

**A Qualitative Study of Educators' Perceptions
of Universal Design and Teaching Practices:
Implications for Inclusion**

By

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ABSTRACT

Scholars in the field of special education have suggested that practices aligned with the universal design (UD) construct might be more inclusive, effective, and equitable than current practices. The use of UD principles, derived from the field of architecture and applied in education to facilitate inclusion, was explored in this study.

The purpose of this qualitative study was to describe the “UD teaching practices” that emerged when teachers committed to inclusion reflected on UD concepts and principles. Additionally, this study explored educators’ perceptions of how these practices influenced inclusion for students in Kindergarten to Grade Six classrooms.

In depth interviews, classroom observations, and document reviews were used to obtain data from seven staff working in inclusive classrooms. The data revealed participants’ foundational beliefs about inclusion as the “right thing to do” and UD as a facilitator. Participants demonstrated that traditional accommodations designed specifically for students with special needs could be incorporated into classroom-wide and school-wide practices aligned with UD principles. These practices, good for students with special needs and infused broadly, were viewed as inclusive, effective, beneficial to all students academically and socially; and responsive to a diverse array of student needs. The teachers’ descriptions of UD practices in an elementary school setting were related to inclusive planning and the maximization of accessible learning for all students within a unified general education system.

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CHAPTER 1

In this chapter, I outline the concept of inclusion and demonstrate how it has evolved to incorporate a current focus on providing access to the academic environment through specific accommodations for students with special needs. Then, I introduce the construct of universal design, which originated from the field of architecture, as a new idea that may have the potential to facilitate more inclusive access to learning for all students. Next, the various ways that the universal design construct has been operationalized in education are outlined and three research applications are described. This leads to the questions that I developed about the application of the universal design principles in classrooms and how I examined the construct in this study. The study was intended to provide detailed descriptions of the teaching practices that emerged when staff committed to inclusion were introduced to the universal design concept and principles. Furthermore, it explored teachers' perceptions of the inclusivity of these practices.

Setting the Stage

In Manitoba, the commitment to inclusion of all students is strong and it extends beyond including students in the physical classroom. As reflected in the Manitoba Education, Training and Youth (2001) *Philosophy of Inclusion* quoted below, the goal is to work together to emotionally embrace and support all members of the community:

Manitoba Education, Training and Youth is committed to fostering inclusion for all people. Inclusion is a way of thinking

and acting that allows every individual to feel accepted, valued, and safe. An inclusive community evolves to meet the changing needs of its members. Through recognition and support, an inclusive community provides meaningful involvement and equal access to the benefits of citizenship. In Manitoba, we embrace inclusion as a means of enhancing the well-being of every member of the community. By working together, we strengthen our capacity to provide the foundation for a richer future for all of us (p. 5).

Inclusion, in Manitoba, is linked to equality and to community involvement. The *Philosophy of Inclusion* implies that thinking and acting inclusively benefits all citizens. It also highlights the fact that inclusion is not a static concept and communities must continue to evolve to adequately understand and support their members.

Inclusive Education: An Evolving Concept

I believe in inclusion and the equal value of all children. As an educator in the field of special education for the past twenty-two years, I have witnessed schools in Manitoba become progressively more inclusive for students with special needs. Increasingly, especially at elementary (Kindergarten to Grade Six) schools, students with special needs have access to and participate in the same physical spaces, social milieu, and academic work as other students. This ongoing school reform towards increased inclusion is well documented in the literature (Carrington & Elkins, 2002; Ferguson, 1995; French, 1999; Giangreco, Edelman & Broer, 2003; Peters, 2002).

Empirical research in the field of inclusive special education, although still fairly limited, has focused on various aspects of inclusion such as creating and sustaining inclusive environments (Kugelmass, 2001), case studies of inclusive education reform efforts (Ferguson & Ferguson, 1998; Ferguson, 1995; Hammond & Ingalls, 2003; Peters, 2002; Stockhall & Gartin, 2002), comparison of traditional and inclusive school cultures (Carrington & Elkins, 2002; Sailor & Roger, 2005; Sapon-Shevin & Chandler-Olcott, 2001), school-wide applications and strategies that facilitate inclusion (March & Horner, 2002; Sugai, 2003; Turnbull, Edmonson, Griggs, Wickham, Sailor, Freeman, Guess, Lassen, McCart, Park, Riffel, Turnbull & Warren, 2002), and teacher perceptions of inclusion (Dupox, E., Wolman, B., & Estrada, E.). Findings have not only revealed movement towards more inclusive schooling but have identified deeper dimensions of inclusion that need to be considered.

It is important to note that, although there has been a consistent trend towards inclusion throughout North America and attitudes have become more positive (Ferguson & Ferguson, 1998; Stanovich & Jordan, 2004), all individuals do not hold the same views about inclusion (Blamires, 1990; Cole, 1999; Dore, Wagner & Brunet, 1999; Villa & Thousand, 1996). Definitions of inclusion continue to differ and evolve. There is disagreement about inclusion being “right” for all students, and varying levels and degrees of inclusion occur in practice (Jackson, Harper & Jackson, 2002; Kierstead & Hanvey, 2001).

Some educators and parents believe that segregated placements or partial integration provide the best educational and social opportunities for their

children with special needs (Ferguson & Ferguson, 1998; Hutchinson, 2002). In practice, there is more evidence of inclusion at the elementary than the secondary level, although a student's type of disability and severity of need also influence inclusion (Bauer & Kroeger, 2004; Kavale & Forness, 2000; Turnbull et al, 2004).

Regardless of differing beliefs and practices, general trends towards inclusion and the acceptance of inclusion have occurred in a fairly consistent manner across North America (Villa & Thousand, 2005). Manitoban students with special needs have followed the typical road to inclusion (Manitoba Education, Citizenship and Youth, 2005). In a nutshell, they experienced denial of education in the early 1900s, access to segregated education in the 1960s, placement in segregated classrooms in regular schools in the 1970s, integration into regular classrooms during the 1980s, and inclusion in the regular classroom during the 1990s (Hutchinson, 2002; Lutfiyya & Van Walleghem, 2001). As the concept of inclusion developed through the 1990s, its social dimensions were increasingly recognized as important and attempts were made to facilitate the meaningful engagement of all students with their peers within regular classroom communities (Slee, 2001). More recently, the academic dimensions of inclusion, or access to the regular curricular outcomes, have become more recognized (Council for Exceptional Children, 2004; Manitoba Education, Citizenship and Youth, 2005).

Accessing the Regular Curriculum: Accommodations

Although limited empirical research is available (Fuch & Fuch, 1994), recent studies in the field of inclusive special education have indicated that equal academic opportunities may not always be available for students with special needs. Although they may be in the regular classroom, there may not be equal access to the regular learning environment (i.e., support for work in regular curricula and for meaningful academic participation in classroom activities) for students with and without special needs (Giangreco et al., 2002; Kavale & Forness, 2000; Meyer, Pisha & Murray, 2001; Rose & Meyer, 2002; Skrtic 1991). Research findings by Rea, McLaughlin, and Walther-Thomas (2002) suggested that the “barriers to student [academic] success are lower expectations, uninspiring or restricted curricula ..[and]disjointedness from general education curricula” (p. 204).

In order to operationalize equal access to the regular curriculum and to facilitate improved academic outcomes for students with special needs within the regular classroom, the implementation of appropriate individualized accommodations is recognized, through research, legislation, and practice, as critical (Hutchinson, 2002; Rea et al., 2002; Rose & Meyer, 2003; Smuty & Fremd, 2004; Wood, 1998). In the United States, the 1997 Amendments to the Individuals with Disabilities Education Act (IDEA) mandated individualized programming accommodations and “appropriate access” to the regular curriculum (Cawley, Foley & Miller, 2003; Hutchinson, 2002; Rose & Meyer, 2003; Pisha & Stahl, 2005; Villa & Thousand, 2003).

In Manitoba, government documents and directives clearly encourage educators to differentiate, adapt, modify, or individualize learning environments, instruction, and assessment with the goal of increasing access to regular curricular outcomes for students with significant special needs (Manitoba Education, Training & Youth, 2001). A recent Manitoban document, *Appropriate Educational Programming in Manitoba (Draft)* and the recent Bill 13 legislation focus on the right of all students to an “appropriate education” and on regulations concerning access to “the academic and social life of schools” (Manitoba Education, Citizenship and Youth, 2005, p. 1). Furthermore, appropriate educational programming, “for most students, is the provincial curriculum” (p.3).

My work in Kindergarten to Senior Four high (Grade 12) schools consistently has revealed that many educators in Manitoba are differentiating, adapting, modifying, or individualizing programming to facilitate access to the regular curriculum for students with special needs. These terms are outlined briefly below and discussed in more detail in Chapter Two (see *Current Inclusive Practices*).

Differentiation

Differentiation involves “improving the fit between [the] curriculum and the students” (Smutny & Fremd, 2004, p. xiv) and differentiated teaching strategies normally become part of teachers’ daily repertoire as they seek to draw on student learning preferences and styles to support their understanding of the curriculum. Differentiated instruction (DI) “is concerned with establishing a

supportive learning environment for all students” and with meeting individual learning *needs* (Manitoba Education and Training, 1996).

In Manitoba, the focus on DI is aimed at all teachers and at all grade levels. The Manitoba Education and Training (1998) *Foundation for Implementation* documents, which complement the core subject area curriculum frameworks from Kindergarten to Senior Four, each have a section called “Strategic Learning for All Students.” This section outlines the importance of expanding teaching strategies to support a wider range of learners in their attainment of the curricular outcomes. It suggests that all teachers implement DI strategies and explore the Manitoba Education and Training (1996) document, *Success for All Learners: A Handbook on Differentiating Instruction*. The idea is that differentiating instruction, rather than simply employing one teaching strategy, can better support a wider range of students in successfully achieving the learning outcomes.

Adaptations

Adaptations refer to changes in teaching, testing, or activities to support specific educational needs. The Manitoba Education and Training (1998) Adaptation Checklist (see Appendix C) provides ways in which a student’s educational program can be adapted to meet his or her specific educational needs. This normally refers to academic needs stemming from disabilities such as hearing loss, fetal alcohol syndrome, emotional behavioural disorder, or attention deficit disorder. The curricular outcomes are not altered by more than a maximum of fifty per cent, but the means to achieve them are changed by

specific adaptations such as extending time requirements (for tests or assignments), providing one to one tutoring, allowing oral testing, or giving the student a hard copy of notes. These adaptations are written in an adapted educational plan, behaviour plan, or individualized educational plan (IEP) which is usually coordinated by a school resource teacher with expertise in inclusive special education. However, adaptations are not normally implemented for the whole class but for specific students to accommodate specific educational needs.

Modifications

While modifications may incorporate adaptations such as those mentioned above, they also involve changing the curricular outcomes more than fifty per cent and are implemented solely for students with significant cognitive deficits. The curricular learning outcomes are modified so that a student is not expected to achieve the same grade level learning outcomes as his or her peers. In other words, the student continues to work within the curriculum subject areas but on different outcomes. Program modifications are written in an IEP which is normally developed by the student's family and the professionals involved with the student. The IEP is usually coordinated and monitored by a school-based resource teacher with a special education background.

Individualized Programs

An individualized program refers to learning goals and processes that are so different from what other students are doing that they usually have limited focus on curricular outcomes. A very small number of students, often with multiple challenges and always including a cognitive deficit, are involved in

individualized programs which may occur largely outside of the regular classroom. These students have IEPs and special programming requirements that extend beyond academics. Examples might be learning an alternative communication system (such as Bliss Symbols), independent living skills, community participation, work education as well as interventions related to physiotherapy, speech and language pathology, or applied behaviour analysis. Their programs often require more extensive involvement from specialists outside of the school and are usually coordinated by special education resource teachers.

Accommodations in general. When educators incorporate adaptations, modifications or individualizations in academic programs, it typically means that they “add on” accommodations or “redesign” the teaching process, materials, curricular outcomes, or program for a specific individual or group of students to meet their learning needs (Manitoba Education and Training, 1995; Wood, 1998). These accommodations are designed specifically to support students who have exceptional physical, emotional, behavioural, sensory, cognitive or other needs. Adaptations, modifications, and individualized programming supports normally are employed for a limited number of students in a classroom. The instructional paradigm of differentiating, adapting, modifying, and individualizing programming is well entrenched in our educational system and has supported educators in developing and implementing the varied practices that allow access to general education for most students with special needs (Bauer & Kroeger, 2004; Pisha & Stahl, 2005; Shirin & Kreimeyer, 2001; Smutny & Fremd, 2004).

Directions in Research on Inclusive Education

Within the inclusive education model of accommodations, empirical research has begun to identify deeper dimensions of inclusion for students with special needs. Recent research findings indicate that students with special needs are included but may not have equal access to the regular academic curriculum as their accommodations may lead to *less* inclusion in challenging academic work (Stockall & Gartin, 2002), *less* direct instruction by instructors with appropriate professional expertise (Giangreco, Edelman & Broer, 2003; Udvari-Solner, Villa & Thousand, 2005), and *less* access to authentic learning opportunities with and from peers (Giangreco et al., 2002).

Research findings, which are discussed in detail in Chapter Two of this study, compel educators to question and explore the deeper dimensions of inclusion within inclusive classrooms. Do students with special needs have equal access to teaching and learning in regular learning environments? Do they have full membership to the academic and social life of schools? Can current thinking and teaching practices evolve further towards increased inclusivity by meeting the learning needs of all students in a more equitable way?

Universal Design: Potential for More Inclusive Access?

Several scholars have suggested that a new construct, universal design (UD), may find application in the field of education (Bauer & Kroger, 2004; Hutchinson, 2002; Rose & Meyer, 2003; Madaus, Scott & McGuire, 2003; Pisha & Stahl, 2005; Scott, McGuire & Shaw, 2003; Turnbull et al, 2004; Udvari-Solner et al, 2005). UD originated in the field of architecture and encourages the

inclusion “of all people, to the greatest extent possible” into the built environment without the need for regular adaptations, modifications, or individualized provisions (Mace et al., 1997). UD is based on principles which were developed in the early 1970s by Mace, the founder of the Center for Universal Design at the North Carolina State University (Center for Universal Design, 1997) and “delineate considerations for... [usability of products and environments]...based on a broad spectrum of human abilities including vision, hearing, speech, body function, mobility, and cognition.” (Scott, McGuire & Foley, 2003, p. 42). The guiding principles of UD are equity (without stigmatizing users), flexibility, simplicity, perceptible use, tolerance for error, comfort, and appropriate space (see Figure 1.0).

In architecture, the UD concept is based on the premise of thinking about and planning for the most diverse group of human beings before construction begins. Hence, the full range of human diversity is considered at the outset to “simplify life for everyone by making products, communications, and the built environment more useable by as many people as possible [with the goal of] benefit[ing] people of all ages and abilities” (Centre for Universal Design, 1997). This means that structures are initially planned for and built to accommodate and include the full range of human diversity, thus precluding the need to “add on” or “redesign” features such as ramps, automatic doors, or washroom stalls to meet

Figure 1.0. Definitions and examples of UD principles in architecture.

PRINCIPAL	DEFINITION	ARCHITECTURE EXAMPLE
1. Equitable Use	The design can be used by people with diverse abilities. There is the same means of use by all individuals and avoids segregating or stigmatizing users.	The building is built so that all individuals can enter the building at all locations. No users stigmatized or relegated to entering only at certain locations
2. Flexible Use	The design can accommodate different needs and/or desires.	The main entrance has stairs, a ramp, railing, and a non slip ground surface. People can enter whichever way best meets their needs.
3. Simple & Intuitive Use	The design is easy to understand regardless of language level or knowledge.	Individuals can easily understand the various ways to enter the building. Use of elevators, rails, etc. is easy to understand.
4. Perceptible Use	The function is easily recognizable regardless of sensory abilities.	The main entry is easily seen, there is a large “welcome” sign and it is obvious to everyone where and how to enter the building.
5. Tolerance for Error	There are minimal opportunities for failure and “fail safe” measures are incorporated.	The various paths (stairs, ramp, etc.) will still take you safely into the building. There is extra built in protection such as non-slip terrain and sensors on doors so that they will open and close automatically.
6. Low Physical Effort	The design is efficient and there is a minimum of physical effort involved in using it.	The various options are simple to use. (e.g., the stairs are an appropriate depth and height, ramps are inclined for easy wheelchair use, etc.)
7. Appropriate Size and Space	The design can easily accommodate the user for the function required.	The stairs and ramps are wide enough to easily accommodate users.

Principles and definitions adapted from The Center for Universal Design (1997).

the needs of specific segments of the population after the fact. The principles are used as a guiding framework to support planning and building accessible structures and products. The better the building adheres to all of the principles, the more universally designed it is.

UD is an integrative concept and consultation with all stakeholders and experts in specialty areas is integral to the planning process to ensure that the widest possible range of human needs is considered (Centre for Universal Design, 1997; University of Guelph, 2004; University of Washington, 2004). The buildings must be useable and practical for all people. Needs must not only be met, but met in a respectful, equitable, and ethical manner (Mace, 1997). Hence, “how” actions occur is as important as “what” actions occur in the building. This inclusive, open, creative, flexible mindset is significant.

Application to the Field of Education

Recently, the UD concept has been applied to the field of education with the goal of making the built, social and academic environments accessible to all students. In Manitoba, the recent government document *Appropriate Educational Programming in Manitoba (draft)* states that “inclusive schools should be aware of the concept of universal design” which, when applied to the field of education, means that “teachers develop plans for the full diversity of their student population” (Manitoba Education, Citizenship and Youth, 2005, p. 4). Hence, in Manitoba it is especially important to look at UD in educational programming. This means that is necessary to explore the possibilities of universal accessibility of the regular learning environment to all students at the

planning stage instead of “adding on,” redesigning,” or “retrofitting” teaching materials, methods, and supports through our current process of adaptations, modifications, and individualized programming options (CAST; 2002, Orkwis, 2003; Rose & Meyer, 2002; Scott, McGuire & Foley, 2003).

The application of UD to the learning environment seems inherently inclusive and integrative, which may lead educators to think of how to plan for the continuum of students instead of different groups of students based on disability (Scott, McGuire & Shaw, 2003). In a nutshell, UD represents an effort to design inclusive curricula from the “get-go” rather than retain potentially exclusive curricula that must be constantly adapted, modified, and individualized during instruction.

I have outlined how inclusive practices have evolved and how UD and the principles seem to make sense within our current thinking in the field of education. Now I will place the UD construct within the broader, holistic educational perspective and the inclusive education literature.

UD Within a Broad, Holistic Educational Perspective

Perhaps the UD concept is especially intriguing today because educators are being called, and to some extent mandated, to create educational environments where learning is: (a) appropriate for all students, (b) accessible to all students, (c) inclusive of all students, as well as, (d) dynamic and connected to meaningful life long endeavors. The use of UD principles in education can be viewed as a move away from traditional reductionistic practices in education toward a more holistic approach. The holistic approach tends to be more aligned

with current practices such as thematic instruction and integrating subject area content through methods like reading across the curriculum (Skrtic, 1995).

Educational reductionism. Heshusius (1995) has explained how educational practices have long been grounded in reductionist practices. These are practices that remediate students and teach them “bits and pieces” of isolated information to attain curricular outcomes that are far removed from real life (p. 171). Students who are “deficient” and do not attain outcomes are provided with a more intensive form of reductionism in which instruction is divided up into even smaller bits and pieces of instruction. For example, students judged to be deficient in reading may be provided with increasingly reductive activities such as the repetition of specific phonemes or nonsense syllables which are far removed from curricular content, real books, and meaningful reading.

Holism. Holistic instruction facilitates a “fundamentally different way of thinking and feeling” from which instructional outcomes and practices can emerge considering “our somatic, social, cultural, gender, and ethnic values, needs, and interests” (Heshusius, 1995, p. 175). Holistic instruction begins with the person in mind and with meaningful, real life events that are relevant to the learner and the lesson. Reading and other academic skills are incorporated into instruction to answer students’ inquiries, help solve problems, resolve ambiguity, and engage students’ curiosity. Precision Reading, which is a research-based reading technique involving repeated reading and instruction in grade level material (Freeze, 2001) is an example of holistic instruction. It can be

implemented within the classroom, using curriculum based materials, and in conjunction with the holistic reading program. Precision Reading focuses on reading automaticity and meaningful involvement with the text rather than reducing reading to a task of decoding individual words and sounds (Updike & Freeze, 2002).

A popular example of holistic instruction is interdisciplinary project-based learning where students are involved in a variety of meaningful activities around one theme. A project on Healthy Living may involve students in analyzing their food intake according to the Canadian Food Guide and other sources (Language Arts), calculating food groups and portions (Mathematics), creating balanced meals (Science), and understanding where the foods originate from (Geography). Activities may become even more holistic and meaningful if they involve home, community and cultural food preferences.

Theoretical view of universal design in inclusive education literature.

Although writers in the inclusive education literature have strongly suggested that UD holds potential for expanding inclusive teaching practices (Curry, 2003; Fairfax, 2001; Hutchinson, 2002; Orkwis, 2003; Pisha & Stahl, 2005; Scott, McGuire, & Shaw, 2003; Turnbull et al., 2004; Vaughn, Bos & Schumm, 2003; Villa & Thousand, 2005), teachers do not think of UD as a collection of specific practices that align with the principles. In practice, UD is generally viewed as a process for arriving at methods rather than a collection of methods for teaching in inclusive classrooms (Rose & Meyer, 2002).

Like inclusion, UD is not a “black and white” concept. There may be levels and degrees of universality in the design of learning environments. Just as there is no architecturally perfect UD for a building, there are no perfect UD teaching practices for a learning environment. However, educators may be able to work increasingly towards the goal of inclusion by developing, over time, learning environments that are increasingly aligned with UD principles. Some teachers are already philosophically committed to UD principles and are developing and implementing practices that facilitate more equitable, flexible, clear, tolerant of error, and comfortable learning for all students (Scott, McGuire & Foley, 2003).

Universal Design Applications and Research in Education

UD is a rapidly emerging, holistic concept within the field of education and it is being operationalized in a myriad of ways (Scott, McGuire & Shaw, 2003). Here, I will broadly frame them and then discuss emerging UD research within the field. The original universal design definition and principles created and developed by The Center for Universal Design (1997) in North Carolina remains the foundation for all work that uses the term UD and the seven principles of UD.

Broad Applications of UD

Broad applications of the definition are cited in the literature for informational purposes, generally espousing the creation of learning opportunities for all students as “a contemporary approach to facilitate successful inclusion” (Villa & Thousand, 2003, p. 22). Educators are informed of the paradigm and allowed to think holistically and pro-actively about accommodating a wide range of students at the outset as the “right” thing to do. Educators are

provided with broad UD information, through journal articles or other media, and left to decide if and how to alter their own practices.

Some broad applications from specific organizations, authors, universities, and grant projects have taken the overall UD definition and provided more direction on implementation. The University of Washington, for example has promoted a broad application through their *Do It* project (Burgstahler, 2001) which includes posting the seven original principles on the website and discussing how learning can be made more universal for university students. It includes a list of applications and ideas for classroom instruction, websites, computer labs, technology, design of software, and the design of libraries. It also has a list of resources which include educational and architectural applications.

Bowe (2000) has written generally about UD for education (UDE) and provides a philosophical grounding in Mace's theory and principles and then varied ideas for their implementation. He has linked his applications to the field of special education and discusses planning for a range of students while also meeting the needs of students with specific disabilities. Bowe (2000) suggests educators present information in multiple ways, offer students multiple ways to interact, and support students in multiple ways to find meaning in materials. He encourages teachers to become more aware of their practices in light of teaching "non-traditional" students.

Specific Applications

Application of the UD concept in specific contexts in education also is reported in the literature. Here, I outline the most popular application that I have

found and discuss how this application has been implemented in the field and linked to research.

The Center for Applied and Specialized Technology. Perhaps the Center for Applied and Specialized Technology (CAST) has the most widely published and comprehensive set of applications. It is a non-profit organization that applies the concept primarily through the context of technology and has developed a framework “for using technology to maximize learning opportunities for every student” (Rose & Meyer, 2002, p. 5). CAST names their framework Universal Design for Learning (UDL) and works in association with The National Research Council and The National Center on Accessing the General Curriculum.

CAST’s framework adheres to the broad universal design definition of planning for all students by developing flexible goals, materials, strategies, and assessment processes (Pisha et al., 2000). It takes technological applications and implements them holistically within their own framework (Meyer, Pisha & Murray, 2001). CAST has relied on extensive brain research to support how technology can best be used to facilitate learning through individual and varied student recognition, engagement, and expression pathways.

Rose and Meyer (2002) highlight CAST’s exemplary work in Kindergarten to Grade Twelve schools in the United States where they have provided schools with technology and planning templates to facilitate increased access to the curriculum. CAST also has developed specific “electronic” texts to support access to the curriculum. This includes the Wiggle Works Reading program and electronic history textbooks (Pisha et al., 2000; Rose & Meyer, 2002). CAST

does not adhere to the original UD principles but to the general definition with its own framework. It likely makes sense to educators because it incorporates the typical planning areas of goals, materials, instructional strategies, and assessment. Rose and Meyer (2002) discuss “a variety of lessons and implementation examples from Concord” School District based on CAST’s model (p. viii) in their book *Teaching Every Student in the Digital Age*.

CAST has not conducted empirical research on the construct of UD itself nor determined if it promotes improved access to the curriculum or leads to improved inclusion or student outcomes. In my e-mail correspondence with Dr. B. Pisha (January 16, 2005), Director of Research, CAST, he indicated that because UD is such a new concept, there are few research studies investigating it. He wrote that “to [his] knowledge, there is no study examining UDL overall, only studies looking at materials and/or practices that incorporate elements of UDL in their design.”

Other more specific applications. The National Center for Educational Outcomes at the University of Minnesota (2004) is applying the UD concept in the context of assessment. This includes creating UD features to assessments such as adjusting font size and altering the color of the background and font. Another group of educators has included UD features in development of programs focused on the behavioural environment with the goal of increased facilitation of inclusion (Renzaglia, Karvonen, Drasgow & Stoxen, 2003).

Empirical Research and the Universal Design Construct

It is evident that UD is being applied widely, yet very differently, in various contexts. Literature on UD is not hard to find. Empirical educational research on defining the construct and its application, though, is just emerging (Cawley, Foley & Miller, 2002; McGuire & Scott, 2004; Scott, McGuire & Foley, 2003; Scott, McGuire & Shaw, 2003). My research review included ERIC searches, EBSCOHOST searches, and GOOGLE searches. In addition, I have had conversations and e-mail correspondence with professionals and researchers working within universities, organizations, and national centers directly involved in UD projects. I have found three research applications of UD specifically in the field of education. One of the applications encompasses a series of research studies at the University of Connecticut. Each application and each of the studies in the ongoing research series is introduced in this chapter and discussed more fully in Chapter Two.

UD used to develop science curriculum. Cawley, Foley, and Miller (2003), in a qualitative research study described how the UD concept was applied to develop a science curriculum framework using CAST's (previously described) UD application. This research, the first of a three stage process, indicated that a group of teachers could create a science program, using curriculum outcomes, based on CAST's application of UD. The researchers stated that "it is important that the notion of universal design be subject to research and validation at the final two stages" (p.9). The second stage will involve teacher and student

feedback and the third stage will involve comparing the effect of the program on student outcomes.

UD research at the University of Guelph. The second research application took place at the University of Guelph (2004) using a quantitative, 18-24 month, quasi-experimental design. A Universal Instructional Design (*UID*) Project was funded to facilitate increased use of universal design instructional strategies and to determine if implementation of these strategies influenced students. This initial inquiry indicated potentially positive results of broadly applying UID strategies to instruction at the university level.

Research at the University of Connecticut

The third research application included a series of qualitative studies led by Scott, McGuire and Shaw at the University of Connecticut, Center on Postsecondary Education and Disability. The University of Connecticut team is in the fifth year of a Universal Design for Instruction (UDI) research based project that may bring them closer to conducting validation activities to determine whether in fact UDI makes a difference in terms of access to learning for students. They are specifically examining and exploring what UD instructional strategies based on the UD principles might look like by working with a group of university staff members from various subject areas at the University of Connecticut to apply the concept of UDI to instruction and to analyze resulting practices (Scott & McGuire, 2004).

Research associated with the University of Connecticut project has included: a) studies on faculty views (Silver, Bourke & Strehorn, 1998; Madaus,

Scott & McGuire, 2003), b) construct validation through work with experts in several fields (McGuire, Scott & Shaw, 2003; McGuire & Scott, 2002), work in the field of learning disabilities (Madaus, Scott & McGuire, 2003b; Scott, McGuire, & Shaw, 2003), and, most recently the phases one and two of the Faculty Ware, Universal Design for Instruction (UDI) Project (Shaw & McGuire, 2004; McGuire, Scott & Shaw, 2004).

The University of Connecticut UDI research is aimed at access in the classroom for students with disabilities through the development of “inclusive instructional strategies that benefit a broad range of learners including students with cognitive disabilities” (Shaw & McGuire, 2004, p. 1). Findings have defined and highlighted some emerging UDI practices at the post secondary level and research is continuing to include further work with faculty to understand and develop UDI instructional practices.

Empirical rigor. The distinguishing feature in the work at the University of Connecticut is the rigor with which the applications follow the UD concept and principles originally developed at the North Carolina State University. The validity of their process was enhanced through systematic exploration of what the application of UD means operationally in a post secondary setting. The UD team has worked and are continuing to work systematically towards responding to specific questions. They have found that “early construct validation...has been affirming..[and it is]...important to move this critical analysis to the next level by conducting systematic research on the effectiveness of UDI” (Scott, McGuire & Shaw, 2003, p. 378).

McGuire, Scott, and Shaw's work at the University of Connecticut was the only research that I found that was established to empirically examine questions around the application of UD with students. They worked and continue to work to establish a research base about UD's validity as a construct relating to universal access to instruction. I have not found any similar empirical research in Canada or that is related to UD and instruction in the public kindergarten to grade six school system.

Universal Design Research Study Rationalization and Framework

As reflected in the broader literature, the UD construct is intuitively appealing to educators. It is beginning to be discussed more frequently as associated with the field of special education. Locally, the most recent Manitoba Education, Citizenship and Youth (2005) document specifically encourages teachers to learn about UD think about the construct in their planning. Consistent with this view, several schools in the school division, where I worked in the Special Education Department, had expressed interest in the UD concept. Some administrators and educators expressed a desire to learn and understand the theoretical concept while others expressed interest in applying it. I heard from several educators already in the process of applying the construct in various broad and specific ways. Their impetus was aligned with the premise of inclusion and many wanted to know what UD practices entailed and how to apply them in classrooms.

There was a lack of clarity in the literature defining teaching practices that constituted "UD practices" or would be consistent with the principles. The only

emerging empirical research in this area was through the University of Connecticut team at the post secondary level and I found no similar research to describe practices that teachers in elementary schools felt aligned with UD. It would be difficult to systematically implement, and impossible to determine the effects of, practices that could not be described as “UD practices”.

I found no empirical research, at any level, that suggested if and how the use of identified UD practices might lead to the goal of increased inclusion for all students. With the interest in UD and the variety of applications of it, I felt that it was important to begin to explore emerging “UD practices” in classrooms, to describe these practices, and to determine if and how they might facilitate inclusion.

In my study, I set out to explore UD as a valid construct in the public elementary school setting by following the work that McGuire, Scott and Shaw had done at the post secondary level. I introduced the UD construct, based on Mace’s original concept and principles, to staff in an inclusive elementary school and designed my study to examine and describe educator’s perceptions of: a) what universal design strategies emerged in classrooms, and b) the influence of these UD strategies on inclusion.

There were many questions I hoped to begin to answer. What were teacher’s perceptions of these UD practices? How did teachers plan for the range of student diversity from the outset? What did these UD teaching strategies look like in classrooms? Did teachers find them appropriate and practical? Was the implementation of “add on” adaptations and modifications for

students with special needs reduced or incorporated into UD in some way? Did teaching practices become more inclusive? Were students with special needs more meaningfully included in learning? What did teachers perceive to be the benefits and drawbacks of the UD practices? What were the barriers to and facilitators of implementing UD practices? Were student outcomes positively influenced? Was there a definable impact on academic inclusion? Did teachers think that UD has a future in the field of education?

In order to begin to answer some of these questions, I went into classrooms and observed teachers. I interviewed staff and learned from them what strategies they felt constituted UD practices in their classrooms and how they felt these practices influenced inclusion. I encouraged teachers to understand, become aware, and reflect on their practices and how they aligned with UD principles. I hoped to contribute to work in the field of education by supporting educator's progress towards creating increasingly inclusive environments and equal access to learning for all students.

The main purpose of this qualitative research was to explore the UD practices that emerged when teachers were provided with the construct as a reflection tool, and to examine how these practices influenced inclusion.

CHAPTER II

LITERATURE REVIEW

In this chapter, the review of the literature includes three main areas. I begin with a review of the literature on the history and development of the field of special education including human rights and disability perspectives that have influenced current conceptions of inclusion. Next, I outline and define current inclusive practices including how accommodations for students with special needs are used, in general, and then specifically in the implementation of differentiated, adapted, modified, and individualized, instructional strategies in Manitoba. I suggest that the current “accommodation” instructional model might not facilitate optimal inclusivity and suggest that the application of the universal design construct is worthy of examination. In the final section, I review the literature on UD, how the concept developed in the field of architecture, and its application to the field of education. I focus attention on the ways that UD has been implemented in the field of education in North America to achieve the goal of inclusion and to provide a rationale for my study.

Many of the research studies that I highlight throughout this chapter include students with hearing losses because my study involved a school that had an on site Deaf and Hard of Hearing (D/HOH) program with students who were D/HOH integrated into all of the general education classrooms.

History and Development of the Field of Inclusive Special Education

This section outlines the history and development of services for students with special needs and the evolution of inclusion stemming from the human rights and disability rights movements.

Development of Special Education in Canada and North America

Three longitudinal Canadian studies, many smaller studies, and various literature reviews are used here to outline how special education developed in Canada. Two of the longitudinal Canadian studies by Statistics Canada are on the comprehensive school experiences of children with disabilities across Canada. They focused on the period between 1984 -1994. The third study by Wang and Baker (1985) reviewed a pool of 264 empirical studies of the effects of mainstreaming during the decade from 1974-1984. The authors noted that findings must be interpreted carefully due to significant problems with presenting statistical information which included: a) no standard definition of a student with special needs, b) different approaches to, variations of, and perceptions of special education across Canada, and c) statistical information that excluded students with special needs (Bohatyretz, 1999; Dore, Wagner & Brunet, 1999; Wang & Baker, 1985). Significant information from the United States is also included in this review as it closely reflects and has greatly impacted education in Canada.

During the early to mid 1900's students with special needs did not attend school in Canada (Dore, Wagner & Brunet, 1999; Hutchinson, 2002; Lutfiyya &

Van Wallegghem, 2001). Other than children who were deaf or blind, who were sent to specialized residential segregated day schools, students with special needs stayed home. Due to strong advocacy, primarily by parents, day facilities were established for students with special needs by the late 1950's (Lutfiyya & Van Wallegghem, 2001).

Most school districts developed programs or separate schools for most students with disabilities during the period from 1950 to 1970 (Hutchinson, 2002; Lutfiyya & Van Wallegghem, 2001; Turnbull et al., 2004). By the 1970s, parents were beginning to question the separate school system or lack of any educational opportunities for their children (Hutchinson, 2002). Wolfensberger's concept of normalization, or the appropriateness of all individuals with disabilities living and learning in normal environments, became popular and, by 1975, the right of all children to attend school was formally recognized throughout the United States in Public Law 94-142, the Education for All Handicapped Children Act (Miller, 2002; Poirier, 1998).

This landmark legislation in the United States expressed the need for individualized programming and recognized that the least restrictive environment should be a factor considered in the education of students with special needs. The goal was "educational equity" and the elimination of the "mis-education and chronic exclusion experienced by children with disabilities" (Kavale, 2002, p. 201). Students were routinely moved to more integrated settings (Hutchinson, 2002; Turnbull, Turnbull, Shank & Smith, 2004).

Mainstreaming begins. A meta-analysis, involving 264 studies from 1975-1984 (Wang & Baker, 1985), looked at the efficacy of mainstreamed programs. Research articles that focused on the student outcome effects of mainstreaming were collected and analyzed. Each study included in their analysis was “concerned with the impact of mainstreaming on the learning outcomes of disabled students integrated in regular classes” (p. 505). Their results were not consistent with the results from previous studies and they noted that, pre-1970, there was a more negative view of mainstreaming. The few early studies that were done had found that mainstreaming was effective only for students in certain educational classifications, particularly students with high IQs. They noted a trend towards “increasingly more positive mainstreaming effects in post-1970 studies” (p. 517) and attributed this to the time period during which the studies occurred and the fact that the more recent studies involved a broader variety of student outcomes. Wang and Baker concluded that, in general, despite the type of disability, empirical research indicated that students with special needs generally did just as well or better in regular classrooms than they did in special classrooms.

In Canada, PL 94-142 caused much discussion on how to meet the needs of students with severe disabilities as there was recognition that services were inadequate (Hutchinson, 2002; Lutfiyya & Van Wallegghem, 2001). In Manitoba, the special education movement became so strong that the government could “do nothing but embrace it.” (Manitoba Education, Training & Youth, 2003, p. 2). This statement suggested that societal attitudes were altering and driving the

integration movement. The importance of beliefs and values about special education was noted in many studies (Bohatyretz, 1999; Dore et al., 1999; Kierstead & Hanvey, 2001; Moore et al., 2000; Wang & Baker, 1985).

In Canada, the 1982 *Canadian Charter of Rights and Freedoms* established that all individuals were “equal before the law without discrimination and in particular, without discrimination based on ...mental and physical disability” (Poirier, 1998, p. 25). Around this time, in the United States, the Education of All Handicapped Children Act was amended to require services to preschool aged children with disabilities or chronic health needs and to reestablish that services to all children should be provided in the least restrictive environment (Poirier, 1998). These legislative rights facilitated the placement of students with special needs primarily in special classes, but increasingly mainstreamed for some part of the day. Although the United States laws had no legal impact in Canada, the educational practices were influential and largely reflected in Canadian schools.

Integration. Throughout the 1980's, students with special needs remained the responsibility of the special education teacher (Jones & Bender, 1993; Hutchinson, 2002). As their academic programming was not generally adapted, students with exceptional learning needs primarily participated in non-core (i.e. not English Language Arts, Mathematics, Science, Social Studies) and optional subjects. Although students were physically “integrated” from special classrooms into regular classrooms for at least part of the day, two very separate systems

continued to exist with responsibilities for students with special needs continuing to be held by the special educators (Hutchinson, 2002; Siegel & Ladyman, 2000).

Inclusion evolves. The term inclusion became popular and generally understood during the 1990's (Hutchinson, 2002; Renzaglia, Karvonen, Drasgow & Stoxen, 2003; Villa & Thousand, 2003). It came to mean that students with special needs should become a valued part of the academic and social classroom dynamics. Governments began to fund initiatives with the intent to facilitate inclusion and students with special needs continued to receive more and more of their education in the regular classroom. For example, governments increasingly provided categorical funding directly tied to students with severe to profound disabilities which began to correspond with the hiring of an educational assistant to support the learning accommodations necessary for each of these students in the regular classroom.

Manitoba inclusion initiatives. Beginning in 1995, the Manitoba government published several *Towards Inclusion* policy and best practices documents that supported educators in facilitating inclusion of all students in the learning environment (Manitoba Education, Citizenship & Youth, 2004; Manitoba Education, Training & Youth, 2001; 2002). These documents indicated that most students, with the exception of students diagnosed with significant cognitive deficits, were expected to attain regular curricular outcomes (even if those outcomes did not correspond to their grade level).

In Manitoba, special education teachers and resource teachers attended government sponsored workshops and received training on how to individualize

instruction to meet increasingly diverse needs. The University of Manitoba revised its undergraduate program to include a mandatory special education course and began to rework the focus of existing courses to encompass special education perspectives. A 30 credit hour Inclusive Special Education professional development program for in-service teachers, leading to the provincial special education certificate, was also developed in collaboration with Manitoba Education and implemented at the University of Manitoba, Brandon University, and College Universitaire De Saint Boniface. In classrooms, teachers began to better understand how to include students with special needs in their classrooms by implementing differentiated instructional strategies to meet the needs of most students and then adding more specialized instructional accommodations (i.e. adaptations, modifications and individualizations) for students with significant special needs.

The progress of inclusive education. The movement towards including all students in the regular classroom for all or most of the school day is evident through a longitudinal study, *Diversity in the Classroom: Characteristics of elementary students receiving special education*, sponsored by Statistics Canada (Bohatyretz, 1999). In this study, information on 13,439 households involving 23,000 children from newborn to eleven years old was collected to determine, among other things, educational information. Data were collected by teacher and administrator questionnaires and parent interviews on the placement and educational functioning of 7,000 children. The study indicated that, for the ten percent of students receiving special education support, "the majority of the

special education students (59%) were taught primarily in a regular classroom and given additional instruction in a separate special education class or resource room” (p. 13). Furthermore, only “roughly 1 in 10 special needs children received most of their instruction in a separate special education class...with the remaining schoolwork provided in a regular classroom” (p. 14). These results clearly indicated a progressive movement over ten years towards a higher percentage of students with special needs receiving all or most of their education in the regular classroom. Students with special needs, in this study, were those identified by educators as having special education supports. Interesting highlights of the study included the fact that “males accounted for almost two-thirds of all elementary special needs students” (p. 7) and “children from low socio-economic status family or from single parent families are more likely to receive special education” (p. 9). Although “there is surprisingly little national information on special needs children,” these Statistics Canada data did reveal that students across the country increasingly spent more time in regular classrooms and less time in special education segregated environments by 1994 (Bohatyretz, 1999, p. 9).

In the United States, the 1997 Individuals with Disabilities Act (IDEA) was passed and required that the “state provide fully qualified professional personnel to work with children with disabilities...[and that]....states appropriately train and supervise paraprofessionals and assistants.” (Bureau of Labor & Statistics, 2002, p. 33). Throughout Canada, provinces completed Special Education Review Initiatives (SERI) which also resulted in various recommendations that focused

on improving inclusive practices (Manitoba, Education, Training & Youth, 2002).

The tendency for much of the instruction for students with significant special needs to be provided by teaching assistants and staff who were not formally trained to work with them, was recognized. Giangreco, Edelman, Luiselli and MacFarland (1997) specifically studied the effects of the proximity of educational assistants on students with significant special needs through extensive observations and interviews of 134 team members in eleven schools. They found that the closer the educational assistant was to the student, the more negative the impact on adult dependency, interference with instruction, loss of personal control, separation from classmates, and loss of gender identify were noted.

By the late 1990's, most students with special needs throughout Manitoba, Canada, and North America were being educated in the regular school settings, which increasingly meant the regular classroom (Hutchinson, 2002; Giangreco, Edelman & Broer, 2003; Villa & Thousand, 2000). In the Canadian statistical research study by Dore, Wagner, and Brunet (1999), the percentage of students integrated into regular classrooms in 1984/85 was compared to the percentage integrated into regular classrooms in 1996/97. The provincial and territorial data indicated a significant increase in integration in general into regular classrooms across the disabilities identified in the study. The one exception was integration for children with severe intellectual impairment. Children with mild intellectual disability went from a rate of 16% (1984) to 24% (1996) integration rate and students with moderate intellectual disability went from a 5% to a 17% rate of

integration. In the same twelve year span, statistics indicated that students in all of the other categories also increased integration rates including: a) visual disability from 74% to 76%, b) hearing disability from 50% to 66%, c) physical disability from 56% to 64%, d) multiple disability from 14% to 22%, and e) behaviour disability from 38% to 54.2%. Dore, Wagner, and Brunet (1999) noted that the research was difficult to interpret due to lack of common pan-Canadian indicators and the fact that integration results mainly compared achievements in special education and regular classrooms rather than measuring learning in regular classes. Hence, it was difficult to determine the efficacy of the inclusive learning environment.

The efficacy of inclusive education. By 2000, some inclusive education research and literature began to focus more specifically on the efficacy of specific practices within inclusive classrooms. (Kierstead & Hanvey, 2001; Rea, McLaughlin & Walther-Thomas, 2002). It was recognized that some students with special needs were still being excluded (within the classroom) due to their specialized programming, the ideas about how to deliver specialized programming, and the fact that the programming was frequently provided by educational assistants and not teachers (Giangreco et al., 2001). There was a re-emerging recognition that students with disabilities were being treated unequally which was in violation of the basic principles underlying the inclusive education movement (Giangreco et al., 2003).

A study by Kierstead and Hanvey (2001) looked at special education across Canada by surveying seventeen experts from across Canada in the field

of special education. They conducted in depth interviews looking at how well children's needs were met. Their results verified that 88% of respondents noted that service delivery had changed over the last five years with most students being served in the regular classroom. The respondents indicated that only 19% of students with special needs were having their needs met adequately and that rural students were much less likely to have appropriate educational services. Educators particularly noted that more expertise was required in understanding and serving students with special needs as "classroom teachers who often do not have the necessary skills or knowledge are frequently called upon to support children ...in the normal course of their classroom responsibilities...[and]...in many provinces...are not even required to take courses in special education" (p. 3). Teachers felt that trained special education teachers and teachers' aids were critical to effective programming. Overall, the findings indicated that there is a growing demand for special education services and adjustments need to be made so that "children who are in need can get the services they deserve" (p.6).

Governments also have recognized that practices and services within inclusive classrooms are significant and support for inclusive education has persisted throughout Canada, most recently stemming from the various provincial SERI recommendations. In the United States, the IDEA Act was amended with the (2001) No Child Left Behind Act, putting qualifications of staff and access to the regular curriculum for all students, under the spotlight (Allen, 2002). It called for a number of ways to ensure that teachers were held more accountable for the

academic programming of all students and that this academic programming facilitated access to the regular curriculum.

Most recently in Manitoba, Bill 13, the Public Schools Amendment Act, was passed in May 2004 (Manitoba Legislative Assembly, 2004) and proclaimed in October, 2005 (Manitoba Education, Citizenship & Youth, 2005). Bill 13 “reflects Manitoba’s commitment to providing all students with appropriate programming that supports student participation in both the academic and social life of schools” (Manitoba Education, Citizenship & Youth, 2005, p. 1). It is seen as the next step towards increased equality for students with special needs because it obligates schools to provide “appropriate programming and services” that meet the individual needs of every pupil within the most inclusive environment. Although the term appropriate programming is not clearly defined yet, the framework for increasingly supporting students to work within the provincial curriculum within regular classrooms has been set through the regulations.

Philosophy of Inclusion

In Canada, there are philosophical, legal, and practical commitments to inclusion as the means to obtain academically and socially equal educational opportunities for students with special needs (Priestley, 2001). Fueling this commitment to equal opportunity (i.e., inclusion) for every student is an underlying belief in “rights” of all students. This philosophical belief which facilitates advocacy and acceptance (and eventually leads to legislation), can

thus be viewed as an increasingly strong human rights movement entrenched in the social political system.

Human Rights

The human rights premise is evident in the Manitoba Education, Training and Youth (2001) Philosophy of Inclusion through the statement of "acceptance and valuing of every individual" (p. 1). This statement means that, ideally, Manitobans believe every child is an accepted and valued human being and therefore has rights. It speaks to human rights which are at the heart of inclusion. Development of the human rights movement has basically paralleled the development of special education and the movement towards inclusion (Priestley, 2001). The human rights movement is evident in Manitoba, Canada, North America, and globally (UNESCO, 2003). The belief that all students have the right to "equal access to the benefits of citizenship" (Manitoba, Education, Training & Youth, 2001, p. 1) implies the right to a quality education that encompasses both the academic and social realms.

Human rights and international phenomenon. Over the past twenty five years, disability has moved from the margins to the mainstream of the international human rights agenda (Priestley, 2001, p. 4). In 1975, the United Nations General Assembly made its first Declaration on the Rights of Disabled Persons and embarked on development of a World Program of Action (UNESCO, 2003). By 1985, the Universal Declaration of Human Rights was extended to include disabled people. Within this globally changing policy, there has been a great deal of uneven regional development (UNESCO, 2003).

Nevertheless, individuals with special needs have come together on an international scale to promote human rights of disabled people with disabilities through the equalization opportunities (Michaldo, 2002).

Human rights are about fairness in relation to language, ethnicity, culture, religion, race, disability, gender, and age. The actual experience of human rights is individual and varies greatly depending on a wide range of variables including local occurrences, legislation, and personal situations. Protecting human rights “entails challenging the legitimacy of power from across the boundaries of class, culture and nationality” (Priestley, 2001, p. 55). These challenges are historic, ever-changing, and ongoing.

Human rights issues have become irrevocably tied to the field of education within the world, national, and local contexts (Priestley, 2001; Rioux, 1999) In 2003, the United Nations Educational, Scientific, and Cultural Organization (UNESCO, 2004) declared that “inclusive education has grown from the belief that education is a basic human right and that it provides the foundation for a more just society” (p. 1). All learners have a right to education.

It is recognized widely that children with disabilities and those with other special education needs have experienced exclusion, discrimination, and segregation from mainstream education (Michaldo, 2002; Priestley, 2001; UNESCO, 2003). UNESCO (2003) goes further, stating that inclusive education encourages policy-makers and managers to look at the physical, social and learning barriers within the education system, how they arise, and how they can be removed.

Human rights in Canada and the United States. In Canada, Human Rights are protected by three major systems, the Canadian Charter of Rights and Freedoms, Provincial Human Rights Legislation such as the Manitoba Human Rights Code, and the Employment Equity Act. The Canadian Charter of Rights and Freedoms, which came into force in 1985, was part of the Canadian Constitution, repatriated in 1982. The Charter spells out the rights that are guaranteed to all Canadians, including fundamental freedoms, democratic rights, legal rights, and equality rights. It is the supreme law of the land, taking precedence over all other legislation and applying to all actions taken by governments. Under the equality rights section, the Charter states:

Every individual is equal before and under the law and has the right to the equal protection and equal benefit of the law without discrimination and, in particular, without discrimination based on race, national or ethnic origin, color, religion, sex, age or mental or physical disability.

(Canadian Human Rights Commission, 1998 p. 1)

The theory which is prevalent throughout Canada and the United States is that personal rights and freedoms are secured in the law and will be protected by institutions such as schools (Rioux, 1999). There is recognition of the significance of the individual and that the failure to guarantee another person's human rights undermines everyone's rights. In the development of special education policy and in parents' and advocates' fight for equality, the premise that every individual is valuable is central.

Following this line of reasoning, every individual student is deserving of and has the right to be educated appropriately in his or her community school alongside his or her peers. Every child not only has a right to education but it must be appropriate. Appropriate education has increasingly been viewed as access to the “regular” physical, social, and academic opportunities at school. Students have the right to have barriers to this access removed.

Disability Perspectives

Disability perspectives have influenced the human rights movement (Poirier, 1998; Rioux, 1999; Wohlbring, 2001). The inclusion of disabled people in the human rights movement can be further understood through the influence of changing perspectives on disability in general. There has been a movement from the medical model towards an emerging perspective, the social model (Irwin, 2001, p. 15). This movement is critical to the disability movement, acceptance of diversity, and inclusion (Wilson & Lewiecki-Wilson, 2001).

Most of the world continues to view disability through the medical model, as a pathological problem (Priestley, 2001; Wohlbring, 2001). When disability is viewed as a medical problem, the underlying premise is that there is something wrong with the individual and that medical solutions are required. Categorization of students in schools based on disability (instead of needs) perpetuates the medical model of assessment which views the student as deficient. If educational difficulties are blamed exclusively on the students, then it seems reasonable to exclude (segregate) them rather than examine the school or

teaching practices which may have failed them. In effect, the children are seen as failures while the system is exempt from scrutiny.

Educational implications of the medical model. The medical model worked well within a bureaucratic educational system, in that it provided a rationale for excluding students with disabilities from access to regular environments and subsequently rationalized their segregation (Michalko, 2002; Skrtic, 1991). In addition, the need for systemic change was politically and economically efficient as these “abnormal students” were seen to require separate provisions and schools were not mandated to change to accommodate them. In effect, school did not have to live up to its democratic ideals of equal education because the problem was not perceived to rest with the school.

Taken further, the medical model implied that the “problem” was fixable. Eugenics became one solution. Wohlbring (2001, pg. 38) warns of the lingering appeal of eugenics in a technological world. In theory, it provides justification for the process of selection and deselection based on the genotype and phenotype of human beings and therefore is inherently discriminatory. He feels that what is really disabling is a socio-cultural system that does not accept diversity.

Social perspective of disability. In the newly evolving social model disability is seen as primarily a social construct. Thus, society is seen as responsible for disabling people, not that they are disabled in and of themselves (Michaldo, 2002; Priestley, 2001; Wohlbring, 2001). If individuals do not function optimally, society has not succeeded in meeting their needs. Deaf people, for

example, are not disabled when functioning in society, if society meets their needs by ensuring that all information is available visually.

Educational implications of the social perspective. The reconceptualization of disability as the need for the acceptance of diversity means that the difficulties students experience result from the ways schools are currently organized and the teaching practices they have implemented. Consequently, difficulties are not blamed on the student, but rather on inadequate provisions and ineffective teaching practices. It involves a pedagogical reversal; from viewing the student's deficits to understanding the mismatch between provisions and student needs.

Inclusive Education Implications of the Social Perspective

When this reconceptualization is applied to inclusive education, the onus is on teachers figure out how to teach students rather than blame the student for not learning. Skrtic (1995) discusses how the educational system must change in order to align with this perspective. The teacher must learn to adapt to meet the needs of his or her students rather pushing the students who do not meet the curricular outcomes (or respond successfully to regular teaching strategies) into different classrooms. All students "fit" or are included the regular classroom.

Understanding inclusion. It should be noted here that there are varying definitions of inclusion. In practice, there are varying degrees and types of inclusion. Falvey, Givner, and Kimm (1996) asked thousands of children, adolescents, and adults to describe inclusion and concluded that inclusion was "a

belief system” that must be recognized in various ways that “embrace and celebrate natural diversity with meaningful, student-centered learning” (p. 10).

Research by Stanovich and Jordan (2004) has indicated that the perception of inclusion as the preferred mode of education has been “embraced wholeheartedly” and inclusion has become our “modus operandi for some time now” (p. 169). Their meta analysis research includes “countless hours of analysis, discussion, and reflection” from their years of teaching activities as well as aggregation of results from their various research projects observing teachers in inclusive settings. They conclude that society has generally accepted inclusion and the benefits are being recognized. They hold that the emerging perception, which is consistent with inclusion, is that “students with disabilities have needs and differences as do all students and the responsibility of teachers is to meet the learning needs of all of their students (p. 176).” This extends the concept of “normal” to include all students and an array of differences instead of targeting certain students as special due to disability. They suggest that classroom teachers are the key to successful inclusion and that they must develop instructional practices that meet the needs of all students. Furthermore, teachers who learn to teach students with very diverse needs develop more effective teaching strategies which then benefit all students.

Conclusions on Educational Implications of Disability Perspectives

This perspective of disability has huge implications for inclusion in schools (Michaldo, 2002; Poirier, 1998; Rioux, 1999). As the social model of disability becomes more prominent there are demands for changes at many levels within

the school system. With disability increasingly being conceptualized through the social model which accepts diversity, society is demanding that the human rights of all students to both academic and social equity be met in the education system.

Both the human rights agenda and the social model of disability have influenced the North American conception and acceptance of inclusion. It is likely that inclusive education will continue to evolve to match our philosophical conceptions of optimal inclusivity, a premise that society has largely come to embrace and one that is reflected through changing practices (Ainscow, 1998; Giangreco et al., 2003; Priestley, 2001; Skritic, 1991; Slee, 2001; Voltz & Ford, 2001).

Conceptions of inclusion have resulted in significant changes in special and general education (Hutchinson, 2002; Lilly, 2000; Miller, 2002; Turnbull et al., 2004; Villa & Thousand, 2000). Cesare, Terreni, Scruggs, and Mastropiere (1998) researched teacher attitudes towards inclusion and found that they consistently became more positive over time in both Italy and the United States. They surveyed Italian and American teachers independently and then compared the results to determine how they felt about inclusion. While both nations had policies facilitating inclusion, Italy had adopted a national policy on inclusion in 1977 and had "virtually eliminated" all separate schools for twenty years. Teachers in the United States were "generally less experienced in accommodating students with diverse learning needs in general education classrooms" (p. 2). The researchers surveyed 523 teachers in Italy and

compared their responses to similar items on a synthesis of 28 surveys with similar items that were given to hundreds of teachers in the United States. They found that, although both groups of teachers support inclusion, 77.6% of the teachers in Italy and 59.6% of the teachers in the United States responded positively to items such as "I support mainstreaming the handicapped" (p. 4). Findings suggested that attitudes towards inclusion become increasingly positive with experience in inclusive environments.

Citizens have generally moved beyond believing that children with special needs should be segregated or that simply physically placing them in a regular classroom provides adequate learning opportunities for them. The goal of inclusion is to value all children, embrace their differences, and appropriately meet their array of diverse academic and social needs within the regular educational environment (Gartner & Lipsky, 2000; Kavale & Forness, 2000; Renzaglia et al., 2003; Sonnenmeir & McSheehan, 2003; Vandercook, 2004; Villa & Thousand, 2000)

Current Inclusive Practices

The implementation of accommodations specifically for students with special needs is a widely accepted practice across North America, a practice which is viewed as facilitating their access to the regular classroom environment (Hutchinson, 2002; Turnbull et al., 2004; Vaughn, Bos, & Schumm, 2003; Wood, 1998). A qualitative study by Carrington and Elkins (2002) involved interviewing teachers about the provision of support for students with special needs. They interviewed 12 staff from two different schools using two different special

education service delivery models. Irrespective of the delivery model, the individualization of programming and student accommodations were seen as important to student success. One participant stated that the teachers were “generally supportive and inclusive and agree these students have a right to be here.....[teachers give them] a bit of extra assistance in class or....modify something as they go” (p. 9). Their findings suggested that teachers need to improve the implementation of accommodations to better meet the diversity of students’ needs.

Academic inclusion requires appropriate accommodations. A study by Rea, McLaughlin, and Walther-Thomas’ (2002) indicated a significant relationship between student participation in the regular curriculum with adequate individualized supports and improved academic outcomes. They investigated the academic performance of thirty-six middle school students with learning disabilities who participated in different educational programs in two different schools in the southeast United States. Both programs provided appropriate individualized supports for students as determined through needs identified on student Individualized Education Plans (IEPs). Comparability of the groups was established for cognitive ability, chronological age, gender, ethnicity, socioeconomic status, mother’s education level and years in the current program. In one program, students were included in and had access to the general curriculum for the entire school day (inclusive model) while students were pulled out to receive specialized support in the other program. This meant that both groups of students were provided with and had access to similar supports but

these supports were provided either in the regular classroom or in a separate special education environment. For example, students in both programs had equal access to support time from specialists but students from the pull out program received this support in a separate location while students from the inclusive program received it through in class co-teaching with specialists. Co-teaching took several forms including interactive teaching, parallel teaching, station teaching and alternative teaching which allowed for individualization within the general education classroom.

The result of this study by Rea, McLaughlin, and Walther-Thomas' (2002) indicated that, following the two year duration, students in inclusive classrooms with supports to access the regular curriculum on a full time basis had significantly higher grades and attained higher scores on standardized tests than students pulled out to receive support. The students who remained in the inclusive classroom with supports had IEP goals that were more aligned with the regular curriculum such as "master the vocabulary in each eighth grade reading text" as opposed to IEP goals of students in the pull out program which were more disjointed from the general curriculum such as "master the sounds of short vowels." (p. 210). Findings of this study suggested that, "with adequate adaptations, individualized programs, and sufficient support, students with disabilities can achieve academic...success in general education classrooms" (p. 220). It seems that access to the regular curriculum with appropriate accommodations facilitated increased outcomes for students with learning

disabilities however, this study did not delineate the variety of accommodations provided in detail.

A negative example of inclusion without accommodations. The reverse was studied by Blair, EuDaly, and Bensen (1999) suggesting that the effectiveness of inclusion is questioned when appropriate accommodations for specific special needs are not implemented in the regular classroom. Blair, EuDaly, and Bensen (1999) studied students with a hearing loss educated in regular classrooms. They investigated how well 273 teachers in Georgia understood the needs of hard of hearing students who were diagnosed with a hearing loss. a population that represented "as high as 30% of all children" in classrooms. Students included a wide range of hearing losses from unilateral sensorineural hearing losses to bilateral mild to profound hearing losses to persistent conductive losses. The researchers wanted to understand teachers' awareness of the students' hearing losses and what they knew about them. They sent our surveys with 20 items which were reviewed by audiologists and determined by them to obtain information critical to appropriate programming for students with hearing losses. They sent the surveys to 610 teachers identified through the audiology database with a letter explaining the purpose of the research. Two follow-up procedures were used to increase the response rate and 273 completed surveys were collected and analysed. The student population included was a good representation of students in kindergarten to grade twelve. Findings indicated that 74% of the teachers were aware of the hearing losses of their students with elementary teachers being much more

aware than high school teachers. Only 54% had received printed information about the hearing loss and, of that 54%, less than half (45%) of the teachers indicated that they understood it. They concluded that teachers could program more effectively for these students if they had more information about their hearing loss. Blair, EuDaly, and Benson (1999) suggested that “children are being placed in regular school settings....[without teachers]..having a basic understanding of their students’ hearing loss and how best to help them learn in order to provide success in the classroom (p. 174). Hence, the effectiveness of inclusion in the regular classrooms is questioned when it is perceived that “appropriate” specialized support is not provided.

Accommodating Students with Special Needs in the Regular Classroom

The literature (Bauer & Kroeger, 2004; Hutchinson, 2002) reveals many ways that students’ educational programs can accommodate diverse needs. Wood (1998), in her comprehensive book *Adapting Instruction to Accommodate Students in Inclusive Settings*, provided a framework for viewing the range of accommodations that delineated three broad categories (with subcategories) of accommodations. These categories are adapting the environment (i.e., physical, behavioural, socialemotional), adapting the instructional environment (i.e., planning, teaching strategies, materials), and adapting evaluation. These encompass the range of categories and sub categories that are discussed throughout the literature, although varying terms often are used.

Manitoban provincial accommodations. In Manitoba, there are nine different adaptation categories indicated in the Manitoba Education and Training

(1998) *Adaptation Checklist*: (a) pacing, (b) the environment, (c) presentation of subject matter, (d) materials, (e) assignments, (f) self management, (g) testing adaptations, (h) social interaction support, and, (i) motivation and reinforcement. These nine areas can be placed within Woods three broad categories of environment, instructional environment, and evaluation. For example, “pacing” which includes accommodation strategies such as extending time, varying activities and allowing breaks for the student, would fit within Woods category of the instructional environment, specifically the “planning” sub area where teachers decide how they are going to deliver the lesson plan.

Students who are Deaf and Hard of Hearing. Luckner and Denzin (1998), in their article *In the Mainstream: Adaptations for Students Who are Deaf or Hard of Hearing*, discussed how teachers “must ensure that specific adaptations are made for deaf or hard of hearing students” (p. 8) to ensure their success in inclusive classrooms. They indicated that student performance within the regular curriculum was critical and dependent upon adaptations such as preferential seating, acoustical treatments, interpreters, and time extensions. They included approximately eighty adaptations that teachers could use to support students with a hearing loss in accessing the regular curriculum. These adaptations largely corresponded to those suggested by Wood (1998) and represented in the Manitoba Education and Training (1998) *Adaptation Checklist*.

An extensive longitudinal empirical study by Kluwin (1993) involved 451 deaf adolescents in 15 schools across the United States. It assessed the cumulative impact of mainstream placement on achievement and grade point

average. Data were collected through surveys, course reports, achievement tests, and written evaluations. Findings indicated that mainstream placement resulted in higher student achievement and attributed this, in part to appropriate accommodations being available in the mainstream. Although caution was advised in interpreting the results, due to possible confounding variables, they concluded that educational placement was not the determining factor in the success of deaf students, but that it was “appropriate” educational programming which included individualized accommodations to meet varied students needs.

Types of Accommodation in Education

Wood (1998) defines accommodations as “simple adjustments” to the environment. These accommodations are flexible and an educator should consider the students, the classroom, the area of study, and his or her personal teaching style to determine how to best implement a strategy. The accommodation strategy of preferential seating, for example, may not mean the same location for all students. It would depend on the student needs, the classroom, and the subject. Within each of the categories, the educator plans to make accommodations “that will make education more appropriate for a special-needs or at risk student” (p. 134).

The physical, socioemotional, and behavioural environment. Wood’s (1998) first area, adapting the environment encompasses looking at the physical, socioemotional, and behavioural environment. The physical environment, for example refers to simply making accommodations that physically allow a student access to the environment. It focuses on a barrier free physical environment.

The Manitoba Education and Training (1998) "environment" area includes strategies such as preferential seating, planned seating, altering the physical room arrangements, defining areas concretely, and reducing distractions.

The socioemotional and behavioural environments "involve numerous aspects of school...includ[ing] the attitudes of educators and students and ways of improving these attitudes (Wood, 1998, p. 135). The Manitoba Education and Training (1998) categories of "social interaction support" and "motivation and reinforcement" would fit into this category. It includes strategies such as peer tutoring, structuring activities to create opportunities for social interactions, teaching social skills, and verbal and nonverbal reinforcement.

For Deaf or hard of hearing students, interpreters are often viewed as an essential "accommodation" to facilitate access to the classroom. Antia and Kreimeyer (2001) examined the roles of interpreters in inclusive classrooms through a qualitative three year case study of three interpreters, classroom teachers, special education teachers, and administrators. They conducted interviews and observed in classrooms where the interpreters worked. They found that interpreters were essential for clarifying classroom instructions, facilitating peer interactions, and tutoring students. They indicated that the support of an interpreter was essential for these students and that, although interpreters have varying expectations, they have common essential roles that support successful access to the environment for Deaf and hard of hearing students.

Another study by Afzali-Nomani (1997) explored the impact of full inclusion programs on Deaf and hard of hearing students. They looked at the academic achievement, social adjustment, and self-confidence of 55 students. Information was collected from surveys completed by their teachers. The results indicated that “the impact of full inclusion was more favorable if [deaf and hard of hearing] children received social encouragement” (p. 140). Access to the social environment was found to be critical to a sense of well being and academic achievement.

Improved ways to remove physical and socioemotional and behavioural barriers to access to these environments are evolving. As indicated in the historical overview, access to the physical environment of the regular classroom was a primary focus during the 1980s and access to the social, emotional, and behavioural environment of the regular classroom was a primary focus during the 1990s.

Academic accommodations to access the regular curriculum. Most recently, access to and inclusion within the regular curriculum, the instructional environment, has become the focus of much attention (Council for Exceptional Children, 2001; Peters, 2002). As the social perspective becomes increasingly accepted, there is an increased belief that students, regardless of their diverse learning needs, can progress within the regular curriculum if the environment is accommodated to meet their needs. Educators are increasingly being held accountable for ensuring the progress of all students within the regular instructional environment.

In Afzali-Nomani's (1997) previously described research study, it was evident that the physical, social, and academic environments became entwined and influenced each other. Results indicated that "the degree to which full inclusion program had positive effects on academic achievement, social adjustment and self confidence was dependent upon the educational conditions under which programs were offered" (p. 401). More specifically, the "most potent" indicators encompassed the social-emotional adaptations.

The instructional and evaluation environment. Wood (1998) suggests that "simple adjustments to teaching or testing" are necessary for success in inclusive environments. She provides an example of a student who cannot read the textbook but needs access to the textbook information for learning. The teacher can accommodate this need by making adjustments to the textbook in order to enable the student to learn the material. This could incorporate some of the strategies in the Manitoba Education adaptation areas of "pacing", "presentation of subject matter" "materials" and "assignments". Examples of appropriate adaptation strategies might include teaching the content vocabulary of the text, providing a taped version of the text material, or reading the information to the student.

The final area, assessment, is linked to the instructional environment. Many of the same accommodation strategies that are used for successful access to the instructional environment are also implemented for access to appropriate assessment. In the Manitoba "testing adaptations" area, some of the strategies include oral tests, taped tests, use of pictures, and extending time.

In a study at the National Technical Institute for the Deaf, Foster and Long (2002) conducted action research with deaf and hard of hearing university students and found that post secondary instructors had to adjust their teaching materials and procedures to facilitate inclusion of deaf and hard of hearing students. They had to 'give students a handout with any changes in procedures, discuss changes in advance, send out e-mail or post information that indicates procedures, and leave the overhead up for a longer period of time' (p. 4). Antia and Levine (2000), in a comprehensive review of the literature, agreed with this and emphasized that "inclusion of children who are deaf/hard of hearing requires careful planning, adequate resources and professional expertise." (p. 1).

Conclusions on Accommodations

In conclusion, accommodating diverse student needs through adaptations has become one of the main ways to actualize the inclusion of students with special needs in the instructional environment. As noted by Voltz and Ford (2001) the placement of a student in the classroom is a "means to an end" and "creating instructional environments that promote educational success" is what is important (p. 2). They outline instructional accommodations that facilitate meaningful participation in the academic program with "special attention given to differentiating what is taught as well as how it is taught" (p. 3). They describe varied instructional approaches and learning activities that are similar to those already presented here.

The concept of accommodating to meet specific instructional needs is important in Manitoba as well, although terminology to describe accommodations

is used quite specifically. In Manitoba, “adaptations” are part of a continuum of learning accommodations that support student in accessing the regular curriculum. The continuum begins with differentiated instruction and moves to adaptations, modifications and individualizations.

A Manitoban Perspective on Accommodations to Access the Regular Curriculum

In Manitoba, parents, educators, administrators, and government agencies largely support the implementation of an array of accommodations for students with special needs to facilitate their inclusion in the regular classroom and in the regular curriculum (Manitoba Education, Citizenship & Youth, 2005). Extra categorical funding is provided by government (Manitoba Education, Citizenship & Youth, 2004) which often facilitates the hiring of educational assistants who frequently implement or support the implementation of student specific accommodations. Documents published by the government (Manitoba Education and Training, 1995; 1998; 2001; 2004) support educators, parents, and students in understanding the types and range of accommodations that can be provided. Teachers attend training sessions to understand this scope of accommodations and how to implement them in their classrooms for students with special needs. Special education personnel and clinicians (e.g., speech clinicians, occupational therapists, and psychologists) are involved to support programming in specific, specialized areas. Parents are encouraged to become involved in the creation and monitoring of individualized programming for their children through the IEP to facilitate success in the regular classroom.

The accommodations available in Manitoba fall along a continuum which includes differentiated instruction, adaptation, modification, and individualization. These, together, are recognized as actualizing access to the instructional environment for students with significant special needs throughout the province. *Accessing the Instructional Environment in Manitoba: Differentiation, Adaptation, Modification, and Individualization*

Differentiated Instruction. Differentiated instruction involves instruction that takes into consideration the diverse learning needs of students. It includes instructional strategies that a teacher makes available to all students in the classroom. Manitoba Education and Training (1998) defines differentiated instruction as:

Instruction that acknowledges and responds to the diversity among learners. It refers to the wide range of instructional strategies, techniques and approaches used to support students learning and to help each student achieve high expectations and realize his or her potential.

Differentiated instruction is concerned with establishing a supportive learning environment for all students and with meeting each student's learning requirements.

To support the facilitation of differentiated strategies, the Manitoban government has published a document, *Success for All Learners – A Handbook on Differentiated Instruction* (Manitoba Education and Training, 1996) which is widely accepted and used in the field. In classrooms, it is common to see teachers regularly using strategies from this document with all of their students.

For example, concept frames from this document are used by many educators to support students' understandings of new concepts (see Figure 2.0). They may include a typical written definition as well as pictorial or other representations of the concept. They may provide opportunities for higher level thinking through the incorporation of questions about the concept. Teachers may use the concept frames as they are or change them to better suit the needs of their students or subject area.

A Manitoban study by Cozzuol, Freeze, Lutfiyya and Van Wallegghem (2004) explored the roles of nondisabled peers in promoting the social competence of students with intellectual disabilities in inclusive classrooms. While the study did not specifically focus on instruction, they found that teachers facilitated social interaction by mediating the social dynamics of their classrooms through instructional, social, and individual interventions. Interventions included using "differentiated instruction strategies to promote structured instructional interactions" (p. 30). Some of the strategies that teachers used were good teaching practices or "class wide interventions" implemented for all students. These included classroom discussions, cooperative group work, role playing, special events, and positive attention and praise which involved the whole class and which teachers felt facilitated social inclusion of students with special needs within the larger classroom.

Adaptations. An adaptation is the act of making changes in the teaching process, materials, or student products to enable a student with special needs to achieve the expected learning outcomes of the regular curriculum. Adaptations

Figure 2.0: Examples of concept frames used in Manitoban schools.

Three-Point Approach for Words and Concepts

Definition _____ _____ _____	Word or Concept Synonyms/Example _____ _____	Diagram
Definition _____ _____ _____	Word or Concept Synonyms/Example _____ _____	Diagram
Definition _____ _____ _____	Word or Concept Synonyms/Example _____ _____	Diagram
Definition _____ _____ _____	Word or Concept Synonyms/Example _____ _____	Diagram

Three-Point Approach: Adapted from Series: Sandra M. Sharpey for *Howling Wolves*, Copyright © 1991 by Spring Island Press, used by permission of the publisher.

Concept Overview

Key word or concept 	Write an explanation or definition in your own words. You will be paraphrasing.
Draw a figurative representation. 	List facts (at least five)
Write down two questions about the concept 	Create an analogy

Concept Overview: Used by permission of Cynthia Matthews and Berni Mueller, Notre McClung Collegiate, Pembina Valley S.D. No. 27.

Concept Frame

Concept	Examples	
Characteristics		
What is it like?		
What is it unlike?		
Definition	Can you illustrate it?	

Concept Frame: Used by permission of Cynthia Matthews and Berni Mueller, Notre McClung Collegiate, Pembina Valley S.D. No. 27.

Compare and Contrast Frame

Unit _____	Topic _____
C O M P A R E	How are _____ and _____ alike?
C O N T R A S T	How are _____ and _____ different?
Write a statement to compare and contrast the two terms, concepts, or events.	

Compare and Contrast Frame: Used by permission of Cynthia Matthews and Berni Mueller, Notre McClung Collegiate, Pembina Valley S.D. No. 27.

Note. From "Success for All Learners: A Handbook for Differentiating Instruction" Manitoba Department of Education and Training, 1996.

include a wide array of ways to adjust the teaching methods, classroom environment and assessment to meet specific student needs. Wood's (1998) adaptations mentioned earlier fit within this category. For example, a teacher might allow a student with a learning disability more time to complete an assessment or to have a support person read the test questions to him or her. A student with a language deficit might have an educational assistant provide individualized tutoring to reinforce major concepts or provide assistance for notetaking.

The line between a differentiated instructional strategy and an adaptation is not clear-cut. An "adaptation" for one teacher may, in fact, be a "differentiated instructional strategy" for another teacher. If a teacher reads the text to all of the students, it is a differentiated strategy that supports all students learning. It is for all students. However, if a teacher expects all students to read the text and then has the text read to a specific group of students because of their designated learning needs, it becomes an adaptation. Manitoba Education and Training (1998) describes adaptations as "changes in the teaching process, materials or products"..... "for students who are cognitively within the average range and may have physical, emotional, behavioural, or sensory needs."

In Manitoba, it has become common for teachers to increasingly use differentiated strategies for all students and to also use specific adaptations for only students with significant special needs. These adaptations are noted on an individualized educational plan and frequently used adaptations are often listed within schools. The adaptations listed include instructional and assessment

adaptations and often reflect the Manitoba Education and Training (1998) adaptation checklist (see Appendix C).

Cozzuol et al. (2004) also discussed some of the individualized adaptations or things that teachers do “specifically” for students with special needs to support them. In this case, teachers were facilitating support for social interactions. Two of the adaptations or “individual interaction interventions” (p. 32) found to support the students’ programs included the specific assignment of peers and intentional “stepping back” to facilitate specific peer interaction. This meant that teachers consciously chose and set up specific students to work with the students with special needs so that the interaction was more likely to be positive. They also made an effort not to intervene so that interaction between students was more likely to be sustained. It was noted in this study that these social adaptations also supported academic learning.

Modifications. According to Manitoba Education and Training (1995), “modification refers to altering the number, essence and content of the curricular outcomes that the student is expected to meet” and they are implemented “for students with identified significant cognitive disability who may also have other needs.” It is understood that only a small minority of the student population who have a significant cognitive disability need modifications. Modifications might involve a student working with math manipulatives at a special center to learn how to group similar objects while peers are working on long division problems. The work is at a very different level than that of peers. Although the student has

access to the regular curriculum outcomes, it is at a very different grade level than that of his or her peers.

The line between adaptations and modifications is not clear-cut. There is a “grey area” in practice where a teacher must decide if the accommodation requires learning of less than fifty percent of the curricular outcomes. If the latter is the case, in the teacher’s professional judgment of his or her subject area, then the accommodation is a modification as opposed to an adaptation. Teachers frequently struggle with this criteria for some students and rely on the diagnosis of significant cognitive deficit to support their decision.

Individualizations. Individualized programming “is intended for students whose cognitive disabilities are so significant that they do not benefit from participating in the regular curricula developed or approved by Manitoba Education, Training and Youth” (Manitoba Education, Training and Youth, 2002). Individualized programming normally means that a student is participating in activities that are not from the curriculum, such as a teenager learning to turn on a switch to the television. Normally, this involves a very small portion of the population. These students have an Individualized Education Plan for all areas of study such as functional literacy, communication, and motor development. They may be in classrooms some of their school day, but their program is very individualized. A student in Senior 4 class may be working on turning pages in a book while a student in Grade Four class may be learning to indicate when he needs to go to the washroom. These students normally have a team of staff,

many of them specialized therapists, who work with their families in designating goals that are appropriate for the student.

Conclusions. In conclusion, accommodations for students with significant special needs are made to remove barriers and to facilitate inclusion in the instructional environment. In Manitoba, these accommodations encompass differentiated instruction, adaptations, modifications, and individualizations. As a first option, differentiated instructional strategies are used and they include things that a teacher does for all students in the classroom. Adaptations, referring to special changes in the teaching process, materials, and assessments are used for students with diagnosed significant special needs. They are employed fairly regularly in schools and teachers often have “adaptation checklists” which delineate adaptations frequently used in their school. Modifications and individualizations are used much less frequently and are accommodations used only for students with diagnosed significant cognitive deficits. Other than individualizations, the goal of the broad array of accommodations is to provide access to the regular curriculum, to facilitate inclusion of students with special needs in the instructional environment

The Need for Development of Increasingly Inclusive Practices

Although the current instructional accommodations have facilitated inclusion within or access to the regular curriculum for students with special needs, it is important to continuously evaluate and review practices for efficacy and inclusivity. As noted earlier, practices evolve as our concept of inclusion evolves and deepens. Recently, the current practice of providing

accommodations specifically for students with significant special needs is being recognized in the literature as potentially fostering inequity through degrees of exclusion and segregation (Carrington & Elkins, 2002; Hutchinson, 2002; Turnbull et al., 2004; Vaughn et al., 2003; Villa & Thousand, 2003).

Issues identified with school based inclusion practices. Stockall and Gartin's (2002) two year qualitative study is a recent example of an investigation into the deeper dimensions of inclusion. They chose a "model" inclusive school which meant that the school was "nationally recognized for its excellence in teaching and identified by school faculty and staff as an inclusion school" (p. 173). The school was a middle-class school in the Midwestern United States with a diverse student population. Six to eight percent of the students were identified as gifted and eight to twelve percent were identified as having disabilities. The researchers wanted to understand teachers' beliefs about inclusion, what types of actions represented inclusion, and how students with special needs interacted in relation to other students in inclusive settings. Teachers included twenty-six general education teachers, one teacher for gifted students, two teachers for high incidence disabilities, one teacher for students with hearing losses, one interpreter, one speech therapist, and one occupational therapist. The teachers had been teaching for an average of twenty years and the principal had been in the school for eighteen years.

Stockall and Gartin observed hundreds of hours of on-site teacher interactions with students, student interactions, and student participation in various classroom activities. These observations spanned twelve different

classrooms that had been nominated by the principal as exemplars of inclusive classrooms, from Kindergarten through Grade Five. Exemplary classrooms meant that the teachers had participated in professional development, were interested in participating in research, had teaching experience, and had positive evaluations. The observations were recorded by hand or videotaped for a total of fifty hours. The researchers also spent a total of ten hours formally interviewing teachers and six hours doing interactive analysis of the videotapes with the teachers. The observations were conducted in various settings and instructional contexts and were fairly unobtrusive as university visitors were common in the school.

Stockall and Gartin (2002) found that the staff believed in inclusion and that the school had developed a common vision of inclusion and inclusive practices. Teachers were making specific and extensive efforts to include students with special needs physically, socially, and academically in daily activities. Their findings also revealed that there was room for improved inclusive practices, especially with respect to facilitating access to optimal academic learning. They observed "benevolent collusion" which meant superficial or surface academic participation was encouraged by teachers for students with special needs. For example, the students with special needs were given materials and specific adaptations to keep them busy without obtaining all of the information that they needed to participate equitably in more challenging academic endeavors. Although the teachers were increasingly adjusting practices to be more inclusive, findings revealed a need to work on the academic

dimensions of inclusion. Research such as Stockall and Gartin's indicates that, as the concept of inclusion is explored, it evolves and deeper dimensions are revealed. Hence, educators may need to be aware of and continuously learn and develop instructional practices aligned with this evolving inclusivity.

Issues identified by systemic inclusion practices. Giangreco, Edelman, Luiselli, and MacFarland (1997) also studied dimensions of inclusion within "inclusive" classrooms across a large school district in schools where students with severe disabilities received intensive one to one educational assistant support "within general education classrooms" (p. 8). They focused on educational assistant support, which is a common accommodation provided for students with special needs (French, 1998; Giangreco, Edelman & Broer, 2003). Giangreco et al. (1997) collected data from sixteen classrooms that included students with multiple disabilities in the United States over a two year period. They observed 134 team members including teachers, principals, specialists, parents, and instructional assistants. Data indicated that, a primary accommodation of providing intensive one to one educational assistant support for students with special needs actually resulted in, among other things, "limitations on receiving competent instruction" in the regular curriculum (p. 7). This means that, despite inclusion in the general education classroom, the students with special needs did not have equal access to the learning environment because they were not being taught directly by teachers but by inadequately trained educational assistants. Teachers had much less direct

interaction with these students than with students who did not have teaching assistant support.

Current practices are based largely on the premise of accommodations according to diagnosed disabilities. It is supported at the systems level by tying funding to students with diagnosed disabilities within specific low incidence categories (such as a severe to profound hearing loss). It is also perpetuated through classroom practices where teachers are encouraged to provide instructional and assessment adaptations, as previously described, specifically for students with significant special needs. While these practices facilitate inclusion of many students within regular curriculum, new concerns are emerging that are leading us to view some accommodations in a new light. These concerns reveal questions about the ethics and appropriateness and efficacy of some accommodations provided to specific members of the classroom based on disability diagnosis. They force examination of the deeper dimensions of exclusion that current practices may be perpetuating within inclusive educational environments.

Issues identified by disability-based inclusion practices. Rose and Meyer (2002), highlight four broad issues raised by providing accommodations for a specific group of students based on their disability. First, students with special needs continue to be viewed as a separate category of human beings requiring “accommodations” to “normal” classrooms, curriculum, instruction, and assessment. This permits the disability stigma to persist for students as they are unable to succeed in normal classrooms. Students with special needs continue

to be viewed differently than other students. Many of the studies in this review have concluded that staff and student perceptions about disability have a significant impact on how students with special needs are received in the classroom (Carrington & Elkins, 2002; Giangreco et al., 2002; Wang & Baker, 1985).

Second, educators continue to have to plan for special accommodations for a specific category of students not for learning differences (Rose & Meyer, 2002). Often they feel that they do not have the expertise and request the support of additional specialized input in planning. Sometimes, students with special needs are viewed as requiring accommodations so specialized that their teacher's feel they should be excluded from "regular" academic planning. Such students may be removed to spend all or part of their day with support personnel or educational assistants. Once again, a key finding in studies has pointed out that teachers frequently feel that they lack expertise in planning for students with special needs (Bohatyretz, 1999; Dore, Wagner & Brunet, 1999).

Third, materials such as single grade level textbooks are promoted by publishers and accepted by educators to teach subject area outcomes (Rose & Meyer, 2002). Such rigid materials meet the needs of "regular" students but may not be accessible by all students such as those with learning disabilities that affect reading, low vision, or physical disabilities such as cerebral palsy that compromise book handling.

Finally, Rose and Meyer (2002) hold that curricular outcomes can be viewed narrowly and inflexibly such that educators teach a set curriculum, not

students. Such an approach forces accommodations and remedial support for students who can not meet set curricular outcomes.

Suggestions for Evolving School-Wide Inclusive Education Practices

Research has suggested that individualized accommodations as described previously are important for facilitating inclusion in classrooms (Anita & Levine, 2000; Cozzel et al., 2004; Easterbrookes, 1999; Foster & Long, 2002; Powers, S., 2001). Research has also suggested that more broadly implemented practices might be required to really affect change in schools (Brownlie & King, 2000; Cozzel et al., 2004; Rose & Meyer, 2002; Udvari-Solner et al., 2005). Ferguson and Ferguson (1998) noted that it was time for systemic action and that “the underlying inertia affects actual efforts to change schools” (p. 303). They encouraged educators to just “do it” or to make deep, meaningful changes to restructure schools and classrooms “to support diverse learners, both with and without disabilities” (p. 303). Their goal was to create systemic inclusion; a unified school system that met the diverse needs of all students. Several researchers and scholars in the field have provided suggestions that might move us towards this goal.

Develop a broad belief system that facilitates inclusion. To really facilitate systemic change, diversity must be embraced and not seen as a problem (Falvey & Givner, 2005). Villa and Thousand (2005) interviewed “tens of thousands of parents, teachers, administrators, students, university professors and concerned citizens across the Americas, Europe, Asia, and the Middle East” (p. 41) and found that people wanted the same things for the children that they cared about.

They wanted their children to meet the educational objectives of belonging, mastery, independence, and generosity. Citizens need to “share common beliefs about the desired outcomes for students and those outcomes must be the same for students with and without disabilities” (Villa & Thousand, 2005, p. 42). A common belief in the value of all students may be critical to structuring and restructuring schools.

Infuse inclusive practices. Kanu (2005) explored how Aboriginal culture was successfully integrated into the school curriculum to support Aboriginal students. She interviewed ten teachers and observed in their classrooms. She found that it was not only the specialized accommodations that teachers’ made that were important but *how* they approached and facilitated the infusion of Aboriginal accommodations was significant. Simply “adding on” accommodations such as an occasional Aboriginal speaker or activities that fit within the Aboriginal paradigm minimally influenced instructional practice and had minimal positive impact on programming for aboriginal students. “Infusion” of Aboriginal culture was necessary to really have an impact on learning. This meant that teachers had to philosophically embrace the need for Aboriginal culture in the classroom and infuse corresponding practices, classroom-wide, all of the time. Evidence of adherence to Aboriginal culture had to be infused or evident in the teacher’s thinking, planning, materials, instruction, interaction with students, and assessment. Furthermore, the broader the infusion of culture throughout the school, the more effective the results were.

Work together. Gregory (2003) presented a model based on the premise of deep, broad, systemic commitment being required to support the evolution of educational practices. He promoted professional learning communities which required staff to work together as a community in their efforts to develop a “culture change” throughout a school and affect student learning. This model builds on Kanu’s (2005) theory that it takes much more than simply “adding on” specific accommodations to truly build a school culture that supports staff infusion of a concept throughout the school. It takes concentrated, focused effort stemming from a staff committed to the same goal to affect real change.

Hulley and Dier (2005), and DuFour, DuFour, Eaker and Karhanek (2004) also researched development of school culture and school-wide learning through professional learning communities. Their research did not focus on students with disabilities but on factors affecting learning such as culture, poverty, family circumstances, and attitude. They researched sixteen schools that facilitated deep and lasting changes and similarly conclude that it takes school-wide efforts focused on the goal to succeed. School-wide efforts, professional learning communities and staff development were important. The combined synergy of students, staff, parents and community members was able to permeate the culture of a school to affect change.

The main premise of the research by Gregory (2003), Hulley and Dier (2005) and Dufour et al. (2004) was that the entire school culture needed to live and breathe the belief system. They needed to work together professionally to attain the goal. The belief system had to be infused throughout the school and

evident in everything that is done within the school for all students, not simply “added on” for specific students or at certain times.

School-Wide practices influence student behaviour. Related to this research on schools as professional communities, is research that advocates implementing and developing school-wide practices for improving student behaviour. Sugai’s (2003) research results suggested an efficient and durable system of school-based support that provides health services as an “integral element of the full school-wide continuum of behaviour support for students” (p. 530). Similarly, Turnbull, Edmonson. et al. (2002) did a case study in a middle school and concluded that “intensifying universal support within urban schools “ for behaviour, could address some of the complex issues of poverty (p. 377).

Inclusive education and school-wide practices. Scholars in the field of special education have also advocated for school-wide and community oriented systems. Sapon-Shevin and Chandler-Olcott (2001) promoted collaborative, integrative school-wide methods and Sailor and Roger (2005) presented a “new vision of integrated education in which previously specialized adaptations and strategies are used to enhance the learning of all students” (p. 503). Ferguson (1995) advocated for more systemic change towards a unified system over a decade ago. More locally, Fay Brownlie (2000) has developed and presented in Winnipeg her model for school-wide personnel to work together to meet the needs of all students.

Striving for a Unified System

Although the current use of accommodations specifically for students with special needs has supported learning for and inclusion of students with special needs, the conceptual, ethical, and practical implications of this practice is being questioned more broadly today as educators recognize the importance of focusing on meeting the array of student needs inclusively within the classrooms, schools, and communities (Sailor & Roger, 2005; Villa & Thousand, 1999). It has been suggested that staff within the field of education may need to work and think differently to continue to develop a culture that collectively promotes implementation of effective educational practices that meet the needs of all students within inclusive environments (Hutchingson, 2002; Stanovich & Jordan, 2004; York-Bar & Vandercook, 2003). Increasingly, the needs of students with special needs are not viewed as “add ons” but as part of the classroom diversity and within the realm of “regular” instruction. Hence, teachers must develop practices that go beyond including adaptations that meet specific needs and develop effective educational practices that regularly meet the needs of all students. In other words, they need to equitably provide “very good instruction and help every student in the classroom to achieve to the best of his or her ability” (Bauer & Kroeger, 2004, p. 6).

Is it possible to move beyond the disability programming paradigm which has special education connotations and focuses on fixing the “different” needs of “special” students and learn how resources can be “distributed in another way” (Sonerblum, 2003, p. 13). Can accommodations be thought about and provided

within the realm of differentiated instructional strategies that teachers use for all students? Can teachers extend their instruction to include the wide range of accommodations so that specific students or groups of students are not stigmatized?

The need for critical analysis of practices related to inclusive special education is important to continue to move towards the creation of new educational practices that provide support to all students based on a single set of solid principles for universal education (Ferguson et al, 1998; Skrtic, 1995; Sonerblum, 2003). It is this equity perspective that has prompted examination and application of a new construct, universal design (UD), in the field of education.

Universal Design

The concept of UD is explored in recent literature as a new paradigm that may move us closer to realizing the goal of more effective, inclusive education (Bauer & Kroeger, 2004; Hutchinson, 2002; Rose & Meyer, 2002; McGuire & Scott, 2004; Scott, McGuire & Foley, 2003; Turnbull et al, 2004; Vaughn et al, 2003). UD may provide staff a way to think about and practically extend the range of accommodations for students with special needs to all students based on UD principles. It may have the immediate benefit of improving inclusivity as it looks at all students in terms of needs and does not adhere to disability categorization. It is aligned with the human rights agenda and the current belief in the equal value of all citizens (Mace, 1997; Scott McGuire & Foley, 2003).

UD in education is aimed at actualizing inclusion in its truest sense, as it involves planning for instruction to meet the widest possible diversity of student needs. The concept may be viewed as extending differentiated instruction best practices by incorporating strategies that were previously largely implemented only for specific students with special needs to everyday planning at the outset for all children. This does not mean that the students learn less or that the information has been “dumbed down” for students as teacher expectations remain high for all students and many students may be able to achieve higher level outcomes due to accessing information and demonstrating learning in different ways (Scott, McGuire & Shaw, 2003). The various strategies and best practices that are successful in facilitating learning for students with special needs are idealistically encompassed in UD methods for instruction (Bauer & Kroeger, 2004; Rose & Meyer, 2002). Teaching guided by UD principles may result in a different (perhaps enhanced) form of inclusion.

UD methods are focused on stretching the way the curriculum is traditionally taught, learned, and represented to foster planning for and development of good, creative teaching practices. Excellent teaching practices are critical for effective learning (Hutchinson, 2002; Miller, 2002; Turnbull et al., 2004; Villa & Thousand, 2000) and UD methods have been said to have potential to “enhance the instruction for all students in the classroom (Bauer & Kroeger, 2004, p. 15). The following outline of the evolution of the UD concept facilitates its conceptualization and application within the field of education. UD methods have been referred to in the literature as “the hallmark of inclusive educational

practices” (Ferguson & Kozleski, 2003, p. 18) and are often seen idealistically as best practices for implementing appropriate academic learning and programming for all students.

Evolution of Universal Design

The term UD was coined by renowned architect and industrial designer, the late Ron Mace, in the early 1970’s (Pisha et al., 2000; Scott, McGuire & Shaw, 2003). His theoretical concept was to build a marketable product that addressed the needs of all people, regardless of their age, ability, or status in life. His impetus was to meet architectural guidelines mandated in the United States by the Americans with Disabilities Act and to successfully market a good product to a larger clientele. Mace’s concept of UD went beyond marketing and meeting regulations promoting barrier-free environments for all people. It became both a goal and a vision. It became a challenge to meet the vast array of needs presented by humankind.

Mace and his team developed seven guiding principles for UD with the intent that they remain flexible enough to continue meeting the ongoing needs of the changing population. The principles have become seminal in the field of architecture (Mace, 1997). They are: a) equitable use, b) flexibility in use, c) simple and intuitive use, d) perceptible information, e) tolerance for error, f) low physical effort, and, g) size and space for approach and use (see Figure 1.0). The only rigid underlying premises of Mace’s principles were usefulness by the largest number of people and consumer driven purpose. Each of the principles is

described below according to the Center for Universal Design (1997) at the North Carolina State University.

Equitable Use. The design is useful and marketable to people with diverse abilities. Guidelines include the same way of using things for all people. If not the same, then equitable use should be available to avoid segregating or stigmatizing users. In building, for example, all individuals should be able to use the same washroom facilities and, once inside, be able to use the same faucets, etc.

Flexibility in use. A diverse range of individual needs can be accommodated in the design. This encompasses the premise that there should be flexibility in the ways that people can use things and that mechanisms can adapt to the different pace that people may prefer. Using the previous water faucet example, the levers for turning taps on and off should be able to be grasped in various ways so that varied sizes, shapes and strengths of hands can easily use them.

Simple and intuitive use. The design is easy to understand, despite diverse knowledge, language ability, cognitive ability, and physical ability. Here, the faucet taps must function easily for all people.

Perceptible Use. The design “communicates necessary information effectively to the user, regardless of ambient conditions or the user’s sensory ability” (p. 2). There may be pictorial, verbal, tactile, and printed instructions available as necessary.

Tolerance for Error. “Fail safe” measures for use of the design are incorporated. Hence, the faucet taps are built so that they can not be turned the wrong way and, perhaps there are mechanisms to protect the water from getting too hot in the event that people turn on only the hot water tap.

Low physical effort. The design is built so that people can focus on what they are doing (such as hand washing) instead of the function of the mechanism (turning the tap). It minimizes sustained physical effort and unreasonable operating forces.

Size and space for approach. People of varying sizes can use the design and they can use it regardless of whether they are walking, in a wheelchair, or using canes. It means that the design is flexible enough to accommodate seated or standing users and allow them to perform the purpose effectively and efficiently.

The “automatic eye” taps that turn on and off when a hand is waved over the sink near the faucet are a great example of a universal design that eliminates previous accommodations. The outcome of getting water from the tap is achieved by everyone in an equitable, flexible (waving hands in any direction), fail safe (temperature monitored), easy to understand, simple fashion without the need for traditional adaptations or modifications. The method of use is aligned with all seven UD principles.

The UD principles address universally usable design but the *practice* of universal design “requires broader considerations such as economic, engineering, cultural, gender, and environmental concerns” (The Center for

Universal Design, 1997, p. 3). What represents universal design is always changing and evolving to include more dimensions. However, the original principles include holistic concerns such as the demographic, legislative, economic and social” (p. 1) aspects of the physical design blueprint.

The UD concept required a change in paradigm from adapting buildings to meet consumer needs as they arose to using foresight to plan for the greatest range of needs possible initially (Fairfax, 2001; Meyer & Rose, 2000). The seven principles were held as a guide at the planning stage and the blueprint or structure is viewed from each principle to facilitate as much accessibility as possible. Mace recognized that UD did not create a utopian environment and that there would always be need for highly individualized adaptations.

The UD concept had direct benefits for people and it made market sense in that the costs associated with building for the widest range of people at the outset prevented more costly adaptations in the future (Stone, 1998). Ron Mace’s simple and practical concept became popular in the world of architecture (Scott et al., 2003).

The Center for Universal Design (1997) described how individuals in architectural organizations have used the UD principles to guide their practice in various ways. They implemented the concept generally and thought about the process involved. This included anticipating all of the possibilities for use of the building (or product) and the range of users. They considered present use and use over the lifespan of the building. They involved user groups to support their

designs and assessed the functionality of the building. The user groups were also involved, to varying degrees, throughout the construction process.

Many organizations apply the UD principles broadly while others have adapted the principles specifically to meet their needs. One example of a very specific, concrete application of the principles throughout a building project was found through a UD building survey (Universal Design Education Online, 2004). Architects developed a UD Building Survey to “improve the usefulness and appeal of existing public buildings through promoting universal design awareness and practices” (p. 1). The survey provided a list of questions grouped within areas that reflect the principles. They grouped the original principles three and four as well as principles six and seven so that there was a total of five principles. They did this so that the survey would be more manageable for evaluators. The survey enabled individuals to evaluate buildings in a very concrete manner by checking “yes”, “no”, “in part” or “not applicable” for each survey item within each of the five principle areas. Questions included “Is there an accessible route of travel from parking to the main building entrance that can be used by everyone (eg. people walking, rolling luggage carts and strollers, using wheelchairs, etc.)?” and “Can the main entrance of the building be used by everyone (eg. people walking....).” (p. 8) The survey includes exterior and interior rooms and spaces for public buildings. It was thirty-six pages long and concluded with broad questions for reflection such as “How might the outside of the building be modified and improved to make it more universally useable?” (p. 36). Although this was one specific application in architecture which closely corresponded to

the original principles, there are many other broader types of architectural applications that simply use the premise of 'building for the widest diversity' of human beings.

Alternative applications of universal design. The UD concept is being applied to buildings, environments, products, and technology. It is being expanded to be used as a construct for planning and evaluating systems and services. As in the field of architecture, it has been applied broadly or specifically within various fields such as medicine and technology. UD principles can be "used to provide guidance in the design of environments, communications, systems and products. They can be applied to academic programs and instruction." (Burgstahler, 2001). The concept of UD has been applied in various ways, sometimes specifically using the principles and other times applying the general concept of planning and designing with the range of human diversity in mind.

As the concept of UD spreads and is adopted in various ways, application of it outside of the field of architecture is expanding (Centre for Applied and Specialized Technology, 2003; Center for Universal Design, 1997; Neumann, 2003). An exemplar of a universal design research study that crossed several areas was a project funded by the United States Department of Education, National Institute on Disability and Rehabilitation Research (2004). The project, in its second year, aimed to gain an understanding of why and how various companies adopted UD and what factors were the most important in making the decision. A total of twenty-two companies of all sizes including companies

involved in the areas of telecommunications, media, materials, computer, and built environment industry, were selected for the study.

Twenty two individuals, at least one from each company, were interviewed for one hour using an open ended instrument. Motivators for positive implementation of universal design included: a) belief in universal design as making market sense and as benefiting all customers (disabled and non disabled, b) belief that universal design would not stigmatize any products, c) knowledge that competitors were practicing universal design, d) support for universal design from upper and middle management, and e) requests for universal design products from buyers. They also found that human factors such as knowledge about universal design and successful universal design products were helpful.

The study also identified barriers to the implementation of UD. These were: a) fears that failed attempts would create bad publicity, b) a misunderstanding that "universal design" meant a product must be useable by everyone or it did not meet expectations, c) concerns that the adoption of UD would be costly and slow down time to market, d) a lack of knowledge within the company of how to solve access problems or practice UD, and, e) a lack of time to learn more about diverse populations and how to design for them.

The study listed potential strategies for facilitating the adoption of UD based on findings. The strategies included: a) improving awareness of UD, b) designing tools and procedures for UD, c) collecting marketing data, d) providing training and education for teams, e) establishing regulations, and f) involving

universal design experts to assist with issues. Some of these strategies, like the motivators and barriers, although they are not noted as comprehensively as in the industry survey study (2004), have been noted as important in other studies of UD in architecture, general access, libraries, and business (Neumann, 2003). Perhaps further study will indicate that they are applicable on a broader level, including in education.

Application of UD to the Field of Education

The concept of UD has been applied to education since the early 1990's (Centre for Applied and Specialized Technology, 2002; Curry, 2003; Pisha et al., 1997). UD was associated with special education in the late 1990s when introduced at the post secondary level by Silver, Bourke, and Strehorn (1998) as an accessibility issue associated with the 1997 amendments to the Individuals with Disabilities Education Act (IDEA). The amendments emphasized the need to adjust various aspects of curriculum and instruction to meet the needs of all students, including students with special needs. Scott, McGuire and Foley (2003) expanded on this premise to "promote educational access to higher education not only for students with disabilities but also for a broad range of diverse learners now very much a part of the fabric of higher education" (p. 41). Around the same time period, UD was applied to the field of special education in various ways which will be described in this section. As in architecture, UD has been said to promise a revolution in education (Pisha et al, 1997).

Philosophical Application

Philosophically, the application of UD concepts to education simply means that the general curriculum is readily accessible to the widest range of students possible regardless of their varied learning needs (Pisha et al., 20005; Scott et al., 2003; Villa & Thousand, 2003). This accessibility is planned for at the outset so that all student needs are considered initially and accommodations become part of the flexible learning environment. The Council for Exceptional Children (Orkwis, 2001) provides the following definition of UD in learning.

In terms of learning, universal design means the design of instructional materials and activities that make the learning goals achievable by individuals with wide differences in their abilities to see, hear, speak, move, read, write, understand English, attend, organize, engage or remember. Universal design for learning is achieved by means of flexible curricular materials and activities that provide alternatives for students with differing abilities. These alternatives are built into the instructional design and operating systems of educational materials-they are not added on after-the-fact (p. 2).

Some teachers may already be using practices that are aligned with the UD concept in various ways. They may already be planning their classroom environments, school organization or instruction for the broadest range of learner needs possible. Wide-spread implementation of UD may be seen as a work in progress as it will involve creativity and collaboration by educators willing to reflect on their own practices and align them with the UD construct.

Special Education Application of UD

UD in education works in tandem with inclusive education pedagogy as educators take responsibility for the acceptance and instruction of all the children in their school community. The paradigm shift from adapting instruction and assessment to meet diverse or exceptional students' needs as they arise (traditional special education), to using foresight to expect and plan for the widest range of needs possible as the norm (UD), is needed to realize UD practices in inclusive education. Inclusion, like UD, is about accepting and responding to diversity and it requires flexibility of thought and action (Blamires, 1999). UD may bring teachers one step closer to merging special and regular education as it promotes consultations with all stakeholders to predict and to regularly plan for diversity and exceptionality.

UD planning. Villa and Thousand (2003) suggest that UD provides a "contemporary approach to facilitate successful inclusion" (p. 22). "Traditional" special education would encompass mainstreaming, integration, and the current accommodation model of inclusion. They note that in traditional special education planning, educators determine the strategies for the instruction and assessment for "normal" learners and then adapt to meet the "special" characteristics of exceptional learners. By contrast, using the UD approach, the teachers consider all of their learners first and differentiate curricular materials, instruction and outcome product and assessment processes at the design stage, before instruction. UD is another way to think about organizing instruction, curriculum and supports to bring about inclusion.

Giangreco et al. (2003) add that various student supports such as educational assistants, peer and volunteer tutors, specific instructional accommodations, and computer assisted learning technologies often are incorporated into the plan only for students with special needs. UD planning means that teachers need to examine the widest possible range of student needs and to plan accordingly. This means that the accommodations they are using for students with special needs will be incorporated into their daily teaching. Educators can go even further by obtaining feedback from students, parents, and the community to influence educational provisions. This approach may reduce the stigma of special education for students and may eventually save the time and effort associated with thinking and planning for the widest range of students at the outset should eventually prevent more timely adaptations in the future. Additionally, responsibility for more diverse curricula and educational materials may be expanded and shared by publishers, technology designers, and others associated with supporting student learning.

While the UD concept has been applied generally in many different programs where staff were being encouraged to plan with a greater diversity of learners in mind, it also has been applied in more specific ways such as looking at specific assignments or activities and making them as universal as possible by providing concrete examples, having students complete them in different time frames, providing templates, etc. The architectural premise of UD can be applied to education using each or all of the UD principles (see Figure 2.1).

Figure 2.1: Definitions of UD principles with architecture and educational examples.

PRINCIPAL	ARCHITECTURE DEFINITION	EDUCATION DEFINITION	ARCHITECTURE EXAMPLE	EDUCATION EXAMPLE
1. Equitable Use	The design can be used by people with diverse abilities. There is the same means of use by all individuals and avoids segregating or stigmatizing users.	Instruction is provided to all students in a similar manner. Students are not segregated or stigmatized.	There is one main entrance which all individuals can enter.	All students are doing the same novel study (one suggested in the grade level curriculum)
2. Flexible Use	The design can accommodate different needs and/or desires.	Information is presented to accommodate the student diversity in the classroom.	The main entrance has stairs, a ramp, railing, and a non slip ground surface.	Students can listen to the novel on tape, read in small groups, read independently, watch it in ASL, or use computer technology
3. Simple & Intuitive Use /Perceptible Use	The design is easy to understand regardless of language level or knowledge and the function is easy to recognize regardless of sensory abilities.	Information is easy to understand regardless of students' diverse learning needs/abilities.	Individuals can easily understand the various ways to enter the building. The main entry is easily seen and "obvious"	Understanding the content is simple so that students can focus on character development, ect.
4. Tolerance for Error	There are minimal opportunities for failure and "fail safe" measures are incorporated.	There is built in or available scaffolding for students to avoid misunderstanding regardless of learning ability	The various paths (stairs, ramp, etc.) will still take you safely into the building.	Students are able to obtain support from the teacher, replay the tape, use a dictionary, access tutoring, etc.
5. Low Physical Effort and Appropriate Size & Space	The design is efficient and there is a minimum of physical effort involved in using it and the design accommodates the function.	Student energy is focused/spent on the learning goal or objectives.	The various options are simple to use. (e.g. the stairs are an appropriate depth and height.)	Books, tapes, computer disks, group areas, etc. are readily available and materials are in good working condition.

Architecture definitions adapted from The Center for Universal Design (1997)

General UD application at the post secondary level. At the University of Washington, the Disabilities, Opportunities, Internetworking, and Technology department has initiated project DO IT which is focused on accommodations and UD for instruction (University of Washington, 2004). Here the original UD principles are posted and staff are encouraged to incorporate instructional methods that employ UD principles specifically to make course content “accessible to people with a wide range of abilities and disabilities, ethnic backgrounds, language skills, and learning styles” (Burgstahler, 2001). There are examples of the ways that faculty can begin to extend their instruction to become more universal. For example, the website includes strategies under headings such as Physical Access, Delivery Methods, and web pages. Each heading has suggestions to facilitate increased universality such as “assure that classrooms, labs, and field work are accessible to individuals with a wide range of physical abilities and disabilities” and “provide printed materials early to allow the student to prepare ahead of time.” (Burgstahler, 2004). Staff are encouraged to apply the UD strategies when engaging in specific academic activities. Email contact with Sheryl Burgstahler, (October 10, 2004) director of the project, indicated that there has been no specific research in the universal design area but that it would be “of value to many.”

UD and assessable curriculum through technology. The Center for Applied and Specialized Technology (CAST) has done extensive work in applying the concept of UD to technology to facilitate access to the regular curriculum by all students. CAST’s application, called Universal Design for

Learning (UDL), forms a broad framework “for using technology to maximize learning opportunities for every student” (Rose & Meyer, 2002, p. 5). CAST began by investigating how technology could support access to the regular curriculum for students with disabilities. Such access essentially made the “curriculum adjustable” to “meet the needs of extremely varied learners.” (Rose & Meyer, 2002, p. vi). Upon the recognition that the technology could be useful for all students, CAST’s commitment shifted to a more universal application.

CAST has applied their philosophy of universal access to the curriculum by primarily using technology to support the provision of multiple, flexible methods of presentation, expression, and engagement. They condone planning for diverse needs at the outset and incorporating varied instructional methods to meet these needs (Meyer, Pisha & Murray, 2001; Pisha et al., 2000; Pisha, et al., 1997). Rose and Meyer (2002) documented brain research that underlies CAST’s approach which maintains that different types of learners access information differently and that effective use of different types of technology can “reach diverse learners” (p. 3).

CAST’s UDL framework has been successfully implemented in Concord elementary school system and several other school districts in the United States. “Before teachers can transform UDL theory into practice, they need access to digital materials” (Rose & Meyer, 2002, p. 161). In an email to CAST requesting specific research on UDL (January 5, 2005), Dr. Pisha, Director of Research, CAST, Inc. responded that UDL was a very new concept and “to my knowledge, there is no study examining Universal Design for Learning overall, only studies

looking at materials and/or practices that incorporate elements of Universal Design for Learning in their design.”

Empirical Research on UD in the Field of Education

Although the broad concept of planning for all students is accepted in the field and operationalized in various ways, I have found only three research based applications of UD directly related to the field of education. They are very different applications.

A UD Science curriculum. A UD science curriculum was developed using CAST's application (Cawley, Foley, & Miller, 2003). The pilot project indicated that the universal design construct supported development of a “spiral, intensified, theme-based, integrated, and multiple-option” curriculum (p. 160). Educators, including thirty-three teachers with special education expertise, general education expertise, and science education expertise examined a science curriculum and developed Science for All Children which included a variety of activities for important science concepts in each instructional unit highlighted in the Science for All Americans curriculum. Participants looked at the goals, instruction, materials, and assessment in each area and developed a means for science information to be presented at various levels and through varied activities. The various aspects of the Science for All Children universal design curriculum framework were described in detail. The science concepts and activities developed were implemented in classrooms and revised on an ongoing basis.

Cawley, Foley, and Miller's (2003) research was in the initial stage of a three stage process. In this first stage, a conceptualization of universal design, based on CAST's framework, was turned into a product. The product, the science curriculum framework, was then field tested in classrooms. The second stage will include impact evaluation where the influence on teachers and program on student outcomes for groups of students using the new Science for All Children curriculum based on UDL principles and groups of students using the usual science curriculum. This research indicated that a group of teachers could create a science program, using curriculum outcomes, based on CAST's application of universal design. The researchers stated that "it is important that the notion of universal design be subject to research and validation at the final two stages" (p. 9).

CAST focuses on making curriculum accessible through technology and does not include the original universal design principles. Their application is based on a very general "notion" or definition of universal design. Nevertheless, it was interesting and significant that this group of teachers could create a potentially more universal curriculum by adhering to a UD paradigm.

UD and post secondary course development. The second research application involved post secondary education. The University of Guelph conducted one qualitative, quasi-experiment which provided correlation data. Student survey information was collected before and then after professors implemented Universal Instructional Design (UID) strategies. The research information was found on the internet on the University of Guelph (2004) website.

During the first several months of the project, the university's Teaching Support Services "articulated" the UD concept and seven original principles (Mace, 1997). They selected courses and professors for inclusion in the project and asked students in participating courses to complete surveys on the presence or absence of UID strategies.

Individualized work with participating professors occurred during the next several months. Professors attended workshops and discussions to learn about UID. During the final phase, the same surveys were given to a new group of students in the designated UID courses. Survey data comparing the student groups were analysed and the results revealed a correlation between the UID courses, student self-efficacy, and positive emotions. Specifically, student survey feedback resulted in data which indicated that the learning environment was 24% more positive, students were 21% more likely to achieve appropriate grades, students were 20% more likely to understand notes, and 16% more enthusiastic about their studies.

Although it appeared that these targeted professors were making a difference for students after learning about UD, it was not revealed which specific UID strategies were implemented, how consistently, and to what extent. No information was provided about methodology indicating the length of time that strategies were implemented, how many strategies were implemented, how many instructors were involved, or how many students completed surveys (University of Guelph, 2004). The data collected in the study did not respond to these questions.

The findings concluded that “the implementation of UID characteristics has had a positive impact on the learning environment” and that “there was also a correlation between the implementation of UID principles and academic self efficacy” (University of Guelph, 2004). Statistical information on specific indicators (i.e. survey items) was included. An example was “the learning environment is physically accommodating +2.4%” which referred to the room being able to physically accommodate a diverse student population. Comments from teacher assistants and professors were also included and they positively reflected on the experience of implementing UID strategies. A typical response was,

I would say probably in the past we never gave too much thought to different methods of presentation or alternate methods...it [UID] opened up our eyes and we started looking more towards the student’s perspectives.

(p. 4)

It is possible that each professor was doing something to facilitate these outcomes such as simply providing a hard copy of notes or providing reviews before tests. It did not necessarily mean that the participating instructors had incorporated the new strategies in light of UD principles, incorporated them widely, or considered the diverse range of students likely to take their classes at the planning stage (which is an underlying premise of UD). Nevertheless, this initial inquiry indicated potentially positive results of broadly applying UID strategies to instruction.

Post Secondary Application of UD at the University of Connecticut

The third application involved the University of Connecticut studies and Faculty Ware project led largely by the directors of the UDI Project, Scott, McGuire and Shaw. The team continues to research and apply the UD paradigm to instruction at the post secondary level. Their applications have been based on the original work of Ronald Mace and his colleagues at the University of North Carolina's Center for Universal Design. Several phases of research have been completed so far and are discussed in this section.

UD for more assessable instructional methods. The Universal Design for Instruction (UDI) Demonstration Project was initially based on work from Silver, Bourke, and Strehorn (1998) who first introduced the concept in an effort to make instruction accessible to a more diverse student population. They were not interested in "weeding out the unqualified student" but in "teaching all students in the classroom as effectively as possible (Scott, McGuire & Foley, 2003, p. 42). It was important to develop an integrative approach rather than to have varying accommodations available for students based on specific disabilities. They wanted to maintain the integrity of the content and address diverse needs. The goal was for the UDI approach "to become an integral part of the institution's methodologies so that students with disabilities and all students with diverse learning needs will no longer need to rely as heavily on support systems that are secondary to the primary instructional programs" (Silver et al., 1998, p.47).

Madaus, Scott & McGuire (2003) conducted individual interviews with faculty instructors. They did in depth interviews with 18 distinguished faculty

members who were designated “Teaching Fellows” which was “one of the highest honors conferred upon faculty” (p. 2). The instructors were from a “broad range of academic disciplines” (p. 4).

The participants discussed a number of aspects of teaching and described effective teaching strategies employed in their classrooms. The interviewers followed an interview protocol which ensured that specific information was covered but allowed for deviation. Interviews were recorded, transcribed and analysed for themes.

Findings indicated that instructors varied in the way they delivered instruction. Some adapted instruction for some students with learning disabilities and one instructor said that he “tries to individualized a strategy or accommodation for that student, without other students being aware” (Madaus, Scott & McGuire, 2003, p. 6). Many of the instructors gave examples of effective strategies such as “providing students with course notes....having an open door policy....[and]...remaining after class to speak to students.” (p. 8). They concluded that many of these distinguished faculty members were already using some UDI strategies.

UDI principles for post secondary instruction. Scott, McGuire and Foley (2003) then integrated several areas of research and built on Mace’s original seven principles UD principles to develop nine, Universal Design for Instruction (UDI) Principles. Extensive research was involved in creating the UDI Principles. For each principle, they provided specific instructional applications and definitions. The principles incorporated a) information about universal design

construct and how it was being operationalized in the field of education; b) effective instruction in post secondary education; and, c) the area of education and learning disabilities. The principles were reviewed by experts in the higher education instruction, individuals with expertise in instruction of students with learning disabilities, and individuals at the Center for Universal Design. The latter was to ensure that they maintained the integrity of Mace's original seven principles. The Fact Sheet on the UDI Principles can be found on the University of Connecticut's *Facultyware* website (McGuire & Scott, 2006).

Enhancing learning for students with learning disabilities through UD.

Phase One of the UDI project involved, six goals including "applying the concept of UD to the instructional environment to develop approaches and products that will ensure students with LD a quality higher education program," establishing Instructional Excellence Administrative Teams to implement UDI instruction, and field testing some UD products and materials (Shaw & McGuire, 2004, p.2).

Scott, McGuire & Shaw's work (2003) explored UDI and discussed its implications for enhancing learning for students with learning disabilities. They explored instructional challenges for these students and how UDI might benefit students with learning disabilities. One case study involving a biology instructor demonstrated how she altered her practices after participating in focus groups around UDI instructional strategies. She "took a look at her own teaching practices" and, "over time" began to alter practices to align with UDI by "putting lectures on line...organizing her syllabus...and providing a newsletter" for students (p. 379).

The research discussion indicated that UDI “holds great potential for expanding inclusive teaching practices in higher education” and was “not a radically new way of teaching” (p. 379). UDI was built on what good teachers were already doing. The UDI principles had potential to provide a framework for reflection on strategies and enhance teaching. Future discussion indicated that research on UDI was only in initial stages and must continue to validate the construct in post secondary education.

Ongoing UDI instructional strategy identification. Some of the more recent UDI information from the University of Connecticut Faculty Ware research project was posted on the website and included how faculty had developed and applied UD in their classrooms. It included strategies reflecting UDI principles such as: a) developing teams of students that included both disabled and non-disabled students, b) providing handouts of overheads to the entire class, c) pausing more frequently during lectures so that students could integrate knowledge, d) using puppet shows to clarify information, e) audio taping classes so that students could listen to class discussions conversation and lectures a second or third time, and, f) allowing students the choice of writing exams in class or at home. The ongoing goal of the project is to increasingly “create learning environments that are responsive to diverse learners and minimize the need for special accommodations and retrofitted changes.”

Future considerations for UDI. In Phase Two of the UDI Project, McGuire, Scott, and Shaw (2004) have begun to look at expanding the research base and developing more professional learning communities “for the purpose of

enhancing instruction for students with cognitive disabilities and other diverse learners by implementing UDI.” They have also started to work on refining, piloting and packaging Training Materials on inclusive instruction and UDI.

Empirical Research Summary

Through my searches through professional educational data bases, I have found only three empirical applications of UD to the field of education. UD has been applied through empirical study to a science curriculum (Cawley, Foley & Miller, 2003), to development of courses at the post secondary level (University of Guelph, 2004), and to the development of instructional strategies at the University of Connecticut (Madaus, Scott & McGuire, 2003; Scott, McGuire & Foley, 2003; Shaw & McGuire, 2004; Silver, Bourke & Strehorn, 1998). The University of Connecticut studies encompass the only empirical research that I have found based on the original UD principles.

Research gaps. I have found no research based applications of the UD construct and principles to Kindergarten to Grade Twelve curricula empirically. Studies on UDI instructional strategies are being conducted at the post secondary level at the University of Connecticut (Scott, McGuire & Shaw, 2003). The research base is still emerging and it is noted that:

Although the principles of UDI are grounded in the literature, and early construct validityhas been affirming....it will be important to move this critical analysis to the next level by conducting systematic research on the effectiveness of UDI. Indeed, research should address the effectiveness of UDI through such questions as these: Does it enhance

instructional outcomes? Will it reduce the need for accommodations for students with special needs? What considerations need to be made for the acceptance and ease of use by faculty? What institutional support is needed for faculty to implement these strategies and approaches (p. 370).

Research has also led to queries regarding the role of UD strategies in the public school Kindergarten to Grade Twelve environments and how UD can be explored in widely varying educational contexts.

Significance of UD research in public schools. Interest in using UD as a construct in education to facilitate inclusion and to meet the needs of all students within a more unified educational system is growing rapidly. UD is being applied in the field in a myriad of different ways and there is a need for research in many areas. What do UD instructional strategies look like in public school classrooms? What about the implementation, practicality, and efficacy of UD strategies in these classrooms? Currently, there is no evidence that UD is effective for students or that students in UD environments will attain better outcomes than students in traditional inclusive education environments.

UD may hold potential to be used as a construct, reflection tool, or theoretical base to facilitate our goal of working together to support “meaningful involvement and equal access to the benefits of” education for all children (Manitoba Education, Citizenship and Youth, 2002). In this study, I aim to begin to help figure out the possibilities of using UD and the principles as a base for inclusive instruction in the public school setting.

CHAPTER III

RESEARCH PERSPECTIVES AND METHODS

In designing this study, I initially looked at the “big” question. I wanted to know if UD made sense as a construct to guide instruction in the field of education. Did UD have potential to facilitate the educational goal of teaching to meet the full diversity of student needs within a unified, inclusive system? I asked this question of several groups of educators who had participated in workshops on understanding the UD concept and principles. They strongly felt that UD had potential in the field of education but wondered how they might actually begin to apply it to their own teaching. They could intrinsically relate to UD and its principles, even though the construct was new to most of them, but they did not know what UD teaching practices would look like in a real classroom. Many of the educators offered suggestions and ideas of practices that they felt aligned with the UD principles. I felt that these ideas and specific questions about teaching practices needed to be explored before attempting to look at the potential of UD as a broader theoretical base. Furthermore, I wanted to remain grounded in what was important to teachers and what made sense in real schools.

As a result of these discussions with educators, I designed my study to contribute to an understanding of how UD might be applied to the field of education in a small but hopefully significant way. I aimed to do an initial exploration of perspectives of educators “in the trenches” who were working with a range of real kids, everyday. I intended to explore UD teaching practices,

teaching ideas, and teaching possibilities that emerged in their classrooms, from their perspectives and teaching experiences. Finally, I sought to conduct my research in a school where the goal of inclusion was embraced and where staff was knowledgeable about, open to, and making a concerted effort to think about UD.

In this study, I did not want to obtain, measure, or compare statistical outcomes of students. I did not want to compare or measure the effectiveness of UD to other instructional strategies of educators at various classroom levels or in various schools. I wanted to *explore* the perspectives of inclusive educators on UD practices that emerged in their classrooms. I wanted to *understand* these UD practices and to *describe* what they looked like, felt like, and meant to them. Furthermore, I wanted to know how these educators felt the UD practices influenced inclusion in their classrooms.

Research Questions

My study was designed to focus on the perspectives of seven educators involved in two classrooms in one small, inclusive school. The educators included two teachers and the team of three on site and two itinerant educators who directly supported them in including and programming for the diverse student needs in their classrooms. Basically, my study set out to do two things:

- Explore “inclusive” educator perspectives on what UD practices emerged when they reflected on the UD concept and principles.
- Explore how these educators felt that UD practices influenced inclusion in their classrooms.

Qualitative Methods

I felt that qualitative research methods were most appropriate for my study because, above all, they are concerned with understanding and accurately relaying meaning from the perspectives of others (Bogdan & Biklen, 2003; Denzin & Lincoln, 2003; Greenwood & Levin, 2000; Vidich & Lyman, 2000; Witherell & Noddings, 1991). I sought to understand educators' actions in, and interpretations of, their world as is common in qualitative research (Bogdan & Lutfiyya, 1996). I acknowledged the varying perspectives of individual educators and worked to understand how various participants involved in this study viewed UD practices and their influence on inclusion. I aimed to understand from staff perspectives and to use their words to describe their world.

Qualitative research has become increasingly popular and respected for initiating deeper and broader understanding of the dynamic complexities of schools and the relationships within them (Anzul, Evans & King, 2001; Crowley, 1994; Smeyers & Verhensschen, 2001). I hoped that those in the field of education would be able to read my results and understand what UD practices looked like and how they might have really emerged and made sense in the classrooms in which they occurred. Educators might even be able to draw parallels to their own teaching and see possibilities for practices that align with the UD principles in their own schools. I wanted to bring a human dimension to this study so that it might be more applicable to individuals in the field of education.

Characteristics of Qualitative Research

It made sense to use qualitative research methods to identify, collect, and interpret the perspectives of educators involved in this study. The following characteristics of qualitative research made it especially suitable for this study.

Naturalistic settings. Qualitative data frequently is collected in naturalistic settings (Bogdan & Biklen, 2003; McEwan & McEwan, 2003; Wellington, 2000). In this study, I entered the school to obtain information from two classrooms and the resource room. My qualitative data are descriptive and provide quotes, real examples, and details so that the readers can be brought to understand staff perspectives on their UD practices and inclusion (Eisner, 1997; Gubrium & Holstein, 2003). The reader also should be able to envision the practices and to understand how they might have potential to facilitate inclusion.

Inductive inquiry. Qualitative research is inductive in nature (Bogdan & Biklen, 2003; Denzin et al., 2003; McEwen et al., 2003; Patton, 1980). I continuously analyzed, compared, and worked to understand the data as the study progressed. This inductive approach meant that I made sense of data from numerous sources or collections before aggregating them to describe trends and variations. Thus, conclusions were reached by building from individual pieces of data. Information from each educator was used to help build the bigger, complex picture and to lead to deeper understanding of practices. Each set of data was explored for similarities and differences in comparison to other data.

Intertwining of several methods and of data management. The use of varied methods is important in qualitative research (Bogdan & Biklen, 2003;

Denzin & Lincoln, 2003; McEwan & McEwan, 2003; Wellington, 2000). I used semi-structured interviews with staff, observations in classrooms, informal discussions with teachers and examination of documents to better understand how the teaching practices that were described actually looked in the classrooms. I used teaching strategies discussed in the interviews to guide my observations. The observations could then add detail and more meaning to the strategies and lead to a deeper understanding of them. The intertwining of the methods with data management and analysis is critical to supporting the methods used in qualitative research (Merriam et al., 2002). Each source of data in this study was analyzed independently as well as in light of the other sources.

Grounded theory. Qualitative research is often concerned with concentrating on practices that occur in one particular setting and letting the reader “see how it fits into the general scheme of things” (Bogdan & Biklen, 2003, p. 33). In my study, I brought the construct of UD and the principles into two classrooms in one school to understand how staff-perceived UD practices emerged in this setting. Staff had freedom to explore UD practices through their work with children and through their own reflective analysis of practices. This means that applications of the UD theory in these classrooms were built from or based on real practices that were developed at the “ground level” by educators themselves. Some of these general UD practices may make sense in other classrooms. They may contribute to a better understanding of the larger application of the UD construct and principles in the field of education.

Overall, I spent one year on this study. This included three months (January to March) planning the study and preparing to enter the field as well as three months (April to June) in the school. The latter three months included over 63 hours: a) interviewing teachers, b) sitting in classrooms listening to and observing staff, and, c) talking, analyzing information and following up (verbally and in writing) with staff on their teaching so that I could understand and describe their perspectives of UD practices. Additionally, I spent over 100 hours transcribing data, typing fieldnotes, analyzing and synthesizing sets of data, checking (and rechecking) my understanding and findings with the participants, and defining themes. Finally, I spent six months reviewing and refining themes and sub themes, writing the results, and synthesizing the information with current literature and research in the field.

Participants

In the following section I describe the criteria required and the rationale and process for selection of the school and participants. As is common to qualitative research, I decided to use “purposeful sampling” which involved established criteria and then choosing a school that I felt would give me an optimal environment to explore teachers’ perspectives of what UD teaching practices might emerge in everyday teaching in their school (Bogdan & Biklen, 2003, p. 65). I include a description of the school that I selected and of each of the educators participating in the study.

School Criteria and Characteristics

There were three specific criteria that I looked for in selection of the school and staff within the school. First, administration had to be supportive of and currently participating in a UD project of some sort. The administration had to be willing, interested in, and committed to further exploration of the UD construct and principles as they applied to classroom practices. Second, school staff had to also be involved in and committed to the UD project. They had to be interested in and willing to provide data from their UD project to the researcher. Third, the school had to be committed to the Manitoba provincial philosophy of inclusion (Manitoba Education, Citizenship & Youth, 2005) and currently supporting students with special needs in regular classrooms. Finally, the student population had to include at least 5% of students falling into the “special needs” category as designated by the school.

Selection of the School and Study Participants

Following Education and Nursing Research Ethics Board (ENREB) and school division ethics approval, I set out to find a school that met the criteria outlined above. At the time of this study, as a result of several division-wide professional development efforts, a number of schools in the large Manitoban metropolitan school division in which I worked had been experimenting with UD and investigating practices that fit within the UD paradigm. The concept of UD was reviewed and encouraged at division-wide Special Education Orientation inservices for staff in September 2003 and September 2004. Additionally, several smaller UD workshops were provided by the Special Education

Department, and the division's Library Services circulated information including a list of UD information sources several times during 2004. Hence, I began by searching within this school division for schools where staff had attended at least one of the two hour UD professional development sessions. These sessions served to provide educators with a basic understanding of: 1) the concept of UD and how it emerged and is used in the field of architecture, 2) the varying applications of UD in other fields (such as technology, communication and transportation), 3) the applications of UD in the field of education, and 4) how UD compares to the current adaptation model of inclusive education.

Through this technique, I found several schools that met my criteria. I then invited the principal from one of the schools, a small elementary school known for its focus on inclusion, to join the study. This first principal readily agreed and I pursued my research in her school. As outlined in the ENREB research proposal, the principal recommended nine inclusive staff members who she felt would be good participants. She initially approached and asked these individuals to participate in the study. Once they agreed, I met with them and outlined the expectations and responsibilities in detail. Seven of the nine designated staff then agreed to participate in the study and signed the consent forms (see Appendix B) with the understanding that they were agreeing to participate in one or two in-depth interviews, observation(s) in their classrooms, and the provision of documentation.

I accepted all seven of the staff who agreed to participate as I felt that they would provide a well-rounded perspective on UD teaching strategies. The two

staff members who chose not to participate in the study did so for personal reasons. I provided participants with a review of specific data collection methods and a review of the study timeframe. The educators were aware that they had the right to refuse and could discontinue their participation at any time without penalty.

I should note that I had previously worked in the division during the time of the UD division-wide professional development presentations but I was not an employee at the time of the study. Although I was familiar with many staff in the division, I did not have authority over any staff and was clearly in the role of a researcher from the University of Manitoba.

The School

The school itself was in a predominately middle-to-upper middle socio-economic class neighbourhood in a large metropolitan school division in Manitoba. It was a small community school with 187 students. The school was made of old red brick and located in an area of mature trees and quiet streets. There was a flower garden along the East side of the building and a large, fenced playground on the West side. The grounds were well maintained and there tended to be parents and young children in the playground during the school day. The inside of the school was welcoming with framed photographs of students and staff on the walls. There were many samples of student work and photographs of various school events (such as school concerts) displayed throughout the school.

The student population. The principal noted that the school had the whole spectrum of students in terms of abilities, income levels, and family constellation. The student population participated in a division-wide Comprehensive Assessment Program (CAP) which provided detailed information on individual students from Kindergarten to Grade Six in the areas of English Language Arts and Mathematics as well as Basic Movement Skills from Kindergarten to Grade Five and Social-Emotional Behaviour from Nursery to Grade Four. The purpose of the CAP was to use the information to understand how each child was learning and for the teacher to plan based on his or her strengths and weaknesses. Each student was assessed at his or her own grade level according to curricular outcomes. The information at this school was also used to develop a school-wide profile of mathematics because the 2002-2003 CAP results indicated weak numeracy skills in many of the classroom profiles. A school-wide profile was available for social-emotional and mathematics areas. Data revealed that numeracy skills had improved significantly from 2002 to 2005 when the study occurred.

According to the 2004-2005 CAP results, 9.4% of the students in the school required or were receiving follow-up support in the social-emotional domain. In mathematics, 26.2% of the students fell into the "needs support" range when averaging results for the four mathematics areas of rote counting, number identification, place value and arithmetic learning. This included the Grade One to Four student population.

A review of government data revealed that 8.5% of the students in the school (18 students) met the criteria for Special Education Categorical Funding from the government. Each of these students was classified as a “special education student,” fell into the “severe disability” category and had an Individualized Educational Plan.

Exactly fifty percent of this population with severe disabilities (nine students) consisted of students from the division who were Deaf and hard of hearing (D/HOH) and attended the special D/HOH program housed in the school. This program meant that there were more intensive support (to meet the more specialized student needs) available in the school. This support included a full time special education resource teacher with expertise in the area of deaf education, a speech clinician 2.5 days per six day cycle, and an audiologist as needed. All of the students in the D/HOH program were fully included in regular classrooms and, although they were supported by specialists, they did not take any specific courses with them.

The other severe disabilities in the school included autism, Asperger syndrome, significant developmental delay, fetal alcohol syndrome, emotional behavioural disorders, and CHARGE syndrome. CHARGE syndrome involves a specific set of birth defects that occur in early fetal development. The term comes from the first letter of some of the most common features seen in children with CHARGE (coloboma, heart defects, atresia of the choanae, retardation of growth and development, genital and urinary abnormalities, and ear abnormalities and/or hearing loss).

Various types and severities of learning disabilities and difficulties were also represented in the school population although the total was not described on the school profile. A profile of the two classrooms studied revealed that 18% of the student population (in addition to the special education population) required resource support. These students did not receive the categorical funding from the government as described above but they had Adapted Educational Plans. This meant that they had additional resource support from their home room teacher to help them accomplish grade level outcomes. There were also gifted students and many students with strong abilities in the school.

Description of the Participants

General staff. Staff in the study included two classroom teachers, one administrator, one educational assistant, one speech clinician, one audiologist, and one specialist deaf education teacher. All of the staff were female. Five of the staff were based at the school full time while two provided itinerant support to the school on a regular basis. All of the staff were involved in a UD project with the school and were interested in learning about and implementing UD practices. All staff worked with students with special needs and especially with students who were D/HOH. The staff were considered "inclusive staff" because they worked with students with special needs (including students who were Deaf and hard of hearing) who belonged to a homeroom classroom on a full time basis. Students were not sent to special rooms or teachers to take any courses.

Student population of the two classrooms. The Grade One classroom had 24 students. The teacher reported that her students academically included:

The full range like any other Grade One class. We've got children who read at probably Grade Four or Five level and we have children who are in Reading Recovery and are struggling readers.

The classroom profile from the CAP data revealed that five students fell well below grade level expectations and four were well above grade level. The former five students were receiving resource support. Additionally, there were two students with severe disabilities who qualified for government categorical funding in the classroom. This means that, in total, seven of the twenty-four students, or 29.1% of the student population in the classroom required special education or resource support.

The students with severe disabilities required significant support, One had a significant hearing loss and was "very academically talented" despite his actual hearing difficulty. He was working on "lip reading" and "trying to get the sounds and put them together." The second student had "severe autism" and "some behavioural issues." He required an adult with him at all times and was on an individualized program. One of the goals he was working on was toilet training. As occurred in most classrooms that had students with severe disabilities in the division, the categorical funding facilitated additional educational support being available in this classroom for all or part of the day. Normally there was one educational assistant in the classroom.

The second classroom was a Grade Three-Four split with twenty-six students who were eight and nine years old. The teacher reported that the academic abilities were "typical" in that there were students functioning well

above and well below grade level with most of them performing “within the outcome range” of their grade. The teacher reported that there was a “small group of struggling readers” and “some challenging behaviours” in the classroom. She thought that this particular class of students was “a little more vocal” and “had a little more energy” than other classes that she had taught.

According to the division CAP data the classroom profile revealed that four of the students were functioning well below grade level and five students were well above grade level. There were also three students listed as requiring social-emotional support.

Additionally, there were three students with special needs receiving government categorical funding in this classroom. One was a Deaf student who did not speak and required a full time interpreter fluent in American Sign Language (ASL). ASL is the native language of Deaf individuals and is a visual language with unique syntactical and grammatical structures. He had a significant English language deficit in addition to his hearing loss. The second student had a hearing loss and was verbal with minimal ASL ability. She had some language gaps but functioned within her grade level academically. The third student was funded for Asperger syndrome and required a great deal of one to one support within the classroom. There were normally one or two educational assistants in this classroom.

In addition to the students with severe disabilities, there were four students receiving resource support in the classroom. This means that there

were a total of seven students with special needs or who required resource support in the classroom. This was 26.9% of the classroom student population.

Grade One classroom teacher. This teacher had 30 years of teaching experience and lots of varied experience including consulting with staff developing special education practices. Specifically, she began by teaching as a physical education teacher in three schools in the division before obtaining her special education certificate. She then taught a Grade Two/Three classroom in a team teaching situation before working part time as a resource teacher and part time as a physical education teacher. She worked a few years at a special Diagnostic Learning Centre where she also provided itinerant resource teacher support helping teachers accommodate for students with special needs in regular classrooms. She then went back into a classroom and taught a couple of years in schools in the Central part of the division before working with the division's Special Education Department as an integration support teacher half time for inner city schools for four years. During these four years, she also taught Grade Six half time. She then taught in one elementary school in several grades before staying in her current position as a Grade One teacher which she had held for seven years.

Grade Three-Four classroom teacher. This young teacher was within the first five years of her teaching career in the division and fairly new to the field of special education. She had a young family at home. She began her teaching career in theatre at the post secondary level. She decided to get her education degree and attained her first teaching job in a "middle-school" (Grades Seven

and Eight) in 2000. She then taught in team teaching situations and a multi-age classroom setting (Grades One, Two and Three) in term positions. She was in her second year at the current school teaching a Three-Four split grade at the time of the study.

The principal. The principal obtained her Bachelor of Science degree before going into education and began her career teaching math and science at the secondary level. She taught at that level throughout most of her career until becoming an administrator ten years ago. She then, "out of a deep desire to do so," came to be the principal of the elementary school at which she currently worked. At the time of the study, she talked about retiring within the next several years.

The educational assistant. The educational assistant was a trained teacher of the Deaf and fluent in American Sign Language. Her background included 25 years of experience consisting of classroom instruction, consulting, and working in therapy situations with preschool children who were Deaf and hard of hearing (D/HOH). In her current position, she specifically supported students with a hearing loss in the Grade Three-Four split classroom.

The special education resource teacher. The specialist deaf education teacher also had varied experiences. She had an extensive background in teaching students who were Deaf and hard of hearing and had spent time in classrooms, as an itinerant teacher, as a consultant, and as a university professor teaching deaf education courses. It was her first year teaching in the school as a resource teacher hired to support the students who were D/HH.

The itinerant staff. The two division itinerant staff were the educational audiologist and the speech and language clinician. Both were fully qualified in their field and had over twenty years of experience in the division. Neither had a teaching degree but both provided ongoing support to staff in schools throughout the division. The speech clinician had worked in a variety of settings and schools before supporting the Deaf education programs. She worked two full days per cycle directly in the school. The audiologist visited the school at least once per cycle and additionally supported staff and students as needed in the school.

Student, parents and others. This study focuses on the perceptions of school staff concerning their teaching practices. However, information from students, parents, and other individuals who were part of the school (such as volunteers) was collected through interviews with staff, documentation, formal observations, and casual conversations/observations in classrooms.

Data Collection

It is common to use method triangulation or several methods to collect data in qualitative research (Eisner, 1991; Peterson, 1997). In this study, I used three basic methods of qualitative data collection: interviews, observation, and documentation review (Bogdan & Biklen, 2003).

Interviews

I did interviews so that I could get descriptive data in the educators' own words to develop insights on how they interpreted their world. I conducted the semi-structured interviews first so that the participants would feel comfortable with me and I could develop a bit of a rapport with them before observing them in

classrooms. As is common in qualitative research, I used an interview guide for these semi-structured interviews (described below) so that I could get comparable data across the participants (Bogdan & Biklen, 2003) but I also encouraged them to elaborate or add information that they felt was important. We often strayed from the guide as participants freely thought of other connections to the topic at hand.

I also conducted more casual interviews after and during observations but these were open-ended and focused on the ongoing observation or on clarifying specific teaching practices. These normally took place in classrooms, the hallways or outside at recess time. They became part of the field notes that were analyzed for themes.

The semi-structured interviews. The initial semi-structured interviews took from 60-90 minutes and were conducted one to one with each of the seven staff members. All of the interviews occurred in the school at a time convenient for staff. Most took place in the library or the teacher's classroom during the lunch hour, during preparation periods, and after school. The interviews were audio taped and then transcribed verbatim without any identifying information. Interviewees were not identified by name on the tapes and all tapes were transcribed as soon as possible and destroyed when the study was completed.

Throughout the interviews, teachers were encouraged to demonstrate or provide evidence of any documentation that supported their perceptions. They were also encouraged to tell stories and share information that they felt was important.

The interview guide. A paragraph including my own bias in favor of UD was read before each interview began (see Appendix A). Teachers were reminded to provide both their positive and negative perceptions about UD and the principles. The first set of questions aimed to develop a rapport with the teacher and to collect basic demographic information. The second set of questions aimed to understand their perceptions of their current practices in the classroom. I anticipated that some teachers already felt that they were incorporating adaptations for their students with special needs into regular practice since they were already working towards increasingly facilitating inclusion in the school.

The third set of questions probed teachers' perspectives about student diversity and how they felt that they were meeting the needs of these students. The fourth set of questions further explored perceptions of specific practices teachers employed for students with special needs. It included questions about familiarity with and use of the Manitoba Education, Citizenship and Youth (1998) adaptation descriptions and the school division student adaptations. I anticipated that the staff felt that they were already implementing adaptations on a regular basis for students with special needs.

The fifth and sixth sets of questions explored the teachers' perceptions about moving towards UD practices and why they were doing so. The seventh set of questions explored their perceptions of practices in light of the original UD principles. I wanted to know which principles teachers thought were most

important. I wanted to know if they felt that they were increasingly aligning practices with the principles, and which ones.

Question sets eight and nine explored what the participants perceived were motivators and barriers to implementation of UD. The next two sets of questions (ten and eleven) explored their perceptions of the UD project and of their changing practices. Finally, the last three sets of questions aimed to understand how teachers felt about the future of UD and the practicality of developing practices aligned with this concept.

Observations

Initial classroom observations occurred after the semi-structured interview and once teachers were comfortable with me. Observations took place at times suggested by each staff member. The staff member also determined the length of the observation. I did not record names of staff, students, or any other identifying information.

Information from the initial observations, the teachers' openness to additional observations, and what was happening in classrooms guided the time and frequency of additional observations. Also, observations from one classroom led to repeated observation in the other classroom to search for specific information such as similar teaching practices.

In addition to the eight formal classroom observations, an additional nine informal observations/interviews occurred. These took place in the hallway, the staff room, and outside. The observations often led to follow-up conversations

(or casual interviews/observations) with staff that I also transcribed and recorded as fieldnotes.

Classroom observations. The eight classroom observations included observations of each teacher, the educational assistant, the special education resource teacher, the principal, and the speech clinician. The only participant not observed working directly in a classroom was the educational audiologist. These observations took from 30 – 120 minutes and were recorded as soon as possible after they occurred. They were transcribed that same day. The transcriptions were offered to participants to read and provide feedback, if desired. Feedback, which was primarily for the purpose of clarification, was mostly given to me verbally. On two occasions, the participants wrote directly on the transcribed pages to clarify information and to provide additional examples.

I conducted observations as unobtrusively as possible. Being in a classroom was comfortable for me and, although I was clearly present as a researcher, I think that the educators were relaxed knowing that I understood “life in classrooms” with young children. They also knew that I was researching “everyday” practices and looking for what would “normally happen” in their classrooms. As Bogdan and Biklen (2003) suggested, I tried to “blend into the woodwork” and conducted my observations primarily by sitting at the back of the classroom and taking detailed notes (p. 35). I began by looking for and describing practices that teachers had discussed during their interviews. I looked at how the staff implemented these practices and how the students were responding in the room.

Although student actions were not the focus of the observation, I did describe their behaviour in the classroom in general terms. Additionally, other interactions (such as with volunteers) were recorded as they were influenced by instruction in the classroom. Recording student behaviour allowed me to obtain data on how students responded to practices.

I also noted the physical classroom environment, the daily schedule, instructional materials, classroom routines, and individual students. I observed how many adults were in the classroom and how they were working. Additionally, I looked at teacher-to-child interactions and child-to-child interactions.

A specific observation instrument was not used so that I was free to interpret the information based on teacher interview information and what was actually happening in the classroom. I did not want to be constrained or led by “external” information but I was cognizant of my own extensive frame of reference in the field of special education. I am familiar with teaching practices and specifically with Manitoban adaptations used with students with special needs. I used this mental frame of reference during my observations.

Documentation

Teachers were invited, during the interviews and observations, to share various forms of documentation that they felt represented their UD practices. This included teacher daybooks and materials, books, and photographs in the classrooms.

Documentation offered by participants in this study consisted primarily of student work samples. Parent permission had been sought and teachers provided documentation only from students for whom the permission forms had been returned. All names were blanked out from student documentation. All documentation was provided directly by staff and photocopied at the school. Usually, students were asked by the teacher if they agreed to provide a copy of their work. All students who were asked, agreed. Names were removed as soon as possible after the collection.

Student work samples were requested for students with special needs and for a random sampling of other students. I wanted to know if all students participated in the same lessons and follow up activities or if different activities were provided for certain students.

Data Management and Analysis

Data from observations, interviews, and documentation were collected, analyzed, and used to guide further data collection and to support the identification of emerging themes. There was ongoing synthesis of the data. As is popular in qualitative research, the data from the various sources was formally analyzed for themes and trends (Bogdan & Biklen, 2003). I continuously discussed emerging practices with staff so that they could reflect on them, think about them, and clarify them further.

Transcribed data were shared and checked with participants to ensure that information accurately reflected their intentions. Additionally, I shared data

and synthesis information with my doctoral advisor to maintain perspective and ensure that themes identified were reflective of data.

Data Management

Once the seven interviews were completed, the data from these transcriptions were read participant by participant and coded for general themes by cutting the paper and putting it into piles. The data were then put in piles of “similar” themes across participants. The themes were broadened to include sub-themes and eventually put into twelve different file folders.

Data from the first four observations, subsequent casual interviews and documentation were read in light of these themes and physically added to the folders. Data from each folder were re-read and six themes with sub-themes became more predominant.

The six designated themes were coded in a second copy of the printed data by using colored highlighters. Once the themes were coded this way, the “extra” data were more evident and could be re-read. Most of the extra data fit into sub-themes of the major themes or provided descriptive information.

Finally, the data were cut and pasted from the original transcriptions and fieldnotes on the computer into separate computer files representing each theme. Some of the information went into two or three files as it represented more than one themes. For example, a teaching practice coded as a “UD teaching practice” might be coded as representing “infusion of UD practice” as well.

As data were added through additional observations and informal conversations/interviews, they were typed into fieldnotes and also cut and pasted

into the appropriate computer file. This was an ongoing process throughout the study. Data were added to computer files for months as information from participants was clarified or expanded.

Data Analysis and Interpretation

According to Bogdan and Biklen (2003, p. 147), data analysis is “the process of systematically searching and arranging the interview transcripts, fieldnotes, and other materialsto enable you to come up with findings.” In my study, when the data from the initial in-depth interviews were analysed first for broad themes, I immediately recognized many UD teaching practices. I then noted that the practices were not only classroom based but that many involved the whole school. The next most obvious theme was the teachers’ discussions about their commitment to and strong feelings about inclusion and why they pursued with improving inclusive practices. The raw data were coded into “areas” or general types of themes such as these first individually (participant by participant) and then across participants.

The identified themes were then continuously refined, confirmed or changed through constant analysis and interpretation as additional data from classroom observations, discussions, and documents were collected. I also discussed the data and themes with my doctoral advisor who helped clarify general areas and identify themes that required further analysis.

Data interpretation. Bogdan and Biklen (2003) noted that data interpretation “refers to developing ideas about your findings and relating them to the literature and to broader concerns and concepts” (p. 47). They added that it

is “difficult to separate” data analysis and interpretation in the process of doing qualitative research as “findings and ideas about findings emerge together.” My data analysis and synthesis process reflected these statements as it was influenced by my knowledge about teaching practices, (specifically practices in Manitoban schools) and by information from research already conducted in the field of education. I readily noted inclusive practices that targeted academic inclusion of students with special needs that were well established and researched in the field. I also was aware of the UD principles and research suggesting that practices aligned with them might increase accessibility of curriculum to a broader student population.

In conclusion, data analysis and interpretation were driven by information provided by the participants in the form of interviews, observations, and documentation. It was organized, analyzed and interpreted according to a broad framework provided by current inclusive education practices, and themes identified in recent UD research literature. As is typical in qualitative research, the analysis and interpretation continued “into the writing stage” of my paper (Bogdan & Biklen, 2003).

Researcher Perspectives

I adhered to rigorous qualitative research methods in order to yield credible, trustworthy data. When using qualitative research methods, validity and reliability are not applicable in the same way as they are in quantitative research (Merriam, 2002; Patton, 1980). Quality research methods are demonstrated through the purpose of the study and how the methods relate to and explore it.

As described by Patton (1989), qualitative researchers must not lose sight of the holistic purpose of qualitative research by directing their analysis away from explanations within a larger context in favour of isolated explanations of a few variables.

The mandates of field research include being careful to be descriptive in taking field notes; gathering a variety of information from different perspectives; cross-validating emergent patterns by gathering data from different sources and by gathering different data-observations, interviews and documentation; being quotative and representing participants on their own terms; reporting on the observers' own experiences, location and feelings; and clearly separating description from interpretation as one puts together a comprehensive, holistic, and sufficiently detailed picture of what has been observed to allow the reader of that observation to enter into the situation. (Patton, 1980, p. 192)

True to qualitative methodology, my research did not involve a set process but was recursive in nature with each part of the process informing the next (Bogdan et al., 2003; Janesick, 2003; Gubrium et al., 2003; Oldfather et al., 1994). As information on UD practices emerged through my data collection, staff discussed these practices, reflected on them, built on them, and thought about future changes. Analysis was ongoing and informed further exploration.

Time in the field. Credibility, which parallels internal validity for quantitative methods, is demonstrated through factors such as "prolonged, substantial engagement, persistent observation, peer debriefing, progressive

subjectivity, member checks and triangulation” (Mertens, 1997, p. 181). In this study, I worked with the team of educators and spent over 63 hours in the school collecting data through observations, in-depth interviews with each participant, and ongoing collection of documentation and informal conversation information. I spent 90 additional hours organizing meetings, visits and interviews and transcribing interviews and fieldnotes. Ongoing analysis, synthesis, and interpretation of data took three months. I continued to collect data through observations and informal conversations until I felt that I had a deep understanding of teachers’ perceptions of the UD practices that emerged in their classrooms.

Member checking. I involved participants in independent reading of their own data to ensure accuracy. Frequent member checks ensured that data were accurate and themes were apparent.

Data management. Since the data management and analysis were inevitably intertwined with the data collection, they largely influenced data credibility and trustworthiness (Dezins & Lincoln, 2003). In this study, I described how the data was managed and analysed which helped establish the credibility and trustworthiness of the data as well as demonstrate how understanding occurred.

There was “abundant data” resulting from data collection methods in this study as is common in qualitative research (Crowley, 1994, p. 62). I had 261 pages of interview data alone. In addition, I had approximately 500 pages of observation fieldnotes, copies of documents, and informal conversations and

observation transcriptions. A system was established to store and retrieve data. Notes and transcriptions were made as soon as possible after leaving an interview or observation session and they were frequently organized and reorganized. Bogdan and Biklen's (2003) advice to support successful data collection, analysis and management was used. It includes excellent planning of the project, organization of materials, narrowing the study focus, making decisions, and continuous, immediate documentation. I participated in these activities with the support of my doctoral advisor.

Thick descriptions/exact quotes from various sources. Transferability, paralleling external validity in quantitative studies, requires thick descriptions. The data, which were available through several means, provided thick descriptions or "evidence" of emerging practices. The descriptions and many exact quotations came from various persons in the environment including myself, teachers, teacher assistants, administration, and clinicians.

The descriptions also came from several sources of data including interviews, observations, documentation, and informal conversations. Descriptions provided from these sources gave a more complete picture of classroom practices. They painted a picture of how the staff approached instruction, how the students received information, and what kinds of activities followed the lessons. Specific examples of activities and lessons were provided with many exact comments and phrases. How teachers felt about their lessons and teaching practices was included through classroom observation data and through specific interview questions.

Representation. Representation of qualitative information is critical to trustworthiness and must accurately reflect the data. In qualitative research, the researcher is the instrument for data collection and analysis. Hence I strove to remain grounded in and true to the data itself by adhering to the qualitative methods described above.

Recently there has been increased focus on data representation in qualitative studies in the quest to provide the purest, most accurate portrayal of the information (Denzin & Lincoln, 2003; Pugach, 2001). In portraying data, I worked with participants to reveal important subtleties of the information. I had them read the information to confirm that information was not only accurate but appropriately reflected their situation.

Finally, I feel that trustworthiness and credibility was revealed through “intellectual rigor” which means that I returned to the data over and over again to ensure “the constructs, categories, explanations, and interpretations made sense, that they really reflected the nature of the phenomena” (Patten, 1980, p. 59). As Bogdan and Biklen (2003) noted, qualitative researchers “spend considerable time in the empirical world laboriously collecting and reviewing piles of data.. [which].. provide a much more detailed rendering of events that even the most creatively prejudiced mind” (p. 33). I used abundant quotes from participants and excerpts from observations in relaying my research findings to ensure that the true voices of those in the field were heard.

Limitations

There were some limitations of this study. The collection of data was influenced by a number of factors as described below.

The use of a "model" school. As previously discussed, purposeful sampling was used to obtain data for this study. I felt that a school meeting specific criteria would provide the best information in regards to UD practices. Hence, the results represented the perspectives of staff in one particular school and not those of staff in other schools. Staff in other schools might not have the same perspectives. Although findings were specific to this school, I feel that they revealed practices that staff in other schools may wish to think about or work towards developing.

The small selection of participants. It is recognized that the perspectives of the group of educators in this study may not have been representative of teachers in general or even of all teachers in the selected school. This particular group of educators may in fact have been unique in their perspectives regarding UD practices for the following reasons.

Firstly, the strong administrator who believed in UD may have influenced the perspectives of this group of staff as a whole. Secondly, the location of the school itself might have a broad influence on staff perspectives. The school was located in a middle to upper-middle socio-economic class area of a large urban city. The students, despite their academic diversity, may not be representative of the spectrum of students in the province. Educators working with students from impoverished areas might not have perceived UD as a priority in relation to other

more immediate survival concerns of students and their families despite the existence of handicapping conditions. Thirdly, the staff were not specifically encouraged to discuss their perspectives of UD with parents or others outside of the group of participants. They may have developed a collective perception that was subjective and unique. I did not interview students, parents, or community members to obtain perspectives from a broader group.

The influence of the researcher. The participants may have been influenced by the desire to respond positively to the researcher and by the researcher's enthusiasm for UD. While this is possible, the length of time that I spent on site should have reduced my influence. Additionally, I probed for staff perceptions of UD challenges as well as facilitators. I carefully included data relating the breadth of perceptions among the participants in the study.

The use of only positive cases. This study was limited in that it sought only positive cases. Although the participants described possible and existing challenges to UD, they were committed to inclusion and UD and I was unable to see true negative cases. I suspect that some educators in the field would have different perspectives of UD.

The use of only two grade levels and two classrooms. This study involved only a single Grade One and a single Grade Three-Four classroom. They may not have been representative of other classrooms. Additionally, perspectives of UD may have been different at varying grade levels within elementary schools as well as at the middle school or high school levels.

The complexity of schools. There were many factors that contributed to the perspectives of educators in, and to the essence of, this school. Each school is a complex, unique entity and it was impossible to mitigate the internal influences in the school that was researched in this study.

Conclusions

In general, the findings from the data reflected the perceptions of seven educators and were specific to two classrooms in one small school. It was an exploratory study that will hopefully provide direction for further work on UD in education. I felt that it was appropriate to do a small but more in depth study because UD was a fairly new concept in the public education system and educators were just beginning to learn about it. Additionally, with the novelty of UD, there were not yet many schools making a concentrated effort to apply the UD construct to their teaching. Finding one committed, inclusive school rather than a broad spectrum of schools facilitated a deeper, rather than superficial, understanding of the application of UD in teaching.

I took steps to follow rigorous qualitative methods and strengthen the trustworthiness of the data and of my interpretations of them. I felt that the data were true to the perspectives of the educators in this study and that most educators in the field would be able to relate the findings to instruction in their own classrooms in some way. They would hopefully be able to better understand how UD might relate to teaching practices through the perspectives of the staff in the two classrooms studied. They also might see how these practices might have potential to facilitate inclusion of students with special

needs. They might think about or even try to incorporate some UD principles into their own teaching which would be consistent with “promoting social change,” one of the primary goals of qualitative research (Bogdan & Biklen, 2003, p. 38).

The findings obtained from this study on seven educators’ perspectives of UD practices that emerged in two classrooms, and how these practices influenced inclusion, will be presented in the following chapter.

CHAPTER FOUR

PART ONE: APPLYING UD TO INSTRUCTION

How Did the Themes Emerge and What Did UD Teaching Look Like?

The purpose of this study was to provide descriptions of the UD teaching practices that emerged when seven staff committed to inclusion and involved in two classrooms were introduced to the UD concept and its principles. It was also intended to explore staff perceptions of the inclusivity of these practices.

In this chapter, I present the results of my study in three parts. In Part One, I summarize the results of my interviews, observations, document collection, and informal time spent in the school. I first facilitate a general understanding of the school itself, create a mental picture of how people functioned within the school, and give an example of how themes emerged. This is accomplished through a data set summary of a typical classroom lesson that provides a snapshot of UD teaching as it existed in this particular school. Then I summarize the six major themes that emerged collectively from all of the data.

In Part Two of this chapter, I facilitate a deeper understanding of the findings. I present and support each theme that emerged by providing excerpts and details from the data.

In Part Three, I provide my interpretation and analysis of the data. I incorporate findings, ideas, and information from the literature review in Chapter Two. Finally, I summarize my study by looking at the significance of my findings in relation to the larger field of education and briefly exploring considerations for further research.

A Snapshot: UD Practices Emerging in One Classroom

In general, how did the data reveal UD teaching practices that emerged in a classroom in this study? What did they look like? What did educators and students do in the school? What did typical life in a classroom focusing on UD look like?

The following information was taken from fieldnotes of data collected from a thirty minute Grade Three-Four classroom observation session and a subsequent informal discussion with the teacher. Some insights that I already had from the transcriptions of the in-depth teacher interview preceding the observation also influenced the information and helped develop a clearer picture of UD practices emerging in this classroom and school.

The lesson. The teacher had just completed a ten minute explanation for an English Language Arts (ELA) lesson. She stood at the front of the classroom by the overhead projector and clearly verbally identified her two ELA goals for the first part of this two part lesson: 1) a reading goal of checking for meaning, and 2) a writing goal of forming interesting, meaningful combinations of words. She then outlined verbally the first two tasks for the students and wrote them on the overhead numerically. The tasks were to: 1) read all of the passages provided on paper one and fill in the blanks with “guesses” (similar to a cloze exercise), and 2) read the “real” story on paper two and determine if each “guess” matched the actual words in the story or “made sense” within the context of the sentence.

The teacher provided several examples. She wrote them on the overhead using responses from the students. The passages being used were within the

Grade Three-Four reading range and she read five example sentences. For example, the teacher read: "The frightened white bunny _____ to her nest nestled beneath the cold, wet snow." The students guessed words such as "scampered," "hopped," and "ran" to fill in the blank. She read each of the responses in place of the blank. For one of the responses, she nodded to a boy who signed his answer to her. It was voiced by the American Sign Language (ASL) interpreter and put into the blank. The students agreed that the word "made sense" in the sentence. The teacher signed "good" in ASL back to the student. All of the student responses were correct because they made sense within the context of the sentence. One of the answers exactly matched the actual story in the book. If a student guessed the exact word or if his or her guess made sense, he or she was to record it on paper as the teacher demonstrated on the overhead.

The teacher was wearing a microphone and her voice was amplified through a soundfield system so that it was clearly audible to all of the students. There was also an interpreter standing beside her signing the information in ASL. Once the tasks had been explained and examples completed, the teacher pointed to the student groupings (two or three students in each group) that she had previously written on the board and explained that students could work in their designated groups at tables, on the floor, in the library, or in the hallway.

The teacher then outlined choices available for working on the task including reading the passages together, taking turns, or having one reader. Additionally, each student could write the responses on his or her own paper or

the group could do the paper together with one person (or both taking turns) writing the information. She and the classroom volunteer would walk around and support the groups as necessary. The volunteer was a young adult with special needs who had recently graduated from a nearby high school. She had mild cerebral palsy with learning difficulties and was hoping to get a job as an educational assistant in the school once she had some experience working in classrooms. The students in the classroom were obviously used to this procedure as they quickly retrieved the materials for their assignment and settled into their groups to work.

Students at work. As I observed the students working, I noted many different group dynamics. Some of the groups of students were taking turns reading and discussing which word to put into the blank:

Do you want to use [the word] white?

No, it doesn't make sense there.

You sound it out.

OK. Right. It doesn't make sense. What's another word?

In other groups, one student read while the other recorded the missing word which was "filled in" verbally by the reader. A third type of dynamic involved one student reading the text while the other followed along with his or her finger and helped to sound out difficult words. Both of these students filled in their own paper after discussion and they did not necessarily choose the same word. A fourth group dynamic that I noticed involved three students reading out loud (in unison) and each filling in their own answer sheet.

It was impossible for me to determine which students were struggling readers. I suspected that the teacher and volunteer were specifically supporting certain groups of students. I did, however, notice that the group with the Deaf student made sure that he was involved in guessing at each word. They were rotating readers with one student reading each sentence with the blank. The interpreter voiced for the Deaf student and signed when the other students read. When the Deaf student did not know how to pronounce or read a word, one of his partners would point to it on the page and mouth the word as well as provide an action to help him understand it. This was often followed by an affirmative nod from the student. The interpreter would stop signing and sometimes also help him "sound out" the word by mouthing it. The teacher later told me that she specifically put the Deaf student with students who were excellent readers and had more patient personalities. She said that the groups tended to be heterogeneous so that students could support each other. She considered personalities as well as academic strengths and weaknesses in forming the student groups.

During the activity, the principal walked in and chatted briefly with the teacher and the students. This was a common occurrence during my observations and the students simply continued working in their groups. The principal walked through the classroom and paused at several groups. She talked directly to several students and specifically used their names. She made contact with each of the students with special needs in the classroom.

A group of two boys finished their work first and were quite pleased that they did not have many words that matched the original story. When I later asked if that mattered, they responded “nope” and noted that they liked their own words. Overall, I observed that there was lots of collaboration and discussion among the students. The teacher seemed supportive of the students but most often she encouraged them to think on their own rather than providing answers.

My fieldnote observer comments indicated that the teaching and learning seemed to reflect the UD principles. It was equitable for all students and did not exclude or stigmatize any participants. It was flexible enough to include student diversity and provided choices. The information was perceptible to all students and tolerant of student error. Finally, provisions were made to ensure that students were physically comfortable and to appropriately use space available.

Student diversity embraced. Through the teacher's interview, I knew that there were many different types of learners in this classroom and they had different strengths and weaknesses. Several of the students qualified for special education support. There was one Deaf student who did not speak and communicated primarily through ASL, and one hard of hearing student who benefited from amplification, more direct instruction, and visual information. There was another student who did not write and had difficulty remaining focused. Several of the students were reportedly struggling readers and/or writers. One small boy needed a special wedge cushion to sit comfortably and maintain balance. Additionally, there were students in this classroom who were reportedly high academic achievers and English second language learners.

Perhaps most importantly, the teacher explained to me in her interview that she believed that all of the students benefited from being in her classroom and learning together. She said that she made it happen because she believed that it was beneficial for all of the students to be together and that the strategies she implemented for her students with special needs also facilitated learning for other students. In her classroom, she did not want students superficially included, sent to different classrooms to learn, or provided with different lessons or materials. She expressed that she wanted all of her students to remain in her classroom and she wanted her teaching practices to accommodate to the students' needs. She said that this was not an easy task, especially in certain subjects, and that it did not happen all of the time, but was "very important."

Through the observation, the teacher's commitment to inclusion was evident not only through what she said and how she taught, but through the real-life examples that she provided. In addition to her own positive attitude and acceptance of her students, the young volunteer working in her classroom had special needs. Of note, the special education resource teacher in the school also had special needs due to her hearing loss. The important contributions of these individuals to the classroom were evident and the students were "living" acceptance of human diversity.

Whole-school UD involvement. In the interview, the teacher explained that there were a number of school-wide supports and practices. Collaboration was encouraged in the school and the teacher specifically discussed how she worked with other staff to ensure appropriate programming for the full range of

students in her classroom. She consulted with the special education resource teacher and learned that it was important to write information down on the overhead so that it was visual for the Deaf student. She also knew how to work with the interpreter in terms of positioning, pacing and presentation of information. She used the soundfield system to ensure that her voice quality was clear and audible for the hard of hearing student (and other students). The special education resource teacher had previously worked in the classroom with the teacher to help her learn specialized strategies that supported students with a hearing loss. The teacher had also worked or consulted with other specialists from outside of the school. The occupational therapist had recommended the wedge cushion that one student used to improve his balance and the speech clinician had provided special goals for the student with a hearing loss. The audiologist had explained the implications of a hearing loss to all of the students.

Whole-school collaboration was also evident through the Teacher Leadership program and the Guided Reading and Guided Math programs described in the teacher's interview. Several of the other participants also had described these programs to me in their interviews. These programs involved all of the staff at the school. In the Teacher Leadership program, teachers took turns attending conferences and then working in a leadership capacity to train their colleagues by team teaching in their classrooms with them. Hence, a teacher interested in new techniques based on brain research might attend a conference and then go into classrooms to actually apply the information with staff at the school. The teacher leaders partaking in the Teacher Leadership

program had substitute teachers hired for them (for the necessary duration of time) while they attended the workshops and did follow-up work with their peers in classrooms. The principal reported in her interview that the funding for the substitutes came from the professional development budget.

The Guided Reading and Mathematics programs involved all adults and all students in the building (or at times in Grades One to Four) for thirty minutes per day. This included teachers, educational assistants, volunteers, and specialist support staff. The staff and students worked on Guided Reading or Mathematics programs that were aimed at specific skill improvement. Every adult worked with a group of approximately five students at a specific skill level, on the designated program at designated times. Students at a specific level might be from various classrooms. The Guided Reading and Math program manuals progressively outlined skills to develop and provided specific strategies and materials to attain them. All of the staff were trained in administering the programs and worked together to improve the Reading and Mathematics skills of the entire student population.

The third school-wide program discussed in the interviews was the Teacher Resource Model which facilitated the teacher in the classroom being aware of and working to mitigate the learning difficulties of students in her classroom. The Teacher Resource Model meant that the classroom teacher did one to one remediation for her own students in her own classroom rather than sending them to a resource teacher as was done in the past. In order to provide the release time necessary to instill the Teacher-Resource Model, a partner

teacher taught the class while the “teacher” resource teacher delivered resource to her students. The principal reported that the previously allocated resource teacher position time at the school was put into teacher schedules throughout the school. Teachers essentially taught less classes but had resource instruction scheduled into their day. This Grade Three-Four teacher, like the other teachers, was supported in her development of highly skilled intervention strategies through her own experience with the students, collaboration with her partner teacher, and professional focus meetings with the principal. The idea was that the classroom teacher could increasingly learn strategies to support students who were struggling academically or on Adapted Educational Plans and she could apply these strategies broadly (or universally) in the classroom. The goal was for her to learn all of her students’ learning needs well and plan her lessons incorporating strategies that she had learned so that all students could participate and work on the curricular outcomes.

American Sign Language for all students (ASL for ALL) was another school-wide program described by this teacher and other participants. It aimed at facilitating inclusion of the students who were Deaf and hard of hearing. It was also viewed as benefiting all of the students in development of literacy and social skills. The principal noted that she obtained a special grant from the division to hire a Deaf individual to teach ASL classes to all of the students in the school.

UD classroom practices emerge. This teacher, in the lesson described, reported that she was making an effort to use practices that she felt facilitated learning for all of her students. Many of the practices that she used were

“adaptations” that she had successfully and traditionally used specifically for students with special needs. In this lesson, there was evidence of her using these adaptations broadly and making them available for all of her students. The teacher described these in her interview as practices that she felt aligned with the UD principles. For example, one UD practice that she discussed and that was evident in the lesson was the use of small groups. She noted that she preferred to work in small groups or create centers for small groups of students because it aligned with the UD principles of equity, flexibility, clarity, tolerance of error, and comfort. She felt that these practices generally accommodated student strengths and weaknesses and encouraged some students to work as peer tutors for others.

Other classroom practices that the teacher discussed and that were observed in this lesson included: 1) providing printed examples of the task on the overhead (to facilitate comprehension), 2) leaving the overhead information illuminated during the entire class (to support students who might have difficulty remembering instructions or students who need help remaining on task), 3) walking around and providing small group tutoring (to tailor support and instruction to the individualized needs of students), 4) providing choices for ways that students could work together, and 5) ensuring levels of scaffolding were available (to support students at varying reading levels).

Summary of Themes

As I read through more and more of the raw data, I noticed patterns emerge in practices that educators thought aligned with UD. The same types of

classroom practices, such as those described in the brief example above, were being talked about in interviews and observed again and again in classrooms. Patterns in teaching practices emerged including forming small groups, collaborating with other staff, providing printed examples, availing the classroom teacher's time for tutoring, providing choices for students, and facilitating peer tutoring. Although these practices only took place in two classrooms, they were being talked about by all of the participants, not only the teachers. The principal, the special education resource teacher, the speech clinician, and the audiologist contributed to descriptions of the practices in the classroom and felt that they participated in facilitating them through actual work in the classrooms, consultation, or verbal encouragement.

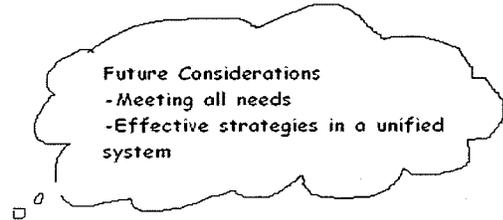
Specific perceptions and beliefs about inclusion were noted again and again across participants in their interview transcriptions and in observations. The teacher's perceptions of school-wide practices that aligned with UD also were clearly evident throughout the data. Additionally, patterns were apparent in their perceptions of the facilitators and challenges of implementing UD.

Eventually, six themes (with sub-themes) were identified in the data and could be listed (see Figure 1.0). Each is described and analyzed in detail in Part Two of this chapter. It is important to note that, although six clear themes emerged, information could often be applied across the themes which became increasingly interrelated and interdependent. The "big picture" of the themes (see Figure 4.1) became more than its parts and best demonstrated the fluidity, process orientation, and vision of UD presented by the participants.

Figure 4.0. List of UD themes and sub-themes emerging from the study.

THEMES	SUB THEMES
1. Perceptions and beliefs about UD practices	*General beliefs *Social-Emotional benefits *Academic benefits
2. UD practices	* Classroom-wide practices * School-wide practices
3. Approaches to UD	*Infusion
4. Challenges to UD	*Professional *Environmental *Systemic
5. Facilitators of UD	*Professional *Environmental *Systemic
6. Maintaining the Vision	

Figure 4.1. Fluidity, process orientation and vision of UD.

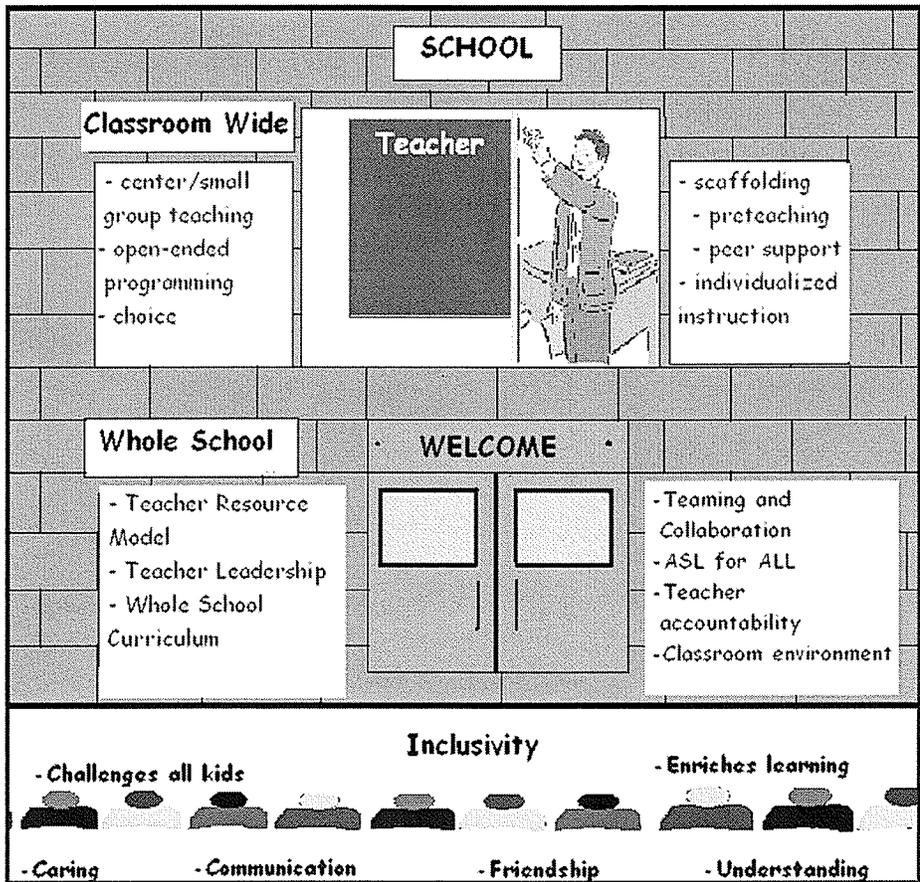


UD Strategies

- Can be defined
- Are evolving
- Are linked to social and academic benefits for all students

Adaptation Model Some UD Strategies INFUSE UD Strategies

- Challenges**
- Attitudes
 - Meeting diversity of needs
 - Work/home balance
 - Available resources
 - Noise



- Facilitators**
- Positive Mindset
 - Teacher confidence
 - Teacher competence
 - Experience
 - Parent Support
 - Division Support
 - Government Support

Teacher Perceptions and Beliefs



- It's the "right" thing to do
- Benefits teachers

- Kids want to be included
- Benefits kids



Perceptions and beliefs about UD practices. This first theme emerged when the data revealed that the participants consistently explained and rationalized their UD practices as based on their perceptions and beliefs. The participants discussed *why* they believed in UD and *why* they persisted in continuing the journey towards their development of UD practices. They strongly believed in inclusion, and in the right of all children to learn in the classroom and to be challenged. The goal of including all children and of being inclusive was salient throughout the data. Inclusion seemed to be the basis for pursuing UD practices. Inclusion in both the social-emotional and the academic environments was significant to the participants and became sub-themes.

UD Practices. The second and most obvious theme to emerge was the description of actual UD practices. Interestingly, though, the perceptions of practices were not restricted to classroom-wide UD practices but consistently were linked to perceived whole-school UD practices. Hence classroom-wide practices and whole-school practices became sub-themes of the UD Practices theme.

Approaches to UD. This theme emerged quite unexpectedly when differences in staff approaches to the implementation of UD practices were discussed and demonstrated. All staff felt that they were implementing UD practices and described similar practices, but their classroom instruction did not look the same when observed in the two classrooms. Re-entering classrooms, and re-reading the observation field notes and anecdotes from informal

conversations with teachers eventually revealed *how* the same UD practices were being implemented differently in different classrooms.

Challenges and Facilitators of UD Practices. All participants discussed both challenges and facilitators of UD and these became the fourth and fifth themes.

Maintaining the UD Vision and Continuous Evolution of Practices. The sixth theme emerged when the data revealed patterns in participants' information about where they would like to take the UD practices and what they saw for the future of UD in elementary education.

PART TWO: THEMES

In Part Two, each of the six themes (and sub-themes) that emerged from the data is described. Following each description, I provide examples that include exact quotes and details from the data.

Theme One - Perceptions and Beliefs About UD Practices

The data revealed that participants frequently discussed their basic beliefs and perceptions about UD and inclusion. They stressed that they worked and continued to work on including all students in their classrooms because they felt it was the “right” thing to do, and because they felt that inclusion was positive for all children. Aligning practices with UD was seen as a way to foster inclusion. Participants also discussed their specific beliefs around UD and inclusion in regards to the social-emotional and the academic environment (see Figure 4.2).

General Beliefs

In general, data revealed that the participants were very positive about UD practices and believed that development of UD practices was important for facilitating both inclusion and learning for all students. It was seen as “an attitudinal thing” and “very important for all of our children.” There was a pervasive perception of UD being the “right” thing to do by all of the participants with three of them discussing it specifically in these value terms. For example, one teacher said:

I want them to learn from me...and in five or ten or fifteen years from now, I want them to look back on this time in their lives and remember that they were all valued. And they were all accepted. And that they were all

Figure 4.2. Underlying staff beliefs: Why do UD and what are the benefits?

GENERAL BELIEFS Why do UD?
<p>Because Inclusion is:</p> <ul style="list-style-type: none"> • The right thing to do • Wanted by children • Wanted by teachers • Benefits students • Benefits teacher skill development • Positive for community development

Academic Benefits of Inclusion
<ul style="list-style-type: none"> • Challenges ALL students • Enriches learning for ALL students

Social Benefits of Inclusion
<ul style="list-style-type: none"> • Increases caring for others • Increases communication • Increases understanding • Increases friendships

challenged and....I don't know. I don't see any disadvantages to it [UD]. Challenges maybe; and then looking at things differently and then doing what's right...what's really right all of the time. Or knowing what's right all of the time. It is figuring that out...and striving for the perfect Universal Design.

There was a general feeling from that participants that UD was "inclusion...in the best possible way" and these participants were "really committed to the idea of universal design and what it look[ed] like." They felt that "every child deserve[d] to be in the classroom and to learn in the classroom...and from a teacher." One participant was adamant that UD was "inclusionary education" and was "going to have to happen." Another felt that UD practices "made a lot of sense" and that they "could do it [implement UD practices]." Yet another participant believed that "all children wanted to be included" and that it was "important to include kids." Furthermore, the participants generally expressed commitment to their belief that children "should, as a rule, work and have needs met within the regular classroom".

One teacher, speaking about her students with special needs, commented that:

I want them to feel that they are learning that same material as everybody else. And that I want them in the room, as much as possible, with everybody else. So that they are not isolated. And that they are accepted. Not just by me but by the other students in the class. And that they're pushed and challenged. Even when things are tough. So, that's

what I am hoping that they will feel...that they can be the best that they can. And try harder. Push themselves and really do their best.

Produce good work....

The participants believed that facilitating UD practices was their “job” and they were passionate about doing what was best for children. One participant stated, “Student success.....That is my motivator.” Another stated “it is important that all children are “learning” and “UD does that!” Student success was not just about outcomes to these participants. One participant noted that success of UD needs to be measured differently. It is “doing something you think is good” and it:

tends to need a lot of qualitative data...not really measuring outcomes and scores. It is the quality.I think, like I said, a lot of the data would need to be qualitative. Teachers’ and students’ reflections. I am much happier in Math class because so and so...

Another participant talked about making the world a better place to be and stated that her goal was to “create a community of learners [and] we want our community to be inclusive,...[our] classroom to be inclusive, ..because it is like a mini community.”

Yet another participant said:

It [UD] has to happen! And if it doesn’t happen, it’s a sad state because we want a better world. I mean, how can we have a world that’s egalitarian and open and loving and nurturing to everybody if our school system is not. You know?

All participants discussed the importance of student, family, and community involvement for successful inclusion of students and for optimal implementation of UD practices.

Despite their commitment and desire to move towards UD, the participants viewed it as “a difficult, complicated, ongoing” journey that required an ever “higher level of skill needed from staff” to effectively instruct all kids. One teacher said that they were “at least thinking about or at the very least aware” of the importance of including all students. Furthermore, this awareness “might not change your practice right away, but at least you are aware and thinking.”

General Beliefs: Sub-themes

Two strong sub-themes that emerged from the data were the belief that UD positively supported: (a) an inclusive social-emotional environment that was believed to positively influence learning for *all* students and, (b) an academic environment that facilitated learning and academic challenge for *all* students. Hence, I found that participants in this study discussed their belief in the social, emotional, and academic benefits of their inclusive UD strategies in general and in relation to *all* students.

Social-emotional

The importance of the “emotionally safe” environment was mentioned by every participant. They felt that students needed to feel “comfortable”, “safe”, and “part of the classroom” in order to learn optimally. One teacher stated that “if they are struggling personally, that would automatically influence learning.” She became emotional and continued that she, “just think[s] that’s so important.”

Some of the UD practices, such as using ASL throughout the school, were seen as making the students “care for each other more” which subsequently built an important “welcoming” and “inviting” environment for learning. One participant discussed presentations to hearing peers about hearing loss as one way to create a welcoming social environment. She said:

Well, often times there's youngsters in the classroom that have no understanding of this particular child's needs and they, if they don't know, they may tease this child. We are trying to prevent that by educating all the youngsters, letting them listen to hearing aids and the like.

Emotional security and the development of a strong personal identity were linked to inclusion and discussed in reference to the Deaf students who the teachers felt needed to be “with the class” and to “have friends.” Further, the participants felt that these students needed to extend those links outside of their classrooms in “the school community” and beyond. “It is really important for kids to see themselves as part of the larger world.”

One participant specifically noted that “ASL helps hearing kids too” and that it supports “building flexibility and learning strategies to be able to communicate with somebody who is not the same as you.” Another participant said that American Sign Language for All (*ASL for All*) facilitated instilling a sense of how to “accept all students.”

A third participant noted that “everyone has benefited from the ASL for All...having the opportunity to learn another language and communicate in

another way.” She also linked the use of ASL to a more general use of visual strategies that benefited all students. She said:

I think all the kids benefit from any kind of visual that you can use. They are all processing the information slightly differently but I find that if you just deliver the information orally, it’s not having the same impact on them all.

Four of the seven participants relayed the same (recent) story about a hearing student using her ASL to “do good” and support a local Deaf individual.

Generally, learning ASL was viewed as a positive life skill.

It helps them communicate with the non-hearing kids but it is also a life skill for them. We have all kinds of wonderful stories where these kids have been able to go and use their sign in the community and they are not afraid to use their sign in the community. And by grade four or five; they are really confident. They can communicate in sign.

Academic

The participants believed that it was “important that all children [were] learning” and that “pushing themselves and trying their hardest” was significant. The teachers felt that academically “high expectations for all students [were] important” regardless of the students’ skill level. Repeatedly, data revealed that the “learning by all is important” theme was evident in the data, often with the qualifier of the significance of “equitable” and “flexible” learning.

The UD strategies generally were described as positive for academic learning of all students, including the students with special needs. One participant suggested:

It is a natural that it is good for everybody and *really* good for the special ed kids. So those techniques are fabulous and they have made everybody's teaching better. So you have been able to include more kids, more easily with less modification because you are using some kind of organizer or some kind of teaching strategy that extends. That the best kid can do a better job on and the kid with weaknesses can do a job on. So, again, you have the whole range of expectation but you have the same task for everybody.

A more specific example was provided in a discussion about the academic benefits of ASL for all students:

Of course, we know from research that it [ASL] helps children's spelling skills and actually helps them in their language development; having ASL as a second language.

Participants in this study felt that UD strategies not only provided academic benefits, but increased challenge for students at both ends of the ability spectrum. One teacher noted that UD:

can give them [the more advanced students] that opportunity too. I think it can enrich their learning experience...it is one way to give the kids who are focused learners and on task, to give them that bit of attention that they need....maybe those student who are ahead in their work or have

completed the assignment would be teaching and learning more at the same time....it is going to make that much more learning for them.

The participants repeatedly noted that, "challenging *all* students is important and UD does that."

One teacher with a many years of teaching experience explained that implementing UD is not grade level specific and could be done at any grade:

So you have to try [to implement UD strategies]...and even when I taught Grade Six...it did not make any difference whether it was Grade Six or Grade One. Or Grade Three! There was a range of ways to do things. She continued to describe how higher grades could involve "huge intricate plays with video taping and scripts and interviews" and it did not matter "if you were reading at a Grade Two level" all of the students could participate in the academic learning.

Teachers in this study did find that "some subjects are more difficult to universally design than others." This was because of the subject itself as well as the teacher's confidence and experience in the subject area. One teacher noted:

But I find that, especially in LA, it is much easier to give everyone a general assignment and they are all working at their different levels of ability.....And [Social Studies] is based on observation-relating skills and students can receive that same question but they are naturally just taking it to their own ability level and writing as much as they can.....But with Math it is so concrete a lot of the time. With something like Social Studies it is easier.I would say that teaching Math is the biggest challenge for

me because it was never my strongest area...there is not that same level of confidence for me in Math as there is in Language Arts or Social Studies where I feel so comfortable.

Theme Two: UD Practices

The data revealed that staff perceived and demonstrated an extensive repertoire of practices that they thought facilitated learning for all students. In their interviews, they often referred to these practices as universal design practices or as aligned with the UD principals. Classroom observations and/or documentation supported the descriptions of UD practices discussed. The universal design practices fell into two main categories: (a) school-wide, and (b) classroom-wide. A third related category, individual practices, also emerged from the data.

Classroom-wide UD Practices

Classroom-wide UD practices were instructional strategies that the educators believed facilitated more equitable, flexible, clear, error-tolerant, and/or physically appropriate learning for all students. The practices were discussed by teachers in their interviews and observed in the classrooms. The classroom-wide or UD practices identified by the participants in this study are summarized in this section (see Figure 4.3).

Teaching in themes and centers. Teachers felt that teaching through themes and centers was a good universal design practice because “you can touch on so many subject areas.....[and] at so many levels.” It also provided the students with “extra opportunity” to cover curricular information and “peer

Figure 4.3. Classroom-wide UD practices identified in the study.

Adaptations for Students with Special Needs		Classroom-Wide Implementation for All Students
Center teaching/Small group instruction	→	One adult working with small groups and supporting individual needs as necessary (organizers, flex time, etc.)
Open-ended programming	→	One primary lesson and assignment; students participating at their level.
Providing choices	→	Choice of how to present information, evaluation and materials to use.
Scaffolding	→	Facilitating support for understanding, memory, language deficit, etc. by use of dictionaries, copies of notes, repeated/written instructions, demonstrations, pictures, etc.
<ul style="list-style-type: none"> • Pre-teaching 	→	Specific instruction on concepts to be learned during lesson.
<ul style="list-style-type: none"> • Peer Support 	→	"Talk back" strategy, "hardy handshake".
Specialist Individualized Instruction	→	Pull in or Pull out, 1:1 or small group teaching in specific skill deficit areas.

support". Group work (smaller groups of mixed ability and leveled groups) and projects were discussed as being a natural part of learning centers. Instructing students in small heterogeneous groups was seen as critical to being able to meet the diverse learning needs of all students. One teacher noted that:

I really believe in center teaching and teaching through themes.....

So, with something like Social Studies, ...if they are doing a research project we can leave it more open-ended. We can let some students work independently and do that while some students who need something really structured to follow can get that...so they know really specifically what they are looking at. They might not need or be expected to find as much information as other students are. And, now that I know the kids, I know who is not pushing themselves or not trying. If they're able to say, put their thoughts down in writing. I know that they can raise the bar.

Students who kind of struggle with that, then they need someone to read through the information with them and help find the key points.

Another teacher, discussing how she grouped students noted that:

We work in centers a lot of the time. And there will be an adult at most centers. So the kids are working with an adult in a small group of six. And those groups are...when we are doing centers based on themes, like dinosaurs, or Kids Come In Different Flavours.....or whatever....

those are heterogeneous groupings, OK? And they just go by their table groups. They just sit.....where ever the table group is. I change it every

month. It is heterogeneous in terms of abilities and strengths and weaknesses.

Open-ended programming. Assignments that incorporated flexible levels of work, types of work, types of scaffolding, time requirements, and expectations were viewed by participants as aligned with the UD principals. "I think the idea of having the same project or assignment but giving them choices of how everybody goes about it and shares the information is following universal design."

Although there were basic rules and expectations for all of the children (such as completing their work), teachers attempted to provide assignments that allowed all students to participate at their appropriate level. Students, other than those on individualized programs, were expected to work within curricular outcomes. However, teachers felt that students at both ends of the spectrum had to be challenged to do their best. One teacher remarked that, "Everybody can do them [the assignments] because they're open-ended or...they are designed under the UD principles."

Another teacher described an example of providing a follow-up multi-leveled activity sheet where she:

can cut the sheet so that some kids would only give ...a simple response....and some kids might have a word list to help them on a sheet...some kids I would cut the wordlist off and make them generate the wordlist themselves.

Furthermore, this teacher noted that:

When I put together a worksheet it is usually at three levels. The first level is sort of the recall and fairly easy. The second level is more of an analysis level. The third is more of a synthesis level.

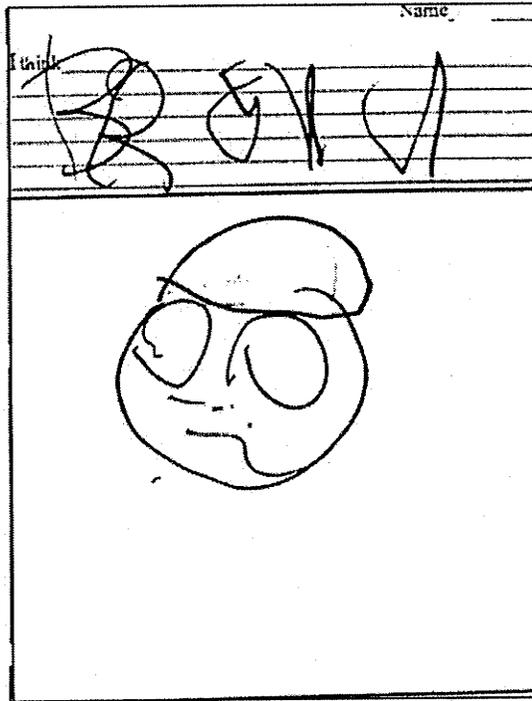
The same activity provided varied levels of individualized support and individualized expectations for students.

For example, a follow-up “open ended, multi leveled” writing activity that was observed in the Grade One classroom required students to fill in the lines at the top of the page with printing, and to draw a picture of the concert that they had performed the previous evening at the bottom of the page. The teacher clearly explained how this was an inherently leveled activity which was completed by her student with severe special needs as well as her most skilled students. Example documents of this assignment completed at two very different levels were obtained and copied (see Figure 4.4). One was an average student and the other was a student on an individualized program. The former student included a description in short sentences with a detailed drawing while the latter student drew a much simpler character without sentences.

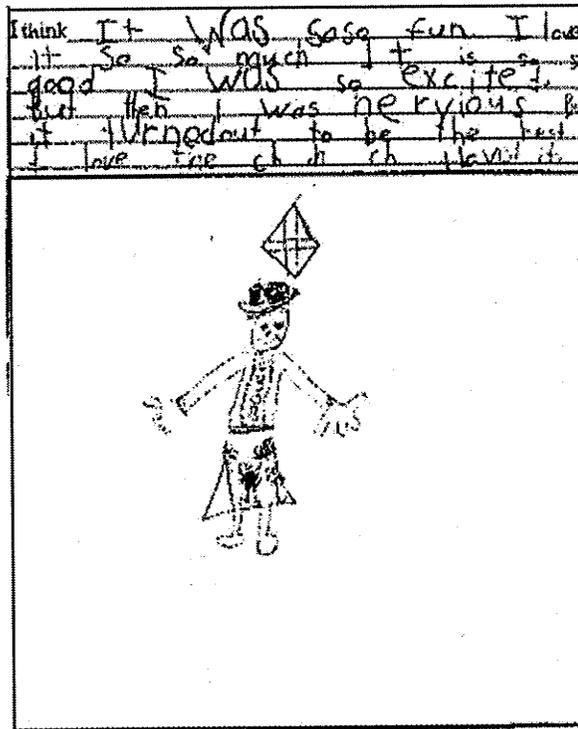
The teacher further described the broad range of outcomes within the same Grade One curriculum. More advanced grade level student artwork might include “a line of horizon and a background filled in” while others, also within grade level might “draw anything that looks like a character” to be acceptable. The teacher additionally noted that fine motor skills of her young students were considered in her programming. She quickly flipped through a group of assignments and indicated to me which were at the beginning, middle and end of

Figure 4.4. Example of an English Language Arts open-ended assignment.

Individualized Program



Regular Program



Grade One outcomes. She could identify numerous outcomes from within the curriculum as she scanned the work. She noted that although some students were well above and a couple of students were below grade level, challenging all students was critical regardless of their current functioning level. She demonstrated that she knew her students' skill level as well as the Grade One curricular outcomes. She noted that any students below grade level in her classroom were on individualized educational programs or adapted educational programs with parent knowledge and consent. She worked to provide challenge for all students, through the same activity. The teacher stated that:

You might all be doing the same printing sheet and.....if you can barely read one [student's printing] you are saying 'terrific' while if another [student] comes back with the 'A' started at the bottom [instead of the top], you make them erase it and do it again. Because you know they can do it...because they are at a different level because of their fine motor skills.

The same with the cutting and pasting. And the length of the task too.

Another teacher discussed structuring the lesson so that some of the students could have "more time to complete assignments." She, like the previous teacher, also mentioned that assignments would be left more open ended to provide flexibility for varying student abilities. Basically, "everyone is doing the same thing. They are just doing it at their own level."

Classroom observations confirmed several assignments in different subject areas in her classroom that clearly represented this open-ended practice. One mathematics example involved students completing a graphic organizer with

several criteria such as breaking the number down into exponents and making a word problem with their number. The students could choose their own number to work with, use the example on the overhead, talk with peers, and use manipulatives as necessary. All of the students participated in the assignment and completed it. The example was left on the overhead for students to use, as necessary. The teacher walked around and individually supported students. In one instance, she provided manipulatives for a student having difficulty. Another student worked with an educational assistant to complete the assignment. The open-ended mathematics assignment completed by an “average” student was collected and copied as an example (see Figure 4.5).

Providing choices. Teachers felt that providing choices in how students work and how they present their work was important for meeting the needs of all learners. One teacher discussed how her students “helped me design the rubric” for their project. She felt that the students offered varied “possibilities on how to present their project” which “gave them some more ownership and they are taking responsibility for their learning.” Hence, they were not only providing choices for the type of activity but also for how to present it for evaluation. She noted that:

[I try to provide]...different choices for different learning styles. To remember to use visuals as much as possible. And also maybe giving them choices as how to approach different projects and things like that. And one thing that has been successful this year is the kids’ two major

Figure 4.5. Example of a Grade Three open-ended Mathematics assignment.

254 254 54
 10 10 10 10 10 $+$ 10 10 10 10 10
 55
 $55 = 25 + 25 + 5$
 $60 - 5 = 55$
 fifty five
 $50 + 5 = 55$
 $5 \times 10 + 5 = 55$
 There were five kids and basket of apples each basket had ten apples + how many apples? 55

projects...we went through them together, as a class. How I would be evaluating them and what they thought would be suitable for criteria. ...it has just been wonderful. The creativity and where each of them took their project. It has been really exciting!

Scaffolding. Staff discussed providing varying means of scaffolding for students, on an ongoing basis, during instruction and student feedback. This included providing a “word wall” to support spelling and memory, permitting use of dictionaries, using graphic organizers, providing copies of notes, peer support, and repeating information individually or in small groups. Perhaps because of the D/HOH program, all of the participants discussed supporting students by using lots of visuals.

The Grade One teacher specifically demonstrated and discussed how she used visuals when giving instructions:

I know that everybody can not understand 5 step instructions...so I draw pictures for them and review them. I will draw step one and write ‘cut’ and then draw the scissors. Then step two and draw the crayon...most of the kids don’t need that ...but for the kid that still needs that, it is there for them to go back to.

In many cases, the actual assignment that the students completed was the same but the scaffolding was there for students to support their completion of it, if required. Scaffolding was observed by both classroom teachers with the teacher writing instructions and demonstration assignments on the blackboard, chart

paper, and overhead. Furthermore, the written information would consistently be left visible so that students could refer to it as needed.

During observations of lessons, it was evident that the teachers used visuals in many ways. They regularly gestured broadly, used several ASL signs or had an interpreter, drew words and pictures on the board, held up the actual objects being discussed, and listed instructions on chart paper, blackboards or overheads. When observing follow-up use of the visual information left for students, most of them did not appear to look at it but a few usually walked up to it after the lesson to check for their tasks. The teachers perceived the use of visuals in these ways as aligning especially well with the UD principles of equity, flexibility, clarity and tolerance for error.

Reading through information individually with students to facilitate comprehension was another scaffolding technique mentioned by all participants and observed in classrooms. Staff recognized that some students might “need someone to read through the information with them and help them with key points.” Participants shared that they would find themselves “sitting down and reading with [students] one to one” if needed. Observations confirmed that teachers did provide whole group instruction and then individualized instruction to small groups and/or individual students as part of their regular teaching practice. Other staff such as educational assistants, specialists and volunteers were also observed reading information individually to students.

Pre-teaching, or the introduction of vocabulary or an idea before the whole group lesson, is a practice that participants felt was important and implemented

to varying degrees, for all students. One teacher discussed her attempt to try to expand her pre-teaching practice and noted that she wanted to incorporate more general pre-teaching of information “to the whole group” to align with UD principles. She felt that:

There are lots of kids in the class who could benefit from that early introduction to the concepts so that when it comes time to do the lesson, they are kind of ahead of the game already. Or at least they are not being stopped by what one or two words actually mean.

Peer Support. Staff felt that peers were significant in facilitating learning for each other. One teacher specifically designed an obvious way for her young students to “celebrate each other’s successes” or reinforce learning. When a student was successful, they received a “big hardy handshake.” Although the accomplishment would be clear to the individual student, his or her peers would not necessarily know the milestone achieved. For example, as beginning student writers progressed to writing a specific number of words ranging in milestone markers beginning at one word, they received peer congratulations. It did not matter what “marker” the child had reached, the milestone was celebrated.

There is the same amount of applause when they hit the 150 words as when a kid crosses into the 30. So everybody tries to beat their score each time.....Many of them start out just copying...we write and they copy.” In another instance, a student with special needs who was on an IEP received a “big hardy handshake” and a huge amount of peer support because he had reached his individualized goal of actually ask[ing]

someone if he could go to the bathroom and he [went] to the bathroom on his own. Of course, the other kids did not know that *that* was the goal, but they knew that something really exciting had happened.

This success was exciting for the entire class and they celebrated it with him.

Peer celebration was viewed by the teacher as a significant reinforcer for all of her students.

Peer support took forms other than simply reinforcement of success.

Teachers also encouraged the practice of students working together and helping each other. Sometimes the groups were specifically formed by the teacher while other times students had some choice. Observations confirmed that students frequently worked in groups at tables or in various locations such as the library, resource room, or hallway, and they supported each other in their learning.

The Grade Three-Four teacher mentioned a new peer supported “talk back” strategy that she was beginning to introduce more frequently to facilitate comprehension of information and ideas. The teacher felt that many students in her classroom internalized information better when they had the opportunity to talk about it but that, with the large group, often only a few students put up their hands or got called on to talk about a concept or answer a question. Some students also might feel shy or uncomfortable discussing information in the large group even though they might benefit from hearing the information again or from actually talking about it. Hence, the teacher provided a brief period of time and encouraged students to “talk at tables or turn to a partner instead of putting their hand up” which gave every student an opportunity to talk. This teacher had

recently been at a workshop that focused on differentiated learning and brain research. She had learned of the “talk back technique” and felt that the information aligned with the UD principles.

Well....I think it's very exciting...knowing about the difference between the male and female brain and how students need time to process things and talk about things and explain it back. And they are going to learn more...it will stay with them longer if they have the opportunity to teach it back. So, I think ...all the possibilities are very exciting. And everything that I heard at those workshops would fit in with UD because you are thinking of all the different learning styles. You are thinking about what areas of the brain are being used.....[it is] the same as UD....little things could make a bit difference.....little things to keep the kids focused and on track. One thing that I would like to do more is when I am introducing a new idea or expression is giving the kids time....even take one minutes or 2 minutes to quickly talk at their tables about it because they obviously need that time.

Planning for extra professional support. In this study, participants felt that there were exceptional needs within classrooms and that specific expertise beyond that of the teacher was needed. In addition to planning for additional specialized supports for students, teachers facilitated pulling specialized supports into the room for specific needs in order to adhere to their UD framework.

Individualized support was explained by one teacher as aligned with UD when implemented through “pull in” support within a class-wide structure. For

example, during one classroom observation a teacher was teaching the difference between “needing something” and “wanting something” which was a difficult concept for her hard of hearing student. She specifically arranged for the speech clinician to work in the room at the table group with the hard of hearing student, to support comprehension of the concept during the follow-up activity. The teacher noted that other students placed at that table benefited from the specialized instruction from the speech clinician. The remaining students in the classroom would also be working in small groups at tables with an adult, on the same concept. Hence, the specialized support was planned for, pulled in, and integrated within the context of the class wide instructional structure.

Teachers worked to plan increasingly more integrated opportunities for one to one or small group specialized instruction within the classroom. They felt that this type of support was sometimes critical for students and wanted to provide for it in the classrooms as much as possible to facilitate inclusion and align with the UD principles. Ideally, this meant that other students would be involved in a similar activity and the professional support would be integrated into the classroom.

Participants in this study highlighted the difficulty of providing one to one support in the classroom due to the complexity of scheduling activities when specialized personnel were in the building. Both outside support personnel mentioned their desire to spend more time in the classroom and their struggle to do so, usually due to time constraints and scheduling difficulties. One said that she didn't “spend enough time collaborating directly with teachers...for a number

of different reasons.” The other said that she “would like to do more work in the classrooms if time permitted.”

The need for a quiet environment, especially for the hard of hearing students, also was discussed by the participants in this study. Some participants felt that individualized instruction was most effective for this population and perhaps other students, at least sometimes, when provided outside of the classroom to access a quieter environment with less distraction. Participants discussed three specific examples of pull out instruction that they felt were more aligned with the UD model.

One teacher managed to have her highly individualized instruction provided in a quiet environment by regularly sending individuals and groups of students to the resource room for various reasons so that it was a routine part of the day. She said that, in her classroom “kids are in different places. Everybody is going and everybody gets their turn to go. Everybody goes out. It is part of the flow.”

In another instance, a teacher planned to have the specialized resource personnel involved at a center, in the resource room, during her center teaching time. Hence, the specialist worked with all students but targeted specific needs of certain students.

Third, a participant discussed how she met a specific IEP goal of learning facts about hearing loss for a student with special needs. All of the students were sent to the resource room, in small groups, to obtain information on hearing loss from the specialist deaf education teacher. So, “all of the students got it but

the student [with the hearing loss] got more of it.” Each of these pull-out examples, that were perceived as aligned with the UD framework, required specific planning around the schedules of the professional support personnel.

The participants discussed a personal and ongoing struggle for a balance between the provision of specialized individualized support on one hand, and adherence to the philosophy of inclusion and the UD principles on the other. Participants were also unclear if and how some of the individualized instruction taking place outside of their classrooms aligned with UD principles.

So we have been talking about it. What is UD? Is it UD if a kid is taken out? If a kid is *always* being taken out of the room?.....and I come up to the library and see the same kids pulled out with the same TA in the library. And I am starting to think....is that UD?

American Sign Language (ASL). Most of the classrooms in the school studied had Deaf students requiring interpreters and many of the staff at the school had varying levels of ASL ability. ASL interpreters and ASL were used throughout the school in various ways. All of the students requiring interpreting had ASL available to them. In addition, one teacher discussed how she had extended this and was using ASL as a classroom-wide practice even when Deaf students were not currently members of her class. She stated that:

We have ASL in the room [throughout the day].....Oh Canada is always signed every morning. I do have someone who can sign in the room for half a day. And we introduce the letter of the week so, when we do the printing for the letter we always do the name of the letter, the sound, and

the sign. And we repeat it two or three times. I have exit slip to get out for recess so I might ask them the name of the letter. I might ask them the sound, or I might ask them to give me the sign for the letter. So, everybody knows the letters and, you know, can fingerspell. The ASL, they pick it up. They are at that language-rich time. They just pick it up. Classroom observations confirmed the regular use of ASL words by this teacher during instruction for specific words, as well as by other staff in her classroom at “small group” tables with students. In several instances, a staff member was observed fingerspelling letters for hearing students when they requested spelling support.

School-wide UD Practices

School-wide practices were those that involved the entire staff and student body and they are presented in this sub-theme (see Figure 4.6). They were implemented on a school-wide basis and perceived by the participants to align with the UD construct in that they supported learning for every student. These practices were prominent in the data, mentioned by all participants, and perceived as significantly influencing programming.

Teacher-resource model. Participants noted that classroom teachers did their own resource in the school.

I don't like pull out for remediation. One of the models that we have in our school and I'm really proud of it because I think it's going to become a cutting edge model for resource work, is that teachers do their own

Figure 4.6. School-wide educational practices identified by educators.

School Wide Practice		Practical Example
Teacher Resource Model	→	<ul style="list-style-type: none"> • Teachers do remediation for their own students. • Teachers use remediation strategies in the classroom to support all students. • Teachers receive professional development on developing strategies.
Teacher Leadership	→	<ul style="list-style-type: none"> • Teachers within the school work develop expertise and work “hand in hand” with peers to develop that expertise in other staff members.
School-Wide Curricular Focus	→	<ul style="list-style-type: none"> • Whole school guided reading and guided math programs that involve all staff and specialists in the school at designated times during the day. • Comprehensive Assessment done with the whole school population.
Teaming & Collaboration	→	<ul style="list-style-type: none"> • Creation of specific teacher teams. • Focused collaboration amongst all staff in planning, instruction, use of space, etc. • Parent involvement in teaming. • Consideration and support of Division and provincial inclusion mandates.
ASL for All	→	<ul style="list-style-type: none"> • School-wide commitment to having all students learn to sign. • Hiring a deaf staff member to teach ASL to all students. • Community celebration and promotion of ASL use.
Teacher Accountability for All Students	→	<ul style="list-style-type: none"> • Underlying premise that all students remain primarily in the classroom and are the responsibility of the classroom teacher.
Classroom Environment	→	<ul style="list-style-type: none"> • Environmental considerations such as acoustics (use of soundfields, Hush Ups, etc.) • Minimizing clutter • Using visuals.

resource here! They [teachers] are given release time to work one on one with their highest needs children...It's a seamless model because the teachers know their students better than anyone else.

This model encouraged teachers to extend their repertoire of intervention strategies because, if they did not know effective strategies, "they learn[ed] them."

The Teacher Resource Model:

Is providing a sort of a center for teachers to really learn intervention strategies and especially new teachers.....the teacher knows the students learning needs; there's no need to communicate that. There's no need to communicate where [the students] are in the curriculum. They're doing it and ...the teachers, they all agree they enjoy that type of model. They feel more comfortable. They feel there's a greater delivery of service there, you know, in terms of quantity and quality.

Staff mentioned that development of intervention strategies benefited all students. The students requiring additional support benefited because the teacher "really internalizes" the goals for that student and could develop effective strategies and work on them throughout the day. It fit with the universal design framework because the strategies teachers internalized had potential to be used with and subsequently benefit many other students in the classroom.

Basically, every child has strengths and weaknesses so if you are approaching a topic and you know a child is struggling with a certain concept and you internalized it [the strategy] to support development of

that concept as a teacher, then you do it and you offer that child the ability to move ahead.

Improving the learning and thinking of teachers was seen to benefit all of the students. The goal was supporting the teacher to adequately “diagnose the problem” and “plan for that [intervention]”. The teacher could then begin to deliver that intervention on an expanded basis, as needed, during regular instruction.

One participant in this study, in an informal conversation, shared that the Teacher Resource Model worked exceptionally well for experienced staff but was difficult initially for beginning teachers because “how many tools do they have in their toolbox?” She liked the model but felt that the beginning teachers did not have many intervention strategies internalized and needed to work more intensely with an experienced resource teacher. She indicated that, to implement the Teacher Resource Model, the resource teacher time, at the school level, was given to the classroom teachers so that there was not a general, designated resource teacher in the school. This participant felt that, ideally, an on site “inclusion resource teacher” to work in classrooms with new teachers would improve the model.

Teacher Leadership Model. A second model being implemented in the school to “help teachers adapt programming” was “the Teacher Leadership Model.” This model:

Used the time [allocation] of two teachers who are released from their classrooms...to go into classrooms with other teachers, review the

methodology, and help deliver programming in specific curricular areas. One or two staff in the school who were already experts in one area of the curriculum, or who became trained in a specific area, worked with other teachers throughout the school, in their classrooms, to facilitate teacher development in that area. The Teacher Leadership Model was described as being practical and designed for busy teachers who might see or hear about new methodology but not be confident or have the skill to actually implement it in their classroom.

But it's good when there is a teacher by your side who knows the methodology who is going to help you walk through what he's doing. Help you develop that in the classroom and then the chances of changing practice are much greater.

The focus in the school at the time of the study was numeracy and teachers were learning methods to differentiate the Mathematics curriculum. The areas of support in this school will change from numeracy to other focus areas and the school will continue to work largely from within, rather than using experts, so that it can continue to develop and use internal leadership capacity.

Curriculum focused skill development. The whole school or early years classrooms, at set times during the day, participated in Guided Reading and Guided Math programs as previously described. One participant said:

We do have two times during the day when they are also in small groups....every other day we have Guided Reading, and every other day we have Guided Math. At that time, we gather even more adults together so that every group of five has an adult with them and those are leveled

groups. So that they are reading in groups at their reading level with an adult. The guided Math is the same things. They are leveled in whichever developmental level that they are in....they are all doing the same kinds of activities...they may have a written activity to follow or a game to follow...or drawing something to react to the book...but the books are at different levels. ...and once every six weeks we end up changing the groups up.....but lots of kids don't move because the group is moving along [also]..

Comprehensive Assessment Program (CAP). The school participated in a division-wide comprehensive educational assessment one on one with the classroom teacher, for all Kindergarten to Grade 4 students in the school. The intent of the initiative was for each teacher to be aware of the functioning levels of each student in his or her classroom. All students, regardless of their functioning level, participated in the assessment process. School specialist staff felt that it was "one of the most useful tools we have in terms of informal teaching" and that "we need to take the data" and use them pro-actively to inform practice. The teachers learned how each child was functioning and subsequently knew "what to do to improve [that student's skills] because you need to teach everybody in that classroom. And you need to deliver those curriculums also."

Teaming. Teaming was viewed as an important school-wide practice and discussed by all participants. The types of teams in the school as presented through the data, are outlined here (see Figure 4.7). Teaming was discussed by participants in relation to planning, instruction, assessment, professional

Figure 4.7. Team members of various teams existing in the school.

A. Team for Daily Planning, Instruction and Assessment

Classroom teacher, students, parents (informally)	*Curriculum delivery
Other teachers and "teacher partners"	
Teacher Assistants	*Guided Reading/Math
Resource teacher/Specialist teacher of the D/HH	
Speech Clinician	*Adapted Education Plans
Principal	
	*Sharing information

B. Divisional Team for IEPs and more specialized needs

*Members named above plus divisional staff below:
Audiologist
Behaviour support teacher
Divisional consultants
Occupational & Physical Therapists
Nurse Educator
ASL Instructor

C. Team for highly specialized and specific student needs

*Members outside of the division as needed
Specialists from supporting institutions (e.g., Health Sciences Center, Society for Manitobans with Disabilities, Manitoba Adolescent Treatment Center, Manitoba Education, Citizenship and Youth)

development and support. Parents were frequently mentioned as part of daily informal planning as well as more formal IEP planning. Teachers moved in and out of teams depending on need. For example, one of the specialists discussed team use of space. Traditionally, teachers remained in “their” classroom or resource space. However, with the extensive small group instruction and the teaming that occurred in the school being studied, teachers discussed collaborative use of space. A specialist teacher noted that she sat with teachers and planned the “sharing” of “her” designated resource room. “I would see that as a UD strategy, having the resource room available for everybody and planning for that too.” Other participants discussed teaming and sharing rooms when student groups were created from more than one classroom.

Daily teaming included various members of the staff in the school and those who were in the school on a regular and frequent basis. Daily teams included the classroom teacher, teacher assistants, specialist D/HOH teacher, other teachers in the school, the principal, and the speech clinician.

Staff from the division but outside of the school were discussed by the participants as teaming with them in relation to more specific student needs. This was not daily teaming but more infrequent. It included occupational therapists, physical therapists, special education consultants, behaviour specialists, and other special education support personnel. Finally, supports from outside of the school division such as medical staff or specialist staff from supporting institutions or agencies were included as necessary for highly specialized situations. These teams met on a less frequent basis. The

community was reportedly a constant presence as a mostly positive support to the school.

Teaming with and “reaching out to” the parents, specialists, the division, the community, and the province were also frequently discussed by participants.

One participant said:

We need to bring in all of the players...we need to reach out to our division for their support and to our province for their support. We need to reach out to our parents and have them understand what we are doing and how they can support their child's learning.

Teaming with parents in particular was discussed frequently by participants and viewed as critical to successful UD programming. “One of the keys of UD is a really strong relationship with parents.” One teacher provided an example of how important it is to team with parents.

We talk to parents...we have lots of time with parent to talk, and particularly if students have weaknesses on the comprehensive assessment, those parents are called in and we show them where their child is coming in without the skills...and then kind of update them along the way...largely by stating it.

She also discussed the importance of listening to parents' and using their feedback for programming. She noted, “also, there's the parents feedback.....you know.....if the parents find their child needs more time, they have to tell me that...and it's not a big deal...I don't want parents worrying.”

Parent involvement was specifically discussed in relation to students with severe disabilities. Another participant discussed how the school team met weekly to ensure that an appropriate plan was being followed for a specific student with significant needs. It seemed that, the more diverse the student needs, the more frequently the school team met and the more likely the team needed to pull in specialists from within and outside of the division.

American Sign Language for All (ASL for All). The ASL for All program was perceived as truly about “building a school where they [students who are deaf and hard of hearing] can fit in.” It was touted by every participant as being positive and was described in terms such as “amazing” and “valuable” for all students.

Staff told stories of hearing students who learned ASL which, in turn, facilitated friendships, supported development of positive self identity, and created a sense of belonging for the students who were deaf and hard of hearing. One participant noted:

Now in terms of other universal design around our deaf and hard of hearing program, I would say that all children learning American Sign Language is amazing. I mean inclusion is more than an invitation. It's more than just saying come to my school, we'll be nice to you if you come here. It is about building a school where they can fit in. And my happiest day was they day...we started ASL and [name of Deaf instructor] went into the Grade Two room where [Deaf student] was and he smiled from ear to ear because children were learning his language. And that was one of my

finest days in education to see that little boy smile and feel like....Hey, I matter! I'm important! Hey! I'm so important that they are learning my language so they can talk to me. So that's an example of universal design.

Stories of students without a hearing loss benefiting from ASL were also highlighted. Several of the participants relayed a recent story of a Grade Four student with five years of ASL training who intervened to support communication between a Deaf individual and an airline employee at the local airport. Participants also discussed *ASL for All* as generally supporting student language development, spelling, communication, and "understanding of the world around them."

Teacher accountability for all students. Having all of the children in the classroom under the direction of their own teacher most of the time was perceived as an important school-wide practice. Clearly, students in general, "are not pulled out of their ..class ...they are part of that class. " As much as possible, resource for high incidence conditions and general remediation was provided in the room by the classroom teacher (through the previously described teacher resource model) who made an effort to integrate these strategies during general instruction. Staff discussed their desire and intention to align with this general "pull-in" practice. They also tried to include specialized professional support services within the classroom instead of by pull-out as much as possible. All of the specialists mentioned that they worked in the classrooms at least some of the time, and felt that they would be more effective if they could increase their

“in-classroom” time. They felt that “to be more universal design” they would need to review and alter their work schedules to accommodate “in the classroom” support.

Prior to providing supports in the room, there had been a resource teacher at this school who took primary responsibility for specialized skill instruction. Teachers tended to rely heavily on that resource teacher.

Everyone wanted a piece of the resource teacher. They wanted a piece of the resource teacher because they really want the resource teacher to own the low level kids. Take them, they’re yours! They’re your problem! Deal with it! I really didn’t think that was inclusive education.

One participant felt that specialist support being pulled into the classroom in addition to teachers delivering resource to their own students, was regularly thought about, discussed and attempted before she implemented pull out support for students with either low or high incidence special needs.

During observations, it was obvious that educational assistant support was occurring primarily within the classroom. The educational assistants, even when working on highly individualized goals, often did so within the classroom context. One classroom had an area for a student with special needs that included a special bean bag chair and other special materials. At least one educational assistant was seen working in the classroom during most observations.

Classroom environment. Participants felt that consideration of the physical environment was critical to optimal learning and instruction for all children. Many of them discussed the need to minimize “clutter” in the

classroom, specifically to help their students with special needs (e.g. autism) but generally to enhance learning for all students.

Environmental noise was an issue discussed by all participants as being critical to learning and especially highlighted in reference to the D/HH students in the school. Participants discussed school-wide practices that were implemented to reduce noise. They used “sound-field systems in all classrooms, tennis balls on the chair legs, and strategic placement of area carpeting” to facilitate an optimal learning environment. Teachers talked about specifically attending to the acoustic environment within their classroom by also “closing the door when I would rather leave it open” to reduce the noise levels in the room. Basically participants tried to keep the environment “quieter and that is good for everybody.”

Linked to noise reduction was discussion around having groups of students work in various areas of the school as a solution to the noisy classroom. Students frequently worked in hallways, the library, and the resource room. Noise, though, was an ongoing difficulty and teachers reported having tried many methods of reducing noise with varying degrees of success. One participant commented that, “short of having magical cones of silence descend over each group....that [noise] is a really tough one to get around!”

School-wide implementation of “visual” access in the classroom environment was perceived as important in the school again in association with the D/HH program. All participants noted the significance of using visuals during instruction to facilitate learning and understanding for all students.

Principal as educational leader. Of note in this study was the principal's strong belief in the benefits of inclusion. She recognized her strong commitment towards universal design and wondered how much of an impact it had, and would have in the future, on its continuance in the school. She stated that, "I hope we continue heading in the direction of universal design. But....I could go away right now and I don't know if a new principal would support it." When asked if she felt her staff and community would continue supporting universal design, she noted:

Definitely my staff! And my community! I hear nothing but positive things from my community. For me, it start[ed] with the energy of intent. That's what I call it when you say I want this [universal design] to happen and you put energy into it. Then it often happens. But I don't know what would happen if I went away. I don't know how institutionalized universal design is in this school....but there is no question in my mind that we are moving towards it.

One of the participants, who provided specialized support to the school, discussed inclusion at this school specifically in comparison to other schools by saying:

I think that they [the kids with special needs] are included [in this school]. In this school I think it's [inclusion] being done pretty well....I think it's the commitment. A commitment to really believing that the child should be in the classroom and trying to meet those needs in the classroom.

She later again remarked that “inclusion is done very well here” and when asked said:

The classroom teachers make the adaptations in the classroom and.....include information and support from us, the support staff, the teacher of the Deaf, the interpreters, the TAs....to ensure that you know the child has everything they need when they are in the class to make it [inclusion] happen.

She indicated that the whole school, from her perspective, seemed to be involved, committed, and really following through in their efforts to include students. She stated, “in this group [of teachers], they have an amazing support staff” and also referred to universal design “starting with leadership which ties into it and, you know, supports it in the school then all the teams in the school will [support universal design].” Several of the other participants noted that “administration” or “leadership” was a significant factor in facilitating universal design at the school.

Individual Strategies

Highly individualized adaptations were also evident in classrooms and were discussed to a lesser extent in the interviews. Providing photographs to indicate schedule changes, working individually at a computer on a different curriculum, using a photocopy of teacher instructions, sitting in a special bean bag chair, hand-over-hand work, one to one pull out therapy, ASL interpreting, and one to one educational assistant support were adaptations observed in classrooms that were used individually with students who had low incidence

special needs. One teacher noted that most of the very individualized adaptations were implemented for students with very exceptional needs and that they were usually related to skills outside of the curriculum.

Another teacher discussed that she was beginning to regularly think about how to potentially implement some of the individualized adaptations on a classroom-wide basis to align them more with the UD concept. Sometimes, adaptations that were successful for one student were expanded and eventually used as regular classroom-wide practices. She looked for opportunities to expand the individualized adaptations in her efforts to implement UD practices.

An excellent example of how an individual adaptation evolved during the course of the year was discussed by this teacher. Initially, her Deaf, English Second Language student would “draw a little illustration” when he did not know how to print a word. The strategy was used consistently by the educational assistant with the student so that he did not have to constantly depend on an adult to provide the name and/or spelling of words. The strategy was effective and the educational assistant began to use it with several other students. The teacher noted that the strategy was effective and anticipated teaching and using it as a classroom-wide strategy the following year. She noted that:

I have not yet taught it in general. But I think I would, early on, in the year next year. Because I find that some kids just get weighed down with things like spelling and if it doesn't look exactly right, they might obsess over that one word and then they lose all of the ideas that are just ready to get out.....and even for the kids who have stronger writing skills. They are

used to filling pages in ten to fifteen minutes. They might realize that the draft is not about perfect editing, perfect spelling and perfect punctuation. Worry about that later. Just get the words out and then you can go back and fix it and fine tune it later. So, I think that there are different levels of that same concept.

Theme Three:

Approaches to Implementation of UD Practices

Participants, although they clearly supported the idea of UD practices and used them in their classrooms, implemented them differently. They ranged from practicing and incorporating a range of complex UD practices into activities throughout the day in all subject areas and at all times, to implementing UD practices much more narrowly. Both classroom teachers were observed using all of the UD practices noted in the classroom-wide and school-wide practice section, but they did not necessarily adhere to them with the same intensity. For example, both teachers discussed and were observed using the soundfield system which was an adaptation designed to amplify sound for hard of hearing students but which was used in a classroom wide manner to facilitate inclusion and to benefit all students. The benefits of the soundfield system were recognized by the teachers and they were committed to using it. The difference was that one teacher used it primarily when a hard of hearing student was in the room and not necessarily all of the time. The other teacher used this adaptation all of the time and it became a part of something she did naturally, even when a hard of hearing student was not in the room. She used it, checked that it was

working, and demonstrated to the students through her actions that audition and clarity of the speaker's voice was important all of the time and to for all students.

An example of exemplary UD. Exemplary UD was discussed by one teacher during her in depth interview, and observed during subsequent visits to her classroom during the course of this study. A brief description of her classroom and instruction using the interview and observation data may help demonstrate her maximal implementation of UD. Of note is the fact that this teacher herself, and several other participants in the study, recognized her as an exceptional teacher and noted that she was able to implement UD strategies throughout the day on a regular basis. One participant noted that "there's some people, like [name of teacher], who can do it. She can do it. She can pull that all together [the UD strategies]." Also of note is that this same "UD teacher" felt that she was developing and would continue to develop more UD strategies as she continued to reflect, think, and try new things with her students.

Exemplary use of UD strategies was evident in this UD teacher's a) planning process, b) physical and social-emotional classroom environment, c) instruction, d) assignments and assessment, and e) engagement with parents.

The "UD classroom" had students seated in table groups which the teacher stated were heterogeneous in terms of abilities and strengths and weaknesses. These groups were changed every month so that children sat with, and got to know, a variety of peers. There were posters on the walls with phrases such as: *The #1 Rule is to Never Hurt Anyone on the Inside or the Outside;* *Bullying...What is it?, You're Special;* and, *It's OK to be Different.* There were

hundreds of books. Many books related to events that the students themselves might be going through. Topics included being angry and dealing with difficult challenges such as "You are Much Too Small" which was a book about being too little to make a difference. An excerpt from a classroom observation included:

Another book I find in the same basket is called "*the Meanest Thing to Say*" which I think links to the first poster I noticed about the "number one rule" in the classroom. The books are well worn but neatly grouped.

There are a number of books by Roy Sallow who is an author who was wheelchair bound for a period of time. They focus on the life of a boy in a wheelchair and on other issues surrounding students with special needs.

One is called "*What he CAN do*" and it is about a boy in a wheelchair who can swim very well. The teacher initially doesn't want him in the class but when she sees him swim and help others, she is happy to have him. It brings out stereotypes and biases when she says that the child should be in a "special " swimming class. It also indicates how the wheelchair boy was able to help other children and did not need help himself. Other titles by this author include "*Harvest Window*" and "*King Jordan*".

Books on the shelves were at various levels and included stories about caring for people, individual differences, and acceptance.

Physically, the teacher wanted to keep less clutter in the room and to keep it quieter which she felt was good for everybody. To keep it quieter there were "balls on the end of the chairs...all of our chairs...and I have a carpet to bring the sound levels down." She also wore the microphone for a soundfield system and

turned it on when speaking to the group. The teacher had completed a “Kids Come in Different Flavours” unit which focused on celebrating differences of human kind. She had all of the children participate in activities that simulated various disabilities. They had read books about and discussed a wide range of differences including various visible and invisible disabilities. Discussions on including others in play and work were ongoing. The class repeatedly had discussed not only playing with others but *how* to play with different students to include them.

The teacher noted that her students were all in the room, *all* of the time, and that she had a fair amount of support in the room either through volunteers, teacher assistants, or specialist support personnel. She specifically scheduled specialized support personnel working in the classroom and much of the work was done in centers with an adult at each center.

Extensive use of visuals was evident during brief whole group instruction periods. This included the use of actual objects, writing on the board, and demonstration. The teacher also incorporated ASL signs for key words even though there was not a signing student in the classroom. Lesson content was regularly repeated back by students in both words and ASL signs. The teacher consistently used the soundfield amplification system to ensure that her voice was optimally audible for all students.

One Monday morning observation included a sharing circle where a talking stick was passed around the circle. Each student was to say something about their weekend when the stick was passed to him or her. The stick went

around twice so that students who were shy or needed more time were able to skip the first round and participate on the second round. The teacher said that this strategy was initially implemented for a student with special needs who had difficulty speaking in a group situation. He always passed the first time and she began passing him the talking stick a second time. He often spoke on the second round which she found also became the preference of some of the other students in the classroom. The one non-verbal student held the stick and his brother, who happened to be in the group, spoke for him.

Follow-up instructions for activities were given verbally, printed, and then written sequentially on the flow chart with pictures. The demonstration activities were left taped to the board for future reference by students as needed. The same follow-up activities were done by all students. They were multi-leveled, so each student responded at his or her own level and was able to succeed because they were open ended. While the students were working, they asked for help with letters for spelling and the letters were regularly given, by adults or peers, verbally and through finger spelling. Some of the words were available on the word wall which was like a giant dictionary and used by all of the students. They could use it to help them remember words, spell words, or think of words to write. During the independent work period, the teacher and other adults moved around the classroom and provided individualized support and instruction.

Assessment involved “mostly different expectations” within the grade mandated curriculum outcomes for most students. One student on an IEP was working on the same assignment as the other students, but had different

outcomes (such as attending to the task for five minutes). The teacher knew the grade level and the IEP outcomes and ensured that all students were challenged.

Expectations for students within grade level curricular outcomes were also somewhat individualized so that each student could continue moving through the outcomes at his or her own rate. For example, some students were being asked to add detail to a picture (a very basic outcome) and others, doing the same task, were being asked to add more sentences (a higher outcome). The one student on an IEP with different outcomes drew only a circle on his paper. Hence, the teacher created assignments that could assess students at two levels; those within grade level outcomes and those on IEPs with different outcomes. She could further individualize student evaluation within each of these levels.

Planning was collaborative and involved a partner-teacher, the specialists, the parents, the educational assistant and the principal. All of these support people were seen in the classroom at various times during observations. Planning considered classroom space, noise, curriculum content, personnel, materials, and most of all, student needs.

UD was evident throughout the day in this classroom. It was evident in the teacher's actions, words, and in the classroom environment. Other staff did implement UD practices, but not to the same degree as this particular teacher. Although staff were unanimous in their support of UD, it was evident in, but did not permeate practice in the same way in all of the classrooms. Some staff, for example, had ASL interpreting in their classroom and encouraged the *ASL for ALL* program, but had not planned for incorporation of ASL signs into their own

daily instruction as seen in the classroom described. They did the Celebrating Differences unit to expose their students to differences but did not continue to reinforce that concept extensively through their displays on the walls, reading material, and daily instruction.

Theme Four: Challenges to UD

Several sub themes emerged when participants discussed barriers and challenges to UD. They fell into three general categories which included professional, environmental, and “outside” or systemic challenges. A summary of the challenges to UD are discussed in this section (see Figure 4.8).

Professional. Professional challenges included being able to “balance” equally important factors. All participants commented on various balancing challenges and referred to several types of balance. One was the balance between “challenging and supporting” students, or “knowing when to push kids and when not to”. Another was balancing the need to “make sure the curriculum is covered” and “work on specific skill deficits”. Several staff lamented the challenge of “finding balance in addressing *all* of the needs of *all* of the students.” One participant expanded by saying:

Sometimes it feels like trying to adjust all of the needs in all of the areas...and I am still trying to find that right balance in trying to address all of the needs. There are certain areas where they all need work, like problems solving and clearly answering the question and discovering what’s being asked. But, other areas it’s just..you know...very varied..

Figure 4.8. Summary of UD challenges identified by educators in the study.

Supporting Students		Challenging Students
Teaching Curricular Outcomes		Teaching Skill Deficit Areas
Monitoring Behaviour		Teaching
More 1:1 Instruction		More Participation with Peers
Dealing with Prejudices		Meeting Needs
Personal Strengths/Experience		Flexibility with Curriculum
Time at Home		Time at Work

Environmental Challenges	Systemic/Outside Challenges
<ul style="list-style-type: none"> • Noise • Clutter 	<ul style="list-style-type: none"> • Parents and Community • Lack of Resources • Division Support for Learning

Behavioral needs, in particular, were difficult to address during instruction.

Also, just the combination of personalities in the group..there are a lot of challenging behaviours. And so sometimes, I feel that I am just managing more than I am teaching and that is hard for me.

Most participants also discussed the home-versus-work balance and the challenge of balancing job duties within a reasonable timeframe at work.

One interesting challenge mentioned by several participants was balancing group and individualized instruction for students. The balance included a struggle within themselves and among participants. There were divergent opinions on the amount of one to one support that students should ideally get during the school day, and why. One participant felt that it was important to “work more one to one” *in order to* develop skill levels because “kids need to be at a certain level to be included.” She felt that students “should not only be participating but participating equally.” Another participant was not sure how to handle the staff preference for more one to one and felt the students learned more from “working with peers” but at their individualized academic level.

Although all participants agreed that “there are times that [instruction] really should be specific [one to one]” and that students should be “part of the class” there was variation in how these goals were accomplished. Most participants felt that the one to one issue was significant and that awareness and balance was crucial. One participant noted that:

Most teachers aren’t lazy. They must truly, truly believe that their kids are going to get a better education if they are pulled out and it is more specific

to them....I think what happens is that they get very used to this TA taking the kids and going and doing this and they don't count up how many minutes it is happening. Because, I think if you asked them...what do you *believe* in, I think they would say, 'I believe he should be part of the class and part of the flow'...and then they just lose track of how often...

Teachers personal "strength and confidence with the subject area" was also viewed as a challenge, especially for "new teachers needing to learn strategies" to teach the curriculum and to meet the full range of student needs. "Fear of failure" or reluctance to "try new things" was also cited as a barrier to the implementation of UD practices.

Other challenges staff noted, generally from within the school (students and other staff) or from outside of the school (parents and community members), centered around "mindset." Mindset included "commitment" to inclusive programming, viewing "all" students as having equal potential to learn, and "prejudices" in regards to "different disabilities" [especially those involving difficult behaviours]. One staff member noted that:

Different disabilities have different types of prejudices...It's interesting
Because autism isn't nearly as comfortable to deal with as possibly
[Deafness]. Because it's loud. It's noisy! It's tantrums on the floor. It's
biting! It's not the same thing!

Outside/Systemic challenges. Outside challenges included responding to parent and community requests and attitudes. They also involved divisional policies, access to resources such as occupational therapy, and larger

government policies. One participant noted that “OT school therapy services is one area I think we need more support.” In terms of the larger system, the whole picture is important and “We have to create a structure in government that is conducive to student learning, and to develop a culture and climate that is conducive to learning.”

Finally, “lack of a clear picture” of UD was noted as a challenge.

Participants wanted a clear picture of “what it looks like” and “what it sounds like.” One participant suggested that the school division or Department of Education develop a book of UD strategies for staff and then provide opportunities for learning and training.

Theme Five: Facilitators of UD

The facilitators of UD fell into the same three professional, environmental, and systemic categories as the challenges and they largely represented the “flip” side. This section summarizes facilitators identified in Theme Five (see Figure 4.9). Professional staff felt that “mindset is important” and that “you have to have a large commitment to the program” and to children. The staff should be “open-minded...have compassion for children..” and “really want to meet the challenge of UD. Experience with students with special needs and outside supports such as planning time, effective collaboration, parent support, community support, and division mandates were also viewed as positively influencing the development and implementation of UD.

In addition to a positive attitude, a high level of teacher “competence, confidence, and experience with curriculum” was seen as facilitating UD. This

Figure 4.9. Summary of UD facilitators identified by educators in the study.

Professional	Systemic/Outside	Environmental
<ul style="list-style-type: none"> • Positive Mindset • Think, Work, Try • Teacher Confidence • Teacher Competence • Experience with Curriculum • Experience with Diverse Needs • Collaboration • In Class Support/Training 	<ul style="list-style-type: none"> • Parent Support • Community Support • Division Support <ul style="list-style-type: none"> ➤ Planning Time ➤ Learning Opportunities ➤ Systems Structure ➤ Specialist Time • Government Support <ul style="list-style-type: none"> ➤ Legislation ➤ Resources 	<ul style="list-style-type: none"> • Less Clutter • Less Noise

included staff being aware of the latest research in related areas such as brain research. They must also know the special education instructional strategies, be professional, and regularly attend professional development sessions. Most participants noted the importance of teachers “thinking about UD” and receiving training” to understand it. One participant drew the analogy between understanding UD and understanding the whole language concept many years ago. Teachers required training and experience to understand and then incorporate the whole language strategies into their instruction.

The participants felt that teachers had to have competence in instructional skills as well as experience working with students with special needs. One participant noted that she thought “experience with a broad range of disabilities and time spent directly with students is important” in developing strategies appropriate to a diverse student population. The staff also spoke of “gaining” understanding with experience and learning from watching others with different expertise working with students. Expertise did not “just happen.” The centrality of the teacher and the breadth of her responsibilities were salient in the data. Participants were unanimous in their feeling that “teachers are the key” to facilitating successful UD classroom. They felt that teachers needed to be directly responsible for all of their students, regardless of student needs. Ultimately, “all teachers have to become specialists and do IEPs for kids.”

Participants noted, though, that teachers could not do it alone. Collaboration and specialist support was mentioned by all participants as facilitating UD. Support staff needed to “believe in collaboration” and “

collaborate directly with the classroom teacher.” Furthermore, support staff had to “go into the classroom more” because “specialists supporting and observing in the classroom can raise awareness of issues that teachers did not think about.” One participant noted that “the collaboration of many minds is important in UD.” All of the support personnel noted that they “needed to align their schedules with the classroom schedules and figure out how to get into the classroom more.” One said, “teachers are so busy,” and “teachers do not have the same opportunity as some support personnel” to get out the of the school to obtain professional development.

Another specialist indicated that:

Support to the classroom teacher *in* the classroom and helping the classroom teacher instead of telling her what to do [was important]. Do it in the moment, in the classroom.

Finally, another participant suggested that “more manpower,” especially in the form of teachers, was needed so that each teacher could be responsible for smaller student groups. A school can “not just add more TAs because it is still [the teachers’] responsibility to plan and direct all of those aides.”

Outside/Systemic factors. Adequate scheduling time, planning time, parental involvement, community support, and division resources were named as important facilitators of UD. “Planning and scheduling with teachers” were seen as crucial. “School-wide strategic planning” and creating a collective vision of UD also was perceived as important. Participants felt that discussing UD and “giving it a label” helped them understand and focus on UD. They commented that

having the opportunity to participate in the UD project and “just discuss” was helpful.

Parental requests to “challenge my child” and “individualize” encouraged teachers to broaden UD strategies for all children. Also, provincial, divisional, and community support or “bringing in all the players” was crucial. Linking UD to current practices helped facilitate recognition of practices already aligned with UD and to alter those that were not. One participant felt that “probably teachers are doing some UD...and have been for decades without knowing that that’s what it’s called.”

“Top down” support and provincial legislation such as Bill 13, the Appropriate Educational Programming Act, was mentioned as an important facilitator. One participant commented that “Bill 13 is going to make it happen” because it is “demanding that we service all children” and validating what is being done. Furthermore:

The Province has to provide the capacity building, the professional development. This is how it is going to be done, this is how we’re going to help you. Here’s how we’re going to support you.

Another participant suggested “a manual...a binder that includes things to do, things to try.” If there was:

Some *thing* for teachers, some *product* for teachers to provide them with things to try. Possibly to look at a few different options and choose something that will work for them. Then I think it would stand a much better chance of being something that will be useful.

Theme Six:

Maintain the Goal and Keep Thinking, Working, Understanding, and Changing

Participants were adamant that they had to keep the big picture of UD in mind and continue to work towards “the perfect UD, whatever that means.” It would not just occur on its own. One participant noted that:

We need to be very aware of the codes for the general structure [of UD].
...meaning that we have to have a checklist and do certain things that are required...but also continue to ask people, Is this OK? We need to continue to see the bigger picture, the ultimate picture and work towards it.

The staff felt that UD “is complex because students have such different needs....one student may not need what another one does.” Additionally, they felt these needs will change and teachers will deal with them differently. One participant said that UD “would look different in different classrooms and for different teachers.” She assumed that teachers would “approach UD differently” but that all of them would have to “plan and think.” When working towards UD, “you have to think, not just apply knowledge” because it was viewed as a fluid concept that changes, evolves and depends on the current circumstances. “We’re dealing with the human condition which makes it [UD] a billion times more difficult and more complicated....than building a ramp.” Additionally, “you will have people that can do it very well and then you’ll have people that do not have that thinking process.”

Overall, participants felt that “UD is going to happen. It’s going to have to happen. We’re moving in that direction.” One participant said that:

You learn from everything and you just have to reflect on it and be willing to go to a different place, to wherever your students need to go. So, I really think it is possible but I think it just needs time. And trial and error. And I think some things are going to work for some teachers and for other teachers they will not. Not every classroom will look the same but, you know, the same overall goals should be what we want. We want all students accessing the same information and having the same opportunities. But the way they get there and the path they get there by is going to be different.

The participants in this study felt that they were “moving towards UD in stages,” working towards “building a school where [all children] fit in.” They were working hard. They had and continued to develop “the vision” with acknowledgement that “it’s an ongoing process to reach it, our goal.” They agreed that, “There’s no magic way.....no silver bullet. It’s hard!” Finally, in the words of one participant:

There’s no question in my mind....we’ve moved forward. Again, it’s when teachers own all the children in their classrooms. That’s when I feel we have reached our goal.....the day the classroom teachers write the IEPs [is when we’ve] really arrived at UD.

PART THREE: ANALYSIS AND DISCUSSION

This qualitative study sought to:

- explore inclusive educators' perspectives on what UD practices emerged when they reflected on the UD concept and principles, and
- explore how these educators' felt that UD practices influenced inclusion in their classrooms.

Results included a synthesis of data from interviews, observations, and documentation from a team of seven educators working in two different classrooms in an inclusive elementary school.

In this section, I interpret the six themes that emerged from the data in relation to literature and research in the field of education. I also provide some insights and questions that I have from my twenty-two years of work in schools and with students with disabilities.

Basically, the six themes that emerged fit within the context of current issues being discussed in the field of education. The first theme, *Perceptions and Beliefs About UD Practices*, and the sixth theme, *Maintaining the Vision*, reveal the close, strong, and emotional ties that teacher beliefs and attitudes have to inclusion in the field of education. The second theme, *UD Practices*, is linked to the many evolving instructional practices that are associated with inclusion. The third theme, *Approaches to UD*, involves issues surrounding degrees of inclusion and the implementation of classroom adaptations in relation to inclusion of students with special needs. *Challenges to UD* and

Facilitators of UD, the fourth and fifth themes, explore factors that support or inhibit progress towards inclusive practices.

This section also includes a summary of UD teaching characteristics which is a synopsis of how the seven educators in this particular study perceived UD practices as having positive academic and social effects for all students and as facilitating inclusion for students with special needs. The educators' positive beliefs about inclusion were the basis for their conceptualizations of UD and subsequently facilitated the emergence of UD practices. The educators also defined specific classroom-wide and school-wide practices that they perceived as aligned with the UD principles; revealed that UD practices could be used to varied degrees in classrooms; and identified factors that impeded or supported the implementation of their UD practices.

Following the synopsis of data from this study, I synthesize the information within the existing inclusive education schema to clarify the conceptual and theoretical difference between inclusion through adaptations and inclusion through universal design. I then briefly explore practical policy implications of implementing UD theory and practice. Finally, I review the significance of the findings of this study.

General Beliefs About Inclusion.

Participants in this study had very positive and strong beliefs about inclusion that paralleled those found in other studies. Stockhall and Gartin (2002) researched teacher beliefs about inclusion in an ideal "inclusionary"

school and found staff in their study to be similar to these participants in terms of their positive attitudes about inclusion. Inclusion was obligatory at the “inclusionary” school, the center of the school vision, and a core value in the school.

Stanovich and Jordan (2004) similarly found that educators felt “the inclusion of students with disabilities in general education classrooms is, and should be, occurring commonly and generally, and is here to stay” (p. 170). Cesare, Terreni, Scruggs, and Mastropieri (1998) researched teacher attitudes towards inclusion by surveying 523 teachers in Italy and hundreds of teachers in the United States. They found that attitudes consistently became more positive over time. The vast majority of teachers supported inclusion. As in this study, they found that teachers felt students “should” be educated in the general education classrooms and that all students benefited from inclusion. They also felt that they needed to continue pursuit of increasingly inclusive practices.

Social-emotional benefits. Participants in this study believed that there were social-emotional benefits of inclusion for all students. The perceived reciprocal social-emotional benefits of practices aligned with UD were noted repeatedly by participants as having a significant positive effect. The perceptions of these participants on the impact of social-emotional inclusion are consistent with results found by other researchers in the field.

Afzali-Nomani (1997) explored the impact of full inclusion on 55 students who were Deaf and hard of hearing. The study concluded that “the impact of full inclusion was more favorable” if children were socially involved with other

students (p. 146). In this study, the social environment was found to be the “most potent” indicator of positive effects of inclusion and critical to a sense of well being and academic achievement in the regular classroom. Cozzuol, Freeze, Lutfiyya and Van Wallegghem (2004) also found that including students with special needs had positive benefits for both disabled and non-disabled students, “particularly in the areas of tolerance, compassion, empathy, and responsibility” (p. 25).

Academic benefits. In the educational literature, and in this study, the same analogy has been drawn where academic practices good for students with special needs are seen as having potential to benefit many other students (Bauer & Kroeger, 2004; Cozzuol et al., 2004; Meyer, Pisha & Murray, 2001; Orkwis, 2003; Rose & Meyer, 2002; Shaw & McGuire, 2004).

Stanovich and Jordan (2004) found that successful learning in inclusive classrooms required effective teaching built on “instructional adaptations that maximize accessibility to learning for all students” (p. 170). They strongly advocated “pulling in” specialized supports to individualize learning within the context of the regular curriculum. They noted that adding specialized supports did not take away from the other students and could potentially enhance learning for all students. They drew the analogy of a ramp which does not inhibit entry to the building but could increase access.

The responses of participants in a UDI study by Madaus, Scott and McGuire (2003) at the university level were echoed by responses of the staff in this study. Specifically, the strategies that professors had implemented

classroom-wide were believed to positively support all students academically. The adaptations were beneficial not only to meet the specific educational needs of one student, but were thought to help “normal kids” come away with gains. The benefits of the classroom-wide use of traditional “special education” practices as well as thoughts about the more general use of the more successful techniques were discussed by all of the university professors interviewed. In general, participants in the Madaus, Scott and McGuire study and in this study felt that, without classroom wide accommodations, many of the students (including those without disabilities) would not get the opportunity for optimal access to learning.

Unlike this study, Stockall and Gartin (2002) found that teachers in the inclusive school that they studied did not academically challenge students with special needs. Students with special needs participated in superficial academic activities such as coloring while the other students received more difficult mathematics work. The researchers concluded that despite excellent social inclusion, there was lack of specialized skill development that met the individual academic needs of the students with special needs.

Although it may appear beneficial to provide academic programming in the classroom, it may not be (as found above) if the task is not academically challenging. Teachers may not know how to academically program for students with special needs who are not working within the grade level outcomes which may leave these students at risk for low achievement. Perhaps individualization practices in the classroom, implemented by teachers, are best suited for students

working within grade level curricular outcomes of the subject that they are teaching. It could be that practices aligned with UD work best when working within grade level curriculum. Furthermore, teachers may already be accommodating within grade levels without attending to the UD principle. UD principles, if they do facilitate academic benefits, may also be more easily applied in some subject areas than others, at certain grade levels, to certain learning needs, or only when teachers are more familiar with the curriculum and alternative teaching methods.

Classroom-wide UD Strategies

The perceived “classroom-wide UD practices” that emerged in this study largely correspond to the local Manitoban adaptations (Manitoba Education & Training, 1998), and fit within the accommodations typically suggested in the literature for facilitating inclusive programming for students with special needs. For example, the Manitoba Education and Training adaptations (discussed more thoroughly in the literature review) of extending time required to complete assignments, using written back up for oral directions, providing visuals, facilitating peer support, and giving directions in small steps were all observed in this study.

The difference is that teachers in this study did not implement them as “adaptations” in the traditional manner which was to meet the “specific educational needs” of a student with special needs (Manitoba Education & Training, 1998, p. 1). Alternatively, they implemented the adaptations classroom-wide. They planned for and implemented the adaptations as regular teaching

practices with the purpose of facilitating optimal learning for all students. For example, a teacher would plan to write directions numerically on chart paper with picture cues (i.e., adaptation of using written back up for oral directions) to facilitate comprehension and clarity for all students, not just for her student with a language deficit. Such practices became regular teaching practice or what the educators perceived as “classroom-wide UD practices” as opposed to adaptations implemented specifically to accommodate an individual special need of a student with disabilities. Educators in the study perceived these as “UD practices” because they aligned with the UD concept and principles. They felt that instruction was equitable, flexible, clear, tolerant of error, and comfortable for all of the students in the classroom.

Some inclusive education literature and research has suggested that special education strategies reflect “good teaching” practices and could be beneficial if used broadly (Hutchinson, 2002; Villa & Thousand, 2003; Wood, 1998). As in this study, Madaus, Scott and McGuire’s (2000) research and work on the Universal Design for Instruction Project (Phase 2) at the University of Connecticut found that faculty working on development of UDI in their classes were successful in broadly applying accommodations, such as highlighting key concepts, providing a copy of notes, and adding visuals on a classroom wide basis. Stanovich and Jordan (2004), in their research on the characteristics of inclusive teachers, found that these teachers constantly learned to develop and broadly implement strategies that were effective for their diverse group of

students. Such teachers “use[d] this knowledge to design instruction to meet the diverse needs of their learners” (p. 182).

The constellation of accommodations described and used classroom-wide by participants in this study, has been discussed in inclusive education literature as effective for supporting students with special needs or specific special needs (Bauer & Kroeger, 2004; Hutchinson, 2002). “UD practices” perceived by participants in this study included incorporation of these same accommodations into daily instructional practice for all students. The full assemblage of adaptations for students with special needs, used as classroom wide practices, might form the basis of how the range of UD strategies might be defined.

It may be that educators can actually implement adaptations for students with special needs classroom-wide and that they feel this practice aligns with the UD principles and facilitates inclusion. There is no evidence, however, that it improves student learning or facilitates attainment of curricular outcomes by students with or without disabilities. It is possible that classroom-wide adaptations aligned with the UD principles have a negative impact on student learning.

Regardless of efficacy when implemented classroom-wide, each of the practices that educators in this study felt aligned with UD has been linked to research in the field of special education as described below.

Teaching in themes/centers. The importance of grouping students heterogeneously and providing flexible support parallels Jackson, Harper, and Jackson’s (2002) effective teaching methods for inclusive classrooms. They

found that grouping students to work in a variety of structures was critical to both social and academic inclusion. McGuire and Scott's (2004) UDI Faculty Ware Project included a faculty member's UDI strategy which was to have students work in teams with "both disabled and non-disabled students". He felt that having students work within a group facilitated a more accessible lab experience for all students.

Many educators, such as those in this study, may already be teaching in small groups, through themes and centers. The alignment of practices to UD does not necessarily mean that the use of this practice will increase.

Open-ended programming. Open ended assignments, as described in this study, involved all students participating in the same activity but at different levels. This type of assignment has been suggested in special education literature to facilitate inclusion (Hutchinson, 2002) and is consistent with the concept of UD. For students with special needs who were in Grades Five to Eight, Rea, McLaughlin, and Walther-Thomas (2002) found a significant positive relationship between student participation in the regular program with individualized supports, and academic outcomes. The participants in their study reported that using the same activities with flexibility for learning options (as opposed to different activities) was the most effective means of program delivery for students with special needs. Furthermore, the teachers noted that they did not have to program twice, schedule individual time with a student or an educational assistant, or find an alternate location for a different assignment to be completed.

Similarly, in this study, the educators perceived “the same assignment” with “inherent flexibility” or multi-levels (see Figure 4.4 and Figure 4.5) as facilitating academic involvement. However, they thought that it facilitated increased academic involvement not only of students with special needs as in the above study, but of all students in the classroom. They also perceived this type of assignment as aligned with the five UD principles and hence as a “UD practice.” Participants found that these assignments were a) equitable as all students were participating, b) flexible as students could work at their own level and had support as needed, c) clear both in expectations and procedures with demonstration and examples provided, d) appropriate for space and size as they were created with enough space on the page to accommodate varying writing needs, e) tolerant of error as students could watch peers for support, ask an adult questions, or erase and redo work as necessary, and, f) comfortable as students could work in the way most suited to their learning style/needs. Some of the educators in this study also found that programming in this way became a time-efficient practice.

One concern may be that certain levels of individualization may be perceived as working outside of the curricular outcomes for some students who are not on IEPs. Perhaps the academic program might be seen as compromised or “dumbed down” for some students. Students may potentially (and perhaps consistently) complete a simpler version of the task and fail to be optimally challenged.

A second concern may exist for students who are on individualized programs. This type of individualization may work better and be more practical for the teacher to implement at certain grade levels. In higher grade levels, the levels inherent in assignments may not be able to accommodate the intellectual spread of students in one classroom. The spread of student cognitive ability has the potential to be far greater for older students than for younger students.

Scaffolding. A number of scaffolding supports are suggested in the special education literature as effective academic adaptations for students with special needs (Villa & Thousand, 2005). Visual supports were specifically discussed by participants in this study and similarly noted in Foster and Long's (2002) study exploring teaching materials and procedures that facilitated inclusion of students who were Deaf and hard of hearing. They found that these students were more successful when they received printed handouts/information, had procedures/instructions visually available, and had the overhead left up for longer periods of time. They were implementing the visuals specifically for students with a hearing loss, an adaptation regularly recommended to augment hearing and facilitate success in the classroom.

Although negative effects of scaffolding were not evident through the data in this study, they may exist. Once again, providing scaffolding may be perceived as or actually make the work "easier" for students who subsequently may not be optimally challenged. Additionally, teacher expectations may be lowered for some students or some students may naturally prefer to use the scaffolding.

Peer support. Help from peers in the classroom is a common accommodation implemented for students with special needs and is listed on the Manitoba Education and Training (1998) Adaptation Checklist. McGuire, Scott and Shaw's (2004) Faculty Ware project specifically identified some of these same adaptations as UDI practices when they were implemented classroom wide at the university level.

The teachers in this study also felt that peer support was possible and aligned with the UD principles. One downfall of increased peer support may be decreased contact or support by the teacher for some students. The more academically talented students may more often be left to support peers rather than receive direct instruction from the teacher.

Highly specialized support "pulled into" the classroom. The need to view and provide for the highly specialized needs of students within the existing classroom structure is noted in the literature (Bartlett & Freeze, 2005; Brownlie & King, 2000; Ferguson, 1998). Stanovich and Jordan (2004) suggested that effective inclusive teachers accepted the responsibility for meeting the needs of all students by working collaboratively with specialized staff. They stated that this collaboration included "knowing when and who [sic] to ask for help, knowing where to go for and how to get resources, and knowing the kinds of questions to ask" (p. 179). They stressed that students were best served in the classroom with specialized support being brought in as needed, but they did not elaborate on specific examples of how this might be done. Kierstead and Harvey (2001) interviewed seventeen special education experts across Canada who felt that

specialized supports were critical to meet the needs of students with special needs, but they also did not suggest how to implement them within an inclusive environment.

Stockwall and Gartin's (2002) research concurred. In their study, they noted a lack of emphasis on intensive, diagnostic, and individualized direct instruction, where students with disabilities and teachers "unknowingly created a system that kept some students from gaining the skills they needed to empower them" (p. 187). They, like the previous researchers, also suggested that individualized direct support be part of the programs for student with special needs, but they did not provide examples of how this might be done within the inclusive classroom.

All of the participants in this study also acknowledged the dilemma of how to meet very specialized therapy and learning needs within the UD framework. They tried several practices and continued to struggle with this issue. They planned for and implemented two primary methods of providing specialized support as a classroom-wide practice. These were bringing specialists into the classroom to work in centers with designated students/groups, and sending students out to specialists individually/in groups as a regular part of their practice.

In Manitoba, Faye Brownlie's Classroom Profile framework, described in detail in her book, *Learning in Safe Schools* (Brownlie & King, 2000), has been presented numerous times to school divisions in an effort to support staff in programming to meet the varying needs of all students within the regular classroom. Her framework highlights the need for educators to work as a team

to establish a profile of the classroom. This profile would indicate the types of support required and subsequently be used to establish schedules of the school support personnel intervention. Hence, the schedules of the specialist support personnel would be determined by student needs rather than requiring students to fit into the schedules of the professional personnel.

The question does not seem to be *if* the specialized support should be provided but *how* to provide it inclusively and effectively. Perhaps *how* specific skill development for students is implemented should vary from student to student and depend on many factors such as the nature of the student's needs, his or her age, the teacher's skill, and the flexibility of the supports available. Perhaps a more flexible and extensive system of supports, where specialized support personnel could manage their time differently, would contribute to more inclusive, in-class, one to one support.

On the other hand, while the approaches described here and by participants in the study may align with the UD construct and support effective learning, they may not be practical or cost effective. In Manitoba, expertise in certain areas (such as psychology) is scarce. Limited resources may not allow for availability of resources or the luxury of scheduling around student needs. Additionally, schools with tight budgets may not be able to accommodate expertise to meet actual or perceived student needs.

ASL. ASL was highlighted in this study due to the relatively large number of students who were D/HOH. ASL has long been identified as a critical accommodation for Deaf students. Antia and Kreimeyer's (2001) three year

study of interpreting in the mainstream found that interpreters were “essential for clarifying classroom instructions and tutoring students” (p. 3) for Deaf students in inclusive classrooms.

ASL, like the other classroom-wide practices noted in this study, may not be considered a UD strategy in and of itself. It may only become a UD strategy due to the way it is implemented. If it is used traditionally as an adaptation to support one Deaf student in the classroom, then it is not being used universally, or planned to benefit the diversity of student learners. One teacher in the study used ASL as an adaptation for her Deaf student while the other used it classroom-wide as a UD practice. In the latter case, implementation of ASL as a classroom-wide strategy, especially in a class without a signing Deaf student, may be a salient and unique example of adherence to UD principles in this study. Employing ASL regularly on a classroom-wide basis throughout the day exemplified the ability of this teacher to use a very specific adaptation as a classroom-wide practice to enhance the learning of all students. She used it as a UD classroom-wide practice with the intent of supporting the development of literacy skills for all of her students. Perhaps this went beyond simply supporting students in their academic learning to accepting the Deaf language and culture to create a more inclusive school climate. It did align well with the UD principles of equity (used for all students), flexibility (students could choose to attend to or use ASL throughout the day, and at varying levels), and clarity (supported comprehension of information).

School-wide practices

Participants in this study focused on and discussed employing school-wide practices primarily for the purpose of including all students in regular programming. There is a movement towards encouraging school-wide practices, cultures, and communities in the education literature, but it is not often discussed specifically in terms of the academic inclusion (and particularly not academic inclusion of students with special needs).

Hutchinson (2002) and Kanu (2005) discussed developing a school-wide “sense of community” in terms of bringing Aboriginal culture into the educational environment. They noted the importance of involving the entire school body as well as the parents and extended community for facilitate a sense of community around Aboriginal culture. They found that the school-wide focus facilitated depth of understanding and commitment towards the Aboriginal culture.

Hulley and Dier (2005) and DuFour et al. (2004) researched schools facilitating successful incorporation of new ideas and found that it was critical to develop and use the synergy of the whole school membership as well as the community and systemic structures. Although they were not specifically researching meeting “disability” needs, they concluded that a vision of success had to be developed and permeate the school culture for optimal benefits.

Giangreco et al. (2003) focused on school-wide planning to improve educational assistant supports in schools. Their goal was to support students with special needs in a more inclusive manner to develop a sense of belonging instead of segregating the students and their educational assistants from the rest

of the class. They felt that school-wide planning to establish guidelines and general practices for utilizing and training educational assistants influenced students with special needs and the whole school community. They concluded that school-wide planning facilitated inclusion by encouraging teachers to plan for effective use and training of educational assistants within the classroom environment. They found that school-wide planning process “was worthwhile” and that “more schools should be encouraged to initiate school wide para-educator planning efforts” (p. 76). They also found that the school-wide planning supported “logically building [staff] capacity in schools” (p. 77).

Sugai’s (2003) research focused on students with behaviour difficulties. His results suggested that specific focus on school-wide programs with specialized intensive supports being “an integral element of the full school-wide continuum” facilitated positive behaviour for all students (p. 530).

A school-wide and community oriented focus is also discussed in the literature in terms of school-wide acceptance of diversity (Ferguson, 1995; Stainback, Stainback, East, 1994; Sapon-Shevon et al., 2005; Villa & Thousand, 2005). Sailor and Roger (2005) specifically presented a vision similar to that of the participants in this study. They advocated for specialized strategies being used school-wide to facilitate improved learning for all students and for the establishment of a unified educational system.

The participants in this study discussed a number of school-wide programs and activities that focused primarily on academic skill development to facilitate inclusion in the regular curriculum. They felt that these programs

aligned with UD practices because they involved all students and were implemented with the intention of building skills of all students. Each of these can be related in some way to the research literature.

Teacher Resource Model. The concept of using instruction of students with special needs as professional development for teachers (i.e. analogous to the Teacher Resource Model described in this study) to develop effective instructional strategies was one of the main premises of Stanovich and Jordan's (2004) inclusive education research. Their extensive instruction and research in the area of inclusive education resulted in the creation of their "Inclusion as Professional Development" model where teachers learned effective teaching strategies through direct work with students with special needs. Similar to educators' perceptions in the current study, Stanovich and Jordan indicated that "a major benefit of including students with disabilities in general education classrooms....is that it serves as a highly effective means of professional development [for teachers]. Consequently, everyone benefits." (p. 171). They, again like the participants in this study, specifically discussed how teachers internalized effective strategies through their work with students with special needs, and could then use those strategies within their classrooms to support all learners. Furthermore, they similarly proposed that accumulated teaching experiences increased teaching efficacy and had potential to lead to improved student outcomes.

Although the Teacher Resource Model was supported by participants in the study, one individual noted that it was not easy to develop. The need to

focus financial and human resources on developing intervention strategies of new teachers was evident. She thought that more specialized support was necessary in the school. The current situation provided limited special education guidance for staff, was “not perfect,” and someone “still needed to work with new teachers in developing those highly skilled intervention strategies.”

The cost factor and the time required for teachers to learn and develop strategies may be a significant negative factor in the development of a model where teachers do their own resource for students in their classrooms. It may not be practical or possible for classroom teachers to learn and provide for all of the specialized needs in a classroom.

Teacher Leadership Model. The Teacher Leadership Model described in this study parallels Gregory’s (2003) concept of building school-wide capacity and facilitating learning. He presented a model for building school capacity which involved teachers forming “Professional Learning Communities” that are linked to a “supportive school culture” which requires strong vision and supportive leadership (p. 4). Like the participants in this study, he stressed the need for creating a safe, supportive, and non-threatening climate in the classroom so that teachers will “take the risks involved in order to learn and develop new skills and strategies” (p. 5). He also noted that staff needed to be supported directly by other staff in their everyday tasks such as ongoing planning, teaching, and assessing students.

Collaboration and teaming. As in this study, collaboration and teaming have been sited in the literature as critical to successful inclusion (Bauer &

Kroeger, 2004; Gregory, 2003; Hutchinson, 2002; Stockall & Gartin, 2002).

Stanovich and Jordan's research concluded that when working with the full range of student diversity it was important to be "a member of a team, partnering with parents, knowing when and who to ask for help, [and] knowing where to go for an dhow to get resources" (p. 179). Consistent with this view, Hutchinson (2002), wrote that "collaboration provides [the teacher] with a built-in network, and you can draw on the expertise and resources of many individuals" (p. 39).

Pulling in expertise from outside sources in order to provide adequate service delivery to students with highly specialized needs was also highlighted by Koskie and Freeze (2000). They noted specifically that transdisciplinary teaming including mental health, health, and child welfare professionals might be needed to address needs of students with severe emotional and behavioural disorders. Like the staff in this study, they highlight the need for a coordinated model that brings staff from varying disciplines together.

In practice, the effectiveness of collaboration requires not only financial resources and availability of specialized personnel, but time to meet and plan. It may be difficult for teachers to find time to meet with various specialists and to learn to program for students with diverse needs in their classrooms. Even if a substitute was hired for a teacher to attend meetings, valuable teaching time could potentially affect the learning of all students in his or her classroom.

Teacher accountability for her own students. Staff in this study felt strongly that the teacher held the primary responsibility for all of her students with the "support" of other team members. Both teachers mentioned that they wanted

educational assistants working within the room, instead of pulling students with special needs out. They felt that having the students in the room helped them program appropriately for these students and was aligned with the UD principles. They specifically discussed the principle of equity and direct teacher intervention in relation to accountability for all students.

Consistent with this, a study by Giangreco, Edelman and Broer (2003) found that the more students with special needs were pulled out of the classroom, the less engaged they were with classroom teachers. Their data indicated that teachers interacted more with students the more they were part of the ongoing educational programming. Subsequently, the students with special need received more challenging academic programming and greater access to the regular curriculum.

Research by Kluwin (1993) indicated that higher student achievement was possible the more students remained in the classroom for appropriate supports. He researched 451 Deaf students across the United States and concluded that appropriate educational programming for them depended upon individualized accommodations being provided in the classroom.

It may be that it is easier for teachers to be accountable for some students than others. It may be more difficult to be accountable for students whose IEP program is heavily supported or even developed primarily by specialist personnel. Once again, it may be easier to align with the UD principles or be accountable under certain conditions depending on grade level, type of student disability, subject areas, teacher training, and teacher experience.

Principal's school-wide influence. Special education literature suggests that principals have increased responsibility for special education supports in their schools and must develop a positive climate toward acceptance of students with diverse needs (Bauer & Kroeger, 2004; Hutchinson, 2002). Research by Lasky, Karge, Robb and McCabe (1995) included case studies of beginning special education teachers and found that principals had a significant role to play in facilitating the success or failure of these teachers and their programs. Giangreco et al. (2003) also found that school-wide involvement, specifically with the support of administration, yielded the most successful programs for students with special needs.

The principal in the school studied was very involved with, and recognized by other participants as being involved with, the inclusion of all students and facilitating school-wide programming. It could be that the inclusive practices in the school and the impetus for UD practices would alter significantly if the principal left.

Individualized programming. Although there were school-wide and classroom-wide UD practices that educators felt facilitated inclusion, all of the participants' perceived individualized programming as necessary for highly specialized student needs. These needs often required "different" programming whether it took place in the classroom or not. Mace et al. (1997) noted that UD does not mean that individual accommodations will never be necessary, but that individuals should continue to strive to include the widest range of human needs possible. Although individual adaptations continued to be implemented in

classrooms in this study, participants thought about the potential use and benefit of those strategies for all of their students. They tried to think of ways to align the individual strategies with the UD principles. This type of ongoing thinking and flexibility may support further evolution of UD strategies in the school.

On the other hand, trying to accommodate for very exceptional needs may not be possible, practical, or even desirable for all students or teachers. It may become difficult to maintain focus on curricular outcomes when trying to accommodate vastly diverse needs in the classroom. It may be more effective and efficient to provide individualized strategies for some students. For example, some students with highly individualized needs, especially older students, may prefer a segregated setting to work on development of certain skills.

Degrees of UD

There were different degrees of UD observed in the two classrooms. This parallels Kanu's (2005) descriptions of teachers' approaches to integration of Aboriginal culture into the school curriculum. She described cultural implementation as ranging from "inclusion" of practices or adding Aboriginal cultural information to the curriculum, to "infusion" of the practices " or integrating Aboriginal culture and information into every aspect of the school curriculum" (pp. 55). She found that most staff members were "including" Aboriginal practices, such as adding an occasional Aboriginal story or activity, especially when Aboriginal student were present. Only one of her participants was found to be truly at the "infusion" end of the continuum where Aboriginal culture was a part of

everything she did including lesson planning, instruction, student interaction, classroom milieu, and assessment.

Perhaps the difference between inclusion and infusion in this study would be analogous to the difference between “maximal” UD inclusion at one end of the continuum, and the traditional “adaptation” inclusion model at the other end. Maximal UD would require infusion of the principles during every part of teaching from the planning stage to implementation stage and even beyond. It might go beyond instructional practices to, as one participant in this study described, “mesh” with the whole inclusive school and community culture. The UD principles might have ideally permeated how a teacher instructed and assessed all of her students, as well as how she designed her classroom and engaged within the whole school and community.

Evolution of the accommodation model. The current Canadian special education accommodation model involves using adaptations specifically for students with special needs. Adaptations are included in planning (through the IEPs), in instruction, and in the assessment of students. The model does not facilitate the mindset of infusion where the range of student needs are planned for as a *part of* everything that is done in and out of the classroom, and for optimal access to learning for *all* students. It does not facilitate the mindset of developing excellent teaching practices to be incorporated as part of regular, effective instruction, but instead focuses on these practices to meet specific disability needs.

Hutchinson (2002), in her book *Inclusion of Exceptional Learners in Canadian Schools*, provided a typical example of the accommodation model. She suggested that a daily schedule be printed on the board for all students with the additional “schedule taped to their desk” for “students with behaviour disabilities, AD/HD, or other exceptionalities” (p. 176). Maximal UD, on the other hand, might mean that a desk-sized schedule be available for *all* students and that the teacher refers all students to it as a regular part of her instruction. The schedule would be implemented, and seen as having potential to benefit, all students. Using the desk schedules becomes “normal” practice. The example infuses the accommodation throughout teaching so that it becomes universally available for all students.

Infusion of accommodations to make them universal may align with the UD principles of equity (all students have the small schedule), flexibility (students can use it or not and whenever they need it), clarity (the day’s schedule is clear for students), and tolerance for error (students can look at it as many times as they wish should they forget when a subject is taught).

Perhaps UD can be viewed as a continuum where teachers are moving towards infusion by increasingly adding UD strategies into their general instruction. The UD continuum might begin with the traditional adaptation model and increase the quantity, depth and breadth of these adaptations with all students (see Figure 4.10). Finally, at the infusion end of the continuum, these “adaptations” might be planned for, and implemented class wide, on a regular basis throughout the school day, for all students.

As consistent with Kanu's (2005) research, teachers in this study were at different places in moving towards an ever evolving goal. In this study, and in Kanu's, even the "model" teacher who infused the concept throughout the curriculum had more ideas of how to improve. Others were on the path as they continued to increasingly add or include components of the concept to their practice. Participants in the study specifically perceived that they were "moving towards UD in stages" and "taking small steps." It might mean that teachers have more infusion of UD practices in one subject area than another. Experience with the curriculum, personal strengths, and past experience teaching students with special needs may also impact infusion.

Results from this study parallel some of the more recent literature and research suggesting that practices be infused broadly. Cozzuol et al. (2004), although they researched social skill development, concluded that "perhaps our focus needs to shift from responding to individual social skill deficits in students with intellectual disabilities to developing social support strategies for all children" (p. 38).

As discussed by the participants in this study, it may be that educators today generally are already shifting their practices towards UD. This movement may reflect increased adherence to the UD principles as staff shift from responding to specific needs of students with disabilities to developing classroom wide instructional strategies (academic and social) that support all students.

Figure 4.10. An example of the UD continuum or the degrees of UD identified by educators in the study. The continuum ranged from adaptations to infusion of UD principles.

Adaptation	→	Infusion
<p>Focus on student with special needs:</p> <p>Ex. A Deaf student</p> <ul style="list-style-type: none"> • ASL interpreter for Deaf student • Interpreter sits near Deaf student • Most communication and instruction goes through interpreter <p>Ex. A student with lower language level</p> <ul style="list-style-type: none"> • Language adaptations for student with special needs • Visual instructions given to student individually • Individual dictionary • TA sits with student • Student has special adapted activity with lower language level 	<p>→</p> <p>→</p> <p>→</p>	<p>Focus on class student diversity:</p> <p>Ex. A Deaf student</p> <ul style="list-style-type: none"> • ASL part of the classroom, lesson delivery, materials. • All students use ASL • Deaf instructor teaches ASL to all students • Students and teacher talk to Deaf child directly <p>Ex. A student with lower language level</p> <ul style="list-style-type: none"> • Language scaffolding available for all students • Visual instructions given to all and left on overhead • Word Wall • TA sits with table group • All students have the same assignment which is multi-leveled.

Furthermore, these strategies might be maximally supported by corresponding school wide, community, and larger systemic structures as is consistent with the UD construct. Even in the absence of aligning practices to the UD construct, the same types of practices might emerge in schools. UD may or may not provide an appropriate framework for evolving practices.

Facilitators and Challenges of UD.

Participants in this study found that there were facilitators and challenges to implementing UD practices. Some of the challenges and facilitators described by them paralleled those in the inclusive education (Stanovich & Jordan, 2004; Stockhall & Gartin, 2002) and UD research (McGuire & Shaw, 2004; U.S. Department of Education National Institute, 2004).

A focus on teachers being central to the success of UD practices, and the need for teacher professional development and support, were identified in this study. This parallels Stanovich and Jordan's (2004) research results which suggested that classroom teachers are a critical factor for effective inclusion. They found that: "classroom teachers are the key to the successful inclusion of students with disabilities in general education" (p. 170). Similar to the perceptions of participants in the UD study, their participants also highlighted a) the need for collaboration, b) the importance of moving supports into the classroom, and c) the significance of ongoing, on site, hands on, side-by-side, training of teachers.

McGuire, Scott and Shaw (2004) facilitated UDI practices by creating and sustaining faculty focus groups and through professional development for faculty

and administration. They also worked specifically to define UDI practices and highlighted these practices on the internet, through Learning Communities, and through other departmental support. They set up a *Facultyware* website (McGuire & Scott, 2006) specific to UDI and highlighted model UD practices and Learning Communities. The latter involves professors from different settings who had incorporated innovative strategies were also recruited to share and teach their strategies. Finally, they packaged examples of UDI instructional planning, delivery, and evaluation for field-testing and use by other instructors.

The participants in this study perceived similar types of supports as being potential facilitators of UD for teachers in public schools. They felt that specific books and tools needed to be developed and that “hands on” learning was necessary. They also perceived the support and encouragement of the larger system, especially the Department of Education, Citizenship and Youth, as a potential facilitator of UD practices.

The results of a study by the U.S. Department of Education National Institute on Disability and Rehabilitation Research (2004) identified facilitators of UD in the business world. Interviews were given to staff to obtain their perspectives of challenges in implementation of UD in 23 businesses. Results indicated that a positive attitude or “belief in UD” and the benefit of UD for all consumers were important. Other facilitators of UD were knowledge about UD, internal support for implementation of UD, outside pressure for UD products, formal UD regulations, and linking to the current product. Participants in the business study also identified barriers to UD which were: a) lack of knowledge

about UD, b) lack of time for initial development of UD products, c) lack of adequate resources, d) need for an internal staff development process, and, e) need for adoption of UD on a broader business level.

There were many parallels to the challenges and facilitators of UD in the businesses that were also found by participants of this study. Participants of both studies similarly perceived professional and “people oriented” factors such as mindset, competence, human needs, and experience as important considerations in the development of UD products/practices. Both groups also discussed environmental as well as systemic challenges and facilitators. The latter, as noted in the business study, included resources, larger systemic support, and training.

Keep working, thinking and evolving practices

Participants in this study felt that it was critical to continue to move towards inclusion and work hard to program well for all of their students. They felt that focusing on UD and the principles supported emergence of more inclusive practices and that they could continue towards “even better” UD practices. The need to continue to evolve teaching towards more inclusive practices and school systems is salient in the inclusive education literature (Bauer & Kroeger, 2004; Giangreco et al., 2001; Hammond & Ingallis, 2003; Kugelmass, 2001; Meyer, Pisha & Murry, 2001). More than a decade ago, Ferguson (1994) advocated for “systemic inclusion” where “every child should have the opportunity to learn” in a system where “special education becomes less special and separate” (p. 285). Even though practices have evolved to

become more inclusive, these sentiments are echoed today by others including Villa and Thousand (2005) who stated that we need to continue to work on “advancing school cultures that welcome, value, empower, and support the diverse academic and social learning of all students in shared environments and experiences” (p. vii).

UD may or may not have potential on a larger or systemic level to help educators think about more inclusive practices and a more unified educational system. Furthermore, the efficacy and effects of the UD practices perceived by this small group of teachers are unknown and may ultimately have either a positive or negative impact on student learning. Regardless, participants in this small study perceived UD practices emerging in their classrooms as helping them move towards their goal of inclusion and increased learning for all students. They felt that they were able to apply the UD construct and principles from the field of architecture to education even though “dealing with the human condition.....was a billion times more difficult and more complicated than building a ramp.”

A Summary of UD Teaching Characteristics

Based on this small study and the perceptions of the seven educators involved in it, a picture of UD teaching characteristics that emerged in this inclusive school can be drawn. It demonstrates how the concept of UD was perceived to fit within the existing inclusive education mindset of these educators and it summarizes the emergent practices that aligned with the UD principles within the context of two real classrooms in Manitoba. The educators felt that

using the UD framework resulted in more effective inclusion than traditional adaptations.

UD Fits Within the Existing Inclusion Belief System

The staff accepted all of their students and valued human diversity. They thought that including all students, regardless of their diverse needs, was important as well as the right thing to do both morally and ethically. Not only did they feel it was the right thing to do, they thought that inclusion was beneficial for both teachers and students. Academic benefits included enriched learning, and social benefits included increased caring for others, communication amongst individuals, understanding, and friendships.

These educators wanted to include everyone socially and academically within their school community as well as build towards a more egalitarian and just society. Their belief system was generally reflected in the manner in which they interacted with staff, volunteers, parents and the community. Educators felt that the UD concept fit within their perceptions of inclusive education and their beliefs about the way they felt the school community should ideally function. The belief system in the school drove teaching practices which were already evolving towards alignment with the UD concept and principles. They felt that a positive attitude regarding inclusion was necessary in order to use the UD framework which could then further development of more inclusive teaching practices and, ultimately, result in better inclusion.

Classroom-wide Practices

Many classroom-wide practices that seemed to fit the UD paradigm and align with the principles were consistently used by educators. These classroom-wide practices largely incorporated adaptations previously used for specific students with special needs into regular classroom instruction. This meant that teachers thought of, planned for, and taught all of their students within “regular” instruction without “adding on” adaptations for certain students.

Common practices included teaching in centers or small groups and individualizing instruction for all students, as needed, on an ongoing basis. The educators provided students with educational and engagement choices that accommodated varying learning styles and skill levels. Programming also tended to be open-ended and included inherent scaffolding (such as pre-teaching, peer support opportunities, and leveled assignments). Other practices that aligned with the UD principles included focusing on the acoustic environment, providing visuals, gesturing, project-based learning, chunking information, and providing students with examples of work.

School-wide Practices

Several school-wide practices were also felt to facilitate more equitable, flexible, clear, comfortable and tolerant student learning. All of the teachers were part of the Teacher Resource Model at the school which meant that they were accountable for program development and delivery for many of the students with special needs in their classrooms. They also participated in a Teacher Leadership program that had staff working in classrooms to train peers in specific

teaching techniques. The school-wide Reading and Mathematics programs targeting specific student skill development. One special school-wide program was ASL for ALL where all students in the school were provided with opportunities to develop skill in American Sign Language.

Various forms of teaming and collaboration were evident school-wide and viewed as critical to implementing inclusive UD practices. Teaming occurred primarily within the regular classroom context and involved specialists from within the school, the division, and the larger educational community.

Degrees of UD Implementation

All of the participants were working towards developing UD practices and were implementing them to different degrees. Some staff infused UD practices broadly throughout the day while others implemented them in a more limited manner. The degree of implementation was felt to be influenced by years of teaching experience, subject area, student disability, teacher knowledge about the curricular content, and supports available. All of the participants were working towards maximal use of UD teaching practices because they felt that the more they infused practices aligned with the UD principles, the closer they came towards their goal of inclusive education.

Challenges and Facilitators

Facilitators of UD in the school included maintaining a positive mindset about inclusive practices, having confidence in oneself, being competent in the subject area(s), and gaining experience working with diverse student needs. The support of parents, the community, the school division and the government also

helped educators continue to evolve their practices. Financial support, emotional support and tangible supports such as appropriate professional development materials were noted as important facilitators.

Educators faced challenges in aligning practices with the UD principles and acknowledged that it was hard work. It involved taking time to think, plan and meet. It was a struggle to balance their home life with their workload at school. Teaching demands also needed to be balanced. Some of the specific challenges that educators faced within the school included: a) meeting diverse student needs while working on curricular outcomes, b) dispelling persistent negative attitudes and prejudices about certain disabilities, c) dealing with limited resources, and d) creating receptive acoustic environments for students.

Hope for the Future of UD

Educators were hopeful for evolution of an improved, more unified and inclusive school system that was responsive to the needs of all students. They were willing to continue working towards this goal and felt that their practices were evolving in this direction. They recognized that, somehow, they could and must constantly improve their practices to better meet the diversity of student needs through “regular” classroom instruction. The UD principles, used as a framework, were seen as having potential to move educators forward in their development of more inclusive and effective teaching practices. Hence, the next step in professional development might be to design ways to specifically support teachers in understanding and incorporating the UD principles specifically within the main instructional areas of planning, teaching/learning and assessment.

Understanding UD within the Current Inclusive Education Schemata

There is confusion in the field of inclusive education regarding where inclusion begins and ends. Defining “perfect” or “full” inclusion is a difficult task and determining when it has been attained is even more complex. We are striving for increasingly better inclusion and we have progressed to a point where we know it involves the dimensions of attitude, skills, and knowledge. These same dimensions are involved in UD. The difference between UD and the current inclusion model lies in *how* these dimensions are applied.

Currently, for inclusion to be effective, we know that a positive attitude of teachers accepting students with special needs is important. These students should, for example, be a part of the social milieu and engaged academically. For UD to be put into practice, teachers would work from the same premise, but, they must also consider *how* the social and academic participation occurs within the framework of the UD principles. All students should be engaged socially and academically, to the greatest extent possible, in an equitable, flexible, tolerant, comfortable, and safe manner.

In inclusive education, adaptations are the skill set of practices that are implemented for students with special needs to facilitate their inclusion in the regular classroom. Adaptations might include post teaching information to the student with special needs to ensure his or her comprehension of material, or providing an ASL interpreter so that he or she can understand information. Within the UD framework, the same skill set of adaptations might be implemented but it is *how* they are implemented that differs. The adaptations

must be planned for and implemented as part of the larger instructional plan to be UD practices. And they must be implemented in an equitable, flexible, tolerant, safe, and comfortable manner. The same adaptations of post teaching or ASL are implemented as a part of an educational plan to ensure that the diverse needs of all students are met rather than for a specific student because he or she has special needs.

The goal of both UD and the current inclusive education model is the same; to develop a way of “thinking and acting that allows every individual to feel accepted, valued, and safe” (Manitoba Education, Training and Youth, 2001, p. 5). A general knowledge base or understanding of inclusion is needed to develop effective inclusive education practices. An educator who wants a student with special needs to be included in the classroom generally implements (or has an educational assistant implement) adaptations to the regular program specifically to meet his or her specific needs. UD, on the other hand, provides a more prescriptive knowledge base, a theoretical framework with principles, to guide educators in *how* to apply practices. UD theory mandates that educators think of all students at the outset and design and implement instruction to meet their diverse range of needs. Design and implementation must align with the UD principles of equity, clarity, tolerance, flexibility, safety, and comfort.

In conclusion, for the current inclusive education model to be operationalized, adaptations are put in place for one student so that he or she can “fit” into the regular classroom. Hence instruction generally remains the same with alterations for one student. UD, on the other hand, *changes how*

instruction occurs meet the needs of all students in the classroom. It potentially is more inclusive has the added benefit of enhancing learning for all students. Teachers working from the UD framework can not simply adapt after-the-fact but must change the way that they do business in the classroom to meet the full constellation of student needs equitably, flexibly, clearly, safely, and with tolerance!

Policy Implications for Implementation of UD

Educators in this study have suggested that UD practices better achieve the goal of inclusion and have potential to benefit all students. Although changes in policy to implement the UD framework would obviously not occur without much more research in the area of UD, the implications can be imagined. As participants in this study have indicated, systemic support at all levels would be critical. This includes government, post secondary institutions, school divisions, schools, and classrooms.

Government regulations requiring teacher certification to include an understanding of UD practices might begin the process. Documents, workshops, and hands-on support personnel to work with divisions might be available to school divisions. Current funding processes would need to be examined and aligned. Post secondary institutions would need to include adequate instruction including courses on UD. School divisions would need to examine hiring practices to ensure new staff had an understanding of UD. Professional learning communities might be established to facilitate growth and implementation of UD practices. Schools would need to embrace UD as important and perhaps

restructure to support the concept of including diverse student needs within every classroom. Finally, teachers would need to understand, commit to, and work to implement UD practices.

The systemic change necessary to infuse a new way of including all students in our schools would be huge and would take years to evolve. It would require long term planning, commitment of resources, and collaboration of special and regular education. The potential policy implications are inevitably numerous and complex for the depth and breadth of change that would be required for them to align with the UD framework.

Significance of Findings

Despite the limitations of this small study, several important conclusions may be drawn from the data. Each may have significant implications for the future of UD practices and educational practices in general.

Inclusion Beliefs Drove UD Practices

First, participants in this study indicated that their strong, favorable underlying beliefs about inclusion as “good” and “the right thing to do” drove them to continue to evolve their teaching practices. They believed whole-heartedly in the value of inclusion and felt that thinking about teaching within the parameters of the UD framework brought them closer to this goal. They perceived the UD practices that were emerging in their classrooms to be increasingly aligned with their beliefs about inclusion, education, and the way students learn.

Philosophically, the construct made sense in light of inclusive education teaching practices.

This is significant because research in the field of special education has found that the North American belief in inclusion has become stronger and that this belief system has historically driven practices, policies, and (eventually) legislation. Links between the belief system of inclusion and practices perceived as aligned with it are significant in the ongoing quest for more inclusive practices. Although this was a small exploratory study, it indicates that UD as a philosophical construct may be a worthwhile for educators to explore further to determine the possibilities of increasingly aligning their practices in the classroom with their current inclusive education belief system.

Inclusive Staff Could Define UD Practices

Second, this study began to explore what seven staff in one school felt UD educational practices might actually look like in an elementary setting. These educators felt that classroom wide and school wide practices that were aligned with the UD principles did emerge. They could describe these practices as they existed in their two classrooms. Similar types of practices have been identified through research at the post secondary level by McGuire, Scott & Shaw (2004) but have not been identified in Canada or in the public school system.

The current data indicated that the analogy of UD in architecture was possible to transfer, in practice, to UD in elementary education, at least by these few educators and in two classrooms. This is important because it means that UD educational practices may have potential to be explored in classrooms and understood by educators within the field of education.

UD May Influence Continued Evolution of More Inclusive Teaching Practices

Third, the educators who participated in the study were already moving towards UD practices by expanding accommodations traditionally made for students with special needs and using them as classroom-wide strategies. They felt that focusing on UD principles encouraged further movement towards, and clarity in understanding their inclusive practices. For them, the UD principles facilitated their ability to think of more ways to expand their repertoire of teaching practices to better accommodate diverse student needs within the regular classroom environment.

Other researchers such as Cozzuol et al. (2004), Scott, McGuire and Shaw (2003), Stanovich and Jordan (2004), and Stockhall and Gartin (2002) had already suggested that teachers might use accommodations for students with special needs more broadly. It may be that one of the ways traditional special educational practices can evolve and become less focused on designated students with special needs and more focused on classroom-wide practices that meet the diverse needs of all students is by using the UD principles as a framework. This is important as UD may be worth exploring as a construct for the evolution of more inclusive practices.

UD Practices May Support a Unified Educational System

Fourth, the underlying premise that UD practices benefit *all* students was perceived as important to the participants in this study. Their understanding of the link between using UD practices and obtaining social and academic benefits for an increasingly large number of their students was clear. As mentioned

earlier, UD is intuitively enticing as a means of increasingly providing access for all and accepting human diversity.

In this study, creating a small school community that was accepting of the range of human diversity was seen as advantageous for each child specifically, and for the education system generally. Beyond social benefits, participants made a positive link between UD and improved academic outcomes for all students. Aligning practices with the UD principles was not without challenges; however, it could be done by the seven participants in this study and it might be worth exploring as supportive of systemic evolution of practices and *really* including all children in the regular learning environment.

Implications for Future Research

In this small study I have fostered an awareness of UD, a new concept in the field of education, and explored the perceptions of seven educators on UD practices that emerged in two elementary classrooms. I found that these educators could define and demonstrate their perceptions of classroom-wide and school-wide UD practices. They also linked these practices to more inclusive instruction and felt that they were aligned with their core beliefs about teaching and learning. Much more research is needed to expand this initial glimpse within the elementary area. UD needs to be looked at in more classrooms, in more schools, and at other grade levels. Would similar types of UD practices emerge? If so, would other educators feel that they facilitated inclusion? Many other research questions need to be explored.

Research Questions

Longitudinal research would also contribute to the knowledge base in relation to UD practices. Do UD practices remain the same, dissipate, or evolve over time? If UD practices dissipate over time, what is the impetus and do teachers return to the accommodation model of instruction? If practices evolve to become increasingly universal, what do they look like? What factors are associated with the evolution of UD practices?

Further work in linking UD practices to inclusion is needed to determine if this is a persistent, consistent link, applicable across schools, classrooms, educators, students, and grade levels. Is the link to inclusion stronger in some schools or at some levels? If so, what strengthens the link? Do UD practices better support students in certain grades or with certain disabilities? Can UD practices flourish in isolated classrooms or are school-wide supports necessary?

Further research is needed to explore the effects of UD specifically on student social and academic learning. Although teachers in this study felt that social and academic learning were enhanced by UD practices, specific qualitative and quantitative measures need to be implemented at various levels, in diverse classrooms, and with students with and without disabilities. If UD practices facilitate better student outcomes, how much better and in which subject areas? Can the social benefits be defined and measured?

Only staff perceptions were sought in this study and future research should include input from others such as students, parents, and community

members. Can they define UD practices in classrooms? Do they view UD practices positively? If so, for which students and at which grade levels?

The influence of staff beliefs and roles within the school needs to be further explored in light of their effect on UD practices. How much of an influence does the administrator have on UD practices in the school? Would UD practices continue or emerge regardless of administrative support for inclusion? What kind of leadership is necessary to optimally facilitate the evolution of UD practices?

UD needs to be explored systemically as this study indicates that the support of school divisions and provincial governments may have an important influence on teaching practices. How do funding allocations and systemic policies affect inclusive practices in classrooms? What kinds of provincial, divisional, and local financial and systemic supports would facilitate UD practices in classrooms?

Future Implications

UD is a new theoretical construct in the field of education and this small exploratory study provides some promising initial links to educator's perceptions of improved inclusion, student learning, and professional practice. As quality inclusive education for all students is highly valued, it is worthwhile for UD practices to be explored, validated and understood from various perspectives.

Establishing a clearer vision of UD teaching practices may help educators evolve their current practices to think about the potential of UD and its principles. Perhaps, as suggested by participants in this study, the evolution of current accommodations for students with special needs into classroom wide inclusive

practices, and increased on site collaboration with specialists, could to some extent form the foundation for UD in instruction and inclusion.

The vision of UD presented by the participants in this study indicates that it may have potential to facilitate inclusion and to affect students' academic and social outcomes in some classrooms or schools. It may be a broad, deep, constantly evolving concept that extends beyond individual students, instructional strategies, the classroom, the home, and the school. UD needs to be further examined and defined in light of our students as well as the larger government and societal structures. UD education may contribute to deconstruction of "special education" as a separate practice and increase the development of holistic, meaningful, educational approaches that meet the diverse array of student needs within a culture and climate that is inclusive and conducive to learning for all of our students. To this end, the potential contribution of UD practices to the field of education cannot be ignored.

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APPENDIX A

Interview Guide for Semi-Structured Interviews:

(Expected Time Frame: 60-90 minutes)

I will read the following information to each staff member before the interview:

Thank you for participating in this study of UD practices. The following questions are designed to obtain specific information on UD practices in your classroom. Even though I am very positive about UD and committed to it, I want you to include information about the negatives of UD. It is especially important for me to be aware of and understand criticisms and potential problems with UD practices from your perspective. I need to know if you feel that UD is worth a large investment of time and energy. The literature is very positive about UD but there has been very little research and very little feedback from teachers.

You do not have to answer any of the questions and you are free to withdraw from this study at any time. When I am transcribing our interview information, I will use a pseudonym for you and will not name or identify any students. I will not use quotations or descriptions which might identify you or your students. I promise that everything you say will be held in confidence. I will be audio-taping this interview so that I can have an accurate record of your information, and I will take notes during our conversation. These tapes and notes will be kept in locked cabinet in my house and will be destroyed following completion of the study. Do you have any questions or concerns?

1. Tell me a bit about your background in teaching.
 - Basic demographic information
 - How long have you been teaching?
 - What grade levels have you taught?

2. What are some of your most effective teaching strategies?
 - How do you make sure all of the kids understand you?
 - What kind of assignments do you like to give the students?
 - What do you do if kids don't understand?
 - Can you describe some of your favorite approaches?
 - Have your practices changed over the years?
 - Do you have any samples you can share with me?

3. Can you describe the students in your classroom this year?
 - Student diversity in the classroom?
 - Special learning needs in the classroom?
 - A lot or a few special learning needs?
 - What kinds of special learning needs?
 - Instructional needs?
 - What about academic diversity? (reading and math levels).
 - Any groups of students that take a lot of your time?
 - Any students that you feel you have not met needs for?

4. Do you change your teaching practices based on the students you have?
 - Do you use accommodations for students?---which ones?
 - Manitoba Department of Education Adaptation checklist?
 - How do you implement accommodations? Examples?

5. What motivates you to alter your practices to meet student needs?

6. Tell me about your "UD practices."
 - How is that the same or different from before?
 - Do you think that the "planning at the outset" is critical or not?
 - Why or Why not?
 - Does it make a difference for different subject areas? How?

- Have parents or students provided and specific feedback?
 - Have you seen any similarities or changes specifically for students with special needs?
 - Do you have any examples of assignments, student work or documentation that indicate these similarities/differences?
7. Do you think your UD practices align with the UD principles or not?
- If yes, which ones in particular? Examples? If no, which ones and why not?
 - Any specific principles you want to discuss?
 - Equitable? Flexible? Straight Forward? Simple? Comfortable?
8. Do any of the following factors have an impact on your implementation of UD teaching practices or not?
- Time? Technology? Funding? Labour?
9. What are the challenges of implementing UD practices?
- What challenges do you see for the future?
 - What challenges might there be for other grade levels?
 - What challenges might there be for various teachers? Students?
10. How do you see students with special needs in your class being included?
- Has this remained the same or changed since implementing the UD approach?
 - What are some specific examples that you have noticed?
 - Have parents or students specifically made any comments on inclusion since implementation of UD?
11. In general, how do you feel the UD project is progressing for you?
- Any disappointments? Thrilling moments?
 - What was the most difficult thing for you? For the students?
12. UD came from the field of architecture. Do you really think this concept from the world of buildings can be applied to the process of education? Is it the same or is it different? How? (EX. We build the UD entrance with a ramp or flat entry only once while, with curriculum, are we "building it" every time you teach or only once?)
13. What, if anything, do you think UD holds for the future?
- Would you recommend pursuing PD in the area of UD for teachers? Why or Why not?
 - Would it be worth the time, energy, and money required to move in the direction of UD?
14. What proportion of your instruction has already been structured on UD?
- What difference does it make when you make adaptations in the planning phase instead of adding them on later?
 - Do you see yourself completely implementing UD?
 - How long do you think it would take? Why?
 - Do you have any suggestions about the best way to convert to UD?

APPENDIX B

Sample Letter of Consent for School Division and Superintendent

Date

Dear WSD Ethics Review Administrator/WSD Superintendent

I am a graduate student from the University of Manitoba working on my doctoral dissertation. Several schools in WSD are currently participating in Universal Design (UD) Projects and are working on developing universal design practices. ***UD is a way of teaching that involves planning, at the outset, to meet the full range of diverse student needs within the regular classroom instead of adapting instruction later to meet the needs of certain students.***

My goal is to explore and describe the UD practices that are being used in classrooms and to see if they influence inclusion of students with special needs. To obtain participants for the study, I would like to approach principals who I know are participating in UD projects and invite them to participate in my study. I would accept the first principal who would like to participate. I would then have the principal identify eight staff members especially interested in UD practices and invite those individuals to participate. I would, with the help of my doctoral committee, choose four to six from the pool of those staff members agreeing to participate. I am writing to ask your consent to contact a principal and to collect data from four to six staff members from his/her school about a UD project. The study involves interviewing each staff member regarding how he/she feels about the evolution of UD practices through the project. I would also observe in classrooms of participating staff and collect documentation that they wish to share in regards to their developing teaching strategies. The documentation may include copies of daybooks, journal entries, observation records, student work, or anything else that might reflect instructional practices in the classroom. Any verbal, observed, or printed information that I collect will be confidential and all identifying information will be removed.

The one to one interviews will be about 60-90 minutes in length and I will require one follow-up interview of about 30 minutes. I will audio tape and then transcribe in writing the interviews verbatim. I will transcribe the information soon after the interview without any identifying information and using pseudonyms. I will keep the audiotapes in a locked cabinet in my home and destroy them following completion of the study. I will do observations by sitting unobtrusively at the back of the class and taking notes. I will probably need two observations, each of about .5 to 1.5 hours ***but I may require a third observation of approximately the same length of time.*** Any information that is provided to me, in writing, verbally or through observations, will be confidential and identifying information will not be printed anywhere. I may be sharing information with my doctoral committee to help me identify and synthesize themes, but I will not use any identifying information.

I would be scheduling interviews and observations during times that are most convenient for staff. I will not be disrupting instructional time in the classroom. Participation in interviews, observations and documentation collection is voluntary and each individual has the right to discontinue providing data at any time ***by informing me or the principal, verbally or in writing.*** All participants will receive a one to two page analysis of the findings following the completion of the study. I would be happy to send you this analysis as well. I may be publishing all or parts of these research results in a professional journal at a later date, or I may use the information for professional presentations to educators. No identifying information of the staff, the students, or the school will be evident.

Prior to observing in any classroom, the attached letter of consent must be signed by staff and letter of consent must also be signed by parents. I will include descriptions of behaviours and collect copies of work samples (without identifying information) only from students whose parents have signed the letter agreeing that I can do so. In the classroom, teachers will read the following script to students:

“Mrs. Priestley is doing some research for her doctorate at the University of Manitoba. She wants to see how I am teaching so she will be observing me. I may want to let her use some of your work samples so that she can see the kind of work that I give students. We will photo copy your paper with your name covered so that nobody knows whose work it is. I will ask your permission before I copy your work. You can feel free to say no if you do not want your work copied. It will not make any difference to your grade if you say no. Mrs. Priestley will be sitting at the back of the classroom and take notes so that she can remember how I am teaching. Your parents know about Mrs. Priestley’s visit because we sent a letter home asking them for permission to observe and to use your work. We will not use any of your work if you do not want it used or if your parents did not sign the letter. Do you have any questions or concerns?”

Included in this letter is a consent form. This consent form, a copy of which will be left with you for your records and reference, is only a part of the process of informed consent. It should give you the basic idea of what the research is about and what your participation will involve. If you would like more detail about something mentioned here, or information not included here, you should feel free to ask. Please take time to read this carefully and to understand any accompanying information.

If you are willing to accept this invitation and participate in the study, I would ask that you read and sign the enclosed Consent Form and return it to me in the enclosed self-addressed envelope or send me your Division approval form. If you have further questions or require further information, please contact me at: Karen Priestley (_____ or _____) or you may contact my advisor, Dr. Rick Freeze at 474-6904) at the University of Manitoba, Faculty of Education.

Thank you for your consideration.
Sincerely,

Karen Priestley

INFORMED CONSENT FORM – Division Ethics Administrator/Superintendent

Your signature on this form indicates that you have understood to your satisfaction, the information regarding participation of Winnipeg School Division in my research study. In no way does this waive your legal rights nor release the researchers, sponsors, or involved institutions from their legal and professional responsibilities. You are free to withdraw from the study at any time, and/or refrain from answering any questions you prefer to omit, without prejudice or consequence. ***You can withdraw from the study by informing me verbally or in writing.*** Your continued participation should be as informed as your initial consent, so you should feel free to ask for clarification or new information throughout your participation.

Principal Researcher: Karen Priestley
; email _____
Doctoral Advisor: Dr. Rick Freeze
474-6904

This research has been approved by the University of Manitoba Education/Nursing Research Ethics Board (ENREB). If you have any concerns or complaints about his project, you may contact the above named persons or the Human Ethics Secretariat at 204-474-7122, or email _____ A copy of this consent form has been given to you to keep for your records and reference.

Division Name: **THE WINNIPEG SCHOOL DIVISION**

Division Ethics Administrator/Superintendent: _____ Date: _____
Researcher’s Signature: _____ Date: _____

April 11, 2005

Dear Principal,

I am a graduate student from the University of Manitoba working on my doctoral dissertation. You are currently participating in a Universal Design Project at your school and are working on developing universal design practices. UD is a way of teaching that involves planning, at the outset, to meet the full range of diverse student needs within the regular classroom instead of adapting instruction later to meet the needs of certain students. I am writing to ask your consent to collect data from you and four to six staff members about this project. This means that I would interview each individual regarding how he/she feels about how universal design practices have evolved through the project. I would also like to observe in classrooms of participating staff and collect documentation that they wish to share in regards to their developing teaching strategies. The documentation may include copies of daybooks, journal entries, observation records, student work, or anything else that might reflect instructional practices in the classroom. Any verbal, observed, or printed information that I collect will be confidential and all identifying information will be removed.

The formal interviews will be about 60-90 minutes in length and I will require one follow-up interview of about 30 minutes. I will audio tape and transcribe in writing the interviews verbatim. I will transcribe the information soon after the interview, using pseudonyms and without any identifying information. I will keep the audiotape in a locked cabinet in my home and destroy it when the study is complete. I will probably do two classroom observations, each of about .5 to 1.5 hours but I may require a third observation of approximately the same length of time. Any information that is provided to me, in writing, verbally or through observations, will be confidential and identifying information will not be printed anywhere. I may be sharing information with my doctoral committee to help me identify and synthesize themes, but I will not use any identifying information.

I will be scheduling interviews and observations during times that are most convenient for staff. I will not be disrupting instructional time in the classroom. Participation in interviews, observations and documentation collection is voluntary and each individual has the right to discontinue providing data at any time by informing me or you, verbally or in writing. All participants will receive a one to two page analysis of the findings following the completion of the study. I may be publishing all or parts of these research results in a professional journal at a later date, or I may use the information for presentations to educators. No identifying information of yourself, the staff, the students, or the school will be evident.

Prior to observing in any classroom, the attached letter of consent must be signed by parents. I will include descriptions of behaviours and collect copies of work samples (without identifying information) only from students whose parents have agreed that I can do so. Additionally, I will have the teacher read the following script to the students:

“Mrs. Priestley is doing some research for her doctorate at the University of Manitoba. She wants to see how I am teaching so she will be observing me. I may want to let her use some of your work samples so that she can see the kind of work that I give students. We will photo copy your paper with your name covered so that nobody knows whose work it is. I will ask your permission before I copy your work. You can feel free to say no if you do not want your work copied. It will not make any difference to your grade if you say no. Mrs. Priestley will be sitting at the back of the classroom and take notes so that she can remember how I am teaching. Your parents know about Mrs. Priestley’s visit because we sent a letter home asking them for permission to observe and to use your work. We will not use any of your work if your parents did not sign the letter. Do you have any questions or concerns?”

Included in this letter is a consent form. This consent form, a copy of which will be left with you for your records and reference, is only a part of the process of informed consent. It should give you the basic idea of what the research is about and what your participation will involve. If you would like more detail about something mentioned here, or information not included here, you should feel free to ask. Please take time to read this carefully and to understand any accompanying information.

If you are willing to accept this invitation and participate in the study, I would ask that you read and sign the enclosed Consent Form and return it to me in the enclosed self-addressed envelope. If you have further questions or require further information, please contact me at: Karen Priestley (_____ or _____ or you may contact my advisor, Dr. Rick Freeze at 474-6904) at the University of Manitoba, Faculty of Education.

Thank you for your consideration.
Sincerely,

Karen Priestley

INFORMED CONSENT FORM - Principal

Your signature on this form indicates that you have understood to your satisfaction, the information regarding participation of your school in the research and agree to participate in the study. In no way does this waive your legal rights nor release the researchers, sponsors, or involved institutions from their legal and professional responsibilities. You are free to withdraw from the study at any time, and/or refrain from answering any questions you prefer to omit, without prejudice or consequence. You can withdraw by informing me verbally or in writing. Your continued participation should be as informed as your initial consent, so you should feel free to ask for clarification or new information throughout your participation.

Principal Researcher: Karen Priestley
, email _____

Doctoral Advisor: Dr. Rick Freeze
474-6904

This research has been approved by the University of Manitoba Education/Nursing Research Ethics Board (ENREB). If you have any concerns or complaints about his project, you may contact the above named persons or the Human Ethics Secretariat at 204-474-7122, or email margaret_bowman@umanitoba.ca. A copy of this consent form has been given to you to keep for your records and reference.

School Name: _____

Principal's Signature: _____ Date: _____

Researcher's Signature: _____ Date: _____

April 11, 2005

Dear Participant,

I am a graduate student from the University of Manitoba working on my doctoral dissertation. You are currently participating in a Universal Design Project at your school and are working on developing universal design practices. UD is a way of teaching that involves planning, at the outset, to meet the full range of diverse student needs within the regular classroom instead of adapting instruction later to meet certain student needs. I am writing to ask your consent to collect data from you about this project. This means that I would interview you formally regarding how you feel your practices have evolved through the project. I would also like to observe in your classroom and collect documentation that you wish to share in regards to your developing teaching strategies. The documentation may include your daybook, journal entries, observation records, student work, or anything else that might reflect instructional practices in your classroom. Any verbal, observed, or printed information that I collect will be confidential and all identifying information will be removed.

The first formal interview with you will be about 60-90 minutes in length and I will require a follow-up interview of about 30 minutes. I will audio tape and transcribe in writing the interview verbatim. I will transcribe the information soon after the interview using pseudonyms and without any identifying information. I will store audiotapes in a locked cabinet in my home and destroy them after the study is completed. I anticipate two classroom observations, each taking .5 to 1.5 hours but I may require a third observation of approximately the same length of time. Any information that you provide me, in writing, through observations, or verbally, will be confidential and identifying information will not be printed anywhere. I may be sharing information with my doctoral committee to help me identify and synthesize themes, but I will not use any identifying information.

I will be scheduling interviews and observations during times that are most convenient for you. I will not be disrupting your instructional time in the classroom. Your participation in interviews and observations is voluntary and you have the right to discontinue providing data at any time. You can withdraw by informing me or your principal, verbally or in writing. You will receive a one to two page analysis of the findings following the completion of the study. I may be publishing all or parts of these research results in a professional journal at a later date, or using the information for presentations to educators. No identifying information of yourself, the students, or the school will be evident.

Prior to observing in your classroom, the attached letter of consent must be signed by parents. I will include descriptions of behaviours and collect copies of work samples (without identifying information) only from students whose parents have agreed that I can do so. Additionally, I will have you read the following script to the students:

“Mrs. Priestley is doing some research for her doctorate at the University of Manitoba. She wants to see how I am teaching so she will be observing me. I may want to let her use some of your work samples so that she can see the kind of work that I give students. We will photo copy your paper with your name covered so that nobody knows whose work it is. I will ask your permission before I copy your work. You can feel free to say no if you do not want your work copied. It will not make any difference to your grade if you say no. Mrs. Priestley will be sitting at the back of the classroom and take notes so that she can remember how I am teaching. Your parents know about Mrs. Priestley’s visit because we sent a letter home asking them for permission to observe and to use your work. We will not use any of your work if your parents did not sign the letter. Do you have any questions or concerns?”

Included in this letter is a consent form. This consent form, a copy of which will be left with you for your records and reference, is only a part of the process of informed consent. It should give you the basic idea of what the research is about and what your participation will involve. If you would like more detail about something mentioned here, or information not included here, you should feel free to ask. Please take time to read this carefully and to understand any accompanying information.

If you are willing to accept this invitation and participate in the study, I would ask that you read and sign the enclosed Consent Form and return it to me in the enclosed self-addressed envelope. If you have further questions or require further information, please contact me at: Karen Priestley (_____ or _____) or you may contact my advisor, Dr. Rick Freeze at 474-6904) at the University of Manitoba, Faculty of Education.

Thank you for your consideration.
Sincerely,

Karen Priestley

INFORMED CONSENT FORM - Staff

Your signature on this form indicates that you have understood to your satisfaction, the information regarding participation of your school in the research and agree to participate in the study. In no way does this waive your legal rights nor release the researchers, sponsors, or involved institutions from their legal and professional responsibilities. You are free to withdraw from the study at any time, and/or refrain from answering any questions you prefer to omit, without prejudice or consequence. You can withdraw by informing me or your principal, verbally or in writing. Your continued participation should be as informed as your initial consent, so you should feel free to ask for clarification or new information throughout your participation.

Principal Researcher: Karen Priestley
, email : _____

Doctoral Advisor: Dr. Rick Freeze
474-6904

This research has been approved by the University of Manitoba, Education/Nursing Research Ethics Board (ENREB). If you have any concerns or complaints about his project, you may contact the above named persons or the Human Ethics Secretariat at 204-474-7122, or email margaret_bowman@umanitoba.ca. A copy of this consent form has been given to you to keep for your records and reference.

School Name: _____

Staff Signature: _____ Date: _____

Researcher's Signature: _____ Date: _____

April 11, 2005

Dear Parents,

I am a graduate student from the University of Manitoba working on my doctoral dissertation. Your child's teacher is currently participating in a Universal Design Project at your school and is working on developing universal design teaching practices. This means that she is trying to plan more universally, at the outset, to meet the full range of diverse student needs within her classroom instead of adapting instruction later to meet the needs of certain students. I will be observing the teacher in the classroom and looking at some of the work that her students are doing in response to instruction. I will probably be observing twice, each time for around one hour. I may require a third observation.

I am writing to ask your consent to include your child in descriptions that I write about what the teacher is doing. For example, I might note that "three children answered the teacher's questions." I may also collect a photocopy of samples of student work that the teacher feels reflect her universal design practices (such as a completed project). I may collect teacher day book information, teacher journals, classroom materials, student assignments, student work samples or any other information that the teacher feels reflect her teaching practices. I would describe student behaviour in general and will not use any real student names in my observation notes. I would white-out names on any photocopied work samples. If I collect any observed or printed information of your child, it will be confidential and all identifying information will be removed. I may be sharing information with my doctoral committee to help me find and understand themes, but I will not use any identifying information.

Prior to observing in the classroom, the teacher will read the following script to the students:

"Mrs. Priestley is doing some research for her doctorate at the University of Manitoba. She wants to see how I am teaching so she will be observing me. I may want to let her use some of your work samples so that she can see the kind of work that I give students. We will photo copy your paper with your name covered so that nobody knows whose work it is. I will ask your permission before I copy your work. You can feel free to say no if you do not want your work copied. It will not make any difference to your grade if you say no. Mrs. Priestley will be sitting at the back of the classroom and take notes so that she can remember how I am teaching. Your parents know about Mrs. Priestley's visit because we sent a letter home asking them for permission to observe and to use your work. We will not use any of your work if your parents did not sign the letter or if you say no. Do you have any questions or concerns?"

I will only be scheduling observations and collecting student information during times that are most convenient for the teacher. I will not be disrupting instructional time in the classroom. Participation in this study is voluntary and you have the right to refuse to provide consent or to have any of your child's work used. You also have the right to withdraw from the study at any time by informing your child's teacher. If you withdraw or do not consent, I will not write any descriptions specifically involving your child and I will not collect any photocopied work samples from your child. You will receive a one to two page summary of the findings following the completion of the study. I may be publishing all or parts of these research results in a professional journal at a later date, or I may use the information for presentations at workshops for educators. No identifying information of the teacher, the students, or the school will be evident.

Included in this letter is a consent form. This consent form, a copy of which will be left with you, is only a part of the process of informed consent. It should give you the basic idea of

what the research is about and what your child's participation will involve. If you would like more detail about something mentioned here, or information not included here, you should feel free to ask. Please take time to read this carefully and to understand any accompanying information.

If you are willing to accept this invitation give permission for your child to participate in the study, I would ask that you read and sign the enclosed Consent Form and return it to your child's teacher in the enclosed self-addressed envelope.

If you have further questions or require further information, please contact me at: Karen Priestley () or () or you may contact my advisor, Dr. Rick Freeze at 474-6904) at the University of Manitoba, Faculty of Education.

Thank you for your consideration.
Sincerely,

Karen Priestley

INFORMED CONSENT FORM - Parents

Your signature on this form indicates that you have understood to your satisfaction, the information regarding participation of your child in the research and agree that his or her behaviour may be described in observations or that a sample of his or her work may be photo copied. These will be related to the teacher's instruction. All identifying information will be removed in written descriptions and work samples so that your child's work or behaviour will be referred to in general terms by using a pseudonym. In no way does this waive your legal rights nor release the researchers, sponsors, or involved institutions from their legal and professional responsibilities. You are free to withdraw your child from the study at any time, without prejudice or consequence. You can withdraw by informing your child's teacher of your decision. Continued participation should be as informed as the initial consent, so you should feel free to ask for clarification or new information throughout your participation.

Principal Researcher: Karen Priestley
email _____

Doctoral Advisor: Dr. Rick Freeze
474-6904

This research has been approved by the University of Manitoba Education/Nursing Research Ethics Board (ENREB). If you have any concerns or complaints about his project, you may contact the above named persons or the Human Ethics Secretariat at 204-474-7122, or email _____ . A copy of this consent form has been given to you to keep for your records and reference.

Student's Name: _____

Parent's Signature: _____ Date: _____

Researcher's Signature: _____ Date: _____

APPENDIX C

ADAPTATION CHECKLIST DEFINITIONS

Following are some of the ways in which a student's educational program can be adapted to meet his/her specific educational needs:

- ⇒ **Pacing** -extend time requirements to complete assignments; vary activities often; allows breaks; send home text material for preview.
- ⇒ **Environment** -preferential seating; planed seating; alter physical room arrangements; define areas concretely; reduce/minimize distractions.
- ⇒ **Presentation of subject matter** - teach to student's learning style; utilize adapted curriculum.
- ⇒ **Materials** - Arrangement of material on page; taped texts; highlighted texts/study guides; note taking assistance.
- ⇒ **Assignments** -give directions in small distinct steps; use written backup oral directions; reduce paper and pencil tasks; adapt worksheets.
- ⇒ **Self-management** visual daily schedule, calendars; check often for understanding;have student repeat directions.
- ⇒ **Testing adaptations** -oral tests; taped tests; use of pictures; read test to student; teach language of test questions; shorten length of test; extend time; change format.
- ⇒ **Social interaction support** - peer advocacy, peer tutoring; structure activities to create opportunities for social interaction; focus on social processed rather than end product; teach social skills.
- ⇒ **Motivation and reinforcement** verbal; nonverbal; positive reinforcement; concrete reinforcement; offer choices.

Source: Manitoba Department of Education
Special Education Review '98