusion.

Cross-Case Analysis

In each of the above profiles the successes and challenges of collaborating and implementing inclusion faced by the participants were described. While each participant's story is unique, there are some common themes and perspectives that emerge. The following cross-case analysis will compare and contrast the experiences and identify these common themes (See Appendix E for a table comparing their profiles).

Support

The participants had different responses when asked from whom they drew support for the challenges they encounter teaching. Freddie looks first to family and friends, and if the problem is still unresolved she turns to Ministry documents and other sources for information. *MA* has a similar approach to Freddie, first she tackles the challenges alone, and if unsatisfied with the result then turns to trusted colleagues. William and Shirley approached the challenges in their profession by posing questions to their students and friends. Afterwards they reflect on the responses to find solutions to their challenges. Only William regularly consults with colleagues when pressed to resolve a problem. For the three women, colleagues are not the first source of information when trying to deal with an issue. Additionally, none of the participants looked to the administration to provide support, and *MA* seemed openly resistant to working with her principal.

Collaboration

All of the participants stated that they wanted to work with other teachers, but struggled to collaborate, as the culture and norms at their respective schools supported autonomous work. It appeared that in at least two situations, teachers did not respect one another (Freddie and *MA*), which hinders the ability to work together. Freddie and Shirley also mentioned differences in beliefs about French Immersion for students with exceptionalities among their colleagues. In addition, Freddie commented that the age difference between her and other teachers seemed to highlight the dissimilarities in their teaching philosophies and practices.

MA and William did report collaborating with colleagues, but it did not extend beyond asking questions of other teachers or sharing bits of information. As well, *MA* will only “collaborate” with specific colleagues, whom she feels will provide the best quality information. William seems to be open to communicating with the other teachers in the school. He feels that communication leads to collaboration, therefore having a positive relationship amongst colleagues (and administration) facilitates greater collaboration. However, they all felt that there was little administrative press to develop collaborative relationships and they did not take it upon themselves to go out of their way to work with other teachers. Moreover, their collaborative actions did not extend beyond conversations with other teachers.

Inclusion

All the participants’ are committed to inclusive education but report a number of barriers to inclusion at their schools. *MA* and Shirley argued that the resources to support inclusion were lacking in their respective schools. Another barrier was the lack of

time, and the administration does not allocate enough time for teachers to meet and discuss the demands of an inclusive classroom. In addition, as young French Immersion teachers, both Freddie and Shirley described the isolation they experienced implementing inclusion. The final obstacle is the participants themselves. Unfortunately, none of the participants has considered his or her attitudes as barriers towards the implementation of inclusion. The data reveal all four participants are advocates of inclusion in theory, but their practices do not support this. Clearly, there needs to be a greater balance between administrative responsibility and teacher responsibility. The participants reported that teacher-to-teacher and teacher-to-administration communication is the basis for collaboration, but they did not consider how their own perspectives act as a barrier to the culture of working together. It appeared that these teachers were able to identify barriers to implementing inclusion as presented by others, but had not thought carefully about how their own behaviors may have contributed to the lack of collaboration in implementing inclusion.

Summary

In Chapter 5 the profiles of the four participants were presented and they were organized according to the four research questions that provided a framework for this study.

CHAPTER SIX

DISCUSSION AND CONCLUSIONS

This qualitative study examined the experiences of four teachers from Eastern Ontario school boards and considered in what ways these teachers perceive how they collaborate, communicate, and generate new knowledge to solve problems in relation to inclusion. During these semi-structured interviews, the research questions below guided the inquiry. These research questions are representative of Nonaka's (1994) four phases of knowledge creation.

1. How do teachers collaborate? How does the dynamic of explicit and tacit knowledge occur? (Socialization)
2. How are the results of collaboration shared with others? (Externalization)
3. How are the results of collaboration used by others? (Combination)
4. How have inclusive practices changed? (Internalization)

For each research question, the findings and themes that emerged from the data will be explained and discussed in terms of the literature.

Research Question One: How do Teachers Collaborate? How does the Dynamic of Explicit and Tacit Knowledge Occur? (Socialization)

This section will explore the first research question: *How do teachers collaborate? How does the dynamic of explicit and tacit knowledge occur?* Each participant's personal narrative highlights different aspects of collaboration and collaboration for inclusion. Despite the fact that the teaching practices amongst the participants differ, their experiences involving collaboration shed light on the knowledge creation process at their schools. Though each participant identifies collaboration as an important element to successful inclusive teaching, all four teachers are disappointed by the level of collaboration they experienced. Given that research has shown that

collaboration is an important element to the successful implementation of initiatives, such as inclusion (DuFour, 2008; Praisner, 2003; Scruggs, Mastropieri & McDuffie, 2007), it is surprising that so little collaboration occurs in the participants' schools.

Lack of Infrastructure

There was consensus among the participants that collaboration does not occur effortlessly at their schools because they lack the infrastructure to support it. In this case, infrastructure refers to providing time during the school day to meet with colleagues to work collaboratively on problems related to inclusion. It also involves developing communication strategies (Praisner, 2003) and providing effective professional development.

Collaboration is recognized as an important element of inclusive education (Mastropieri, Scruggs, & McDuffie, 2007). Unfortunately, all of the participants are not satisfied with the level of their collaboration at their respective schools. The literature clearly shows that when implementing innovations, administrators need to build time into the school day so that teachers can come together to plan (DuFour, 2004; McLaughlin & Talbert, 2006). It appeared that none of the teachers had dedicated time during the school day to meet with colleagues for the purpose of planning together. As a result, collaborating with other teachers generally did not occur, and the teachers in this study worked in isolation. It is therefore, not surprising that none of the participants mentioned co-teaching with special education teachers as a method of collaborating to implement inclusion.

The participants felt that professional development activities aimed at furthering collaboration between teachers fail to offer innovative ideas that address current

problems experienced in classrooms. Freddie, Shirley, and *MA* all expressed frustration at these activities because they are ineffective because they continuously fail to engage the intended audience in any meaningful dialogue. This lack of situational awareness on the part of the leadership, who organized the professional development activities, leads the participants to feel further isolated in their practices. These findings underscore the importance of a point made by McLaughlin and Talbert (2006) that the most effective professional development for teachers involves activities that focus on instruction, resources, and specific concerns which are continuously addressed through collaboration with colleagues. The structure that supports this type of professional development is professional learning communities (DuFour, 2004). Unfortunately, the participants did not experience professional development activities in which they worked with colleagues to develop strategies to facilitate the inclusion of students with exceptionalities. Moreover, not one of them mentioned professional learning communities at their schools.

The development of an infrastructure within the school to support a collaborative environment has been shown in previous research to be an important component of collaborative environment. In this study, there was a marked lack of infrastructure to support any sort of collaboration.

Lack of a Culture of Collaboration

A second and closely related theme that appeared in the participants' narratives was the lack of support for collaboration by the administration and colleagues. William, for example, stated that the administration provided few guidelines on how to collaborate with colleagues on inclusion. He felt that the lack of direction by the administration was a

barrier to collaboration at his school. *MA* had issues with the administration at her school and claimed that collaboration was not particularly encouraged.

Although Shirley had an effective collaborative relationship with one colleague in a previous school, at her present school she does not feel as though her professional relationships with her colleagues are cohesive enough to work as a team. She also feels that the administration at her school does not support the development of collaborative ventures, as there is no time in the schedule to meet with her colleagues to foster such relationships. Freddie has not yet had a collaborative relationship with any of her colleagues, citing differences in age and experience as barriers. Therefore, with these types of relationships among staff and the administration, it is not surprising that none of the participants could comment favorably on the culture of collaboration at their respective schools.

DuFour (2007) suggests that establishing a culture of collaboration at a school encourages the administration and teachers to work together to achieve a common purpose. In this study, the norm at the participants' schools was that teachers did not collaborate; they worked alone. Moreover, it appeared that there was no expectation by the administration in any of the participants' schools for any sort of collaboration among teachers.

How does the Dynamic of Explicit and Tacit Knowledge Occur?

Nonaka (1994) describe a dynamic between explicit and tacit knowledge that occurs to produce new knowledge that may be used to resolve organizational issues, such as problems implementing inclusion. In this study, teachers did not create new knowledge through collaboration in professional learning communities or co-teaching. Aside from

Shirley's single experience collaborating with a colleague over a long period of time to develop curriculum, collaboration for these participants involved asking questions of colleagues to obtain information about a specific problem or topic. This type of collaboration did not take much time and could be done in a hallway. It was merely a quick exchange of information designed to answer a simple question and not to address an organizational issue. The participants in this study engaged in superficial collaboration that involved exchanges in information and that did not necessarily create any new organizational knowledge.

Nonaka and Takeuchi (1995) posit that middle-up-down management can support the knowledge conversion process. Using schools as an example, principals as the middle managers of a school would collaborate with teachers (front-line workers) in regard to the implementation of inclusion. This process would require that principals work with senior administrators and teachers to create knowledge that will address barriers to inclusion. Principals would be at the centre of knowledge creation, which places them in a situation where they control how knowledge flows up and down through the system. In this study, it was clear that principals were not working with teachers in the area of inclusion, this approach to management was not present in the schools, and knowledge creation that could be applied to inclusion did not occur.

In summary, the teachers who participated cited barriers to collaboration at their schools and it was clear that although they may have consulted with colleagues, they did not collaborate. Therefore, Nonaka and Takeuchi's first phase of knowledge creation (socialization) did not happen.

Question Two: How are the Results of Collaboration Shared with Others?

This section will explore the second research question: *How are the results of collaboration shared with others?* Collaboration is recognized as an important element to successful implementation of inclusion (Arthaud, Aram, Breck, Doelling, & Bushrow, 2007; Clarke & Hollingsworth, 2002; Mastropieri, Scruggs, & McDuffie, 2007) and this idea was supported by the participants' personal narratives. However, the teachers also revealed the difficulties associated with both adopting and implementing a collaborative approach. All the participants struggled with the process of collaboration at their school and their narratives highlight both the benefits to and shortcomings of it. In the next section, three themes are discussed.

Motivation to Collaborate

The participants stated that they rarely collaborated with the administration or colleagues. Reasons cited were lack scheduled time to plan together and an approach to professional development that did not facilitate discussion and problem solving. In other words, the administration did not ensure the infrastructure to support collaboration. Moreover, they did not instill the expectation that teachers would work together. Teachers themselves also influence if and how collaboration occurs within a school. Gaith and Yaghi (1997) claim that attitude, support, and a personal sense of efficacy influence a teacher's willingness to collaborate. The teachers, who participated in this study, did not seem particularly motivated by either their personal qualities or convictions to work with others. As a result, collaboration did not occur and outcomes were not shared.

Working as a Team

All the participants agreed that collaboration is difficult. One theme that appeared consistently in all their narratives was the difficulty of working as a team with other teachers. Freddie and Shirley were relatively young French Immersion teachers who both experienced isolation as a result of the chasm among their respective colleagues due to age and experience. They both feel dismissed by the more experienced teachers and isolated based on their status as a novice. Any attempts at forging a working relationship based on sharing ideas and teaching strategies were unsuccessful.

DuFour (2004) emphasizes the importance of establishing a systemic process that allows teachers to build relationships and work together to further their own learning and practices. What was glaringly missing from the participants' narratives was information on the processes and structures within the schools that supported collaboration. In the absence of them, William and *MA* both mentioned informal methods they developed to communicate with others. However, none of the participants described any infrastructure within their schools that supported the development of relationships that would lead to teachers working as a team.

Time

A final theme that appeared with the participants' narratives was how time influenced collaborative outcomes. Shirley told of how she and a colleague at another school spent hours after school working together on curriculum (Scruggs, Mastropieri, & McDuffie, 2007). This form of team teaching was satisfying because she and her colleague shared a similar work ethic and teaching philosophy, and they drew from their rich experiences to produce an effective program for their students. Despite the fact that

this collaboration took a lot of time to occur, both teachers felt sufficiently supported to give of their time and to put in the hours to do the necessary work. In her present school, Shirley does not feel that the administration actively supports or expects teacher collaboration. Additionally, she has not found a colleague with whom she is sufficiently comfortable to spend the time necessary to collaborate on implementation or any other area of teaching. Freddie, William, and *MA* appeared to be in a similar situation whereby collaboration was not the expected norm and they were not prepared to spend time after school to work with others.

In sum, collaboration did not occur among the teachers involved in this study. As mentioned previously, the participants cited the lack of administrative support (active and passive) for collaboration which blunted their enthusiasm. However, the teachers themselves did not take it upon themselves to put in the time after school to work with colleagues. As a result, in this study there was little collaboration, and not surprisingly there were no results of working together and no sharing of the results among colleagues. Hence, Nonaka and Takeuchi's second phase of knowledge creation (externalization) did not occur.

Research Question Three: How are the Results of Collaboration used by Others?

(Combination)

This section will explore the third research question: *How are the results of collaboration used by others?* While the literature identifies a number of outcomes for collaboration (Clarke & Hollingsworth, 2002; Cook, Tankersley, Cook & Landrum, 2000; Guskey, 1989; Smith, Polloway, Patton, McIntyre & Francis, 2009; Michael & Beloin, 1998; Wilkins & Nietfeld, 2004), the collaborative environments at the

participants' schools did not support these ventures to the extent described in the research. The participants' narratives focused more on what needed to be done to collaborate more effectively, and less on the results of collaboration. While two teachers asked colleagues questions as a means of solving classroom problems, they did not appear to disseminate the results of their work. Conversations in which teachers share their successes and how they were achieved did not seem to occur at the participants' schools.

This third phase of knowledge conversion involves combining different bodies of explicit knowledge (Nonaka & Takeuchi, 1995). Successful mobilization of knowledge conversion in a school requires principals and teachers to exchange and combine knowledge gained through documents, meetings, professional development activities, parent-teacher interviews, additional course work, internet searches, skype, and/or blogs. The reconfiguration of existing information through sorting, adding, combining, and categorizing explicit knowledge increases understanding and awareness which can lead to new knowledge. The findings of this research show that there was limited knowledge conversion by the participants as they did refer to Ministry documents, course work, and web sites for explicit information. Hence, there is some support for the Nonaka and Takeuchi's (1995) third phase on knowledge creation.

Question Four: How have Inclusive Practices Changed? (Internalization)

This section will explore the final question: *How have inclusive practices changed?* The literature identifies a number of ways that educational practices have changed since the implementation of inclusion (Clarke & Hollingsworth, 2002; Cook, Tankersley, Cook & Landrum, 2000; Guskey, 1989; Michael & Beloin, 1998; Smith,

Polloway, Patton, McIntyre & Francis, 2009; Wilkins & Nietfeld, 2004). However, speaking from their own experiences, the participants in this study were not able to identify any ways that collaboration had influenced their inclusive teaching practices. This result is not surprising as they did not collaborate to implement inclusion.

Freddie and Shirley were both French Immersion teachers, new to the profession who believed that all students should be given the opportunity to be in that program. However, there was resistance to this idea from colleagues and the practice was not to include students who required any sort of remediation in the French Immersion program. William and *MA* both had over 15 years experience and had witnessed how the term, “inclusion”, had evolved from an idea to a practice. They too believed in inclusion and claimed to promote it in their classrooms. However, as none of the participants collaborated to plan or deliver programs, they did not identify ways working together had changed their instructional practices. Therefore, there was no evidence that Nonaka and Takeuchi’s (1995) fourth phase of knowledge creation occurred as none of the participants was able to describe how collaboration had led to changes in their inclusive teaching practices.

In summary, the literature clearly supports collaboration among teachers to bring about change in schools, such as implementation. Nonaka’s (1994) and Nonaka and Takeuchi’s (1995) theory of knowledge creation provides a lens through which the process of collaboration occurs. The findings of this study showed clearly that although the four teachers believe in inclusion and collaboration as a means of enhancing inclusion, they generally do not work with colleagues. The participants cited the barriers of administrative support in the form of no scheduled time to collaborate, ineffective

professional development, and the absence of a culture of collaboration. They were not sufficiently motivated to collaborate on their own without the principal's active or passive support. Hence, the findings of this research support the results reported by Mamlin (1999).

At the most, the teachers in this study engaged in superficial collaboration that involves asking questions of colleagues and involves little investment of time. There was no long-term, deep collaboration as described by DuFour (2004), McLaughlin and Talbert (2006), and Mastropieri and her colleagues (2007). When faced with a problem, the teachers in this study regularly consulted sources of explicit information, and it could be said that they were in the third phase of knowledge creation.

Contributions to Theory

Nonaka's (1994) and Nonaka and Takeuchi (1995) theory of knowledge creation was used to examine how teachers collaborate as they create new knowledge that would be used to meet the challenges of implementing inclusion. As shown in a study in the health care sector (Lemieux-Charles, McGuire, & Blinder, 2002), this theory has the potential to explain the phenomenon. However, a pre-requisite for organizational knowledge creation is collaboration among management and front-line workers. Unfortunately, the data showed that there was no collaboration going on between administrators and teachers and only limited collaboration happening among some teachers. Moreover, there is little evidence that organizational knowledge was created.

The findings do suggest that there are two types of collaboration: superficial and deep. Superficial collaboration occurs when colleagues exchange information on a few occasions to solve a single problem. The teachers in this research collaborated at a

superficial level when they asked colleagues a question to obtain information that might help them solve a problem. This is a one-time occasion in which individuals come together informally to solve a problem. There is no ongoing collaborative relationship, and there is no requirement for an internal structure to support collaboration. Additionally, there is no forum to disseminate knowledge and nothing is codified.

Deep collaboration occurs when groups of individuals take ownership of a problem and work together over a period of time to solve it. They use all four modes of Nonaka's (1994) and Nonaka and Takeuchi's (1995) theory of knowledge creation in order to meet their goal. There are scheduled times when the group meets to share and construct information, which is disseminated to others working on similar problems. Deep collaboration may be shown through the work teachers do in professional learning communities (DuFour, DuFour, & Eaker, 2008) and through team teaching as described by Mastropieri, Scruggs, and McDuffie (2007). The data from this study revealed that the majority of the participants were not involved in deep collaboration, with the exception of Shirley who worked for some time with another teacher to develop curriculum. The data also showed that the participants claim to be open to deep collaboration, if the administration actively supported it. However, in the absence of leadership by the administration in this area, the teachers are not sufficiently motivated to collaborate on their own. As shown in this study, the participants did not engage in deep collaboration, and it would seem that this is a necessary condition for using Nonaka and Takeuchi's (1995) ideas about knowledge creation to study this phenomenon. While the theory shows promise in providing a lens from which to examine how teachers collaborate to

develop new knowledge to be used in their implementation of inclusion, they must first be working together to solve problems.

The findings of this study are in stark contrast to those of Lemieux-Charles, McGuire, and Blinder (2002). These researchers also used Nonaka's (1994) theory of knowledge creation to examine how an innovation was implemented in the health care profession. Unlike the schools in this study, the hospitals in the aforementioned study enjoyed an environment in which collaboration occurred. Unlike teachers, health care professionals are expected to work together to deliver care and the physical environment with its open spaces supports talking together to solve problems. This collaboration among professionals from different disciplines resulted in the sharing of tacit knowledge and the conversion of explicit and tacit knowledge into new knowledge that was used to resolve issues faced in the implementation of the stroke care protocol. Moreover, the new knowledge was codified and disseminated to other health care professionals. In this instance, Nonaka's (1994) theory of knowledge creation was successfully used to describe the process and outcomes of collaboration.

However, it is not as good a fit with education because collaboration among teachers does not appear to occur to the same extent as with health care professionals. As demonstrated in this study, teachers are not expected to collaborate, the infrastructure to support collaboration is not present (scheduled time, professional learning communities), and there is not the will among the administration or teachers to do so. There are additional differences, health care professionals all work within the same space and collaborating with colleagues occurs because of physical proximity. In contrast, the teachers in this study work in isolation because they instruct their classes in their own

self-contained classrooms. Collaboration occurs when people are in close proximity to one another and teachers in this study were able to engage in superficial collaboration in the hallways or staff room – the common space in which they met.

Contribution to Practice

The findings of this research underscore the importance of the role of the principal in implementing inclusion through collaboration. The principal must be prepared to provide passive support in the form of expectations for teachers to work together and engage in respectful dialogue based on mutual respect. Active participation is also required by the principal who must schedule common planning time for teachers and special education teachers to plan for co-teaching. Additionally, principals should establish professional learning communities to support the professional development activities (DuFour, 2004). Within a professional learning community, teachers share tacit knowledge, consult sources of explicit knowledge, and create new knowledge to solve organizational problems. They test their new ideas, share “war stories”, and continuously revise and create knowledge. This phenomenon is similar to the knowledge spiral described by Nonaka and Takeuchi (1995) and would seem to occur in schools described by McLaughlin and Talbert (2006). It would therefore seem that the principal’s management style, which may be similar to Nonaka and Takeuchi’s (1995) middle-up-down could be used by school administrators.

Limitations

The purpose of this research was to explore the experiences of teachers who collaborated to implement inclusion. One limitation was that there were only four teachers who participated in the study, which limited the amount of data that could be

collected. However, I attempted to tell their stories in as much detail as possible to enable the readers to identify with the scenarios and make connections with their own situations. Additionally, interview data from principals and special education teachers would have added another perspective to the phenomenon of collaborating to implement inclusion.

Future Research

During my study, some areas for future research emerged. One possible area of investigation is how such factors as age, experience, gender, and ethnicity play a role in teachers' attitudes toward and practice of collaboration for inclusion. Another investigation may seek to explore relationships between an individual's purported attitude towards collaboration for inclusion and the individual's practice of inclusion (given the necessary supports). Although Nonaka and Takeuchi's (1995) theory of knowledge creation was not applicable in this study, it has the potential to be a useful lens to study inclusion in schools where collaboration is the norm. In particular, the role of the principal should be examined in relation to active and passive supports for collaboration and for inclusion.

Conclusion

With regard to collaboration, all four participants recognized its benefits, but did not practice deep collaboration. They blamed the administration for their lack of collaboration, but were not prepared to exhibit any leadership on their own. The theory underpinning this study offers insight as to how collaboration and inclusion *may* be implemented from the perspective of the teachers' experiences in the knowledge creation process. However, teachers in this study did not collaborate and lost an opportunity to engage in the process of knowledge creation as it applies to the implementation of

inclusion. What does remain is the potential for Nonaka and Takeuchi's (1995) theory to provide a basis from which to understand how teachers collaborate to create new knowledge.

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APPENDICES

APPENDIX A
KNOWLEDGE SPIRAL

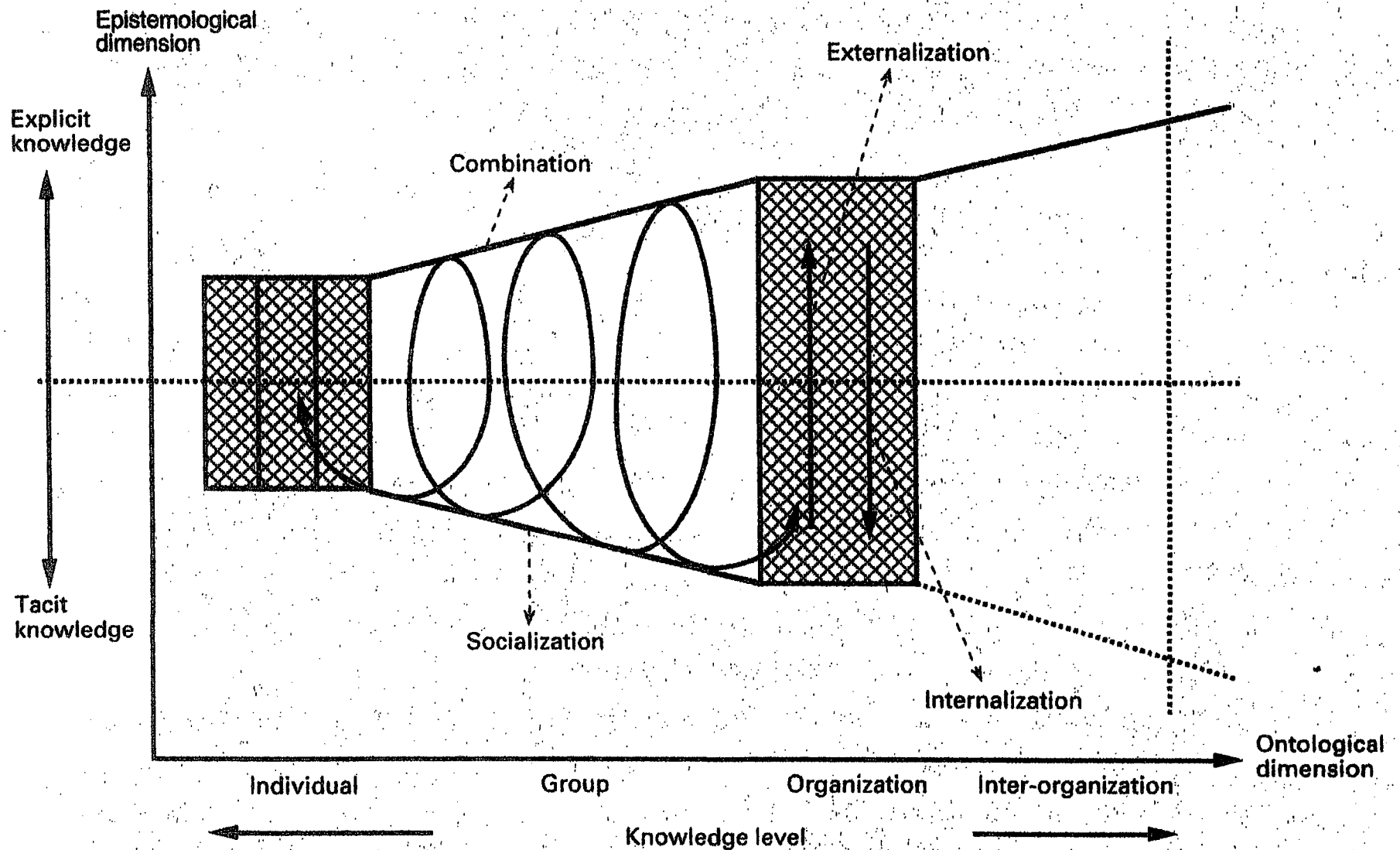


Figure 3-5. Spiral of organizational knowledge creation.

APPENDIX B

THEORY OF ORGANIZATIONAL KNOWLEDGE CREATION

The Knowledge-Creating Company

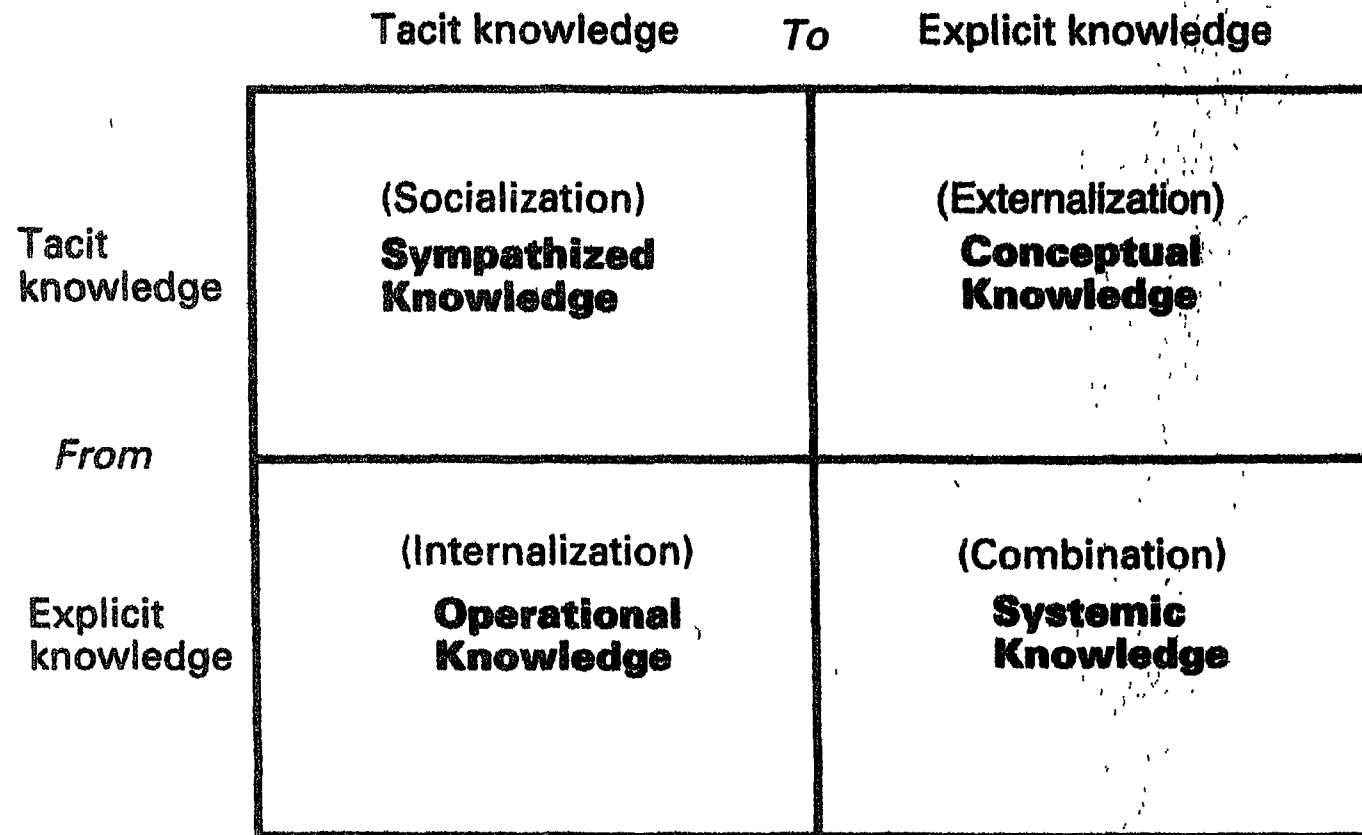


Figure 3-4. Contents of knowledge created by the four modes.

APPENDIX C

HYPertext ORGANIZATION

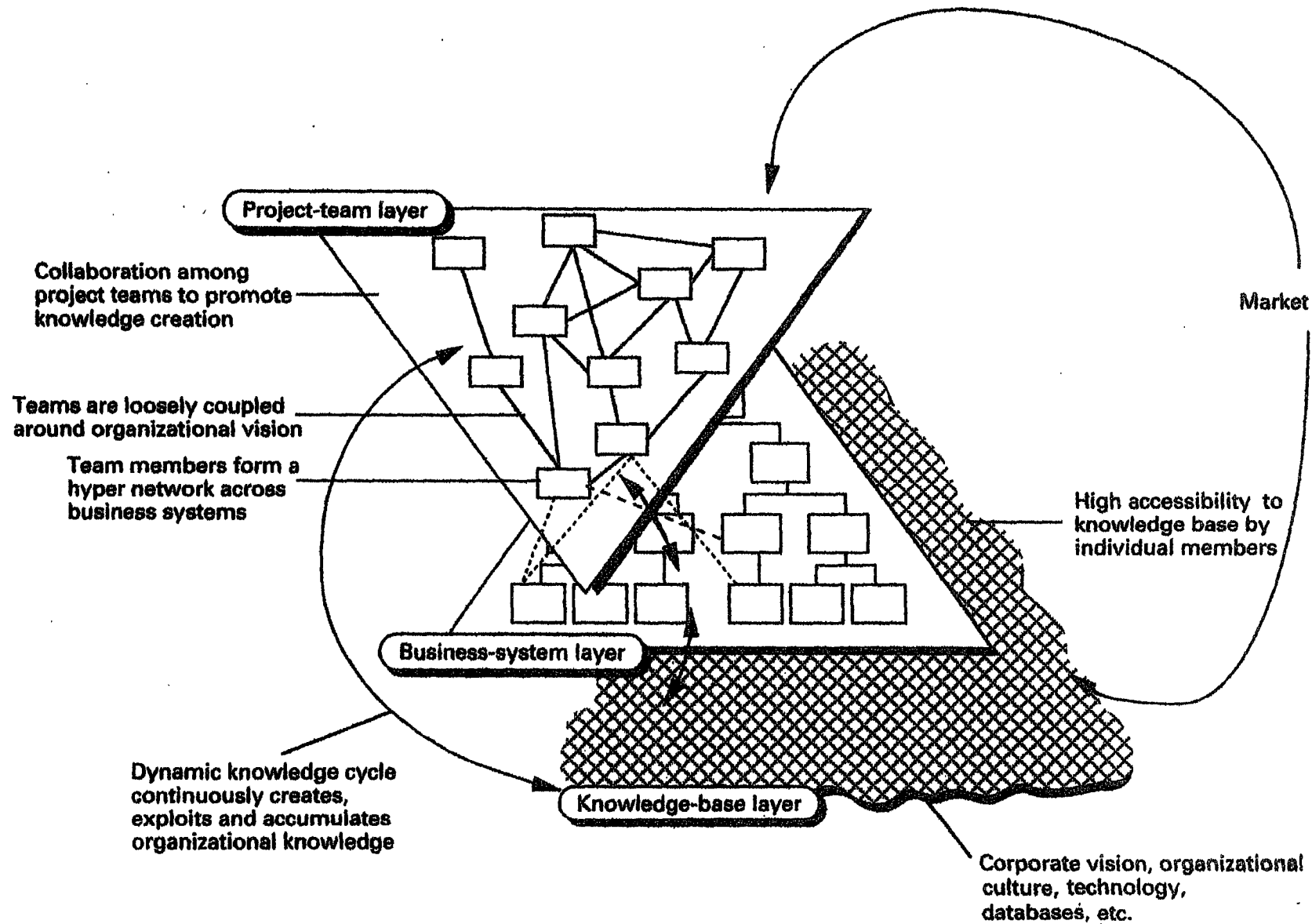


Figure 6-3. Hypertext organization. *Source: Nonaka and Konno (1993).*

APPENDIX D

TABLE 1 CATEGORIES AND SUB-CATEGORIES

Table 1

Categories and Sub-Categories

	Freddie (3 years teaching)	William (22 years teaching)	Shirley (5 years teaching)	*MA* (15 years teaching)
Support	- Friends and family - Ministry of Education documents, books, internet - Alone and help when necessary Barrier: Age and experience in the classroom	- Friends, colleagues - Students, custodians Barrier: No guidelines for collaboration	- Alone, her own mind - Students parents Barriers: Lack of support – colleagues who speak English to French Immersion students	- Administration is no help - First alone, then collaborate with colleagues Barriers: Administration; lack of support.
Collaboration	- She wants to collaborate - Not the norm at her school: divided by age and experience - PD not helpful as a source of information - Wants to keep lines of communication open - Talks to people who are helpful and (knowledgeable) who are outside of her school	- No direction from administration on collaboration - Communication is key to collaboration - A momentum develops among staff when positive collaborative environment occurs - PEOPEL: positive collaborative experience	- Good experience in another school with 1 teacher - No one with a 'kindred spirit' in this school - She wants to work beyond school hours: e.g., after school	- She select the people with whom she collaborates - Positive attitude towards collaboration
Inclusion	- Values it - Levels of acceptance varies at school. Older/experienced FI colleagues do not support or implement. - Challenges time to plan	- Students need to be inclusive towards each other - Inclusion means opportunity - Challenge: current organizational structure (support + resources) - Values it	- Natural extension of teaching and learning - She supports it - FI colleagues do not support inclusion	- School must include all teachers; value them (positive teaching experience) - Teachers must be committed to inclusion - PD is not helpful - Structure of school does not support inclusion; time and resources

APPENDIX E

TABLE 2 COMPARISON OF PROFILES

Table 2

Comparison of Profiles

	Similarities
Support	- ¾ participants ask knowledgeable people - Consult books etc. Freddie and *MA* Barrier: colleagues and administration
Collaboration	- All support collaboration - Positive relationships support collaboration - Communications leads to collaboration - Little support from administration: if want to collaborate it's up to you to find the individuals and the time (usually after school) - 2 had no one at present school (Freddie and Shirley)
Inclusion	- Freddie and *MA*: PD not helpful the way it is presently structured - Insufficient support from the administration - Challenge of time - Some teachers are not committed: Freddie (her older colleagues); *MA* - They are all committed to inclusion