UNIVERSAL DESIGN IN EDUCATION: 
THE MISSING LINK?

By

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ABSTRACT

Although Universal Design (UD) was initially an architectural construct, the term is now used in a wide range of disciplines including education. Proponents believe that implementing UD principles will meet the needs of the broadest range of learners; not with a “one size fits all” answer for everyone, but rather through flexible curricular materials and activities. Skeptics argue that UD principles cannot be successfully transferred from one discipline (architecture) to another (education).

Using the critical analytical tools of the immanent critique, genealogy, and the ideal type critique (Skrtic, 1995); the practical and theoretical benefits, advantages, and potential as well as the challenges, problems, and limitations of Universal Design in education are explored in this study. Finally, the implications of UD in teaching, learning, and possible areas for future research are discussed.

Using a mixed method research approach of qualitative and quantitative research methods, I conducted a study that specifically explores educators’ and students’ perceptions of UD aligned teaching practices and their influence on the teaching and learning of students, and assesses the differences and similarities between student learning in two comparable classes studying the same senior high novel unit: with one class using UD aligned practices and the other class using traditional methods. While my study was unable to determine if implementing the principles of UD improved learning outcomes, it supports the notion that UD may help teachers provide more inclusive educational settings.
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I wish to thank my advisor, Dr. Rick Freeze, for making me believe that this small study was the most important one in the world.

I dedicate this thesis to my wife, Heidi, and my kids, Tatum and Tyrone, because I love you guys.
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Chapter 1

Introduction

Universal Design (UD) may be a key to realizing the full potential of inclusive education and, in this thesis, I hope to help unlock that possibility. This introductory chapter provides a rationale for the idea that inclusion in education better addresses the needs of all students, including those with disability and diversity characteristics. The literature review in Chapter 2 provides a critical analysis of UD in education using the tools of an immanent critique, genealogy, and an ideal type critique. The research design for my thesis is presented in Chapter 3. Findings are presented and discussed in Chapter 4.

Inclusion

There are several definitions of inclusive education. Students, teachers, and parents from around the World have reported academic and social advantages to providing educational opportunities for all students in mainstream settings, as opposed to segregated ones (Frederickson, Dunsmuir, Lang, & Monsen, 2004). For this paper I will use Moran’s (2007) definition, which describes inclusive education as the “entitlement of all children and young people to quality education, irrespective of their differences, dispositions or disabilities and is about embracing educational values of equity, diversity and social justice” (p.120).

A study done by Downing and Peckham-Hardin (2007) demonstrated the valuing of this position. After interviewing 58 parents, teachers, and students, Downing and Peckham-Hardin reported that most believed inclusive educational settings promoted high academic expectations, caring communities, and a more normalized life. As well, academic achievement may be enhanced. For example, in a study of 11,000
students with disabilities, Blackorby, Wagner, Cameto, Davies, Levine, and Newman (2005) discovered that students with disabilities who spent more time in general education settings had fewer absences and higher math and reading scores than students who spent less time in inclusive education. However, the concepts underlying inclusive education are complex and need to be explored to understand the issues that inclusive practices may imply.

Researchers have determined that there are several benefits of inclusion for all students. Stainback and Stainback (1996) believe there are three major reasons for building inclusive school communities: (a) the provision of benefits to all students, (b) the avoidance of the ill effects of segregation, and (c) the promotion of equality.

_Inclusion has benefits for all students._ Stainback et al. (1996) have noted that, when provided with appropriate educational supports, students labelled with both mild and severe disabilities obtained significant academic and social gains in inclusive settings. For example, a study by Downing and Peckham-Hardins (2007) determined what parents, teachers, and educational assistants felt was a good educational program for students with moderate to severe disabilities after an inclusive placement was a given. They interviewed fifty-eight participants (18 parents, 23 teachers, and 19 educational assistants) representing four preschool children, nine elementary students, and five middle years students, all with moderate to severe disabilities. In general, every participant felt that the student they represented was academically and/or socially successful in an inclusive setting. Some parents deemed their child’s progress to be exceptional. Interestingly, the study showed that the majority of teachers (15 or 65%) and educational assistants (13 or 77%), and almost half of the parents (8 or 44%), frequently mentioned how the inclusive educational environment benefited students
without disabilities, even though they were not asked to comment on this impact. The types of benefits cited for students without disabilities included: “(a) greater awareness and tolerance of differences, (b) enhanced empathy and compassion for others, (c) learning while helping others, and (d) acquiring special and unique skills (e.g., sign language, use of assistive technology)” (Downing & Peckham-Hardin, 2007, p.22).

Equally important, to capturing the foci of inclusive education, is the concept of the benefits of inclusive settings for students with diverse backgrounds, but not labelled with disabilities. Fisher (2006) notes that inclusive educational settings ensure that students without disabilities experience diversity.

Inclusion may draw students’ attention to their own development. For example, in a study of 104 elementary students, Valentini and Rudisill (2004) reported that students with and without disabilities placed in an inclusive physical education setting demonstrated significant improvement in motor skill development compared to those students in segregated settings. In addition, Vandercook, York, Sharpe, Knight, Salisbury, LeRoy, and Kozleski (1991) have stated that, “Inclusion has had an effect on the other children’s academic learning by increasing awareness of their own capabilities and respect for themselves and others” (p.1). Kliewer and Biklen (1996) argue that students in “a school without labels would not view differences as disabilities (p.92)”. Barth (1990) describes the universal benefits of being in a diverse, inclusive school community:

How can we make conscious, deliberate use of differences in social class, gender, age, ability, race, and interest as resources in learning? Differences hold great opportunities for learning … (they) offer a free, abundant, and renewable resource. I would like to see our compulsion for eliminating
differences replaced by an equally compelling focus on making use of these
differences to improve schools. What is important about people – and about
schools – is what is different, not what is the same. (pp. 514-515).

Noticing differences through inclusion may provide individual students with better self
concepts as they better identify their own and others’ uniqueness.

*Inclusion avoids the ill effects of segregation.* Kliewer and Biklen (1996)
question the scientific credibility of any type of special education programming. In
many cases, students are placed in expensive, yet largely ineffective, segregated school
programs. Truscott, Catanese, and Abrams (2005) state that, despite an annual cost of
34 billion dollars, fewer than 14 % of American students in special education ever
graduate from high school. According to Stainbach et al. (1996), “lack of self-
confidence, lack of motivation, and lack of positive expectations for achievement are
all products of segregated learning environments” (p.32). These facilities may inhibit
individual’s exposure to the challenges of everyday life.

Cooney, Jahoda, Gumley, and Knott (2006) asked 60 senior high students with
mild to moderate intellectual disabilities, aged 15 to 17 years, to complete a series of
self-report measures on perceptions of stigma, social comparison to a more disabled
and a non-disabled peer, and the likelihood involved in attaining their future goals.
Twenty-eight of these students came from a mainstream setting, and 32 were educated
in a segregated school. The study concluded that, while both groups reported
experiencing stigmatizing treatment at times, students from the mainstream setting had
much more ambitious work-related aspirations. In fact, all of the students from the
segregated school felt that they would only attain blue-collar jobs. Significantly more of
the mainstream group saw themselves one day attaining professional careers, even
though, “there was recognition that their intellectual difficulties could prove to be a barrier” (Cooney, Jahoda, Gumley, and Knott, 2006, p.440). Learning about variation apparently provided helpful insights into personal achievement.

_Inclusion promotes equality._ Canada prides itself on being a fair and just society, where everyone is treated equally (Canadian Charter of Rights and Freedoms, 1982). Schools are powerful instruments of socialization, and inclusive initiatives are considered crucial in addressing educational equity (Roland, 2008). Clarke (2006) notes that equal educational opportunities for everyone may be the only hope in attaining socially-just communities and nations for all of its citizens, including newcomers. It is therefore alarming to consider that the typical experience of refugee children is to be tested, categorized, and then placed into some type of remedial English program or other type of special program (Poplin, Wiest, and Thorson, 1996). Drawing conclusions across many categories, of course, may be presumptuous but Poplin, Wiest and Thorson’s argument is noteworthy in light of the assumptions underlying inclusion.

Fantino and Colak (2001) have noted the pain that refugees have already experienced due to separation from loved ones, or through being sent to different parts of their new country. When we place refugee children in segregated classrooms, it appears that we are sentencing them to further isolation in their new land.

Redwood (2005) notes that, “Nations with ethnically diverse populations and a history of preferences for some and exclusion of others based on racial or cultural differences need to develop conscious strategies for inclusion, equality, and integration if they are ever to fulfill their potential” (p.947). It appears that the best opportunity for schools to fulfill their potential is to embrace the spirit of inclusion.
Opposition to inclusion. There are some scholars who oppose inclusion and see it as a deterrent to the advancement of students who are disabled. Some believe that disabled students who are physically present in a general classroom still risk feeling like they do not belong socially or academically (Kauffman, Bantz, & McCullough, 2002; Woolfolk, 1998). Furthermore, their objection is that regular teachers are “unprepared, unsupported, or unable” to handle all of the challenges that students with disabilities bring to the classroom (Woolfolk, 1998, p.147). The additional training and special accommodations may add to costs of program delivery and therefore may not be provided except in the most affluent areas. Kauffman, Bantz, and McCullough (2002) note that separate, special classes for students with behavioural disorders, provide a service for school personnel. Others believe that, although many students with disabilities could be included into regular classroom, the recent push for full inclusion has been motivated more by budgetary and social reasons than educational concerns (Inclusive Education Programs, 1994). Lindsay (2007) argues that inclusive education has more to do with protecting children’s rights than good evidence-based instructional practices. Children’s rights are compromised, Linsay states, when they are isolated within society. Howes, Booth, Dyson, and Frankham (2005) note that recent political mandates calling for both inclusion and standardization cannot coexist. Conflicts in delivery of services and ideology can be conciliated through better research evidence and a pervasive, solid notion of the pedagogical purposes underlying the acceptance of inclusion.

These are legitimate concerns, and many educators have struggled to practice inclusion as well as preach about it (Rose & Meyer, 2000). Inclusion may have social and legal benefits for students of all ages, but academic inclusion for students with
intellectual disabilities becomes increasingly difficult to accomplish as students
progress through the public school system, especially when they reach high school
(Downing & Peckham-Hardin, 2007). However, some educators believe that a concept
known as “Universal Design” could overcome these criticisms of inclusion and
transform inclusive education from a philosophy into a reality, by providing access to
the general education curriculum to a much larger audience, including students with a
wide range of disability and diversity characteristics (McGuire, Scott, & Shaw, 2006).

Universal Design

Universal Design (UD) has become more well known in education over the
course of the last decade. UD was originally an architectural term, used to describe the
concept that products and environments should be designed to be aesthetically pleasing
and usable to the greatest extent possible, by everyone, regardless of age, ability, or
status in life (The Center for Universal Design, 2007). There has been a great deal of
interest in transferring the principles of Universal Design from the discipline of
architecture to education. This has been especially true in recent years, as an inclusive
philosophy of education has become the model of choice in many provinces across
Canada, including Manitoba (Manitoba Education, Citizenship and Youth, 2006). UD
may provide assistance to educators attempting to make inclusive education a reality.
Although research concerning UD in education is sparse (Priestley, 2006), it is slowly
emerging (McGuire & Scott, 2006). Post-secondary schools in Canada and the United
States have studied the effects of UD within their own institutions (Cawley, Foley, &
Miller, 2003; Scott, McGuire & Shaw, 2003; Priestley, 2006), but little research has
been conducted regarding its effects at the primary and secondary levels. Educators
need to ascertain whether or not the concept of Universal Design can influence the
teaching and learning for students with disability and diversity characteristics, and help make true inclusion a reality. Universal Design may be the “missing link” that inclusive educators have been looking for, but further attention needs to be paid to this assumption.

Therefore, I would like to conduct a study that:

1. assesses the differences and similarities in student learning between two comparable classes studying the same senior high novel unit, with one class using UD aligned practices, and the other class using traditional methods, and,

2. explores educators’ and students’ perceptions of UD aligned teaching practices and their influence on the teaching and learning of students.

To gain insight into these areas, the idea of Universal Design will be explored in Chapter 2, and a study designed to explore educators’ and students’ perceptions of UD aligned teaching practices will be reported and discussed in Chapters 3 and 4.
Chapter 2

Review of the Literature

In order to inform and support the proposed study, this review of the literature focuses on four main themes. First, the theoretical construct and process of Universal Design (UD) will be explored, along with the plausibility of its conceptual and practical transfer from architecture to other disciplines, in general, and education in particular. Second, using the analytical tools of an imminent critique, genealogy, and an ideal type critique (Skrtic, 1995), the practical and theoretical benefits, advantages, and potential of Universal Design in Education, as well as its challenges, problems, and limitations, will be examined. Third, pragmatic concerns like teacher training, classroom design, and technology will be examined. As well, how to deal with the lack of empirical research related to Universal Design’s efficacy in the regular school setting will be examined in light of the promises for practice of inclusion that UD appears to embrace. Finally, the importance of conducting a study on UD and its impact on inclusive practices at the senior high school level will be discussed.

Universal Design Principles and Process

The challenge for educators that embrace UD as a framework for inclusion in education is to create learning environments that accomplish the same goals for all students. That means that in education, we would not only embrace the concept of UD for schools as buildings, but extend this idea to classrooms as social and academic learning communities. The idea is that in education as a social practice, we think of creating conditions where everyone is able to participate and succeed.

Ron Mace, creator of the term Universal Design described it as follows: “Universal design seeks to encourage attractive, marketable products that are more

Universal Design in the architectural field has been referred to as ‘Design for All’ in Greece, ‘Inclusive Design’ in Britain, and ‘Barrier-Free Design’ in Germany (Darzentas & Miesenberger, 2005). Some architectural design examples of UD that we find in every day life include: (a) installing standard electrical receptacles higher than usual above the floor so they are in easy reach of everyone, (b) selecting wider doors, (c) making level entrances, and (d) installing handles for doors and drawers that require no gripping or twisting to operate (Universal Design, 2007). The idea of UD therefore began with the idea of creating physical environments that assisted independence for individuals who are physically challenged. This idea began to be a popular notion after the Second World War to help dignify the lives of returning soldiers who had suffered the loss of limbs.

UD proved to be accepted as a human rights response to loss of limbs. Innovations surrounding the adoption of UD came in several forms. All of these innovations involved adherence to a set of principles that allow for people with a wide range of abilities to use them. At the Centre for Universal Design at North Carolina State University, architects, engineers, and designers established the following UD principles.

1. Equitable Use. The design is useful and marketable to people with diverse abilities.
2. Flexibility in Use. The design accommodates a wide range of individual preferences and abilities.

3. Simple and Intuitive. Use of the design is easy to understand, regardless of the user's experience, knowledge, language skills, or current concentration level.

4. Perceptible Information. The design communicates necessary information effectively to the user, regardless of ambient conditions or the user's sensory abilities.

5. Tolerance for Error. The design minimizes hazards and the adverse consequences of accidental or unintended actions.

6. Low Physical Effort. The design can be used efficiently and comfortably and with a minimum of fatigue.

7. Size and Space for Approach and Use. Appropriate size and space are provided for approach, reach, manipulation and use; regardless of user's body size, posture, or mobility. (The Center for Universal Design, 2007, p.1)

To many people, the term Universal Design implies that a “one size fits all” solution is the goal. In fact, the essence of UD is flexibility and the inclusion of alternatives capable of adapting to the wide variety of needs, styles, and preferences (Rose and Meyer, 2000). For example, school textbooks recently have been designed using different sized fonts, a variety of reading levels, colourful pictures, photos, charts, and supportive websites in order to meet the needs of a greater range of readers (Innovative Design, 2009). Over recent times, technology has advanced at an incredible rate in all areas of life, and the “UD-friendliness” of traditional tools and instruments have kept pace. Patton and Roschelle (2008) argue, for example, that digital textbooks that can be read on reading tablets like Amazon’s “Kindle” (Amazon, 2010) are
actually more UD-friendly than “traditional” textbooks because they provide immediate feedback and incorporate interactive representations and processes.

While Universal Design may be a goal, Burgstahler (2008) suggests that it is also a process that should adhere to the following steps: (a) identify the application of what is being designed, (b) “define the universe” (i.e., all end-users of the product), (c) involve end-users in the design process, (d) adopt inclusive guidelines or standards, (e) plan for accommodations, (f) train and support personnel, and (g) evaluate outcomes, efficacy, and impact. Based on this list, it is apparent that the process of UD requires careful consideration and the involvement of people with diverse characteristics in all phases of the development, implementation, and evaluation of any application (Burgstahler, 2008). Ostroff (2001) echoes this statement, saying, “We must move to a higher consciousness that the process of designing is not something created by "them" for "us" but something that we accomplish together” (p.2).

Demirbilek and Demirkan (2004) provide an example of designers having been guided by potential users of a universally designed product. Architects used a variety of techniques, including brainstorming, scenario-building, and unstructured interviews, in order to design a housing environment for elderly people with diverse physical and medical needs. By employing a “participatory design model”, the designers were better able to find the relationships between the elderly users’ requirements and design specifications. This, they argued, made the residences more safe, attractive, and user-friendly, thus improving the users’ quality of life by promoting independence (Demirbilek and Demirkan, 2004). If such a process can result in better housing, would it not be reasonable to adopt a similar process to design better classrooms, instructional
materials, and teaching methods. UD therefore involves researched conceptualization, process planning, and participation of key players to be successful.

Benefits, Advantages, and Potential of UD in Other Disciplines

Although UD was initially an architectural term, it is now used in a wide range of private and public design disciplines. These include the better design of environments, products, communications, and education (Mace, Hardie, Plaice, 1996). As Iwarsson and Stahl (2003) note, many “actors” are now involved with Universal Design, including (but not limited to), “architects, engineers, computer groups, occupational therapists and other health care professionals, politicians, and researchers representing different disciplines” (p.57).

Incorporating the concept of Universal Design appears to be beneficial for business (Mueller, 2004). Tobias (1997) states that companies that consider Universal Design from the very outset of their product development process, better maximize their potential market. For example, car manufacturers are now using UD principles to design cars that fit more than the typical adult male, thereby increasing the number of potential customers (Polgar, Shaw, & Vrkljan 2005). The Ford mobility motoring program, for example, has used UD principles to help customers requiring canes and wheelchairs, while still maintaining a design that is attractive to people of all ages and needs (The Centre for Universal Design, 2002). The Ford Focus is now manufactured with extra-wide doors, and Ford’s new ZX3 has been designed with power-swivel driver and passenger seats and hand controls for both throttle and brake (The Centre for Universal Design, 2002).

Schaefer (2006) argues that a Universal Design approach in the telecommunications field maximizes consumer and company goals and conserves
public resources. AT&T recently made a public announcement outlining its approach to universal design (Carroll Center for the Blind, 2008). Two examples of the application of this concept are AT&T’s new “Mobile Speak” and “Mobile Magnifier”. Mobile Speak is a screen reader that allows people with visual impairments to use cell phones and personal data assistants. Mobile Magnifier provides users with the option of magnifying the screen size of their cell phones and personal data assistants. While both of these innovations obviously benefit people who are visually impaired, they may also have universal appeal for people with sight, but still find cell phone screens to be too tiny and awkward. In the same way that telecommunication companies have successfully made available technologies that can be used by a broader range of users, secondary English teachers design a novel study unit that incorporates readily available products like “talking” books and interactive web sites?

In the medical field, UD concepts are being adhered to in order to make long-term nursing home facilities abandon their traditional hospital image in favour of a more home-like atmosphere (Wang & Kuo, 2006; Bengtsson & Carlsson, 2005). The Canadian Association of Occupational Therapists (2003) states that, “Universal design contributes to a person’s health and well-being by facilitating participation in life’s occupations in the areas of self-care, productivity and leisure” (p.187).

Some examples of Universally Designed health care products that can now be found in clinics and hospitals include: (a) weigh scales that allow people who have trouble standing the ability to hold on to a rail or to be weighed while in a wheelchair, (b) portable amplified communication devices at treatment spaces, and (c) adjustable mammography machines that can be used on women while they are seated (The Center for Universal Design and the North Carolina Office on Disability and Health, 2008).
Health care facilities have successfully designed products that can be used to better assess and treat all their patients.

Universal Design can be seen as a “key component in any discipline where person-environment relationships need to be considered” (Iwarsson & Stahl, YEAR, p.57). In this thesis, I raise the issue that UD may help educators to design better relationships among the persons, the tools, and their environment. For example questions such as: Can secondary English teachers create better, more flexible ways of assessing their students during a novel study unit, such as having students create a drawing or create a concept map, to depict specific scenarios or themes, rather than giving only oral or written responses? To address these questions, aimed specifically at high school English, further exploration into the possible relationship between UD and high school education would appear to be a useful endeavour.

The Potential of Universal Design in Education

Many educators have suggested that the concept of UD may be applicable to the delivery of instruction (Bowe, 2000; Curry, 2003; McGuire, Scott & Shaw, 2006; Udvari-Solner, Villa & Thousand, 2005). UD has become what Peterson and Hittie (2003) refer to as a conceptual revolution in education. The Council for Exceptional Children has created a definition of Universal Design as it applies to education:

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, and 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…not added on after-the-fact (Research Connections, 1999, p. 2).

The Province of Manitoba (2006) has highlighted UD in education as the “process of creating systems, environments, materials and devices that are directly and repeatedly usable by people with the widest range of abilities operating within the largest variety of situations” (p. 4). Burgstahler (2007) says that UD is applicable to education, and can be related to physical spaces, information technology, instruction, and student services.

The University of Guelph has recently transferred UD principles from guiding architectural design to directing instructional design in the college classroom in their document, What is Universal Instructional Design? The following is their list of principles:

1. Accessible and fair to all parties.
2. Flexible use, participation and presentation.
3. Straightforward and consistent.
4. Explicitly presented and readily perceived.
5. Supportive learning environment.
6. No unnecessary physical effort or requirements.
7. Space accommodates both students and instructional methods.

(University of Guelph, 2002, p. 1)

Inclusive education is a belief that all students are capable of learning, and should therefore have equal opportunities in the learning environment. It would appear that the principles of Universal Design could be used to support international standards, federal constitutional provisions, and provincial legislation mandating inclusion, by
incorporating products and environments that can be used by the broadest range of learners. In Canada, current provincial legislation even states that schools utilize models of inclusive education in order to best meet the needs of all students, regardless of race, culture, or disability (Hutchinson, 2007; Jordan, 2007). It is apparent, however, that our claims and our actual conditions may not necessarily be the same; that the concept has not been fully put into process. Therefore, two important components of an immanent critique will be used (Skrtic, 1995) to guide an exploration of “exposing the contradictions between our claims and our conditions, between our values and our practices” (Skrtic, 1995, p.47). By using this form of critical social analysis, I hope to expose the contradictions between our claims of inclusive schools for all, and our actual conditions of academic segregation for many of Manitoba’s students. Second, an immanent critique serves to emancipate us from our current thinking, so that we can “transform the real into the ideal” (Skrtic, 1995, p.47).

An Imminent Critique of Inclusive Schooling

Our claims

It is important to have some understanding of how society has currently come to embrace inclusion in schools. In order to achieve this, the analytical model of “genealogy” will be used to “foreground the material context of subject construction, to draw out the political consequences of ‘subjectification’ and (at times) to help form resistances to subjectifying practices” (Best & Kellner, 1991, p.47). Foucault uses genealogy to show “an ascending analysis of power, starting, that is, from infinitesimal mechanisms, which each have their own history, their own trajectory, their own techniques and tactics” (Foucault, 1980). Skrtic (1995) has used the genealogical approach to “trace the development of the knowledge tradition that has shaped and
justified special education practices and discourses in this century (p.51). While Skrtic used genealogy to expose the flaws in the current functionalistic special education knowledge tradition; I will use it as a means to show how inconsistencies in our claims of advances in international human and civil rights, and the mandate of inclusive education in Manitoba are, in reality, at some variance with our practices.

For the purposes of this thesis, the genealogy of human rights and social justice in the twentieth century, and the genealogy of emerging social theories, will be explored.

*Genealogy of human rights and social justice in the twentieth century.*

In 1924, the League of Nations adopted the Geneva Declaration of the Rights of the Child, which were the first set of international standards created specifically for children (UN Documents, 2008). The following five principles were proclaimed for all the children of the world:

1. The child must be given the means requisite for its normal development, both materially and spiritually.
2. The child that is hungry must be fed; the child that is sick must be nursed. The child that is backward must be helped; the delinquent child must be reclaimed; and the orphan and the waif must be sheltered and succored.
3. The child must be the first to receive relief in times of distress.
4. The child must be put in a position to earn a livelihood, and must be protected against every form of exploitation.
5. The child must be brought up in the consciousness that its talents must be devoted to the service of other men (UN Documents, 2008, p.1).
In 1959, the United Nations Office of the High Commissioner for Human Rights (UNHCR) proclaimed the “Declaration for the Rights of the Child” (Office of the High Commissioner for Human Rights, 2008). This declaration also outlined a number of universal rights for all children, but included two principles specific to education. These two principals stand out from the others because they make specific reference to education as a right for all children:

**Principle 5.** The child who is physically, mentally or socially handicapped shall be given the special treatment, education and care required by his particular condition.

**Principle 7.** The child is entitled to receive education, which shall be free and compulsory, at least in the elementary stages. He shall be given an education which will promote his general culture and enable him, on a basis of equal opportunity, to develop his abilities, his individual judgment, and his sense of moral and social responsibility, and to become a useful member of society. (Office of the High Commissioner for Human Rights, 2008)

The Salamanca Statement and Framework for Action on Special Needs Education provides additional evidence of an international consensus in favour of inclusive education (Jordan, 2007). The 1994 Salamanca statement was created and adopted in Spain by representatives of 92 governments and 25 international organizations at a United Nations Educational, Scientific, and Cultural Organization (UNESCO) sponsored event (Freeze, 2008).

The Salamanca statement proclaims that inclusive schools provide the most effective means of combating discriminatory attitudes towards people with disabilities. It promotes welcoming communities and calls for an inclusive society through
education for all. Finally, the statement has helped to establish inclusion as a fundamental human right that is protected by international conventions, national constitutions, and the rule of law (Freeze, 2008).

In America, Section 504 of the Rehabilitation Act (1973) states that, “no otherwise qualified person with a disability shall, solely by reason of his or her disability, be excluded from the participation in, be denied the benefits of, or be subjected to discrimination under any program or activity of a public entity” (Office for Civil Rights, 2006). The Americans with Disabilities Act of 1990 also prohibits discrimination against individuals with disabilities (Office for Civil Rights, 2006).

These pieces of American civil rights legislation have forced all sectors of U.S. society to re-think the products and services they provide for an increasingly diverse population. In corporate America, for example, AT&T has mandated adherence to UD concepts in order to make new telecommunications products and services accessible to and usable by individuals with disabilities, consistent with Section 255 of the Telecommunications Act of 1996 and the Americans with Disabilities Act of 1990 (Carroll Center for the Blind, 2008). Advances in civil rights for citizens with disabilities also have had implications for how educational services are delivered in America. Burgstahler (2006) notes that student services and academic programs must now be made accessible to all qualified students.

The Government of Canada also has recognized the need to embrace inclusion. In fact, 18% of all Canadians were born in another country (Citizenship and Immigration Canada 2000). In response to such diversity, Canada has officially adopted a long standing national policy of multiculturalism. This was done not only in order to celebrate and retain our many diverse heritages, but also to promote an inclusive
society. Still, Canada’s history has not been devoid of incidents of discrimination against the physically and intellectually disabled, as well as ethnic minorities. Canadians with intellectual disabilities have long been made to live in institutions, and Canada’s indigenous people were once forced to attend segregated residential schools (Llewellyn, 2002).

Canada’s Charter of Rights and Freedoms (1982) officially guarantees equal rights to all. Section 15(1) of the Canadian constitution 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, colour, religion, sex, age, or mental or physical disability.

This means that no government in Canada can pass a law that deprives anyone of, or discriminates against anyone, with respect to their right to equality (Freeze, 2008). In fact, it appears that many of Canada’s provinces have embraced an inclusive educational philosophy. Through provincial legislation, policies, and guidelines, British Columbia, Alberta, and Saskatchewan have all worked hard in recent years to make inclusion in schools a required human right (Hutchinson, 2007; Jordan, 2007).

Manitoba Education, Citizenship, and Youth (2006) also favours an inclusive policy of education:

Manitoba Education, Citizenship 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 consciously 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…Inclusive schools provide a learning environment that is accessible to all students as a place to learn, grow, (and) be accepted (pp.1-4).

Therefore, inclusive practices that embrace UD principles appear to work in harmony with the human rights afforded to all Canadians. Perhaps Newman (2002) has stated it best, saying, “Inclusion is, simply put, the right thing to do. And it’s the law!” (p.15)

Genealogy and emerging social theories. As the public demand for individual human rights began to grow exponentially throughout the twentieth century, so too did the emergence of social theories that focused on the social health and well-being of the individual. Some of these theories that emerged included Erikson’s (1963), psychosocial development, Wolfensberger’s (1972, 2004) normalization and social role valorization, Vygotsky’s (1978) zone of proximal development, Gardner’s (1983) multiple intelligences, and differentiated instruction (Hall, Strangman, and Meyer, 2007). Underlying these central concepts to education is the theory of social construction.

Erikson (1963) concluded that all humans go through similar stages of personal and emotional growth throughout life, and that society is responsible for guiding them through these stages. These changes in the social and emotional needs of individuals follow similar patterns in every society and culture. If Erikson’s position holds, then normal and equitable access to the typical pattern of developmental learning opportunities is likely to be very important now and into the future.

Wolfensberger (1972) describes such access as the principle of normalization, defined as, "the utilization of means which are as culturally normative as possible in
order to establish and/or maintain personal behaviors and characteristics which are as culturally normative as possible" (p.28). O’Brien (1980) states that human service programs, like education, should adhere to the principle of normalization whenever possible. According to Wolfensberger (1972), society also defines us in terms of our roles (e.g., teacher, doctor, carpenter, stay-at-home parent). The danger in not having a positively valued role, according to Wolfensberger (2004), is that one may wind up becoming a “devalued person” (p. 4). Normalization and UD share concepts that value individuals in society, and embrace these concepts within the framework of education as social construction.

One way to discover who is devalued is to find the opposite of what society values. For example, society values wealth, intelligence, youth, health, and beauty. Those who appear to contradict these values, such as the poor, intellectually disabled, ill and disfigured are generally devalued by society. If society values learning, then it inevitably devalues those with learning disabilities. Wolfensberger (2004) states that this type of mass group labelling is “most devastating, because it creates and maintains societal devalued classes who systematically receive poor treatment at the hands of their fellows in society and at the hands of societal structures - including formal, organised human services” (p.5). Students with special needs would appear to fall victim to such mass labelling, as many wind up in specialized, segregated learning environments, especially as they reach high school.

However, Vygotsky (1978) suggests segregation may be a simplistic response. He proposes that each individual, at a given time in a given learning context, has his or her own unique learning zone, called the zone of proximal development (ZPD). For learning to take place, the material must be challenging enough for the student to
experience authentic learning, but not so challenging that the student becomes frustrated and decides to give up. If Vygotsky’s position holds, then learning opportunities need to be inherently differentiated to allow meaningful proximal access to all students.

Hall, Strangman, and Meyer (2007) define differentiated instruction as a “process to teaching and learning for students of differing abilities in the same class” (p.2). They were referring to the fact that teachers needed strategies in order to deal with an increasingly diverse classroom population. Scaffolding, experiential learning, and inquiry-based learning environments are just some examples of differentiated instruction.

The need for differentiated instruction is reinforced by Gardner’s (1983) ideas about the nature of intelligence and learning. He proposed that, rather than having one type of intelligence that is measured by IQ, people have multiple intelligences. They include: linguistic intelligence, logical-mathematical intelligence, spatial intelligence, bodily-kinesthetic intelligence, musical intelligence, interpersonal intelligence, intrapersonal intelligence, and naturalist intelligence. Consequently, learning activities should be differentiated to respect students’ multiple intelligences. Is it possible that UD, inclusion, and the aforementioned theories are conceptually linked? At first glance, this appears to be the case. All of the aforementioned theories highlight the significant role that society and environment play in the development of the individual. Inclusion looks at ways for society to embrace individual differences (Peterson, & Hittie, 2003), and UD seeks to build more accessible environments (Mace, Hardie, & Plaice, 1996). Connections between the two indicate a type of organic structure where certain conditions must exist in order to fully realize UD and inclusion.
Our conditions

Even though the inclusive education model is currently heralded as the best practice by many lawmakers, educators, and researchers (Carrington & Elkins, 2002; Hofstedt, 2002 McKleskey & Waldron, 2007); our current conditions do not align themselves with the aforementioned values and claims. In fact, the typical experience of many children with exceptional needs, especially in senior high schools, is to be tested, categorized, and then placed into some type of segregated educational program for part or all of the school day (Poplin, Wiest, and Thorson, 1996).

Skrtic (1995) attributes this phenomenon to four functionalist assumptions about traditional special education. The first assumption is that school failure is the result of pathological condition that students have. The second assumption is that differential diagnosis is an objective and useful practice. The third assumption is that special programming is a rationally conceived and coordinated system of services that benefits diagnosed students. The fourth assumption is that progress in education is a rational-technical process of incremental improvements in conventional diagnostic and instructional practices. Each of these considerations will next be examined against the idealization of UD and inclusion.

School failure is the result of a pathological condition that students have. The debate over the root causes of intellectual disabilities (ID) and learning disabilities (LD) is a controversial issue. Some argue that they are caused by genetic factors (Gecz, 2008) and, therefore, should be viewed as pathological. To be sure, there are times when the biological model of viewing special education may be comprehensible (Skrtic, 1995). For example, Rouse, Brooks-Gunn, and McLanahan (2005) note that “chronic environmental stress in childhood can impair development of the
hippocampus, the region of the brain involved in learning and memory, and reduce a child’s cognitive ability” (p.9).

Skrtic (1995) notes that the current special education knowledge tradition is still largely grounded in the disciplines of psychology and biology, which always place the “root cause of deviance within the person” (p. 82). The notion that the current design of the mainstream school, classroom, and curriculum is somehow flawed or poorly designed, is rarely taken into consideration. Skrtic (1995) states that, “although some instances of mental retardation are associated with observable patterns of biological symptoms (syndromes) and are thus comprehensible under the pathological model, the vast majority of individuals labeled mentally retarded show no biological signs” (pp.81-82). Therefore, it is safe to assume that factors other than a child’s genetics are often the reasons for learning disabilities (LD).

Many researchers say that social and environmental issues contribute significantly to the number of diagnosed cases of ID and LD (Emerson, 2007). For example, McDermott and Altekrusse (1994) argue that reducing the prevalence of children living in an impoverished environment would decrease the number of students diagnosed with ID by approximately 10%. Is it therefore possible that a universally designed learning environment might reduce the number of students diagnosed with intellectual and learning disabilities?

Several studies have shown that this argument may indeed have merit. Rea, McLaughlan, and Walther-Thomas (2002) conducted a study which compared 8th grade students in middle schools in the US. Matched groups of students with learning disabilities were placed in either inclusive classroom settings or “pull-out” special education classes. The study found that the inclusive education group achieved
significantly higher levels of academic achievement. The children in inclusive settings also had better attendance and equivalent levels of suspension.

In a three-year Norwegian study involving 592 secondary students with learning disabilities, Myklebust (2002) also reported positive academic results through inclusion. The study compared students who were taught exclusively in small groups outside the regular classroom, receiving adapted teaching during their first year of secondary schooling, with those who were taught in mainstream classes. After three years, 40% of the students taught in the mainstream classroom were academically ‘on schedule’, compared to 10% of those taught in smaller, segregated settings. Of course, without knowledge of all of the factors leading to this result and replication through multiple studies the ecology of UD and inclusion that fosters academic success remains poorly defined.

When children come from culturally diverse backgrounds, segregated practices also can be seen. Upon entering the school system, the typical experience of refugee children is to be tested, categorized, and then placed into some type of remedial English, English as a Second Language (ESL), or other type of special program. In fact, lacking an inclusive model of ESL and significant numbers of trained inclusive ESL educators, schools may fall into the trap of considering ESL programs as a type of special education (Poplin, Wiest, and Thorson, 1996). Khamis (2005) notes that, “As a society, we place much emphasis on the individual, making the refugee family and their history almost invisible. Refugee children become children without a history. When helpers and practitioners analyze the behaviour of a refugee child out of context, there is a tendency to pathologize that behaviour” (p.85). Therefore, we cannot assume that a
refugee child’s lack of success in the class is necessarily due to some type of biological condition.

*Differential diagnosis is an objective and useful practice.* One wonders if the categorizing, or labeling, of students with learning disabilities interferes with how effectively they are taught. Truscott, Catanese, and Abrams (2005) argue that classification is more about providing “static labels and ambiguous documents that have more to do with the student’s ‘permanent record’ than his or her own educational and personal well-being” (p.169). Labels are a type of assessment.

Adelman (1996) also notes some of the prevailing criticisms of current assessment and labeling practices of students with special needs, which include:

1. a lack of reliable and valid assessment tools,
2. assessments that do not indicate specific educational or treatment needs, or suggest instructional approaches,
3. categorical assessments that may lead to segregation,
4. assessments that lack instructional suggestions relevant to inclusive educational programming,
5. misdiagnoses that may mistake linguistic and cultural differences as evidence of disability or academic deficit, and
6. categorical assessments that may promote stereotyping and stigmatization.

Therefore, differential diagnosis may be biased, incorrect, and inadequate with respect to placement and programming decisions, whether students have actual disabilities or just come from diverse backgrounds. When labeling refugees from war-torn countries, for example, we must also recognize that many of our western classifiers may not fit. Groza and Rosenberg (1998) have noted the possibility that, “Western
scientists [inappropriately] apply a lens to the issue, using their own normative experiences and expectations for children” (p.225). Khamis (2005) cautions Western professionals about the importance of identifying cultural factors when classifying typical refugee phenomena:

Although [we] found that there were some typical characteristics and behaviours observed in refugee children, these characteristics, should not be considered in isolation. Many ordinary cultural practices of refugee families are often misunderstood in our classrooms, hospitals, social services, and social life (p.89).

*Special programming is a rationally conceived and coordinated system of services that benefits diagnosed students.* Special education professionals often have difficulty accepting theoretical criticism about their practices, mainly because of their “taken-for-granted assumptions about themselves, their clients, and their practices and discourses” (Skrtic, 1995, p.82). It is easy to see why so many school systems actually adopt an accommodation model rather than an inclusive one when dealing with issues surrounding special education.

Accommodations are generally provided after the fact, in order to fix an inaccessible environment or ineffective provisions (Queller, Thornton, and Downs, 2007). The accommodation model first determines that an aspect of a course, program, or process is not accessible to all students. Second, a response is required to make an adjustment or accommodation for that particular student that solves the problem in that particular course or situation. Then, the next time a student with a disability is unable to access that element of the course or learning environment, the same (or a different) accommodation is applied once again.
This approach leads to repeated expensive, time consuming, and often ineffective retro-fittings of environments and provisions. At some point, it becomes obvious that redesign to fit the needs of all potential students from the get-go, including those with disability and diversity characteristics, would be preferable to repeated fixes carried out on a case by case basis (Freeze, Matanga, & Priestley, 2007).

Some argue that existing interventions have no or little benefit to children from diverse cultural backgrounds. Lustig, Kia-Keating, Knight, Geltman, Ellis, Kinzie, Keane, and Saxe (2004) have noted that, “More research is needed on interventions, specifically on efficacy and cultural relevance. Interventions that have an impact on multiple ecological levels need further development and evaluation” (p.36). Cultural relevance penetrates many areas including language, social norms, behavioural expectations, and Deaf culture.

*Progress in education is a rational-technical process of incremental improvements in conventional diagnostic and instructional practices.* Accommodations have been described as a midstream intervention because they are made after the regular program is designed, a student’s special needs are identified, and special programming accommodations are added (Priestley & VanWellegham, 2007). There are numerous problems with operating under an accommodation model, including less authentic learning opportunities with peers (Giangreco, Broer, & Edelman, 2002) and potential for creating exclusive and segregated learning environments (Carrington & Elkins, 2002).

Universal Design reduces the need to retrofit accommodations for students categorized with special needs by planning for their inclusion at the very beginning (Freeze, Matanga, & Priestley, 2007). Rather than waiting to make necessary
accommodations, UD has the potential for immediately benefiting students with learning disabilities, students who are blind or with low vision, students with hearing impairments or deafness, and students with mobility impairment, health conditions, psychiatric disorders, and speech and language impairments (Accommodations and Universal Design, 2004). Rose and Meyer (2000) see equally strong potential for learning activities that adhere to Universal Design principles, as they increase access for learners with wide disparities in their abilities in see, hear, and get around.

A similar argument can be mounted for students with linguistic, cultural, and social differences from their mainstream peers. The United Nations Alliance of Civilizations (2006) recommends that a more universally designed, inclusive educational model would lead to more inclusive classrooms and schools and improve cross-cultural relations in Canadian schools. Therefore, it would be reasonable to explore the possibility of designing educational environments, in order to maximize the number of potential users from the outset? A more universally designed model might emancipate us from the current misalignment of our claims and our conditions, so that we could more closely practice what we preach (Skrtic, 1995). After engaging in such a critical discourse, we can now begin to “transform the real into the ideal” (Skrtic, 1995, p.47). In other words, by accepting that the accommodations model of special needs education is evidence of inadequate design, it can be argued that our conditions (the accommodations model) are misaligned with our claims of inclusive educational provisions. UD requires pre-planning through knowledge building and realization that benefits for all really do benefit all.
UD: Theoretical Benefits, Advantages, and Potential

*Ideal Types, Inclusion, and Universal Design*

Skrtic (1995) defined the analytical device of “ideal types” as describing the exaggerated mental construct, or subjective utopian version, of a particular social phenomenon. Skrtic uses ideal types in order to help “expose the contradictions between the values and practices of special education and public education from an organizational perspective” (p.49). Vehkakoski (2008) cautions that, despite the creation of inclusive ideal models, we must realize that the ideal can never be fulfilled due to limitations in educational resources, lack of professional skills, and differences in the personalities of individual children. Lewis (2000) argues that, “the ideal of inclusive education should be used as a Trojan horse to breach the walls of the current system and to expose its weaknesses” (p.202). Therefore, it is important to note that the purpose of describing the ideal type of the inclusive educational model is not so much an expression of the belief that it can exist, but an attempt see special education from a different perspective (Skrtic, 1995). This perspective is more like that of looking from the plane over the entire population of those who are engaging in the enterprise of education. It is a human rights issue. The ideal inclusive educational model is one that adheres to recent legislation and research regarding inclusion for all. That is, all children are provided the opportunity to learn in a class with their peers, regardless of race, national or ethnic origin, colour, religion, sex, age or mental or physical disability (Canadian Charter of Rights and Freedoms, 1982).

Recognizing that every child learns differently, the ideal inclusive school would differentiate instruction in every classroom. It would also have the most natural supports for the classroom setting; especially the least intrusive, but effective, supports
for children with exceptional needs (McLeskey & Waldron, 2007). Classrooms would be accepting and positive, and supports for the classroom teacher would be readily available from administration and special-ed personnel (Mastropieri & Scruggs, 2001).

The ideal inclusive classroom also would have educators who understand the significance of theories like psychosocial development (Erikson, 1963), normalization and social role valorization (Wolfensberger, 1972, 2004), the zone of proximal development (Vygotsky, 1978), multiple intelligences (Gardner, 1983), and differentiated instruction (Hall, Strangman, and Meyer, 2007). For anyone who has ever worked in the school system, it is easy to view this depiction of the ideal type of inclusive classroom with scepticism. In the classroom, it is conveniently political and idealistic to value inclusive classrooms, but often difficult to implement truly inclusive provisions. UD appears to bridge this disconnect between thought and action.

Is Universal Design the missing link that finally makes truly inclusive instruction a reality? Priestley and VanWellegehm (2007) note that many teachers support the philosophy of inclusive education, and that the UD construct may help them align their classroom practices with their beliefs. McGuire, Scott, & Shaw (2006a) believe that, “Universal Design may be the paradigm that can promote the effective implementation of inclusion and provide access to the general education curriculum” (p.167). Although UD in education is a relatively new concept, it appears to have much practical and theoretical potential. Practically, UD may help create a better learning environment for all students than the current “accommodation” model that is used so often. Its principles also correlate well with recent legislation. It is possible that UD may be essential to effectively creating an inclusive educational environment (Mino, 2004). The Province of Manitoba (2006) agrees, stating:
Inclusive schools should be aware of the concept of Universal Design, originally an architectural term referring to the process of creating systems, environments, materials and devices that are directly and repeatedly usable by people with the widest range of abilities operating within the largest variety of situations. (p.4)

Public policy makers are supporting the theory and now social action needs to take place to enact the theory.

*Universal Design and social theories*

Universal Design also is aligned with many social theories that have been described previously in this literature review. For example, UD principles are aligned with many theories of psychosocial development. Erikson’s work appears universal in nature, as it finds similar development patterns for all humans, and also seems to correlate with the first UD principle of equitable use. Public policy makers support the theory and now social action needs to take place to put it into practice. Second, with respect to equitable use, Erikson’s psychosocial development theory places significant emphasis on the role society and environment play in the development of the individual. Third, in Erikson’s fourth stage of development, industry versus inferiority, the school and neighbourhood play an enormous role in the child’s perceived ability to cope with academics, group dynamics and friends (Woolfolk, 1998). By placing students in segregated classrooms, students in special education risk suffering from “lack of self-confidence, lack of motivation, and lack of positive expectations for achievement.” (Stainback et al., 1996, p.32)

UD would appear to promote Wolfensberger’s (2004) theory of social role valorization, by inclusively allowing the regular classroom to meet the needs of a
greater percentage of students. Once seen as clients needing to be placed into often
devalued special education settings (Wolfensberger & Thomas, 1994), students with
special needs may now have the opportunity to learn and hold the role of the student in
the more culturally normative mainstream setting.

*Universal Design and learning theories*

The best opportunity to create the flexible curricula that Vygotsky’s (1978) zone
of proximal development (ZPD) requires may be through Universal Design (Howard,
2004). According to Vygotsky (1978), learning only takes place when classroom
instruction is challenging enough to engage student interest, but not so challenging that
they become frustrated and give up. UD could make the seemingly daunting task of
challenging a classroom of diverse learners a reality for teachers. Vygotsky’s ZPD
appears to relate to the UD principle of flexibility in use. It would provide the teacher
with the flexibility to challenge all his or her students without overwhelming any of
them.

Gardner’s (1983) theory of multiple intelligences can be aligned with the UD
Principle of flexibility in use, as it describes eight different ways that people approach
learning (Armstrong, 1994). If a teacher is having difficulty reaching his or her students
using traditional instructional approaches, the theories of multiple intelligences and UD
allow for the flexibility to present the information in several ways in order to facilitate
effective learning.

Finally, UD and differentiated instruction are inextricably linked, as both
attempt to create learning environments and instructional materials in ways that allow
all students to be successful (Edyburn, 2005). Although these terms are connected, it is
important to note that UD and differentiated instruction are not necessarily
interchangeable. Differentiated instruction appears to be a smaller “enterprise” than Universal Design, as it primarily concerns itself with varying instructional strategies in the regular classroom, while Universal Design refers to the better design of the entire educational environment - from its physical space, to curricular outcomes, to instructional strategies - prior to commencement of instruction. Differentiated instruction also appears to have evolved as a response to meeting the diverse needs of students in general education, while UD is a term most often associated with special education (Edyburn, 2005).

General education teachers are primarily responsible for implementing inclusive practices, regardless of the diverse backgrounds of their students, or their professional training as teachers. Differentiated instruction specifically identifies the different ways that curriculum can be presented, while UD is concerned with many different aspects of the education system (Tomlinson 2001). Therefore, it would appear that the best approach to differentiating instruction may be to incorporate provisions that embody the spirit of UD. Freeze, Matanga, and Priestley (2007) note that UD may actually transform special education for a few into inclusive education for everybody.

UD: Practical Challenges, Problems, and Limitations

However, in practical terms, Universal Design may be easier to say than do (Adelson, 2004). Some argue that UD may not be practically feasible in the traditional classroom because attempts at offering a variety of content, tools, options for expression, and media would take up more space, cost more, and require more logistical management than most schools could afford (Rose & Meyer, 2000). Some of the practical challenges to UD include current space and classroom design, available technology, and appropriate teacher education
Space and classroom design are certainly challenges to consider when incorporating UD. Many schools were built prior to the existence of UD principles or changes in laws, and retrofitting has been the only way to include people with disabilities. Classrooms are small, hallways are narrow, and entrances are not always level or on main floors. As a result, school spaces that attempt to accommodate students with disabilities may be neither aesthetically pleasing nor practical. While the concept of UD may reduce the need for “retrofitting”, inherent design flaws in existing structures may not eliminate it.

Technology is an important component of Universal Design. As many schools were built prior to recent technological advances, it is often difficult to properly equip classrooms with appropriate wiring and outlets. Additional technology in the classroom may also require additional space. Priestley and VanWellegham (2007) note that teachers who attempted UD had concerns about the increased clutter in their classrooms. This issue seems to be in opposition to UD Principle 7 (Size and Space for Approach and Use).

Whenever technology is brought into the classroom, technological support is also required. At least five kinds of technical assistance are necessary, including: (a) helping in planning for technology, (b) providing training on how to use new hardware and software, (c) providing demonstrations and advice on how to incorporate technology into instruction, (d) providing on-demand help when software problems or hardware failures arise, and (e) performing low-level maintenance on the system (Challenges and Strategies, 2000). These challenges seem to be in conflict with UD Principle 3 (Simple and Intuitive) in that not all teachers would define themselves as being technologically literate, especially with computers.
Technology also can be expensive and seemingly never ending. Specific funding for implementing UD is often difficult to find, hard to qualify for, available inconsistently, or only temporary in nature (Disabilities: Universal Design, 2001). Since students from low-income homes and ethnic minorities are less likely to have computers (Becker & Sterling, 1987), the challenge for schools is to provide high-quality technology experiences to students at schools, and assist those who have less access to technology in their homes (Challenges and Strategies, 2000). Otherwise, this dilemma appears to be in conflict with UD Principle 1 (Equitable Use).

Appropriate teacher education can also be a challenge. As with any new educational innovation, teachers are often resistant to change (Richardson, 1998). This may be due to teachers’ perceptions that change is being forced upon them, without any opportunity for input and choice. When teachers feel pressured to change their practices, without opportunities for exploration and choice, they seldom have successful learning experiences (Morimoto 1973). Still, these fears contradict one of the principles of UD - “simple and intuitive use”. In fact, UD is supposed to provide teachers with input and choice.

Priestley and Van Wellegham (2007) note that teachers frequently struggle with addressing individual student needs while meeting the demands of the curriculum. Principle 3 (Simple and Intuitive) may be misinterpreted by teachers as an attempt to “water down” learning outcomes. The challenge for UD facilitators is to convince staff that UD principles really reflect “good teaching” practices, have a broad range of applications (Villa & Thousand, 2003), and that standards will be maintained or improved when they are employed.
Some teachers may simply not know how to apply UD principles to instruction, as it is not a key component of their pre-service training and professional development. Even when school change plans are put into place, facilitators also must recognize that some teachers may incorporate UD incrementally, depending on their personal and professional strengths, experience with the curriculum, experience teaching students with special needs, and experience with inclusive pedagogy (Priestley & VanWellegham, 2007). By allowing teachers to carefully incorporate UD into their classrooms, facilitators may actually be adhering to UD Principle 5 (Tolerance for Error). The challenge is to balance time required for learning with necessity for change. The facilitator needs to ensure that teachers are not allowed to just cling to their old ways (Richardson, 1998), or at least that they see benefits in making change and are willing to take the first steps to change.

UD – Theoretical Challenges, Problems, and Limitations

The challenge for proponents of UD is to continue to gather research related to its efficacy. McGuire and Scott (2006) report that empirical educational research on UD and its application is slowly emerging. The University of Guelph (2004) has facilitated the increased use of UD strategies into their instructional practices. Initially, positive results were reported, but further evidence needs to be gathered and examined. Some of the theoretical challenges to Universal Design include whether or not UD increases student access to learning, and if it actually supports inclusive educational practices in the school setting.

The University of Connecticut Center on Post Secondary Education and Disability is also conducting research in order to help determine whether UD increases students’ access to learning (Priestley & VanWellegham, 2007). Scott, McGuire, and
Shaw (2003) are examining faculty views on UD, its potential application to learning disabilities, and UD instructional strategies from various subject areas (Priestley & VanWellegham, 2007). Still, projects like those stated above are only in their initial stages. Ultimately, more research and time are needed in order to build a solid foundation of knowledge to support what many educators already believe.

There is evidence that instructional strategies are most successful when UD principles are embraced. One example of such an approach is Precision Reading (Freeze, 2006). Precision Reading allows students the opportunity to recover to grade levels in reading by improving students’ abilities in reading automaticity, word recognition and comprehension, and passage comprehension (Freeze, 2006). This approach adheres to many UD principles. As Precision Reading can be done with text that the student and teacher are familiar with, drawn from grade level curriculum-based classroom content, it answers academic equity (Principle 1 - Equitable Use). It is also inexpensive (Principle 1 - Equitable Use) and practical (Principals 3 - Simple and Intuitive, and 4 - Perceptible Information). Precision Reading also can be implemented using a wide variety of texts, drawn from all content areas in grade levels one to twelve as well as adult education (Principles 1 – Equitable Use and 3 - Simple and Intuitive). As it only takes three to five minutes a day to perform, and results in error free reading, it is quick and easy to incorporate successfully into daily teaching (Principle 5 - Tolerance for Error). As students can be seated for Precision Reading, it requires minimal physical exertion (Principal 6 - Low Physical Effort). Research has shown that Precision Reading may provide a generic (i.e., universal) solution to low achievement in reading; efficacious for students ranging from non-disabled marginal underachievers, to students with learning disabilities, to students with mild to moderate cognitive
impairments, to students with severe behaviour disorders” (Freeze & Cook, 2005, p.104). Precision Reading also has been used successfully in French, French Immersion, ESL, and First Nations schools, suggesting relevance to students’ diversity characteristics as well as their disabilities (Freeze, 2006).

After conducting a small study of seven staff working in inclusive classrooms, Priestley (2006) discovered that, beyond social benefits, teachers made a positive link between UD and improved academic outcomes for all students. Although it was sometimes seen as a challenge to align classroom practices with UD principles, all participants believed it could be done. The participants also believed that UD may help support the “systemic evolution of practices and really including all children in the regular learning environment” (Priestley, 2006, p.259). Although the study was small, UD in education does show promise.

Spooner, Baker, Harris, Delzell, and Browder (2007) designed a control group study within a college classroom environment. They found that a one hour teacher training session introducing UD to seventy-two education graduate and under-graduate students, resulted in differences between pretest and posttest measures for special education and general education teachers. The results suggest that a simple introduction to UD can help teachers make more accessible lesson plans.

While individual instructional tools can be shown to be UD-friendly, and research has been conducted regarding UD in post-secondary institutions (Cawley, Foley, & Miller, 2003; Scott, McGuire & Shaw, 2003; Priestley, 2006), further research is needed in order to determine the efficacy of UD when deliberately used in a regular school classroom for an extended period of time. As Priestley (2006) states, “I have found no research-based applications of the UD construct and principles to
Kindergarten to Grade Twelve curricula empirically. …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” (pp.107-108). Further studies concerning the efficacy of UD are certainly required.

McGuire and Scott (2002) acknowledge that there is little empirical research and evidence on the efficacy of UD. This is similar to research on differentiated instruction, where future research is deemed necessary (Hall, Strangman, and Meyer, 2007). Still, it is important to note that UD has not been disproved in any of the studies. Therefore, the lack of abundant available research supporting UD as “best practice” should not be misinterpreted as evidence negating its efficacy.

It would be worthwhile to conduct a study on UD and its impact on inclusive practices at the senior high level. Downing and Peckham-Hardin’s (2007) study of inclusive classroom settings found that teachers and parents of preschool and elementary students with disabilities often cited specific examples of academic success, especially in basic math and writing skills. In contrast, parents and teachers of middle years students with disabilities were less likely to speak about academic success, and spoke more about, “their child/student being happier, more independent, and more motivated to go to school [and] participate in class” (Downing and Peckham-Hardin, 2007, p.21).

With constant concerns about issues such as academic complexity, instructional pace, attitudes of teachers, and preparation for standardized provincial exams, the secondary level often is considered to be the most challenging of all areas in education.
to successfully incorporate inclusive practices (Mastropieri & Scruggs, 2001). If Universal Design could measure up to such a test, its credibility would certainly rise in academic circles.

Specifically, it may be beneficial to conduct this research in a secondary English class novel study. Kramer (1999) notes that the study of literature, “has always been an excellent way of promoting attitudes of respect and acceptance that are critical components of an effective inclusive environment” (p.34). At that time, there was frustration over the lack of significant studies that explored the use of literature study in inclusive educational settings at that time (Kramer, 1999). The lack of significant research involving the secondary English classroom that intentionally incorporates UD principles is equally frustrating.

Conclusion

Intuitively, UD makes sense. When asked, many teachers believed that UD was “inclusion…in the best possible way”, and that inclusion is the “right” thing to do (Priestley & VanWellegham, 2007). Still, further research is required in order for UD to gain credibility with the entire educational community, and to actually be implemented.

Architecturally, the concept of Universal Design has been proved to make life better for everyone, with out without disabilities. Most airport bathrooms now have electronic faucets and wide S-shaped entranceways that fit people in wheelchairs, as well as people holding luggage or a small child. Elevators assist people with cerebral palsy, as well as the elderly, small children, or people with their hands full. Slightly larger font sizes make reading easier for the visually impaired and those with low vision. UD is a concept that seeks to make life easier and more equitable for everyone.
The concept of Universal Design in education is not without its challenges. Many schools were built prior to recent movements for inclusion and without UD principles. In addition, available research on UD’s efficacy is limited. Finally, the proposed marriage of general education and special education is a difficult idea for many to accept. Coco Raynes not only acknowledges these challenges, but embraces them; “I like the difficulty - and the elegance - of developing one single solution, the same for everyone” (cited in Hofstedt, 2004). Thirty years ago, people like Ron Mace felt the same way about physical space, which ultimately resulted in the raising of standards and expectations of today’s architectural design.

In the very near future, the hope is that the education system has experienced a similar revolution. Further research regarding UD’s efficacy in the classroom is required in order to begin such a ubiquitous transformation. Perhaps McGuire, Scott, and Shaw (2006a) state it well, saying, “We are advocates for the implementation and evaluation of UD in schools, and we … support extensive demonstration, evaluation, and research projects to allow this potentially powerful model to be developed and proven before it is widely - and possibly ineffectively - implemented” (pp.173-174). My study will attempt to demonstrate the effectiveness of UD in high school education.

My study (as described in Chapter 3) is designed to investigate these questions in a specific educational context. Using a mixed-method research approach (that is, using qualitative and quantitative research methods), the study will:

1. assess the differences and similarities in student learning between two comparable classes studying the same senior high novel unit, with one class using UD aligned practices, and the other class using traditional methods, and,
2. explore educators’ and students’ perceptions of UD aligned teaching practices and their influence on the teaching and learning of students.
Chapter 3

Methods

The purpose of my study was to explore how UD aligned teaching practices influenced the teaching and learning of students in a senior high school English novel study. Specifically, my mixed-methods study was conducted following the provincial Grade 11 English Language Arts curriculum (1999) in an urban Manitoba school division. I used both qualitative and quantitative research methods. Quantitative data was collected using standardized reading and comprehension tests from the two English classrooms prior to and immediately following the novel study, and a common novel unit test. Qualitative data was collected through interviews of teachers and students prior to, midway, and after the novel unit was taught. The novel that the two classes were taught was the novel, “Night” (Wiesel, 1982).

In this chapter, I provide a detailed account of the methods I used in this study to:

1. assess the differences and similarities in student learning between two comparable classes studying the same senior high novel unit, with one class using UD aligned practices, and the other class using traditional methods, and,
2. explore educators’ and students’ perceptions of UD aligned teaching practices and their influence on the teaching and learning of students.

Stance of the Researcher

It is important to outline my values and beliefs as a researcher. Therefore, I will briefly describe the past personal and professional experiences that have led me to this study.
I originally was trained to be as a secondary school teacher. After three years of teaching humanities in the regular classroom, I was asked to teach in a segregated, specialized low-enrollment class for students diagnosed with severe behavioural and emotional disturbances. Although initially reluctant to take on such a task, I accepted the position so that I could get a permanent contract from my school division. The experience proved to be was a challenging but rewarding experience.

After five years of teaching in this program, I moved on to another segregated program for students who, for a variety of reasons, were thought to be unable to achieve in the regular classroom. While working in this program, I became increasingly frustrated at the ever-growing number of students that the school personnel sent to specialized classes. This prompted me to go back to university and take some courses in special education.

It was in one of my summer session courses that I first became intrigued with the concept of inclusive education. At first I was resistant to such a notion, as it seemed to contradict everything that I had become accustomed to with over the past eight years. Eventually, however, I became a proponent of inclusive education. More specifically, I embraced the idea of inclusion, yet still struggled with the notion of how to go about doing it in the classroom on a daily basis. One of my reasons for taking graduate level studies in inclusive special education is my belief that there may be innovative ways that teachers can do a much better job of including students with learning challenges in the regular classroom. I believe we are obligated as responsible professionals to seek out those strategies. My thesis is therefore focused on this search.
Methods

I conducted my study between September 2009 and June 2010. After approval by my advisor and my Masters of Education thesis proposal examining committee, and approval by the Education and Nursing Research Ethics Board (ENREB) at the University of Manitoba, I recruited two Grade 11 English classes for my study. In order to recruit these classes, I received permission from the specific school division in which I planned to conduct the research. As I planned to conduct my study in either of two school divisions in Winnipeg, I planned to strictly adhere to both of their divisional policies regarding research proposals in order to respect their guidelines. I asked two divisions for permission to conduct this study.

In one school division, I sent a letter to the Assistant Superintendent responsible for ethics approval (see Appendix A), requesting permission for me to conduct this research. This division can be described as a mix of urban and suburban schools. Upon the superintendent’s approval, the principals of several high schools in the division were informed of the research proposal by letter. The principals were asked to pass out the letters of invitation to potential teacher participants from the researcher. They were given a letter outlining the nature of the study, and were asked to contact me if interested. Participation in the study was optional, which was made clear in the letter to all teaching personnel. In fact, school administrators were not informed which staff members participated in the research study and who opted out. All subjects had the right to withdraw from the study at any time for any reason without consequences of any kind.

The Research Director from the other school division was also sent an application requesting permission for me to conduct this research (see Appendix B).
This division can be described as largely urban school division in Winnipeg. I strictly adhered to their guidelines. Based on the division that first gave consent for my research study, I then proceeded to contact the principal of several high schools in Winnipeg by letter (see Appendix C), and requested written consent from the principal as she or he, or a designate of his or her choice, will be interviewed by the researcher in order to get an understanding of the demographics of the school, its community, and to determine how classes of students are arranged and created in the school (see Appendix D). The first division that responded first with a “yes” was the division where I conducted the research. The other division was notified immediately by phone and letter (see appendix E) when this occurred.

Potential participants for the study (i.e., Grade 11 English teachers) were invited by the principal to participate in the study. Specifically, the principal was asked by the researcher to place letters (see Appendix F) in the school mailboxes of each member of the high school’s English department. After being given the letter outlining the nature of the study (see Appendix F), the English teachers were invited to contact the researcher directly by email or phone, if interested. The two teachers with the most similar teaching experiences were chosen, as determined by a short questionnaire that I had potential teacher subjects complete (see Appendix G). Any teacher(s) who was (were) not selected were thanked by the researcher for their willingness to volunteer, but informed that their assistance was not required (see Appendix H). Participation in the study was optional, and this was made clear to all teaching personnel. Teachers that contacted the researcher were required to give written consent prior to the commencement of the study (see Appendix I). Again, participation in this study was
completely voluntary. If any participant wanted to withdraw, they could contact me or my thesis advisor by phone or email.

Only two teachers volunteered and written consent was obtained, so I provided these teachers with information letters for his or her students and their parents or guardians (see Appendix J) and letters of student assent (see Appendix K) and parental consent (see Appendix L) asking for their permission to allow their children to participate. Students were also asked to provide assent in writing for the focus group the researcher that I had created to explore their experiences in a Universally Designed English novel study (see Appendix M). Parents were asked to provide written consent regarding participation of their child in the focus group at this time (see Appendix N). No student participated in the study in any manner without the signed assent of the student and signed consent of his or her parent or guardian. To retain anonymity, these letters were distributed to the students by a graduate student from the University of Calgary who had volunteered to be my research assistant for my study. She was not affiliated with the school, and the students took the letter home to be signed. High school students were asked to return the letters stating whether or not they had agreed to participate, in a closed and sealed envelope provided to them by the research assistant within a seven day time frame. At that time, the research assistant read a brief script (see Appendix O), picked up the returned sealed forms from the classroom teacher, and delivered the sealed envelopes to me so that I could open them alone. All participation was voluntary, and all participants were informed that they could opt out of any part of the study at any time. In addition, all subjects had the right to withdraw from the study at any time for any reason without consequences of any kind. If any
administrators, teachers, students and/or parent had wished to withdraw from the study, they could have informed me by my email, phone, or in person.

As stated earlier, two grade 11 English language arts classes were used in this study. They were chosen conveniently, based on the following criteria: (a) the teachers volunteered to take part in the study, (b) both were studying the same novel, and (c) the classes had similar overall class results on a standardized reading comprehension test (Level E, Form 3 Gates-MacGinitie Vocabulary and Reading comprehension test) (MacGinitie, MacGinitie, Maria, Dreyer, & Hughes, 1992). As agreed to by Teacher A and B, Pre and Post Gates-MacGinitie tests would only be written by only those students in class A and B who provide assent and parental consent at a time convenient for Teachers A and B and the students. This test was administered by the research assistant mentioned earlier.

Both teacher participants teach at the same senior high school. They all have permanent full-time contracts with their division. All have been given pseudonyms to ensure anonymity. Teacher A was given the pseudonym of “Lisa Vincent”, and teacher B was given the pseudonym of Melinda French.

Lisa Vincent voluntarily agreed to participate in this study. She is also in her late 30’s, and has been teaching English since 1995, except for approximately three years when she was on maternity leave. Her English classes are at all senior high grade levels. Lisa holds a Bachelor of Arts and a Bachelor of Education. She has never heard of the term Universal Design.

Melinda French is a Senior High teacher of English and Choral Music. Melinda also voluntarily agreed to participate in my study. She is in her late 30’s. She has been teaching for sixteen years at the same school in Winnipeg. Her English classes are at all
grade levels. Melinda holds a Bachelor of Arts, Bachelor of Education, and a Masters in Education. She has been the Department Head of the English department for the past five years. She had very limited knowledge of Universal Design, but in the initial interview defined it as, “attending to all learners’ needs in the classroom so that all students can be successful.”

For the purpose of validity, it was important that Lisa and Melinda have had similar backgrounds in the classroom (see Appendix Q). Table 1 shows Lisa’s and Melinda’s responses in these categories.

I think that I had managed to find two teachers with similar classroom experiences and educational backgrounds. While it had been my intention to have the teacher that I determined to be most qualified to teach in his or her traditional manner, so that no edge was given to the experimental classroom, Melinda volunteered to be the experimental class, and Lisa preferred that, so I concurred. I also thought that, since Melinda acknowledged that she had heard of UD and Lisa had not, then it would be best to give Lisa the traditional role, as UD was probably not part of her teaching repertoire.

Lisa’s class was designated the control group (traditional methods) and Melinda’s class was designated the experimental (UD) group. For the study, each class was taught during a 4 week period that accounted for approximately 20 instructional hours, in blocks of 5 hours per week. The manner in which they were to be taught, however, was to be quite different (see Appendix J). Lisa taught the unit using traditional methods. For the purposes of the study, we define traditional teaching methods as whatever Lisa normally did with a class during a novel study. Melinda infused UD aligned principles into planning for and teaching the novel study.
Table 1

*Lisa’s and Melissa’s Educational and Professional Experiences*

<table>
<thead>
<tr>
<th>Question</th>
<th>Lisa’s Response</th>
<th>Melinda’s Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>In total, how many years have you been teaching? Please list the classes/programs you have instructed.</td>
<td>I have been teaching since 1995 except for three and a half years for maternity leaves in 2000, 2003, 2005 and 2008.</td>
<td>I have taught grades 10, 11, 12 English, grades 7, 8, 9 Band, grade 9, 10, 11, 12 Choral, and grades 9, 10, 11, 12 Vocal Jazz.</td>
</tr>
<tr>
<td>How long have you taught high school English? What grade levels?</td>
<td>I have taught high school English since 1996 at the senior two, three and four levels.</td>
<td>I have taught grades 10, 11 and 12 English Language Arts since 1995.</td>
</tr>
<tr>
<td>Please list all post-secondary education that you have received (i.e. Degrees, diplomas, special education or other certificates).</td>
<td>Bachelor of Arts Bachelor of Education</td>
<td>Bachelor of Fine Arts Bachelor of Education Masters in Education</td>
</tr>
<tr>
<td>Have you heard of the term, “Universal Design”? If “yes”, how would you define the term?</td>
<td>No, I have not heard of this term before reading it today.</td>
<td>Yes, (UD is) attending to all learners’ needs in the classroom so that all students can be successful.</td>
</tr>
</tbody>
</table>
For quantitative purposes of my study, both classes were asked to write the same Gates MacGinitie (MacGinitie, MacGinitie, Dreyer, Hughes, 2006) standardized pre-test prior to the start of the unit and the same Gates MacGinitie (MacGinitie et. al, 2006) standardized post-test upon completion. Melinda and Lisa were also asked to have their students write the same novel study test (Snodgrass, 2006), which they would make together, after the unit. I planned on comparing the results of these tests at the conclusion of the novel study.

After the teachers were selected and written consent was obtained, I had a research assistant from the University of Calgary distribute information letters for Lisa and Melinda’s students and their parents or guardians (see Appendix J) and letters of student assent (see Appendix K) and parental consent (see Appendix L) asking for parental permission to allow their children to participate. The students also were asked to provide assent in writing for the focus group the researcher created to learn of their experiences in a Universally Designed English class (see Appendix M). Parents also were asked to provide written consent regarding the participation of their child in the focus group at this time (see Appendix N). The students were asked by the research assistant (see Appendix O) to return the letters stating whether or not they agreed to participate in the study in closed and sealed envelope provided to them by the research assistant within seven days. There were several instances, in both classes, where parents phoned and gave verbal permission over the phone, after a student gave back the letters of written assent directly to the teacher. These students were included in the study. Still, my research assistant picked up all available letters within a week’s time, as promised. At this time, I had 15 student assents and parental consents from Lisa’s classroom, and 18 student assents and parental consents from Melinda’s class. I decided
that there were enough student participants to conduct my study in this particular high school.

*Interviews*

For qualitative purposes of my study, Lisa and Melinda, and three students from Melinda’s class, were interviewed prior to, midway, and immediately following the novel study. As with every interview for this study, these interviews were audio taped, and detailed written notes of the participants’ responses to the process also were collected. This was done in order to analyze themes in their perceptions and self-evaluations of how their usual teaching practices correlated to UD principles. I transcribed and later analyzed all of the interviews. All of the audiotapes and transcripts are to be stored for 2 years under lock and key in a locked filing cabinet located in a locked office at the researcher’s home. The audio tapes are to be smashed by hammer, and then burned along with the transcripts, in the researcher’s fireplace. All participants had the option, through information provided on the consent form, to receive a written summary of the results of the study when it is completed.

There were minimal risks to the participants or any third party involved in this study. There also were no direct benefits, other than that the participants may have gained a sense of well-being and a greater understanding of their own professional growth and development as teachers. There was therefore no requirement for deception of the participants in this study.

As indicated above, although the identities of the participants were known to the researcher, their names were not used in any documentation and identifying information regarding the school also was kept out of all documents. All information was kept strictly confidential. No participants were compensated for their participation.
Teacher’s First Interview

Both Lisa and Melinda were interviewed prior to commencement of the novel study. They were asked questions (see Appendix S) that pertained to the seven principles of Universal Design, including:

1. What do you do to make your classroom useful and attractive to people with diverse abilities?

2. How does your classroom instruction accommodate a wide range of individual preferences and abilities?

3. How is your unit easy to understand, regardless of students’ experience, knowledge, language skills, or current concentration level?

4. How do you communicate necessary information effectively to all students, regardless of their abilities?

5. Does your unit minimize hazards and the adverse consequences of accidental or unintended actions? How?

6. Can you teach and your students learn using a minimum amount of effort? Please elaborate.

7. Do you have appropriate size and space in the classroom to teach your unit, regardless of user's body size, posture, or mobility?

Melinda’s UD Training

Prior to either class commencing the novel study unit, I needed to ensure that Lisa was using traditional methods throughout the course of the novel study, and that Melinda understood and implemented a unit plan based on the Universal Design construct. I asked Lisa to provide me with an outline of the unit plan prior to commencement, and to keep a daily journal record of classroom activities and
assignments. I asked Melinda to first complete Updike, Reimer, Romeo, & Young’s (2007) “Universal Design in Education” survey (see Appendix R) in order to determine self-perceptions of: (a) the alignment of his or her current methods of instruction with the principles of universal design (UD), and (b) areas in the teacher’s teaching practices that he or she feels could be made more compatible with UD. The purpose of the survey was to see where alignment currently exists between the teacher’s reported practices and UD principles, and also to highlight areas that could be more universally designed.

I interviewed Melinda upon completion of the survey on Universal Design. The purpose of this interview was to obtain Melinda’s feedback regarding his or her feelings about Universal Design and his or her perceptions on how it aligned with his or her current practices. The interview gave me an idea as to where Melinda was in terms of UD familiarity prior to the novel study. This was a semi-structured interview using the Universal Design survey as a supplement (see Appendix T), in addition to the following open-ended questions.

1. Have you heard of Universal Design (UD) in education before? Where?
2. What do you think of the concept and/or principles of UD?
3. In which areas is your unit the most UD-friendly? Why might this be the case?
4. In what areas is your unit the least UD-friendly? Why might this be the case?
5. Were there any surprises in this process? Disappointments?
6. Which examples are you the most interested in trying out?
7. Which examples are you most interested in learning more about?
8. What barriers might you encounter in trying to make your unit more UD friendly?
9. What, if anything, can be done about these barriers?
10. Are there supports that you can identify that would help make your classroom more UD-friendly?

Also, Melinda was asked questions (see Appendix U) concerning the process of UD bases on Burgstahler’s (2008) work.

1. What type of unit are you designing?
2. Describe the type of students that you are designing the unit for?
3. Will you involve the students in the unit design process? How?
5. How will you plan for accommodations?
6. What do you feel you need to be appropriately trained in incorporating UD?
7. How are you planning on evaluating outcomes, efficacy, and impact?

Upon completion of the survey and my interview, I provided Melinda with three 45 minute training sessions that began with me highlighting the construct (The Center for Universal Design, 2007) of Universal Design. These training sessions commenced two weeks prior to the novel study. During this time, we first reviewed and discussed her completed Universal Design survey (see Appendix R), and looked for areas of strengths and weaknesses. I then shared a power point presentation with her that highlighted the challenges and benefits of inclusion, and how UD could help overcome these challenges. I explained that it was originally an architectural term, but that educators were attempting to use UD’s principles in education.

We met several days later to review the seven principles of Universal Design (What is Universal Instructional Design, 2002), and the process of Universal Design (Burgstahler, 2006). Together, we reviewed the UD process and how it relates to Melinda’s task. For example, we identified the application of what is being designed as
a grade 11 English novel study of the book *Night*. We defined her universe as the grade 11 high school English students. We reviewed the importance of involving her students in the design process of the novel unit, and discussed the importance of offering a variety of activities in her unit.

A week later, we looked at a web site that provided a good example of a UD novel study for the book, “To Kill a Mockingbird” (LaFleche, 2009). There, we reviewed a number of activities, assessment strategies, and assistive technology tools displayed in the website. I showed her how pre-typed chapter summaries, audiotapes, and chapter-by-chapter vocabulary sheets could benefit her students. Melinda stated that she would look at this website and incorporate similar strategies into her unit.

Melinda and I attempted to meet regularly once the novel study began, but it became difficult to meet in person due to my inability to meet during the school day and her busy schedule in the evenings and weekends. We agreed to continue these UD training sessions over the phone and by email, as we mutually agreed that it was the best way to connect. I continued to send her websites about Universal Design, such as The CAST’s “Universal Design for Learning (UDL) Lesson Builder” (2009), and CAST’s “What is Universal Design for Learning?” (2009a), sites that provide teachers with explanations of UD, and models of Universally Design units and lessons. Two weeks into the novel study, I sensed that Melinda was growing tired of the tutorials, and so I asked her if she felt that she had enough learning. She emphatically stated, “I think that’s good enough!” when I asked her if she had enough training from me, and it would be better to cease with these learning activities. Therefore, Melinda and I stopped with the training, after five sessions of training on Universal Design. I had concerns over whether or not sufficient training had occurred, but decided that it was
best not to force the issue. Cawley, Foley, and Miller (2003) noted that even relatively short amounts of teacher training can influence the lesson development of teachers, and so all further training of UD was ceased.

There were implications for my study because the training was ceased. I had concerns over whether or not sufficient training had occurred, but made a decision that ending the training would be best. I knew that I risked the assurance of Melinda strictly adhering to UD principles throughout the remainder of her unit. This would not guarantee me as accurate a study as I would have liked. I would have preferred to be more actively involved in the design of each daily activity so that I had better assurance that strategies that incorporated UD were implemented. I realized that the manner in which Melinda was trained and then allowed to select what strategies to incorporate left more variables to the study than I would have liked.

I also recognized that I would not have any time to physically watch her classes for evidence of UD implementation, so I would not have proof that she did what she said she would in class, Melinda assured me that she would provide me with a daily log of her unit (as can be found later in this chapter), and so ultimately, I left it as is. I did realize that this decision may jeopardize my findings.

The Novel Study

Lisa’s class was the control group and Melinda’s class was the experimental group. For the study, each class was taught for a 4 week period, which accounted for approximately 20 instructional hours. The manner in which they were taught, however, was quite different (see Appendix P). Lisa’s class was taught the unit using traditional methods. Melinda’s class infused UD aligned principles into planning for and teaching the novel. Both classes wrote the same post-test (Snodgrass, 2006) related to the novel
study upon completion of the unit. This test was designed by Lisa and Melinda, and had short answer and essay questions dealing with the novel, “Night” (Wiesel, 1982).

Melinda and Lisa implemented instruction of the novel study. Midway through the novel study unit, both Lisa and Melinda were interviewed about their perceptions of the novel study so far. Melinda was specifically interviewed about his or her experiences thus far in incorporating UD-aligned activities. At the conclusion of the novel study, both Melinda and Lisa were interviewed about their perceptions of the novel study.

During the novel study unit, a convenient sampling of three students from Melinda’s class were asked by Melinda to form a focus group. I was given written student assent and parental consent prior to any interviews. The focus group was interviewed by me on three separate occasions as to their experiences in the class. Melinda asked three students that best represented the range of abilities seen in the class as determined by their first term English marks, to be a part of the study. That is, one student with a low first term average, one student with a medium average, and one student with a high average was selected and invited to participate. These interviews were done prior to, midway, and immediately after the novel study. In addition to focus group participation, students were asked to keep a portfolio of completed work and assignments, as a way to store their products. All subjects in the focus group had the right to withdraw from the study at any time for any reason without consequence of any kind.

Three students from Melinda’s UD novel study class did agree to be part of a student focus group. As part of this group, they agreed to be interviewed by me as a group before, midway, and after the novel study. For the purposes of this study, the
students will be named “Abby”, “Ben”, and “Cindy” (pseudonyms). Abby is a 16 year old female, and had a 67% final mark average in grade 10 English. Ben is a 16 year old male, and had an 80% final mark average in grade 10 English. Cindy is a 17 year old female, had a 53% final mark average in grade 10 English, and is currently repeating grade 11 English.

Although I conducted pre, midway, and post novel study interviews with Lisa, Melinda, and the three focus group members, I had all of the student participants in Lisa’s and Melinda’s class to write a standardized Vocabulary and Reading comprehension test (Gates-MacGinitie 2nd Canadian edition Level E, Form 4 Vocabulary and Reading) (MacGinitie, MacGinitie, Maria, Dreyer, & Hughes, 1992) comprehension post-unit test in order to determine if any differences had arisen between the two classes. Pre and post novel study and Gates-MacGinitie tests were analyzed so that further insight could be attained regarding the efficacy of UD teaching practices. Only the tests of those students who provided assent to the study, and whose parents provided consent, were reviewed. In addition, re and post novel study tests were created collaboratively by Lisa and Melinda and were given to both classes. The marker of all pre and post-tests was another member of the school’s English department. The marker was “blind” to the class she marked so that the scoring was not influenced as much as was possible, and all subjects had the right to withdraw from the study at any time for any reason without consequences of any kind.

I then planned to analyze this data, looking for variance among each of the students, and between the two classes. The analytical software, “Statistical Package for the Social Sciences 18 Grad Pack” (SPSS, 2010), an analysis of covariance (ANCOVA) was planned to be used to obtain an approximate measure of the
discrepancy between classes A and B for all pre and post tests. ANCOVA was chosen because it compared the two post-test scores and statistically controlled for the pre-test scores, in the event that they varied in terms of class means and standard deviations.

Based on analysis of all student portfolios, the student focus groups and the teacher interviews, the coaching field notes, and the teachers’ daily teaching logs; it was hoped that further insight could further be attained regarding the efficacy of UD teaching practices in a senior high school setting. In particular, I anticipated that the interviews with Lisa, Melinda, and the focus group of pre-selected students would generate a wide variety of ideas. My intention was to read through these data sources, identify and code emergent themes and sub-themes, and them to assign interview and focus group quotations, field notes and teacher log observations to the themes and sub-themes. My intention was for the themes to emerge from the participants’ voices and the other data sources without bias. To do this, after all interviews were completed, I transcribed all of the interviews. I read each of the transcriptions, seeking out emergent themes, reoccurring ideas, examples, counter-examples, and outlying quotes that did not quite fit in. I coded my data sources to highlight common themes into different colours, and then organized them by cutting and pasting them electronically on my computer. Finally, I analyzed the emergent themes in the next chapter in order to determine their significance with respect to y research questions, and then prior research, implications for practice, and possible future research.
Chapter 4

Findings and Discussion

As explained in Chapter 3, I conducted a mixed method study of quantitative and qualitative approaches. As outlined in Chapter 3, two teachers agreed to have their grade 11 English classes take part in the study. In order to gather quantitative data, I had students in both classes write standardized reading comprehension tests before and after the novel study. Students also wrote the same post-novel test based on the novel, “Night”. This test was created by Melinda and Lisa.

Quantitative Analysis of the Two Classrooms

The standardized tests that were chosen for this study were the Gates MacGinitie tests ((MacGinitie, MacGinitie, Maria, Dreyer, & Hughes, 1992), as both teachers felt most comfortable with them. This test consists of 48 vocabulary questions and 45 comprehension questions. All questions were multiple-choice questions that asked students to colour in the letter of the correct answer. The Comprehension section contained several short reading paragraphs, each followed by five or six questions pertaining to the passage.

The pre-test (Level E, Form 3 Gates-MacGinitie Vocabulary and Reading comprehension test) was written in order to determine the similarities of the two classes. As agreed to by Lisa and Melinda, these tests were written by only those students who provided assent and parental consent at a time convenient for the teachers and the students. This test was administered by the teachers themselves. Table 2 displays the results of the Gates MacGinitie pre-test.

I asked that student participants also write standardized reading comprehension (Level E, Form 4 Gates-MacGinitie Vocabulary and Reading comprehension test)
post-unit test in order to determine if any differences could be observed and analyzed so that insight could be attained regarding the efficacy of UD teaching practices. The post-tests were distributed by the administrators. Table 3 displays the results of the Gates MacGinitie Post Test.

The test that was chosen by the teachers was from a “Night” Teacher’s Guide (Snodgrass, 2006). The test featured 15 “fill in the blank” questions (30 points), 10 “matching” questions (20 points), 10 “true or false” questions (20 points), and a choice of completing 2 of 5 essay questions.

The marker of all pre and post-tests was my research assistant, who was once employed as a high school English teacher. The marker was “blind” to the class she marked so that the scoring was not influenced in any way. Table 4 displays the results of the post novel study test. A basic distribution analysis was conducted on the data which revealed a serious issue. The issue was that the mean scores of the Gates MacGinitie post-tests for each class were lower than the scores for the pre-tests.

As both classes would be expected to improve under either teaching method, this suggests a serious flaw at some point in the experiment. There was no evidence that the decrease in scores was a product of students being nervous. Questions were raised: Did the problem lie with the instruments used to assess student results? Was the way in which these instruments were used create some disconnect between content and testing? Was more time and repetition required for students to synthesize what they had learned?

I think that the Gates McGinitie tests were reliable assessment instruments, and that the problems lie with the manner in which they were distributed. There was little to
Table 2

_Gates MacGinitie Pre-test results of experimental (Melinda’s) and control (Lisa’s) classes_

<table>
<thead>
<tr>
<th>Test</th>
<th>Experimental UD class</th>
<th>Traditional Control class</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M</td>
<td>SD</td>
</tr>
<tr>
<td>Gates MacGinitie Pre-Test</td>
<td>43.4</td>
<td>17.7</td>
</tr>
</tbody>
</table>

*Notes:* (a) UD=Universal Design, (b) M=mean %, (c) SD=standard deviation, (d) n=number of subjects.

Table 3

_Gates MacGinitie Post-test results of experimental (Melinda’s) and control (Lisa’s) classes_

<table>
<thead>
<tr>
<th>Test</th>
<th>Experimental Melinda’s UD class</th>
<th>Traditional Lisa’s Control class</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M</td>
<td>SD</td>
</tr>
<tr>
<td>Gates MacGinitie Post-test</td>
<td>41.1</td>
<td>16.5</td>
</tr>
</tbody>
</table>

*Notes:* (a) UD=Universal Design, (b) M=mean %, (c) SD=standard deviation, (d) n=number of subjects.

Table 4

_Night Post-Novel Study test results for experimental and control classes_

<table>
<thead>
<tr>
<th>Class</th>
<th>M</th>
<th>SD</th>
<th>n</th>
</tr>
</thead>
<tbody>
<tr>
<td>UD experimental class</td>
<td>49.6%</td>
<td>18.7</td>
<td>15*</td>
</tr>
<tr>
<td>Traditional control class</td>
<td>48.8%</td>
<td>13.7</td>
<td>15</td>
</tr>
</tbody>
</table>

*Notes:* (a) UD=Universal Design, (b) M=mean, (c) SD=standard deviation, (d) n=number of subjects

*Three students in the UD class did not write the Night Post-Novel Study test, and were therefore not included in the results.*
no motivation for the students to try, or even complete the tests, as there was no grade value assigned to the task, nor any reward. Students were aware that the results had no effect on their academic standing in the course, and therefore many did not complete the tests. Many of these multiple-choice tests were not completed. Students in both classes left an average of 6.5% of the standardized pre-test questions blank. For the standardized post-tests, nearly 14% of the questions were left blank.

Poor timing of post-test writing may also have played a role in the lower scores. Both classes wrote their post-tests the two days before Winter Break holiday. This, combined with the fact that these tests were given the day after the Night novel tests, lead me to believe that many students would not have been motivated to give these tests serious regard. After consulting with a statistical expert at the University of Manitoba, it was determined that there was no point in further statistical analysis of this test data.

In this case, I believe that the most appropriate analysis would have been the analysis of covariance (ANCOVA). ANCOVA would be the preferred method of analysis because it compares the post-test scores and statistically controls for the pre-test scores. This would effectively level the playing field. Therefore, ANCOVA would be a statistically more powerful tool than a t-test or an analysis of variance (ANOVA). However, since the scores decreased, it is obvious that there were no significant increases in pre to post-test gain. If I did carry out ANCOVA analysis, then the results would not be significant because the scores ultimately declined from pre to post test. As a result, I did not pursue this area of my study.
Qualitative Exploration of Universal Design in the Classroom

The first interview

I conducted pre, midway, and post-novel study interviews with Lisa, Melinda, and the focus group members, and then analyzed them for emergent themes using the process described in Chapter 3. During my first interviews with Lisa and Melinda, a wide range of ideas came up for discussion. Both teachers touched upon topics and themes that related to what the literature review uncovered. Some of these correlations will be highlighted as they arise. For example, Melinda and Lisa often seemed to agree with what Rose and Meyer (2000) stated was true for many teachers, as they tried to make inclusive classroom environments, even though it was not always easy.

After comparing and contrasting the interviews, I decided to focus on two main themes: (a) teacher’s personal beliefs and practices as they relate to inclusion, and (b) personal, physical and systemic structure of the school as a barrier and facilitator to inclusion. These themes were chosen as they tended to dominate both teachers’ responses.

Inclusion and teacher’s personal beliefs and practices. Melinda said that she had some understanding of UD, and that it related to differentiated instruction. I asked her to differentiate UD with differentiated instruction, Melinda said, “Actually, I kind of thought it was exactly the same thing. Am I right?”

Lisa referred to multiple intelligences, saying:

*I try to follow suggestions from the document Success for all Learners. I try to also remind myself that students learn in different ways. I know that I am a visual learner and for those students like me, I may use the chalkboard, projector, bulletin board, or chart paper. To accommodate those students who are aural learners, I try to make sure that I always give audible, clear, explicit directions verbally and with handouts as well. I also try to give students an opportunity to practice their lessons.*
One common thread that I found in each of the teachers’ practices was that they both were using strategies that incorporated UD principles. Even though Melinda said that she had only heard a little about UD prior to completing the survey, she was already assisting students in her classes with, “Audio books, giving the students overhead notes, like copies of those, if they have trouble copying notes quickly, or if they have trouble listening and writing at the same time.”

Melinda also has incorporated less finite assignment deadlines, creative seating and grouping plans, and continuously searches for better assessment tools as a way to measure student abilities. According to Melinda, many UD principles were already being done because they made sense intuitively. She said:

Many teachers are doing a lot of this type of thing, without thinking about it. And, have learned by guess and by golly, that maybe there are students that maybe need, you know, obviously a little extra help in this area. I guess I’ll just have to do whatever to make him or her successful.

Lisa spoke about incorporating important components of Universal Design, even though she had never heard of the term. For example, she spoke about the importance of being flexible in her manner of her instruction, saying:

Students (work) individually or with partners, in groups of three, four, or five, gathering evidence from their text to provide formal or informal presentations, or even to participate in classroom discussions. Hopefully, regardless of students’ diverse abilities, different types of instruction, especially if student-centred, will help my students to be successful.

After completing the UD survey (see Appendix R), Melinda was very specific as to areas in which she felt she could be more UD-friendly in her teaching. When I asked her what areas of the survey she would like to incorporate into her practices, she said, “In terms of students’ intellectual, you know, balance, you know when I put them
in groups.” She also said, “More varieties in instructional text - that is one thing I was looking at.”

*Teacher Training and Work Load Concerns.* It appeared that Melinda and Lisa often felt unprepared to handle all of the challenges that students with diverse abilities bring to the classroom. For example, Melinda discussed how teaching four classes per semester limits her ability to provide prompt feedback for her students, saying, “In terms of all the marking, I find that, especially if you’re on your four different English courses in that semester, the marking can’t be done maybe as quickly as it should be.”

Lisa echoed the sentiments of Priestley and Van Wellegham (2007) when they noted the continuous struggle with addressing individual student needs while meeting the demands of the curriculum, saying:

*I believe that teaching is very hard work and in order to help my students do the best that they can, teaching requires a tremendous amount of effort and time to ensure that my students receive a quality education. I am constantly revising my lessons and adjusting the material. The delivery and pace of the course lessons also requires constant monitoring and reviewing, especially with classes that all have students with a broad range of abilities.*

Lisa often found this task to be daunting, and like many educators, has struggled to make inclusive education a reality (Rose & Meyer, 2000). She stated:

*I know that I definitely could learn how to incorporate more adjustments and changes in the classroom to better reach students with diverse abilities - this is an area I feel that I’m lacking as an educator. This year, probably more than ever, I see this need and encounter this challenge on a daily basis. I’m hoping that all of these strategies (that I try to incorporate) will benefit my students, their abilities and their strengths and weaknesses.*

*Barriers to Inclusive Education.* Melinda and Lisa both admitted that inclusion was increasingly difficult to accomplish, especially when they reach high school. For example, Melinda talked openly about some of the barriers she faces, including: (a) her concerns over finding effective pre-assessment tools, (b) the challenges she faces
providing her students with prompt feedback, (c) the problems with her furniture, and (d) the issues surrounding division-wide policy implementation. Still, she seemed to think that Universal Design in Education was necessary if one wanted to be inclusive, and that many teachers with experience were trying to do it.

Melinda spent a significant amount of time discussing physical barriers. She talked about her displeasure with the furniture in her classroom. Melinda said that, several years ago, “They needed desks somewhere else in the school, so they asked me if I would like tables.” She felt that the tables were a mixed blessing, as they, “Promoted some group stuff but it’s also provided some bigger classroom management things because kids are just more chatty at tables.”

Lisa voiced displeasure about the furniture in her classroom, saying, “The way the students’ desks are organized allows for free movement of students between the aisles. Many of the senior three and four male students, however, find the desks a bit cramped for their legs due to their body size.”

Lisa also talked about the physical problems with retrofitting technology into her class, saying:

*One concern that I have in this room is the location of the computer wires attached to the north wall - a variable that I can’t control. The IT department made that decision years ago and I’ve tried to work around it as you see by changing the direction of the students’ desks. There should be no reason for students to walk by or behind the computer desk over these wires."

The school’s infrastructure as a barrier was not limited to physical characteristics, but also included financial limitations. Melinda discussed budgetary limitations as concerns. When I asked Melinda, who was the school’s English Department Head, what institutional barriers got in the way of her being more UD-friendly, her immediate response was as follows:
Budget - that would definitely be one of them. For textbooks especially. Textbooks, audio CDs, all those adapted type materials.” When I asked Melinda what her annual textbook budget was for her department, Melinda said, “I know we get about $7000 for textbooks a year. That’s for four grade levels, and I think we’re at about 1100 or 1200 kids in the building. I don’t know, five or six dollars a kid per year?

Facilitators to Inclusive Education. Melinda provided several examples of the school being a facilitator to inclusion. For example, the recent introduction of technology in the classroom had provided Melinda with an effective solution to a limited photocopying quota. Melinda said that the photocopy budget used to be a concern, “but some of our (English) teachers became more reliant on overheads and using your LCD stuff. You do it all on your computer. Every classroom has a computer. Every teacher’s desk now has a computer.” Melinda noted that the addition of such technology had not only resolved their photocopying concerns, it had greatly enhanced the learning environment in their classrooms.

In her English classes, Melinda noted that many activities required technology. She said, “You can put up today’s Globe and Mail, and it’s right there. I mean, there’s a visual right there. I don’t have to go to the Mac’s store first thing in the morning and buy a copy of the paper, and then photocopy it for everybody in black and white.”

In addition, Melinda found that using technology helped with classroom management issues, saying, “I find that they’re more focused if it’s on a screen, and it’s off the net. Rather than paper, or you just standing up there talking. They’re way less chatty, I find.”

Systemic structures, like divisional policy, also seemed to encourage Universal Design, even as teachers displayed mixed feelings toward it. Melinda referred to a recently implemented policy that says, as Melinda stated, “students should not be
penalized for any behavioural, students shouldn’t be penalized mark-wise for any
behavioural actions, so handing something in late is a behavioural action.”

When I asked her what she thought that meant, Melinda said, “you can’t dock
10 % a day, and you can’t say, you know, that you get 0, because that’s a mark and it’s
attached to a behaviour, so as result, kids can hand stuff basically until the end of the
semester and still get marks.”

While Melinda admitted to incorporating the spirit of the policy into their
teaching prior to its effect, she had some issue with the mandatory nature of such
policy. Melinda seemed more reluctant to speak out against divisional policy, and only
said that time would tell if the policy was a good one, saying “we only implemented
this in the last year or so, so long range I would be interested in seeing what it’s
teaching the kids.”

Melinda was concerned about the “last-minute” assignment completion
becoming a more common practice, and the poorer quality of work that was coming in
as a result. Melinda said, “I have also found that they are throwing a lot of this last
minute work together really willy-nilly at the last minute. So it’s not quality work,
necessarily, that they’re handing in.”

Still, she agreed that more kids were passing English as a result of the policy.
When I asked Melinda if she found more kids received credit because of this policy,
she concurred with Dale, saying, “Many, many, many students pass because of this,
when they wouldn’t have, so it is working in their favour.”

Although each teacher provided unique insight into their methods of instruction
and how they aligned with the principles of Universal Design, Melinda and Lisa had
much in common. First, they began teaching at approximately the same time (Melinda
in 1994, Lisa in 1995), have taught English at all high school levels, and both struck me as caring, committed teachers, who were candid about their strengths and weaknesses. Second, they have all intuitively incorporated many UD principles into their teaching practices. Third, they are both frustrated at times about the barriers that prohibit successful learning in the classroom. Finally, neither of them seemed to fully realize how potentially UD-friendly they actually appeared to be.

**Student Focus Group**

Just prior to novel study commencement, I asked Abby, Ben, and Cindy for their general perspectives on English class. Abby and Ben both responded favourably. Abby said, “I think it’s OK. Sometimes it’s fun.” Ben noted, “(English is) good because you need it for everyday life.” Cindy, on the other hand, responded, “English is not one of my favourite subjects, but I gotta take it.”

Despite their different opinions about English as a subject, all three students liked Melinda’s class. When asked why they liked her class, Abby responded, “It’s not boring…it’s fun.” Ben said, “We’re not (just) covering new topics, but refreshing the lessons from last year.” Cindy concluded, “I like that we (do) different things, and not just read novels.”

All three students found merit in taking English as a course. Abby was specific, and said that the best part about the subject of English is that one could, “Develop reading and writing skills.” Ben and Cindy were a little more general in their responses. Ben liked that, “You learn things that you didn’t know before”, and Cindy liked that, “You learn a lot of different things that are helpful in your life.”

Still, they all struggled with a variety of components of English. For Abby, she felt that she was, “Kind of bad at poetry and doing essays. I lack focus and getting my
work in.” Ben struggled with, “Doing everything like my work and (handing it to the 
teacher) as she wants it.” Cindy stated that it was sometimes, “Hard to read, and 
concentrate on what (she) was supposed to do.”

I gathered from the interview that the students liked Melinda as a teacher. They 
all saw the merit in studying English in school, and thought that the skills they learned 
in class were useful in the real world. Each of them had their struggles in class, 
specifically with reading and writing. Still, all three students found Melinda to be 
helpful. Although none of them indicated that they loved English, they all thought it 
was pertinent to their education.

Midway Interview – An Emerging Shift Among the Teachers?

Midway through the novel study unit, Lisa and Melinda were interviewed about 
their experiences thus far. While both teachers found many challenges within their 
classrooms Lisa seemed frustrated by the apathy of many of her students, while 
Michelle seemed to be excited about how UD was assisting her with the unit. Lisa first 
reported that the unit was going, “Right along on schedule.” She began the unit with the 
students viewing Schindler’s List. Students have had, “Class time everyday to read the 
text and respond to comprehension questions, and yesterday we went over the answers 
to those…questions.”

Lisa still needed to review, “How figurative language is used in the text of Night 
specifically looking at metaphors, similes, and irony.” She also indicated that students 
would also be, “Responding to a choice of higher level thinking questions to submit as 
part of their reader response logs, and then they will write their test!”

Lisa felt that there had been a major classroom success during the course of the 
novel study. She stated, “I think that one of the successes is the level of interest and
engagement of most of the students.” As the class discussed the novel and read selected parts together in class, Lisa noted that, “Most students demonstrated, in the discussion, an understanding and appreciation of the novel’s themes, and also what Elie Wiesel experienced in the concentration camps during World War Two.” It was apparent during the midway interview that Lisa was very frustrated with her classroom’s attitude and performance. For example, one of Lisa’s major source of frustration centred on her students’ apparent lack of motivation in the classroom. For example, she stated, “I find that one of greatest challenges as a teacher is when students do not take any responsibility for their learning. No matter how much time I try to plan class time to give students to do their work, there are still those who mismanage their time and fail to meet even the basic requirements!” Melinda, on the other hand, was much more upbeat when interviewed midway through the novel study. Interestingly, Melinda’s overall responses seemed to support McGuire, Scott, & Shaw’s (2006) notion that Universal Design principles may help teachers provide access to the general education curriculum to students with a wide range of disability and diversity characteristics. When asked to describe her experiences to this point in incorporating UD-friendly activities, she replied:

So far I have found [UD principles] very helpful in engaging all of the students. [My English class] is quite a mixed bag when it comes to abilities and behavior, including 8 International students who are really struggling with the language, and 3 students who came out of our Core Focus program last year (a class for students having behaviour, focus and ability difficulties, as she describes it) so I have found that employing universal design activities has not only allowed the students to be more successful, they are able to focus better and enjoy the part of their reader response logs, and then they will write their test!

Academically, I see that the big thing is portraying things in a different light if the student is having trouble grasping something. So I will put something in a chart instead of regular notes, or I will draw a visual diagram, or I will provide an example that they can relate better to. So...say for this unit, we were talking
about figurative language in the author’s writing, especially his use of simile and metaphor. So if a student still wasn’t getting that, I would point it out in song lyrics that they know, for example.

Melinda appeared eager to share how she aligned her teaching of the unit with specific UD principles, and provided many concrete examples of how the UD principles (The Center for Universal Design, 2007) assisted her in providing a more inclusive classroom environment. For example, when asked about how she was accessible and fair to all parties, Melinda stated:

I have included things like listening to the novel on a recording while they are reading. This has allowed the novel reading to be more accessible to those who are struggling readers, since these students (the struggling ones) would typically not bother to pick up the novel at all. Since we read it together in class, they were all following along, and the intonation of the narrator’s voice helped with the comprehension of the text. It was great – the room was dead quiet, and all of the students were reading along the entire time! This would never have happened if I had just said, ‘Ok- we’re going to have a reading period today. Everybody try to get to the end of chapter 2 by the end of the class.’ That would end up in continual chatting and behaviour problems.

As for flexible use, participation and presentation, she tried to have students do a variety of activities from, “Group discussions, writing tasks, group writing tasks, and flip chart presentations” in order to keep things in order to give that flexibility for the varied needs of the students. It was obvious to her that, “Some students excel at the writing, whereas others would rather just talk about it out loud and express things orally instead”. Still, she seemed to appreciate the individual differences, describing them as, “Great, because this is what it’s all about, right? As long as they are demonstrating that they can meet the outcomes, who cares how they do it!”

As for the principle of being straight forward and consistent Melinda stated that this was:

A big one for this group. Things can’t ever get mucky or I’ve lost them! Right from the minute I open my mouth, everything needs to be simple, clear and
concise. Many of these guys are very emotionally needy and academically needy. As soon as there’s any “shaky” feeling…they do one of 2 things. They either get flustered really quickly, and almost panic, or they fold. So that’s the straight forward part. I’m clear in my directions, I only ask them to do one thing at a time, I give them examples first, I usually do the first one with them, then I ask for questions, and then I ask them to get going on their own.

Melinda felt that she academically prepared her students for the unit by doing a lot of “pre-reading activities with (this class). So, for example, with this Night novel, we brainstormed and read up on Hitler and World War II quite a bit so that they were going into the novel with a breadth of understanding of that era and the whole war ordeal.”

Melinda seemed to be most proud of her supportive learning environment, stating:

I try to do this in all my classes. It’s crazy, but so many of these kids have been shot down so much but all they need is one positive experience to get them back on track. All they need is someone to say, “Hey – that was a really good thought I hadn’t thought of that.” Or “Hey – you really remember what you were taught last year in English – good job!” So that’s the one thing I try to do to provide a supportive learning environment, but the other is the whole bullying thing, which, unfortunately comes up in almost every class, but I shut that down right away and I call parents or do whatever is needed to not have that crap going on in my class. If a kid is sitting there wondering if he/she is going to get taunted today or not, that’s not cool. The kids are very clear that I do not allow any of that.

She also felt that there was very little unnecessary physical effort or requirements, saying:

I think that the class is pretty much set up for this to happen. We have a projector in there for internet access, which is another great tool for these guys. For example, when we were researching WWII, I was able to pull up actual photos of the camps that Elie Weizel was in – that was from the tour of the area that he did with Oprah – so the kids could see Elie himself, as well as the remaining concentration camps that he was in. So the kids can just stay right in my class and have access to the internet resources, without having to relocate. As well, the class is set up with tables, so even for group work, the students are placed in a manner that is really conducive to group discussion, without having to move around too much.
For size and space for approach and use, Melinda felt:

*Everything is very accessible in my class. It is wheelchair accessible due to an elevator down the hall, and, again, there are tables for the bigger kids. I know that when I used to have desks, some of the big grade 12 guys literally wouldn’t fit!! But this set up with tables makes it easy for everyone to be there and to be comfortable. The screen for the projector is on the side wall, so all kids can see it, and the speaker is right in the middle of the room, so everyone can hear it. The blackboard is at the front, which can be seen by all, and the overhead is in the corner, which, again can be seen by everyone.*

When asked about the UD component of having the “end-users” (that is, the students) have a voice in the design of the unit, Melinda offered an interesting perspective, saying:

*I think this is a great idea, as long as some parameters are set. They would have to know the outcomes needing to be addressed and be given lots of prompts or ideas on how to get there. Then they would get to pick, maybe from those ideas? I guess I would say that I like the idea of having a “voice” in it, because that doesn’t commit us to doing everything they ask, yet it would still give them ownership in the unit and its demands. So, for example, even if the assessment for this unit was a project, a whole list of choices could be given that they choose from, or in this case, even the last long answer test question is a choice. Anytime people in general are given a choice and a say in things, there is ownership, which increases productivity, isn’t there? There’s gotta be a study on that somewhere! So I would say that it’s a great idea, as long as things are laid out in a way that the outcomes are still being covered.*

At the midway point of the novel study, I interviewed the focus group, or three of the “end-users”, to get a sense of their perspectives. When I asked the students what, if anything, they liked about English class this year, Ben immediately replied, “Our teacher!” Abby said that she most enjoyed group projects, while Cindy liked the way Melinda, “Explains things in a fun way, you know, not like in a lecture. Yeah, she makes it fun. It’s not just, read a book!”

I then asked the three students the percentage in time their English class allotted for reading, taking notes, discussing, doing presentations, and writing. I asked that they
provide these percentages specifically for their novel study, this far. Ben and Abby felt that they did a lot of reading, with Ben thinking it composed about 60% of a typical class. Cindy and Abby felt that 20% of the class was used for taking notes. All three students agreed that a lot of discussions take place in class, and Ben and Abby felt that the class spent about 10% of their class time on presentations. Students also felt they spent a large percentage of class time on writing, as Abby said, “50% of the time, we are writing stuff.” This question seemed to indicate that students did not have a great handle on the allotment of percentages, but that the teacher provided a variety of instructional methods.

I asked the students if they had ever heard of the term “Universal Design”, and all said, “No”. They also indicated that thus far, they did not notice any significant changes to Melinda’s classroom structure, although Ben noted that, “Sometimes we get an extension because we slack off.”

Instead of defining Universal Design for the students, I asked them about a number of questions specific to each of the UD principles (Center for Universal Design, 2007). For example, I asked the students if they felt that Melinda’s class accommodated for a wide range of individual preferences and abilities. Abby responded, “Yeah, well, if somebody need more explaining she’ll explain it more, and give more detail, and help you if you need help.” The purpose of my questions was to ascertain that, from the students’ perspectives, Melinda was adhering to the principles of Universal Design.

When asked if their novel study been easy or hard to understand, all agreed that it was easier than normal because, as Ben stated, “We read the book, and now (Melinda lets us) listen to a tape, and follow along with the book, or just listen.” Ben added, “And
after a couple of chapters she’ll give us an assignment about what chapters we’re reading and stuff like that.”

When I asked the students how much effort they put into their English class, a number of notable responses arose. Based on my interviews, it seemed as if the teachers felt that they were putting in a significant amount of effort in teaching the class. The students did not appear to feel the same way. For example, Cindy said, “Not that much (effort) cause it’s pretty much straight forward.” Abby added, “You have to put an effort in to get good marks…like in elaborating your sentences in your assignments, not just putting two words for the answer.” Ben noted, “If you’re bad in one area (of English), then you might want to start concentrating more on that area…you might want to put more effort into it.” Still, he acknowledged, it is often, “Pretty slack!”

While these responses indicated that Melinda was adhering to the UD principle of “Low Physical Effort” in the classroom for their students, both teachers felt they were expending a significant amount of “mental effort” in order to teach. This theme will be discussed later in the chapter.

I asked the class what they thought of the physical space of their classrooms. While Melinda felt that the room was very spacious, the students appeared to feel crowded. Abby said, “It’s kind of hard to get around because we’re all in tables and when you want to get around you can’t… It’s crowded, it’s really crowded.” Ben stated, “Like, there’s these big desks, and then like, cabinets, we have like inches.”

Although Priestley and VanWellegham (2007) have noted that teachers who attempted UD had concerns about the increased clutter in their classrooms, it appears from these interviews that students also shared this concern.
Interestingly, Abby and Cindy blamed some of the problems with crowding on the increased technology in the classroom. Cindy said, “There’s a big projector that puts movies on the screen in the middle of the aisle so you got to go around.” Abby added, “So it’s good to have it but it’s kind of crowded in our room.”

I asked if and how technology was used during the novel study, and all students agreed that personal computers and the video projector were the main types of technology. Ben appreciated the video clips that Melinda often showed, saying, “Watching something like that, it makes things easier” While Cindy thought having technology in English was, “cool”, Abby wondered aloud if it really helped with learning. She said, “Sometimes I wonder if (technology) is that good, because it doesn’t really help you learn. You know, like calculators. We use them but they don’t really help us learn. I know we don’t use calculators in English class but with computers, we don’t actually learn, we’re just typing in stuff, instead of thinking about it and writing it down. It’s kind of half and half.”

Abby’s questioning of whether more classroom technology necessarily equated to more learning seemed to add to Rose and Meyer’s (2000) cautious contention that the recent push for technology in the classroom can result in the loss of space, added expenses, and increases in logistical management issues for many schools.

Novel Study Unit Daily Activities

The novel study continued in both classes for approximately another two weeks. At the conclusion of the novel study, both teachers provided me with their unit plan, as it actually occurred. It should be noted that I was unable to observe either classes during this unit plan, and relied on teachers being honest about what they did.
### Table 3

**Lisa’s Daily Unit Plan for “Night”**

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<thead>
<tr>
<th>Week</th>
<th>Monday</th>
<th>Tuesday</th>
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<tbody>
<tr>
<td>Week 1</td>
<td>Gates-MacGinitie Pre-Test</td>
<td>Viewed “Schindler’s List”</td>
<td>Concluded “Schindler’s List” “Night” book handed out, ch.1 read aloud</td>
<td>Distributed and read intro notes (vocabulary, character list, historical timeline, map) All Chapter questions distributed to students (so can be done in case any kids get sick. Students work individually on questions</td>
<td>Individual work period for students to complete assigned discussion questions.</td>
</tr>
<tr>
<td></td>
<td>Viewed “Schindler’s List”</td>
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<tr>
<td>Week 2</td>
<td>Individual work period for students to complete vocabulary questions, some students ready to begin chapter questions</td>
<td>Individual work period: reading ahead, chapter questions, and/or vocabulary</td>
<td>Individual work period: reading ahead, chapter questions, and/or vocabulary</td>
<td>Individual work period: reading ahead, chapter questions, and/or vocabulary</td>
<td>Many students had still not completed first chapter set of discussion questions, and/or vocabulary, (so had today) to finish their work</td>
</tr>
<tr>
<td>Week 3</td>
<td>Reviewed timeline and class hand-out sheets about “Night”. Begin correcting vocab, words</td>
<td>Reviewed and corrected answers for discussion questions for pp. 1-20. Read excerpts from novel as it pertains to questions and allows for class discussion about the text.</td>
<td>Continued to correct answers for discussion question from pp.21-43. Discussed the word ‘night’ as symbol for the novel</td>
<td>Corrected chapter questions for chapters 3-9. Class discussion as we corrected answers for chapter. questions and allows for class discussion about text. Distributed questions</td>
<td>Set date for test of novel unit study. Students work individually on reader response logs. Reviewed concepts of simile, metaphor, and irony. Wrote vocabulary definitions on chalkboard. Students work on simile and metaphor hand-out sheets. Begin activity sheet for Irony. Review study checklist for novel unit test.</td>
</tr>
<tr>
<td>Week 4</td>
<td>Night unit test</td>
<td>Gates Post test.</td>
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### Table 4

*Melinda’s Daily Unit Plan for “Night”*

<table>
<thead>
<tr>
<th>Week</th>
<th>Monday</th>
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<tbody>
<tr>
<td>Week 1</td>
<td>Gates-MacGinitie Pre-test</td>
<td>Brainstorm on meaning of holocaust timeline Present and describe holocaust timeline Create bio poem Simile/metaphor review and sheet (for style in the novel)</td>
<td>Gates test</td>
<td>Hitler bio (think, pair share) Read aloud his bio Read Chapter 1</td>
<td>“Survivors of the Holocaust” video</td>
</tr>
<tr>
<td>Week 2</td>
<td>Oprah article – interview with Elie Weisel Read Ch.2</td>
<td>On-line pictures of Elie touring concentration camps and real photos of the camps and people at the end of the war Vocabulary used in Night – group search and share with class (chart paper, etc.) Read ch. 3</td>
<td>Hitler character map Read ch. 4</td>
<td>Irony in Night – explain irony - sheet – do first together, rest in pairs. Listen to ch. 5 on CD ROM (noticing at this point that some aren’t reading the novel, so I made the choice to get the CD so that we could listen and follow along – worked great – everyone on task and following).</td>
<td>review ch. 1-5 Listen to ch. 6</td>
</tr>
<tr>
<td>Week 3</td>
<td>Reflection (2 prompts on overhead) on Night thus far Listen to ch. 7,8,9</td>
<td>Study guide questions ch.6&amp;7 Simile of myself sheet</td>
<td>Study guide questions 8&amp;9</td>
<td>Stereotype – discuss, group sheets on scenarios</td>
<td>Themes – group discussion, sheet</td>
</tr>
<tr>
<td>Week 4</td>
<td>Tone and symbol in Night – review meaning of terms, sheets</td>
<td>Characterization – Elie, Elie’s father – behavior, appearance and dialogue</td>
<td>Review Night Vocab (test prep)</td>
<td>Go over test requirements Start Schindler’s List movie</td>
<td>Schindler’s List conclusion</td>
</tr>
<tr>
<td>Week 5</td>
<td>No classes</td>
<td>Schindler’s and review for test</td>
<td>Night Test</td>
<td>Gates Post Test</td>
<td></td>
</tr>
</tbody>
</table>
As I reviewed the daily activities of the classrooms, I noticed two areas of interest. The first was that Melinda spent over a week longer teaching the novel study than Lisa. I am unsure as to why this happened. Both teachers began at roughly the same time, but Melinda chose to devote six more classes of instructional time to this unit. The following tables show Lisa and Melinda’s daily activities during the novel study:

I also noticed that Melinda’s classes were much more varied in terms of activities. She incorporated movies, television interviews, representative diagrams, small and large group discussions, and deskwork. Lisa chose to spend a much more significant amount of time devoted to individual deskwork, correcting of questions and answers, and teacher lectures. In short, it appeared that Melinda’s class was provided with a much more colourful and eclectic mix of learning opportunities that may appeal to the different types of learners in her classroom.

Final Teacher Interviews – UD and Perspective

At the end of the units, I conducted post-novel study interviews with Melinda and Lisa. The original purpose of these interviews was to compare and contrast methods of instruction between the two teachers. As the interviews progressed, I discovered that Lisa and Melinda wanted to talk more about how they believed the novel study went, whether or not their students were successful, and their perspectives on why success was or was not achieved. After reviewing the transcripts of interviews, Melinda graded herself much higher, and her comments were much more positive than Lisa’s responses. I think that Melinda believed she was much more successful than Lisa did at the conclusion of her novel study.
Both teachers openly expressed the many challenges they face when teaching high school English. I asked Lisa how she felt the novel study went. She responded, “I think it went as well as it could possibly go considering the range of students who are in the class.”

When I asked Melinda about her thoughts about how the novel study went, she was much more positive in her response, saying:

*I thought it worked out really well! I mean, these are things that we should be thinking about all the time, anyway, and I really try to implement this type of planning and thinking in all of my classes, but I have to say that with the novel study, this is really easy to do. The great thing about a novel study is it can be so wide open, you know, so the range of activities and lessons that you can do around it is really big, which allows all of those learners in your class a chance to get at the learning tasks by whichever way works for them!*

I read a number of statements to Lisa and Melinda, and asked them to rate her novel study from 0-10 based upon the scale that 0 meant “never” or “not at all”, and 10 represented “excellent” or “all of the time”. The statements that were read all pertained to specific UD principles (The Center for Universal Design, 2007), and the ratings were meant to show how the teachers felt they matched up with them. Of course, I did not teach Lisa about Universal Design prior to the novel study, but I still asked her to rate herself as to determine if there were any UD principles that she coincidentally put into practice.

Interestingly, both teachers gave themselves low marks when asked if they could teach and students could learn using a minimum amount of effort. Lisa scored herself with a 3. She said:

*I have to put forth a tremendous amount of energy and effort regarding classroom management due to the range of maturity levels and types of behavior demonstrated in class. I cannot be ever complacent with these students as they have many needs and are very demanding. I found their classroom behaviour to be very challenging and their misbehaviour would affect their...*
potential to be successful if and when particular students would be chronically disruptive during class lessons, class discussions, and class work periods.

Melinda gave herself a score of 2, and said:

It is actually quite a bit of effort to teach this range of students! Some just “get it” every time, some need a bit more nudging, and some need the constant help in grasping any concept. Combine that with kids always coming in late, kids away for whatever reasons, kids acting up, constantly interrupting instruction, phone calls you need to make for late work, missing work, missing kids!”

Both teachers expressed frustration over some of their students’ lack of success during the novel study. Lisa’s main concerns were about disruptive student behavior, while Melinda’s concerns were about “late work, missing work, missing kids”. Melinda and Lisa both felt that they spent a great deal of their energy focusing on these issues.

Although both teachers agreed that their jobs required a great deal of energy, their self-evaluations and responses to my other questions were quite different. Overall, Melinda gave herself higher scores than Lisa, and her responses to my questions indicated that she felt more success teaching her class.

When I asked if they thought their classroom was useful and marketable to people with diverse abilities, Lisa gave herself a 7, saying, “I think that overall the arrangement of the room is useful, and I do employ some strategies to make it marketable, but I probably could make it more marketable to students with diverse abilities.”

Melinda gave herself a 9, saying, “I suppose if a student with a wheelchair was in there it might be a bit crowded, just due to the tables and how they (the tables) crowd the space a bit.”
When asked if their classroom instruction accommodated a wide range of individual preferences and abilities, Lisa gave herself a 7, and provided no further comments.

Melinda gave herself a 10, saying, “I would say that all of the kids’ abilities preferences were met with the variety of activities that I provided. Upon circulating and oral checking with them, it seemed that most of them were keeping on track.”

When asked if their unit was easy to understand, regardless of students’ experience, knowledge, language skills, or current concentration level, Lisa gave herself an 8. She noted, “As a member if the Assessment Committee and from many years teaching this unit, I have revised this unit throughout the years incorporating ideologies such as *Success for all Learners* and differentiated learning.”

Melinda gave herself a perfect score of 10, saying, “I think since we started off at a base level of zero with this unit, just meaning that I assumed they knew nothing about WWII or the Holocaust … I tried to keep the activities of a short length, sometimes doing 2-3-4 different types of things in one class.”

When asked if necessary information was delivered effectively to all students, regardless of their abilities, Lisa gave herself a 10, and provided no further comments.

Melinda also gave herself a 10. She added:

*I think this was happening all of the time. There is quite a range of abilities in that class, but I really tried to vary the way I presented concepts and ideas so that they would all have as much success as possible. The one medium I find really helpful in this generation is the video/computer thing. I find that students now, of all ranges and abilities, are so video-friendly, and it’s one way to always maintain their attention as well, which alleviates some classroom management stuff as well.*
When I asked if they felt the unit minimized hazards and the adverse consequences of accidental or unintended actions, Lisa gave herself a score of 8, and provided no further comments.

Melinda gave herself a score of 10, saying, “There were no barriers whatsoever in that department!” As with all of the responses, Melinda provides much more positive responses than Lisa. Based solely on their interviews and self-evaluations, I am unable to accurately verify whether or not Melinda was more successful in the classroom than Lisa. Still, it was apparent that Melinda felt as good as or better about her novel study than Lisa in virtually every category.

When I asked if there is appropriate size and space in the classroom to teach your unit, regardless of user's body size, posture, or mobility, Lisa gave herself a score of 8, saying, “I have one student who is tall and complained about the size of the desks but the desks are arranged not only to maximize learning but also provide appropriate mobility for the students and staff in this class.”

Melinda gave herself a score of 10. She said, “No problem in this area. Even the bigger grade 12 kids are fine in my class. I think I may have mentioned this before, but this actually was a concern before I had tables in there ... it’s a comfortable learning space.”

Overall, when asked to rate their novel study unit according to the principles of Universal Design (The Center of Universal Design, 2007), Melinda gave herself equal or higher scores than Lisa for every question. Lisa scored 51/70 and averaged 7.3/10 per response. Melinda scored 61/70 and averaged 8.7/10 per response. Both Melinda (3) and Lisa (2) gave themselves the lowest scores for “Minimal Effort Required.”
The responses regarding efforts required to teach in an inclusive setting were not that unusual. As stated earlier in this thesis, Woolfolk (1998) argues that many teachers often feel overwhelmed to handle all of the challenges that students with diverse abilities bring to the classroom. Throughout the novel study, both teachers admitted that teaching High School English for students with a wide range of abilities was a very challenging endeavour.

The difference, however, seemed to lie with how Lisa and Melinda reacted to their situation. It was apparent that Lisa was very frustrated at the end of the novel study. She stated that even though she has, “Put forth a tremendous amount of energy and effort” into her classroom instruction”, she was astounded by, “The students’ lack of effort or commitment to learning and taking responsibility for their own learning.” Lisa seems to shift all of the blame for her classroom’s apparent lack of success on her students.

Although Melinda was most concerned that teaching English often felt took up a lot of her personal and professional energy, but stated:

*Nowadays, it takes more effort than it did, even 10 years ago, but if that’s what it takes, then that’s what it takes. Now (teachers) got a very busy, full plate, when you’re constantly thinking, ‘OK, how can I get that to them a better way, how am I going to assess this so that they can all have a fair go of it?’ I would say...minimum amount of effort? No, not a chance. We see kids coming into grade 9 here with a grade 2 and 3 reading level! So now we mix them up with kids who are university bound, and we have a challenge on our hands! That’s where this universal design thing comes in. It's just a necessity and a reality of life in this job now. Anyone who isn't teaching this way now, is probably only hitting home to 10-15% of their students, because, at least in this school, you just can’t “blanket teach.” anymore, and still think you're doing a good job. And the way I see it, most of us get into this job, because we like kids and want to help them get to where they need to be for whatever their goal is. It’s a caring profession, right? So let’s care and do what it takes to make that happen.*
I believe that Melinda’s positive response and willingness to take on the challenges that teaching high school English resulted in part because of a long standing personal philosophy of education that may differ from Lisa’s philosophy. However, Melinda’s responses throughout the final interview combined with her higher self-ratings for adhering to UD principles, supported the notion that Universal Design may help teachers become more inclusive.

Educators have often struggled to practice inclusion, even though many support the idea of it (Rose & Meyer, 2000). Inclusion is increasingly difficult to accomplish as students progress through the public school system, especially when they reach high school (Downing & Peckham-Hardin, 2007). It appeared that Melinda and Lisa would agree with Woolfolk (1998), when he said that teachers often felt unprepared to handle all of the challenges that students with diverse abilities bring to the classroom (1998).

Melinda’s comments supported the idea that Universal Design principles could help teachers feel that they could overcome these hurdles, at least in the minds of teachers. Still, I cannot make the assertion that this was solely due to UD training and implementation, as training was ceased after only five training sessions, and I was unable to observe Melinda’s class on a daily basis and confirm UD practices.

It is regretful that I did not get sufficient evidence to confirm that Melinda’s perceptions of being able to teach a wide range of students was the result of a different philosophical stance and prior skill set that differed from Lisa’s, or if it was due to my UD training and implementation. Therefore, I cannot state with certainty that my study provided evidence that Universal Design may be the “missing link” that could make
inclusive education transform from a philosophy to a reality (McGuire, Scott, & Shaw, 2006). Still, my study certainly does not disprove this claim.

Limitations

There were a number of limitations to my study that need to be identified. My study was based on a small sample of two teachers, and there were problems with obtaining certainty of matching classrooms. Melinda should have been more closely monitored during her training and teaching of the unit. Due to conflicting schedules, I was unable to gather observational data on Melinda, which may have affected the fidelity of UD usage. The process of training Melinda about UD ceased prematurely, and this may have had implications to the study’s findings. The teachers’ self-ratings were also too subjective in nature. In the future, it would be better to find a more accurate measuring instrument with fewer uncontrolled variables.

There were also too many variables within this study concerning Melinda’s philosophy and pedagogy, prior training, classroom expectations, and personal characteristics to simply attribute Melinda’s attitude and feelings to the principles of Universal Design. I felt that my study left too much flexibility for Melinda to teach how she wanted to, and not enough checks were in place to ensure adherence to UD.

There were also serious problems with the timing, spacing, and choice of the standardized post-tests. In hindsight, the tests may have been too long, which resulted in fewer students completing them. Additionally, students had no apparent incentive to complete them, and asking students to write these tests the day before winter break was poor timing on my part. Perhaps smaller, more frequent student evaluations would have provided better data.
My study would have been more closely aligned with UD principles and processes if Melinda’s students were more engaged in the unit’s design process. Although Melinda indicated that her students were involved in some of the planning as long as parameters were established, I found no evidence from the interviews with the focus group members that they had even heard of Universal Design. For future research, better monitoring of this engagement would need to occur. Overall, more attention and better triangulation needs to be given to the UD process with regards to design, coaching, teaching, and outcomes, in order to ensure trustworthiness of the data.

Conclusion

As stated earlier, the purpose of this study was to:

1. assess the differences and similarities in student learning between two comparable classes studying the same senior high novel unit, with one class using UD aligned practices, and the other class using traditional methods, and,
2. explore educators’ and students’ perceptions of UD aligned teaching practices and their influence on the teaching and learning of students.

In conclusion, I must acknowledge that this study did not support the notions that Universal Design makes classrooms more inclusive or allows students to achieve higher marks. However, this study did support the idea that the UD construct, including its principles and processes, may provide an educational blueprint required to help teachers believe that they can transform the idea of inclusive education into a reality, and provide a framework to develop practical ways to do so. As a result, teachers trained in UD may spend less time and energy blaming the less successful students in their classrooms, and spend more time and energy universally designing their instructional practices to meet the needs of all students. I think Melinda’s largely
positive responses concerning the challenges of teaching this high school novel study, her willingness to implement strategies related to UD, and her more diverse and creative lesson planning provided the evidence required to support such a claim, or at least to warrant further research in this area.

Many themes emerged from the qualitative interviews with Melinda, Lisa, and the focus group participants. Melinda and Lisa both liked the idea of inclusion, and used strategies that unconsciously incorporated UD principles. Still, both teachers often felt overwhelmed by the diverse needs of their students, and felt they required much needed training in this area. For example, Melinda discussed how teaching four classes per semester limited her ability to provide prompt feedback for her students, and Lisa talked about the continuous struggle with addressing individual student needs while meeting the demands of the curriculum. Both teachers also thought that barriers such as limited school budgets, current classroom design, and student behavioural concerns limited their opportunities for academic success. Practically, high school English teachers are concerned about blending the demands of the job and inclusive teaching practices. Further study of this issue would be beneficial.

All three students in the focus group acknowledged that they learned valuable skills by studying high school English. The students agreed that the best part about the subject of English is that they developed reading and writing skills. Still, they each struggled with a variety of components of English, such as poetry and essay writing. All three students found that Melinda provided them with a variety of classroom activities, and that she was helpful when they needed assistance. This study supported the idea that high school English students identify reading and writing as areas they need to improve upon, that they value the study of the subject, and that they appreciate
it when teachers assist them and are creative in their instructional approach. More studies investigating student reading and writing skill development and the creativity and helpfulness of the teacher may be warranted.

Midway through the novel study unit, there seemed to be an emerging shift between the two teachers. While both teachers found many challenges within their classrooms, Lisa seemed frustrated by the apathy of many of her students; however, Melinda seemed to be excited about how UD was assisting her with the unit. For example, Lisa was frustrated over her students’ apparent lack of motivation in the classroom. Melinda, on the other hand, was much more upbeat when interviewed midway through the novel study. I think that it might be helpful to see further studies look into teacher training on UD and teacher’s feelings of success in the classroom.

At the midway point of the novel study, the students in the focus group continued to state that Melinda provided a wide variety of instructional methods into the classroom. One new theme that arose from this interview was the limited amount of energy that students thought was required from them in this unit. It was interesting that both teachers thought they needed to expend great amounts of energy teaching high school English, while students indicated they did not need to expend much energy learning high school English. In the future, it would be intriguing to conduct further studies into this issue.

The second theme that surfaced from the midway interview with the students was their perception of technology in the classroom, and how it provided both benefits and barriers. The questioning of whether more classroom technology necessarily equated to more learning seemed to add to Rose and Meyer’s (2000) cautious contention that the recent push for technology in the classroom can result in the loss of
space, added expenses, and increases in logistical management issues for many schools. Further study into the implications of technology in the classroom is recommended.

In the final interviews, both teachers shared concerns and frustrations over the amount of time and energy they required to teach the wide range of learners in their classrooms. Melinda, however, thought she was more successful than Lisa in teaching the unit, Melinda repeatedly indicated that learning about the construct, principles, and process of UD helped her be more inclusive and successful in her English class. Melinda’s daily unit plan (table 4) was also much more varied and colourful than Lisa’s daily unit plan (table 3) in terms of activities. Melinda’s overall responses and more eclectic novel unit plan seemed to support McGuire, Scott, & Shaw’s (2006) notion that Universal Design principles may help teachers provide access to the general education curriculum to students with a wide range of disability and diversity characteristics. It may be useful to conduct future studies into the influence that teacher professional development on UD can have on teacher’s lesson and unit plans.

Based on this study and the themes that were generated, a number of other studies could be conducted and prove insightful. For example, research is needed on teachers coping with the diversity of academic skill levels in senior high school, with particular emphasis on English Language Arts. More studies are required to examine teacher stress, workload, and job satisfaction and frustration. Further research into reducing teacher stress load through UD would be interesting.

It might also be helpful to conduct a study similar to this one, but using a qualitative design with some quantitative data collected within it; rather than a quantitative design with qualitative elements tacked on. This approach may ensure richer and more trustworthy qualitative data. In addition, rather than looking
specifically at academic outcomes as success indicators, it might be valuable to conduct a study of UD looking for other outcomes such as engagement between students and their teachers, engagement between students and their peers, and/or changes in the self-concepts of the students. It might also be useful to conduct a long term, whole school study on the efficacy of UD. A study comparing and contrasting a newer, more universally designed high school with an older school with retrofitted technology may be intriguing. Finally, it may be beneficial to conduct further studies that explore the evolutionary nature of the development of UD in education.
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Appendix A

Letter to Assistant Superintendent of School Division A

Name withheld
Assistant Superintendent of Schools
School Division
Winnipeg, MB

September 4, 2009

Dear:

I am a graduate student at the University of Manitoba in the Faculty of Education (Inclusive Special Education). I am very interested in exploring how UD aligned teaching practices influence the teaching and learning for students in a senior high English class novel study. This is my thesis research. Using qualitative and quantitative research methods, the study will specifically:

a) explore educators’ and students’ perceptions of UD aligned teaching practices and their influence on the teaching and learning of students, and

b) assess the differences and similarities in student learning between two comparable classes studying the same senior high novel unit, with one class using UD aligned practices, and the other class using traditional methods.

Universal design originated in the field of architecture in an attempt to create products and environments that are usable by all people to the greatest extent possible without the need for adaptation. In education, universal design means the design of instructional activities and materials that make the learning goals achievable by individuals with wide differences in their abilities. Ultimately, I hope that my research can someday be used to improve teaching and learning in high school classrooms.

I am writing to you at this time to request your help in my study. With your permission, I will be asking the Principal of Kildonan East high school to invite two teaching staff and the students in their classrooms to participate in my small study (please see enclosed letter). Staff members who are interested in participating will contact me directly to make the arrangements. I am asking two divisions (Winnipeg School Division and River East Transcona School Division) for permission to conduct this study. The first division that responds first with a “yes” will be the division where I
Potential participants for the study (i.e., Grade 10 English teachers) will be invited by the principal to participate in the study. They will be given a letter outlining the nature of the study (Appendix C), and will contact the researcher if interested. Participation in the study is optional, and this will be made clear to all teaching personnel. Teachers that contact the researcher will be required to give written consent prior to the commencement of the study.

After the teachers are selected and written consent is provided, letters will be distributed to the students by a graduate student from the University of Calgary who has volunteered to be my research assistant for my study. She is not affiliated with the school, and the students will take the letter home to get signed. The students will be asked to return the letters in a closed and sealed envelope that was provided to them by the research assistant within seven days time, stating whether or not they agree to participate. At that time, the research assistant will pick the returned forms up from the classroom teacher, and deliver the sealed envelopes to me so that I may open them alone. All participation is voluntary, and participants may opt out at any time. Everyone volunteering in the study has the right to withdraw at any time without consequence. If administrators, teachers, students and/or parent wish to withdraw from the study, they can inform me by my email (kereimer@wsd1.org), or phone (204-668-0493), or in person.

Class “A” will be the control group and Class “B” will be the experimental group. For the study, each class will be taught for a 4 week period, which will account for approximately 20 instructional hours. Class A (with Teacher A) will be taught the unit using his or her traditional methods. Class B (with Teacher B) will infuse UD aligned principles into planning for and studying of the novel. Both classes will write a pre-test prior to the start of the unit and a post-test upon completion. Willing student participants (this, those who provide assent and parental consent) in Class B will be interviewed by me on three occasions at a time of convenience for Teacher B.

Interviews with the Principal, teachers A and B, and students in classes A and B will be arranged at a convenient time and location for them and they will be free to disregard any questions or withdraw from the interview at any time. Although the identities of the participants will be known to me at the time of the interviews, this information will be kept strictly confidential in any information that is disseminated. The interviews will be audio taped, and detailed written notes will be kept to record their ideas and responses. The interviews will not be videotaped. I will be the only person who will have access to these documents. The written documents will be stored in a locked office at all times to ensure confidentiality of the information. All audio recordings and notes will be destroyed (shredded) at the conclusion of the study. Any written notes will not include the participants’ names or identifying information about the school.

Again, participation in this study is completely voluntary. If any participant would like to withdraw, they can contact me, Ken Reimer, at (204) 668-0493 (home), 789-1799
(work) or kereimer@wsd1.org, or my thesis advisor, Dr. Richard Freeze, at (204) 474-6904 or rfreeze@cc.umanitoba.ca. This should give you the basic idea of what the study entails. If you would like more information or clarification of any of these points please contact me, Ken Reimer, at (204)668-0493 (home), 789-1799 (work) or kereimer@wsd1.org, or my thesis advisor, Dr. Richard Freeze, at (204) 474-6904 or rfreeze@cc.umanitoba.ca.

All participants in this study can receive a summary of its findings from the researcher, if they would like, by emailing me at kereimer@wsd1.org, or phoning me at (204) 668-0493. This research has been approved by the Education/Nursing Research Ethics Board (ENREB). If you have any concerns or complaints about this project you may contact any of the above-named persons or the Human Ethics Secretariat at 474-7122, or e-mail margaret_bowman@umanitoba.ca. A copy of this consent form has been given to you to keep for your records and reference.

Thank you for your consideration of this request.

Sincerely,

Ken Reimer
University of Manitoba Masters Student
Appendix B

Letter to School Division B

Name of Division and Address withheld

September 4, 2009

Dear (name withheld)

I am a graduate student at the University of Manitoba in the Faculty of Education (Inclusive Special Education). I am very interested in exploring how UD aligned teaching practices influence the teaching and learning for students in a senior high English class novel study. This is my thesis research. Using qualitative and quantitative research methods, the study will specifically:

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b) assess the differences and similarities in student learning between two comparable classes studying the same senior high novel unit, with one class using UD aligned practices, and the other class using traditional methods.

Universal design originated in the field of architecture in an attempt to create products and environments that are usable by all people to the greatest extent possible without the need for adaptation. In education, universal design means the design of instructional activities and materials that make the learning goals achievable by individuals with wide differences in their abilities. Ultimately, I hope that my research can someday be used to improve teaching and learning in high school classrooms.

I am writing to you at this time to request your help in my study. With your permission, I will be asking the Principal of Daniel McIntyre Collegiate to invite two teaching staff and the students in their classrooms to participate in my small study (please see enclosed letter). Staff members who are interested in participating will contact me directly to make the arrangements. I will strictly adhere to the following guidelines that apply to any study requesting the participation of Winnipeg School Division students. Staff members who are interested in participating will contact me directly to make the arrangements. I am asking two divisions (Winnipeg School Division and River East Transcona School Division) for permission to conduct this study. The first division that responds first with a “yes” will be the division where I conduct the research. The other division will be notified immediately by phone and letter if this occurs.
Potential participants for the study (i.e., Grade 10 English teachers) will be invited by the principal to participate in the study. They will be given a letter outlining the nature of the study (Appendix C), and will contact the researcher if interested. Participation in the study is optional, and this will be made clear to all teaching personnel. Teachers that contact the researcher will be required to give written consent prior to the commencement of the study.

After the teachers are selected and written consent is provided, letters will be distributed to the students by a graduate student from the University of Calgary who has volunteered to be my research assistant for my study. She is not affiliated with the school, and the students will take the letter home to get signed. The students will be asked to return the letters in a closed and sealed envelope that was provided to them by the research assistant within seven days time, stating whether or not they agree to participate. At that time, the research assistant will pick the returned forms up from the classroom teacher, and deliver the sealed envelopes to me so that I may open them alone. All participation is voluntary, and participants may opt out at any time. Everyone volunteering in the study has the right withdraw at any time without consequence. If administrators, teachers, students and/or parent wish to withdraw from the study, they can inform me by my email (kereimer@wsd1.org), or phone (204-668-0493), or in person.

Class “A” will be the control group and Class “B” will be the experimental group. For the study, each class will be taught for a 4 week period, which will account for approximately 20 instructional hours. Class A (with Teacher A) will be taught the unit using his or her traditional methods. Class B (with Teacher B) will infuse UD aligned principles into planning for and studying of the novel. Both classes will write a pre-test prior to the start of the unit and a post-test upon completion. Willing student participants (this, those who provide assent and parental consent) in Class B will be interviewed by me on three occasions at a time of convenience for Teacher B.

Interviews with the Principal, teachers A and B, and students in classes A and B will be arranged at a convenient time and location for them and they will be free to disregard any questions or withdraw from the interview at any time. Although the identities of the participants will be known to me at the time of the interviews, this information will be kept strictly confidential in any information that is disseminated. The interviews will be audio taped, and detailed written notes will be kept to record their ideas and responses. The interviews will not be videotaped. I will be the only person who will have access to these documents. The written documents will be stored in a locked office at all times to ensure confidentiality of the information. All audio recordings and notes will be destroyed (shredded) at the conclusion of the study. Any written notes will not include the participants’ names or identifying information about the school.

Again, participation in this study is voluntary. If any participant would like to withdraw, they can contact me, Ken Reimer, at (204) 668-0493 (home), 789-1799 (work) or kereimer@wsd1.org, or my thesis advisor, Dr. Richard Freeze, at (204) 474-6904 or rfreeze@cc.umanitoba.ca. This should give you the basic idea of what the study entails. If you would like more information or clarification of any of these points please
contact me, Ken Reimer, at (204)668-0493 (home), 789-1799 (work) or kereimer@wsd1.org, or my thesis advisor, Dr. Richard Freeze, at (204) 474-6904 or rfreeze@cc.umanitoba.ca.

All participants in this study can receive a summary of its findings from the researcher, if they would like, by emailing me at kereimer@wsd1.org, or phoning me at (204) 668-0493. This research has been approved by the Education/Nursing Research Ethics Board (ENREB). If you have any concerns or complaints about this project you may contact any of the above-named persons or the Human Ethics Secretariat at 474-7122, or e-mail margaret_bowman@umanitoba.ca. A copy of this consent form has been given to you to keep for your records and reference.

Thank you for your consideration of this request.

Sincerely,

Ken Reimer
University of Manitoba Masters Student
Appendix C

Letter to Administrator

Date

Dear (Principal at Senior High School);

I am a graduate student at the University of Manitoba in the Faculty of Education (Inclusive Special Education). I am very interested in exploring how UD aligned teaching practices influence the teaching and learning for students in a senior high English class novel study. This is my thesis research. Using qualitative and quantitative research methods, the study will specifically:

a) explore educators’ and students’ perceptions of UD aligned teaching practices and their influence on the teaching and learning of students, and

b) assess the differences and similarities in student learning between two comparable classes studying the same senior high novel unit, with one class using UD aligned practices, and the other class using traditional methods.

Universal design originated in the field of architecture in an attempt to create products and environments that are usable by all people to the greatest extent possible without the need for adaptation. In education, universal design means the design of instructional activities and materials that make the learning goals achievable by individuals with wide differences in their abilities. Ultimately, I hope that my research can someday be used to improve teaching and learning in high school classrooms.

I am writing to you at this time to request your help in my study. With your permission, I will be asking you to invite two teaching staff and the students in their classrooms to participate in my small study. Staff members who are interested in participating will contact me directly to make the arrangements.

Potential participants for the study (i.e., Grade 10 English teachers) will be invited by the principal to participate in the study. They will be given a letter outlining the nature of the study (Appendix D), and will contact the researcher if interested. Participation in the study is optional, and this will be made clear to all teaching personnel. Teachers that contact the researcher will be required to give written consent prior to the commencement of the study.

After the teachers are selected and written consent is provided, the researcher will first need to interview you one time only, or a designate of your choice, to get some understanding of the school, its community, and to determine how English classes are arranged. These letters will be distributed to the students by a graduate student from the
University of Calgary who has volunteered to be my research assistant for my study. She is not affiliated with the school, and the students will take the letters home to get signed by their parents or guardians. The students will be asked to return the letters in a closed and sealed envelope that was provided to them by the research assistant within seven days time, stating whether or not they agree to participate. At that time, the research assistant will pick the returned forms up from the classroom teacher, and deliver the sealed envelopes to me so that I may open them alone. No student will participate in the study without the signed assent of the student and signed consent of his or her parent or guardian. All participation is voluntary, and participants may opt out at any time. Everyone volunteering in the study has the right withdraw at any time without consequence. If administrators, teachers, students and/or parent wish to withdraw from the study, they can inform me by my email (kereimer@wsd1.org), or phone (204-668-0493), or in person.

Class “A” will be the control group and Class “B” will be the experimental group. For the study, each class will be taught for a 4 week period, which will account for approximately 20 instructional hours. Class A (with Teacher A) will be taught the unit using his or her traditional methods. Class B (with Teacher B) will infuse UD aligned principles into planning for and studying of the novel. Both classes will write a pre-test prior to the start of the unit and a post-test upon completion. The Principal will be interviewed once regarding how English classes are organized, Teachers A and B will each be interviewed three times, and students in Class A who agree to participate in the study will be interviewed three times during the unit all by the researcher.

If you agree to have this study conducted in your school, I will supply you with information letters for teachers who meet my inclusion criteria (Grade 10 English teachers) and ask that you place them in these teachers’ school mailboxes. I also ask that you participate in an interview to provide background information about the school or delegate this task to another staff member. Interviews with the Principal, teachers A and B, and students in classes A and B will be arranged at a convenient time and location for them and they will be free to disregard any questions or withdraw from the interview at any time. Although the identities of the participants will be known to me at the time of the interviews, this information will be kept strictly confidential in any information that is disseminated. The interviews will be audio taped, and detailed written notes will be kept to record their ideas and responses. The interviews will not be videotaped. I will be the only person who will have access to these documents. The written documents will be stored in a locked office at all times to ensure confidentiality of the information. All audio recordings and notes will be destroyed (shredded) at the conclusion of the study. Any written notes will not include the participants’ names or identifying information about the school.

This should give you the basic idea of what the study entails. If you would like more information or clarification of any of these points please contact me, Ken Reimer, at (204)668-0493 (home), 789-1799 (work) or kereimer@wsd1.org, or my thesis advisor, Dr. Richard Freeze, at (204) 474-6904 or rfreeze@cc.umanitoba.ca.
It is important for you to know that your participation in the project is completely voluntary. If any participant would like to withdraw, they can contact me, Ken Reimer, at (204) 668-0493 (home), 789-1799 (work) or kereimer@wsd1.org, or my thesis advisor, Dr. Richard Freeze, at (204) 474-6904 or rfreeze@cc.umanitoba.ca. Your signature on this form indicates that you have understood to your satisfaction the information regarding participation in the research project and agree to participate as a subject. 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. 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. If you would like more information or clarification of any of these points please contact me, Ken Reimer, at (204) 668-0493 (home), 789-1799 (work) or kereimer@wsd1.org, or my thesis advisor, Dr. Richard Freeze, at (204) 474-6904 or rfreeze@cc.umanitoba.ca.

All participants in this study can receive a summary of its findings from the researcher, if they would like, by emailing me at kereimer@wsd1.org, or phoning me at (204) 668-0493. This research has been approved by the Education/Nursing Research Ethics Board (ENREB). If you have any concerns or complaints about this project you may contact any of the above-named persons or the Human Ethics Secretariat at 474-7122, or e-mail margaret_bowman@umanitoba.ca. A copy of this consent form has been given to you to keep for your records and reference.

Thank you for your consideration of this request.

Sincerely,

Ken Reimer
University of Manitoba Masters Student
Appendix D

Consent form for Principal

Date

Dear (Principal at Senior High School);

This consent form, a copy of which will be left with you for your records and reference, is only 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 the time to read this carefully and to understand any accompanying information.

I am a graduate student at the University of Manitoba in the Faculty of Education (Inclusive Special Education). I am very interested in exploring how UD aligned teaching practices influence the teaching and learning for students in a senior high English class novel study. This is my thesis research. Using qualitative and quantitative research methods, the study will specifically:

c) explore educators’ and students’ perceptions of UD aligned teaching practices and their influence on the teaching and learning of students, and

d) assess the differences and similarities in student learning between two comparable classes studying the same senior high novel unit, with one class using UD aligned practices, and the other class using traditional methods.

Universal design originated in the field of architecture in an attempt to create products and environments that are usable by all people to the greatest extent possible without the need for adaptation. In education, universal design means the design of instructional activities and materials that make the learning goals achievable by individuals with wide differences in their abilities. Ultimately, I hope that my research can someday be used to improve teaching and learning in high school classrooms.

I am writing to you at this time to request your help in my study. With your permission, I will be asking you to invite two teaching staff and the students in their classrooms to participate in my small study. Staff members who are interested in participating will contact me directly to make the arrangements.

Potential participants for the study (i.e., Grade 10 English teachers) will be invited by the principal to participate in the study. They will be given a letter outlining the nature of the study (Appendix D), and will contact the researcher if interested. Participation in
the study is optional, and this will be made clear to all teaching personnel. Teachers that contact the researcher will be required to give written consent prior to the commencement of the study.

After the teachers are selected and written consent is provided, the researcher will first need to interview you one time only, or a designate of your choice, to get some understanding of the school, its community, and to determine how English classes are arranged. These letters will be distributed to the students by a graduate student from the University of Calgary who has volunteered to be my research assistant for my study. She is not affiliated with the school, and the students will take the letters home to get signed by their parents or guardians. The students will be asked to return the letters in a closed and sealed envelope that was provided to them by the research assistant within seven days time, stating whether or not they agree to participate. At that time, the research assistant will pick the returned forms up from the classroom teacher, and deliver the sealed envelopes to me so that I may open them alone. No student will participate in the study without the signed assent of the student and signed consent of his or her parent or guardian. All participation is voluntary, and participants may opt out at any time. Everyone volunteering in the study has the right withdraw at any time without consequence. If administrators, teachers, students and/or parent wish to withdraw from the study, they can inform me by my email (kereimer@wsd1.org), or phone (204-668-0493), or in person.

Class “A” will be the control group and Class “B” will be the experimental group. For the study, each class will be taught for a 4 week period, which will account for approximately 20 instructional hours. Class A (with Teacher A) will be taught the unit using his or her traditional methods. Class B (with Teacher B) will infuse UD aligned principles into planning for and studying of the novel. Both classes will write a pre-test prior to the start of the unit and a post-test upon completion. The Principal will be interviewed once regarding how English classes are organized, Teachers A and B will each be interviewed three times, and students in Class A who agree to participate in the study will be interviewed three times during the unit all by the researcher.

I am asking that asking the Principal distribute a letter to teachers who meet my inclusion criteria (Grade 10 English teachers) and to participate in an interview to provide background information about the school or delegate this task to another staff member. Interviews with the Principal, teachers A and B, and students in classes A and B will be arranged at a convenient time and location for them and they will be free to disregard any questions or withdraw from the interview at any time. Although the identities of the participants will be known to me at the time of the interviews, this information will be kept strictly confidential in any information that is disseminated. The interviews will be audio taped, and detailed written notes will be kept to record their ideas and responses. The interviews will not be videotaped. I will be the only person who will have access to these documents. The written documents will be stored in a locked office at all times to ensure confidentiality of the information. All audio recordings and notes will be destroyed (shredded) at the conclusion of the study. Any written notes will not include the participants’ names or identifying information about the school.
This should give you the basic idea of what the study entails. If you would like more information or clarification of any of these points please contact me, Ken Reimer, at (204)668-0493 (home), 789-1799 (work) or kereimer@wsd1.org, or my thesis advisor, Dr. Richard Freeze, at (204) 474-6904 or rfreeze@cc.umanitoba.ca.

It is important for you to know that your participation in the project is completely voluntary. If any participant would like to withdraw, they can contact me, Ken Reimer, at (204) 668-0493 (home), 789-1799 (work) or kereimer@wsd1.org, or my thesis advisor, Dr. Richard Freeze, at (204) 474-6904 or rfreeze@cc.umanitoba.ca. Your signature on this form indicates that you have understood to your satisfaction the information regarding participation in the research project and agree to participate as a subject. 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. 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. If you would like more information or clarification of any of these points please contact me, Ken Reimer, at (204) 668-0493 (home), 789-1799 (work) or kereimer@wsd1.org, or my thesis advisor, Dr. Richard Freeze, at (204) 474-6904 or rfreeze@cc.umanitoba.ca.

All participants in this study can receive a summary of its findings from the researcher, if they would like, by emailing me at kereimer@wsd1.org, or phoning me at (204) 668-0493. This research has been approved by the Education/Nursing Research Ethics Board (ENREB). If you have any concerns or complaints about this project you may contact any of the above-named persons or the Human Ethics Secretariat at 474-7122, or e-mail margaret_bowman@umanitoba.ca. A copy of this consent form has been given to you to keep for your records and reference.

Thank you for your consideration of this request.

Sincerely,

Ken Reimer
University of Manitoba Masters Student

________________________________________________________
Participant’s Signature   Date

________________________________________________________
Researcher’s Signature   Date

_____ Please send me a written summary of the results of the study: _______________________________________________ (email or mailing address)
Appendix E

Letter to Division re: Withdrawal of Study Request

Date:

To whom it may concern,

This letter is to inform you that I am withdrawing my earlier request to conduct research in your school division. The title of my research is, “The Missing Link? Universal Design in Education.” As stated in the letter I sent you earlier, I would conduct my study in the division that first responded “yes”. Another division has just informed me that they have accepted my request.

I would like to thank you so much for considering my request, and I hope that my request, or my withdrawal, has not caused any inconvenience to you or your division.

Sincerely,

Ken Reimer
Appendix F

Information Letter for Teacher Participants

Date

Dear (Teacher’s Name):

I am a graduate student at the University of Manitoba in the Faculty of Education. Currently, I am interested in teacher’s classroom practices and how they relate to what is known as the principles of Universal Design. I am very interested in exploring how UD aligned teaching practices influence the teaching and learning for students in a senior high English class novel study. This is my thesis research. Using qualitative and quantitative research methods, the study will specifically:

a) explore educators’ and students’ perceptions of UD aligned teaching practices and their influence on the teaching and learning of students, and

b) assess the differences and similarities in student learning between two comparable classes studying the same senior high novel unit, with one class using UD aligned practices, and the other class using traditional methods.

Universal design originated in the field of architecture in an attempt to create products and environments that are usable by all people to the greatest extent possible without the need for adaptation. In education, universal design means the design of instructional activities and materials that make the learning goals achievable by individuals with wide differences in their abilities. Ultimately, I hope that my research can someday be used to improve teaching and learning in high school classrooms.

If you agree to be a part of this study, letters will be distributed to the students by a graduate student from the University of Calgary who has volunteered to be my research assistant for my study. She is not affiliated with the school, and the students will take the letter home to get signed. The students will be asked to return the letters in a closed and sealed envelope that was provided to them by the research assistant within seven days time, stating whether or not they agree to participate. At that time, the research assistant will pick the returned forms up from the classroom teacher, and deliver the sealed envelopes to me so that I may open them alone. No students will participate in the study without their signed assent and parent’s signed consent. All participation is voluntary, and participants may opt out at any time. Everyone volunteering in the study has the right withdraw at any time without consequence. If administrators, teachers, students and/or parent wish to withdraw from the study, they can inform me by my email (kereimer@wsd1.org), or phone (204-668-0493), or in person.
I am asking that both teacher A and B administer the Gates-MacGinitie standardized test (if the school does not already require it); to fill out a short information sheet; to participate in an interview prior to and at the end of unit delivery; to provide an outline of the unit plan and keep a daily record of classroom activities and assignments (Teacher A); to complete a “Universal Design in Education” survey and participate in three 45 minute coaching sessions on university design followed by weekly 45 minute sessions with the researcher (Teacher B); to participate in interviews midway and after the unit delivery (Teacher B); and to keep a daily learning log (Teacher B).

Class “A” will be the control group and Class “B” will be the experimental group. For the study, each class will be taught for a 4 week period, which will account for approximately 20 instructional hours. Class A (with Teacher A) will be taught the unit using his or her traditional methods. Class B (with Teacher B) will infuse UD aligned principles into planning for and studying of the novel. Both classes will write a pre-test prior to the start of the unit and a post-test upon completion.

As agreed to by Teacher A and B, Pre and Post Gates-MacGinitie tests will be written by only those students in class A and B who provide assent and parental consent at a time convenient for Teachers A and B and the students. This test will be administered by my research assistant that I mentioned earlier.

Teacher “A” and Teacher “B” will be interviewed three times – once prior to the unit, once midway, and once immediately after the unit completion. The interviews will be arranged at a convenient time and location for them and all participants will be free to disregard any questions or withdraw from the interview at any time. Although the identities of the participants will be known to me at the time of the interviews, this information will be kept strictly confidential in any information that is disseminated. The interviews will be audio taped, and detailed written notes will be kept to record their ideas and responses. The interviews will not be videotaped. I will be the only person who will have access to these documents. The written documents will be stored in a locked office at all times to ensure confidentiality of the information. All audio recordings and notes will be destroyed (shredded) at the conclusion of the study. Any written notes will not include the participants’ names or identifying information about the school.

This research has been approved by the Education and Nursing Research Ethics Board (ENREB) at the University of Manitoba. A copy of this consent form has been given to you to keep for your records and reference.

If you are interested in obtaining more information on this study, please contact me at (204) 668-0493 (home), (204) 789-1799 (work) or at kereimer@wsd1.org. Everything you tell me will be kept strictly confidential and you do not need to answer any questions that make you uncomfortable and are free to stop the interview at any time.

It is important for you to know that your participation in the project is completely voluntary. If any participant would like to withdraw, they can contact me, Ken Reimer,
at (204) 668-0493 (home), 789-1799 (work) or kereimer@wsd1.org, or my thesis advisor, Dr. Richard Freeze, at (204) 474-6904 or rfreeze@cc.umanitoba.ca. Your supervisor will not be informed about whether you are involved in this study and your participation in the study is not at all related to your job performance.

I hope you will consider being involved in this project – your feedback will be very helpful in understanding the efficacy of Universal Design in education. Please feel free to contact me if you have any questions or if you require further information.

Thank you for your consideration.

Sincerely,

Ken Reimer
Appendix G

Teacher Information Sheet

Name: ______________________

1. In total, how many years have you been teaching? Please list the classes/programs you have instructed.

2. How long have you taught high school English? What grade levels?

3. Please list all post-secondary education that you have received (i.e. Degrees, diplomas, special education or other certificates).

4. Have you heard of the term, “Universal Design”? If “yes”, how would you define the term?
Appendix H

Letter to Teacher(s) Not Required For Study

Date:

Research Project Title: The Missing Link? Universal Design in Education
Researcher: Ken Reimer

Dear (insert teacher’s name),

I would once again like to thank you so much for volunteering to be a part of my study. This letter is to inform you that I will not be requiring your assistance. This is solely due to the fact that an essential component of the study is to have teachers with similar educational backgrounds and experiences. Two teachers with very similar backgrounds have also volunteered. Therefore, I will not require your assistance.

I would like to thank you so much for considering my request, and I hope that these events have not caused any inconvenience to you.

Sincerely,

Ken Reimer
Appendix I

Consent Form for Teacher Participants

Date:

Research Project Title: The Missing Link? Universal Design in Education
Researcher: Ken Reimer

This consent form, a copy of which will be left with you for your records and reference, is only 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 the time to read this carefully and to understand any accompanying information.

I am a graduate student at the University of Manitoba in the Faculty of Education. Currently, I am interested in teacher’s classroom practices and how they relate to what is known as the principles of Universal Design. I am very interested in exploring how UD aligned teaching practices influence the teaching and learning for students in a senior high English class novel study. This is my thesis research. Using qualitative and quantitative research methods, the study will specifically:

a) explore educators’ and students’ perceptions of UD aligned teaching practices and their influence on the teaching and learning of students, and

b) assess the differences and similarities in student learning between two comparable classes studying the same senior high novel unit, with one class using UD aligned practices, and the other class using traditional methods.

Universal design originated in the field of architecture in an attempt to create products and environments that are usable by all people to the greatest extent possible without the need for adaptation. In education, universal design means the design of instructional activities and materials that make the learning goals achievable by individuals with wide differences in their abilities. Ultimately, I hope that my research can someday be used to improve teaching and learning in high school classrooms.

If you agree to be a part of this study, letters will be distributed to the students by a graduate student from the University of Calgary who has volunteered to be my research assistant for my study. She is not affiliated with the school, and the students will take the letter home to get signed. The students will be asked to return the letters in a closed and sealed envelope that was provided to them by the research assistant within seven days.
days time, stating whether or not they agree to participate. At that time, the research assistant will pick the returned forms up from the classroom teacher, and deliver the sealed envelopes to me so that I may open them alone. No students will participate in the study without their signed assent and parent’s signed consent. All participation is voluntary, and participants may opt out at any time. Everyone volunteering in the study has the right withdraw at any time without consequence. If administrators, teachers, students and/or parent wish to withdraw from the study, they can inform me by my email (kereimer@wsd1.org), or phone (204-668-0493), or in person.

I am asking that both teacher A and B administer the Gates-MacGinitie standardized test (if the school does not already require it); to fill out a short information sheet; to participate in an interview prior to and at the end of unit delivery; to provide an outline of the unit plan and keep a daily record of classroom activities and assignments (Teacher A); to complete a “Universal Design in Education” survey and participate in three 45 minute coaching sessions on university design followed by weekly 45 minute sessions with the researcher (Teacher B); to participate in interviews midway and after the unit delivery (Teacher B); and to keep a daily learning log (Teacher B).

Class “A” will be the control group and Class “B” will be the experimental group. For the study, each class will be taught for a 4 week period, which will account for approximately 20 instructional hours. Class A (with Teacher A) will be taught the unit using his or her traditional methods. Class B (with Teacher B) will infuse UD aligned principles into planning for and studying of the novel. Both classes will write a pre-test prior to the start of the unit and a post-test upon completion.

If you agree to participate, Pre and Post Gates-MacGinitie tests will be written by only those students in class A and B who provide assent and parental consent at a time convenient for Teachers A and B and the students. This test will be administered by my research assistant that I mentioned earlier.

The interviews with teachers and students will be arranged at a convenient time and location for them and all participants will be free to disregard any questions or withdraw from the interview at any time. Although the identities of the participants will be known to me at the time of the interviews, this information will be kept strictly confidential in any information that is disseminated. The interviews will be audio taped, and detailed written notes will be kept to record their ideas and responses. The interviews will not be videotaped. I will be the only person who will have access to these documents. The written documents will be stored in a locked office at all times to ensure confidentiality of the information. All audio recordings and notes will be destroyed (shredded) at the conclusion of the study. Any written notes will not include the participants’ names or identifying information about the school.

It is important for you to know that your participation in the project is completely voluntary. If any participant would like to withdraw, they can contact me, Ken Reimer, at (204) 668-0493 (home), 789-1799 (work) or kereimer@wsd1.org, or my thesis advisor, Dr. Richard Freeze, at (204) 474-6904 or rfreeze@cc.umanitoba.ca.
supervisor will not be informed about whether you are involved in this study and your participation in the study is not at all related to your job performance.

Your signature on this form indicates that you have understood to your satisfaction the information regarding participation in the research project and agree to participate as a subject. 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. 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. If you would like more information or clarification of any of these points please contact me, Ken Reimer, at (204) 668-0493 (home), 789-1799 (work) or kereimer@wsd1.org, or my thesis advisor, Dr. Richard Freeze, at (204) 474-6904 or rfreeze@cc.umanitoba.ca.

All participants in this study can receive a summary of its findings from the researcher, if they would like, by emailing me at kereimer@wsd1.org, or phoning me at (204) 668-0493. This research has been approved by the Education/Nursing Research Ethics Board (ENREB). If you have any concerns or complaints about this project you may contact any of the above-named persons or the Human Ethics Secretariat at 474-7122, or e-mail margaret_bowman@umanitoba.ca. A copy of this consent form has been given to you to keep for your records and reference.

__________________________________________________________
Participant’s Signature   Date

__________________________________________________________
Researcher’s Signature   Date

_____ Please send me a written summary of the results of the study:

__________________________________________________________ (email or mailing address)
Date

Dear Student and Parent (of Teacher’s Name):

I am a graduate student at the University of Manitoba in the Faculty of Education. Currently, I am interested in teacher’s classroom practices and how they relate to what is known as the principles of Universal Design. I am very interested in exploring how UD aligned teaching practices influence the teaching and learning for students in a senior high English class novel study. This is my thesis research. Using qualitative and quantitative research methods, the study will specifically:

   c) explore educators’ and students’ perceptions of UD aligned teaching practices and their influence on the teaching and learning of students, and

   d) assess the differences and similarities in student learning between two comparable classes studying the same senior high novel unit, with one class using UD aligned practices, and the other class using traditional methods.

Universal design originated in the field of architecture in an attempt to create products and environments that are usable by all people to the greatest extent possible without the need for adaptation. In education, universal design means the design of instructional activities and materials that make the learning goals achievable by individuals with wide differences in their abilities. Ultimately, I hope that my research can someday be used to improve teaching and learning in high school classrooms.

This letter, along with a student assent form and a parent consent form, were distributed to the students by a graduate student from the University of Calgary who has volunteered to be my research assistant for my study. She is not affiliated with the school, and the students will take the letter home to get signed. The students are asked to return the signed assent form and consent form in a closed and sealed envelope that was provided to them by the research assistant within seven days time, stating whether or not they agree to participate. At that time, the research assistant will pick the returned forms up from the classroom teacher, and deliver the sealed envelopes to me so that I may open them alone. No students will participate in the study without their signed assent and parent’s signed consent. All participation is voluntary, and participants may opt out at any time. Everyone volunteering in the study has the right withdraw at any time without consequence. If administrators, teachers, students and/or
parent wish to withdraw from the study, they can inform me by my email (kereimer@wsd1.org), or phone (204-668-0493), or in person.

I am asking that both teacher A and B administer the Gates-MacGinitie standardized test (if the school does not already require it); to fill out a short information sheet; to participate in an interview prior to and at the end of unit delivery; to provide an outline of the unit plan and keep a daily record of classroom activities and assignments (Teacher A); to complete a “Universal Design in Education” survey and participate in three 45 minute coaching sessions on university design followed by weekly 45 minute sessions with the researcher (Teacher B); to participate in interviews midway and after the unit delivery (Teacher B); and to keep a daily learning log (Teacher B).

Class “A” will be the control group and Class “B” will be the experimental group. For the study, each class will be taught for a 4 week period, which will account for approximately 20 instructional hours. Class A (with Teacher A) will be taught the unit using his or her traditional methods. Class B (with Teacher B) will infuse UD aligned principles into planning for and studying of the novel. Both classes will write a pre-test prior to the start of the unit and a post-test upon completion.

As agreed to by Teacher A and B, Pre and Post Gates-MacGinitie tests will be written by only those students in class A and B who provide assent and parental consent at a time convenient for Teachers A and B and the students. This test will be administered by my research assistant that I mentioned earlier.

Although the identities of the participants will be known to me at the time of the interviews, this information will be kept strictly confidential in any information that is disseminated. The interviews will be audio taped, and detailed written notes will be kept to record their ideas and responses. The interviews will not be videotaped. I will be the only person who will have access to these documents. The written documents will be stored in a locked office at all times to ensure confidentiality of the information. All audio recordings and notes will be destroyed (shredded) at the conclusion of the study. Any written notes will not include the participants’ names or identifying information about the school.

This research has been approved by the Education and Nursing Research Ethics Board (ENREB) at the University of Manitoba. A copy of this consent form has been given to you to keep for your records and reference.

If you are interested in obtaining more information on this study, please contact me at (204) 668-0493 (home), (204) 789-1799 (work) or at kereimer@wsd1.org. Everything you tell me will be kept strictly confidential and you do not need to answer any questions that make you uncomfortable and you are free to stop the interview at any time.

It is important for you to know that your participation in the project is completely voluntary. If any participant would like to withdraw, they can contact me, Ken Reimer, at (204) 668-0493 (home), 789-1799 (work) or kereimer@wsd1.org, or my thesis advisor, Dr. Richard Freeze, at (204) 474-6904 or rfreeze@cc.umanitoba.ca. Your
supervisor will not be informed about whether you are involved in this study and your participation in the study is not at all related to your job performance.

I hope you will consider being involved in this project – your feedback will be very helpful in understanding the efficacy of Universal Design in education. Please feel free to contact me if you have any questions or if you require further information.

Thank you for your consideration.

Sincerely,

Ken Reimer
Appendix K

Assent Form for Student Participants

Date:

Research Project Title: The Missing Link? Universal Design in Education
Researcher: Ken Reimer

This assent form, a copy of which will be left with you for your records and reference, is only part of the process of informed consent. This form, a copy of which will be left with you for your records and reference, is only part of the process of informed consent. We also need the signed consent of your parent. 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 the time to read this carefully and to understand any accompanying information.

I am a graduate student at the University of Manitoba in the Faculty of Education. Currently, I am interested in teacher’s classroom practices and how they relate to what is known as the principles of Universal Design. I am very interested in exploring how UD aligned teaching practices influence the teaching and learning for students in a senior high English class novel study. This is my thesis research. Using qualitative and quantitative research methods, the study will specifically:

a) explore educators’ and students’ perceptions of UD aligned teaching practices and their influence on the teaching and learning of students, and

b) assess the differences and similarities in student learning between two comparable classes studying the same senior high novel unit, with one class using UD aligned practices, and the other class using traditional methods.

Universal design originated in the field of architecture in an attempt to create products and environments that are usable by all people to the greatest extent possible without the need for adaptation. In education, universal design means the design of instructional activities and materials that make the learning goals achievable by individuals with wide differences in their abilities. Ultimately, I hope that my research can someday be used to improve teaching and learning in high school classrooms.

If you agree to be a part of this study, please sign this letter of assent, and have your parents or guardians sign the letter of consent. No students will participate in the study
without their signed assent and parent’s signed consent. I will provide you with letters of permission for you and your parents or guardians, asking for permission to participate. No student will participate in the study without the signed assent of the student and signed consent of his or her parent or guardian. All participation is voluntary, and participants may opt out at any time. Everyone volunteering in the study has the right to withdraw at any time without consequence. If administrators, teachers, students and/or parent wish to withdraw from the study, they can inform me by my email (kereimer@wsd1.org), or phone (204-668-0493), or in person.

Your participation means that you will be in one of two courses of Grade 10 English. One will be the usual teaching while the other will test out a new way of teaching. You will be asked to write a reading comprehension test at the beginning and end of the term. If you agree to participate in the research, the results of your tests will be analyzed by the researcher and your teacher will not know the results. If you don’t agree to participate in the research, then your results will not be analyzed by the researcher.

Class “A” will be the control group and Class “B” will be the experimental group. For the study, each class will be taught for a 4 week period, which will account for approximately 20 instructional hours. Class A (with Teacher A) will be taught the unit using his or her traditional methods. Class B (with Teacher B) will infuse UD aligned principles into planning for and studying of the novel. Both classes will write a pre-test prior to the start of the unit and a post-test upon completion.

As agreed to by Teacher A and B, Pre and Post Gates-MacGinitie tests will be written by only those students in class A and B who provide assent and parental consent at a time convenient for Teachers A and B and the students. This test will be administered by my research assistant that I mentioned earlier.

Please note, a focus group of approximately 4 to 6 students from class B will also be created for the purpose of interviewing them about the study. They will be chosen at random by the researcher. If you are asked to participate in the focus group, a separate consent form will be provided to you. Again, participation in this focus group is completely voluntary. Any interviews conducted will be arranged at a convenient time and location for them and all participants will be free to disregard any questions or withdraw from the interview at any time. Although the identities of the participants will be known to me at the time of the interviews, this information will be kept strictly confidential in any information that is disseminated. Participation in this study also means that the researcher will have access to your “student portfolio”. All of the interviews will be audio taped, and detailed written notes will be kept to record their ideas and responses. The interviews will not be videotaped. I will be the only person who will have access to these documents. The written documents will be stored in a locked office at all times to ensure confidentiality of the information. All audio recordings and notes will be destroyed (shredded) at the conclusion of the study. Any written notes will not include the participants’ names or identifying information about the school.
It is important for you to know that your participation in the project is completely voluntary. If any participant would like to withdraw, they can contact me, Ken Reimer, at (204) 668-0493 (home), 789-1799 (work) or kereimer@wsd1.org, or my thesis advisor, Dr. Richard Freeze, at (204) 474-6904 or rfreeze@cc.umanitoba.ca. Participation in this study will not have any effect on your grade. Your signature on this form indicates that you have understood to your satisfaction the information regarding participation in the research project and agree to participate as a subject. 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. 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. If you would like more information or clarification of any of these points please contact me, Ken Reimer, at (204) 668-0493 (home), 789-1799 (work) or kereimer@wsd1.org, or my thesis advisor, Dr. Richard Freeze, at (204) 474-6904 or rfreeze@cc.umanitoba.ca. All participants in this study can receive a summary of its findings from the researcher, if they would like, by emailing me at kereimer@wsd1.org, or phoning me at (204) 668-0493. This research has been approved by the Education/Nursing Research Ethics Board (ENREB). If you have any concerns or complaints about this project you may contact any of the above-named persons or the Human Ethics Secretariat at 474-7122, or e-mail margaret_bowman@umanitoba.ca. A copy of this consent form has been given to you to keep for your records and reference.

Participant’s Signature       Date

Researcher’s Signature       Date
Appendix L

Consent Form for Parents/Guardians of Student Participants

Date:

Research Project Title: The Missing Link? Universal Design in Education
Researcher: Ken Reimer

Your child is being asked to voluntarily participate in a university study in English class. This consent form, a copy of which will be left with you for your records and reference, is only part of the process of informed consent. This consent form, a copy of which will be left with you for your records and reference, is only 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 the time to read this carefully and to understand any accompanying information.

I am a graduate student at the University of Manitoba in the Faculty of Education. Currently, I am interested in teacher’s classroom practices and how they relate to what is known as the principles of Universal Design. I am very interested in exploring how UD aligned teaching practices influence the teaching and learning for students in a senior high English class novel study. This is my thesis research.

Using qualitative and quantitative research methods, the study will specifically:

   a) explore educators’ and students’ perceptions of UD aligned teaching practices and their influence on the teaching and learning of students, and

   b) assess the differences and similarities in student learning between two comparable classes studying the same senior high novel unit, with one class using UD aligned practices, and the other class using traditional methods.

Universal design originated in the field of architecture in an attempt to create products and environments that are usable by all people to the greatest extent possible without the need for adaptation. In education, universal design means the design of instructional activities and materials that make the learning goals achievable by individuals with wide differences in their abilities. Ultimately, I hope that my research can someday be used to improve teaching and learning in high school classrooms.
Even if you, the student, provide your assent, no student will participate in the study without the signed assent of the student and the signed consent of his or her parent or guardian. All participation is voluntary, and participants may opt out at any time. Everyone volunteering in the study has the right to withdraw at any time without consequence. If administrators, teachers, students and/or parent wish to withdraw from the study, they can inform me by my email (kereimer@wsd1.org), or phone (204-668-0493), or in person.

Your child’s participation means that you will be in one of two courses of Grade 10 English. One will be the usual teaching while the other will test out a new way of teaching. Your child will be asked to write a reading comprehension test at the beginning and end of the term. I will also have access to their class portfolio. Finally, your child may be asked to participate in a focus group interview concerning the study. This would involve three 45 minute small group interviews conducted at a time convenient to your child. If you agree to have your child participate in the research, the results of all tests and interviews will be analyzed by the researcher and your teacher will not know the results. If you don’t agree to participate in the research, then your results will not be analyzed by the researcher. Please note, participation in this study will have no effect on your child’s mark.

As agreed to by Teacher A and B, Pre and Post Gates-MacGinitie tests will be written by only those students in class A and B who provide assent and parental consent at a time convenient for Teachers A and B and the students. This test will be administered by my research assistant that I mentioned earlier.

Any interviews conducted will be arranged at a convenient time and location for them and all participants will be free to disregard any questions or withdraw from the interview at any time. Although the identities of the participants will be known to me at the time of the interviews, this information will be kept strictly confidential in any information that is disseminated. The interviews will be audio taped, and detailed written notes will be kept to record their ideas and responses. The interviews will not be videotaped. I will be the only person who will have access to these documents. The written documents will be stored in a locked office at all times to ensure confidentiality of the information. All audio recordings and notes will be destroyed (shredded) at the conclusion of the study. Any written notes will not include the participants’ names or identifying information about the school.

It is important for you to know that your child’s participation in the project is completely voluntary. If any participant would like to withdraw, they can contact me, Ken Reimer, at (204) 668-0493 (home), 789-1799 (work) or kereimer@wsd1.org, or my thesis advisor, Dr. Richard Freeze, at (204) 474-6904 or rfreeze@cc.umanitoba.ca. Your signature on this form indicates that you have understood to your satisfaction the information regarding participation in the research project and agree to participate as a subject. 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. 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. If you would like more information or clarification of any of these points please contact me, Ken Reimer, at (204) 668-0493 (home), 789-1799 (work) or kereimer@wsd1.org, or my thesis advisor, Dr. Richard Freeze, at (204) 474-6904 or rfreeze@cc.umanitoba.ca.

All participants in this study can receive a summary of its findings from the researcher, if they would like, by emailing me at kereimer@wsd1.org, or phoning me at (204) 668-0493. This research has been approved by the Education/Nursing Research Ethics Board (ENREB). If you have any concerns or complaints about this project you may contact any of the above-named persons or the Human Ethics Secretariat at 474-7122, or e-mail margaret_bowman@umanitoba.ca. A copy of this consent form has been given to you to keep for your records and reference.

_____________________________________
Child’s name (Please print)

__________________________________________________________
Parent’s Signature   Date

__________________________________________________________
Researcher’s Signature   Date
Appendix M

Student Assent Letter for Focus Group

Date:

Research Project Title: The Missing Link? Universal Design in Education
Researcher: Ken Reimer

This assent form, a copy of which will be left with you for your records and reference, is only part of the process of informed consent. This form, a copy of which will be left with you for your records and reference, is only part of the process of informed consent. We also need the signed consent of your parent. 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 the time to read this carefully and to understand any accompanying information.

As you are well aware, you have agreed to participate in my study about Universal Design in a grade 10 classroom. I am asking that you consider participating in a focus group of 4 to 6 students from your class, so that I may interview you as a group in order to get your perspective on the study. The focus group will meet three times for approximately 45 minutes each time. I will ask questions, and then members of the focus group can discuss them as they choose.

If you agree to be a part of this focus group, please sign this letter of assent, and have your parents or guardians sign the letter of consent. No students will participate in the focus group without their signed assent and parent’s signed consent. I will provide you with letters of permission for you and your parents or guardians, asking for permission to participate. No student will participate in the focus group without the signed assent of the student and signed consent of his or her parent or guardian. All participation is voluntary, and participants may opt out at any time. Everyone volunteering in the focus group has the right to withdraw at any time without consequence. If students wish to withdraw from the focus group, they can inform me by my email (kereimer@wsd1.org), or phone (204-668-0493), or in person. Participation in this study will not have any effect on your grade.

Your signature on this form indicates that you have understood to your satisfaction the information regarding participation in the focus group and agree to participate as a subject. 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. 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. If you would like more information or clarification of any of these points please contact me, Ken Reimer, at (204) 668-0493 (home), 789-1799 (work) or kereimer@wsd1.org, or my thesis advisor, Dr. Richard Freeze, at (204) 474-6904 or rfreeze@cc.umanitoba.ca.

All participants in this study can receive a summary of its findings from the researcher, if they would like. This research has been approved by the Education/Nursing Research Ethics Board (ENREB). If you have any concerns or complaints about this project you may contact any of the above-named persons or the Human Ethics Secretariat at 474-7122, or e-mail margaret_bowman@umanitoba.ca. A copy of this assent form has been given to you to keep for your records and reference.

______________________________
Participant’s Signature          Date
______________________________
Researcher’s Signature           Date
Appendix N

Parental Consent Letter for Focus Group

Date:

Research Project Title: The Missing Link? Universal Design in Education
Researcher: Ken Reimer

This consent form, a copy of which will be left with you for your records and reference, is only part of the process of informed consent. This form, a copy of which will be left with you for your records and reference, is only part of the process of informed consent. We also need the signed assent form of your child. 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 the time to read this carefully and to understand any accompanying information.

As you are aware, your child has agreed to participate in my study about Universal Design in a grade 10 classroom. I am asking for your consent to also have your child participate in a focus group of 4 to 6 students from your class, so that I may interview them as a group in order to get your perspective on the study. The focus group will meet three times for approximately 45 minutes each time. I will ask questions, and then members of the focus group can discuss them as they choose.

If you agree to allow your child to be a part of this focus group, please sign this letter of consent. No students will participate in the focus group without their signed assent and parent’s signed consent. I have provided you with letters of permission for you and your child, asking for permission to participate. No student will participate in the focus group without the signed assent of the student and signed consent of his or her parent or guardian. All participation is voluntary, and participants may opt out at any time. Everyone volunteering in the focus group has the right withdraw at any time without consequence. If students wish to withdraw from the focus group, they can inform me by my email (kereimer@wsd1.org), or phone (204-668-0493), or in person. Participation in this study will not have any effect on your child’s grade.

Your signature on this form indicates that you have understood to your satisfaction the information regarding participation in the focus group and agree to participate as a subject. 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, and/or refrain from answering any questions you prefer to omit, without prejudice or consequence. 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. If you would like more information or clarification of any of these points please contact me, Ken Reimer, at (204) 668-0493 (home), 789-1799 (work) or kereimer@wsdl.org, or my thesis advisor, Dr. Richard Freeze, at (204) 474-6904 or rfreeze@cc.umanitoba.ca.

All participants in this study can receive a summary of its findings from the researcher, if they would like. This research has been approved by the Education/Nursing Research Ethics Board (ENREB). If you have any concerns or complaints about this project you may contact any of the above-named persons or the Human Ethics Secretariat at 474-7122, or e-mail margaret_bowman@umanitoba.ca. A copy of this assent form has been given to you to keep for your records and reference.

Participant’s Signature  Date

Researcher’s Signature  Date
Appendix O

Research Assistant Script for Class A and B

“Hello and thank you all for your attention in this matter. My name is Heidi, and I am volunteering as a research assistant for a graduate student at the University of Manitoba in the Faculty of Education. This student is conducting thesis research examining classroom practices and how they relate to what is known as the principles of something known as Universal Design.

Universal design originated in the field of architecture in an attempt to create products and environments that are usable by all people to the greatest extent possible without the need for adaptation. In education, universal design means the design of instructional activities and materials that make the learning goals achievable by individuals with wide differences in their abilities. Ultimately, this student hopes that his research can someday be used to improve teaching and learning in high school classrooms.

If you agree to be a part of this study, please sign this letter of assent, and have your parents or guardians sign the letter of consent. If you agree to be part of the focus group, please also sign the focus group letter of assent, and have your parents sign the Focus Group letter of consent. Then put all of these signed letters in the envelope that I have provided you, and return it on (Date to be determined, but 7 days from script being read to class). I will pick them up at (Time to be determined). No students will participate in the study without their signed assent and parent’s signed consent. No student will participate in the study without the signed assent of the student and signed consent of his or her parent or guardian. All participation is voluntary. Everyone volunteering in the study has the right withdraw at any time without consequence. If you wish to withdraw from the study, you can inform him, Ken Reimer, by my email (kereimer@wsd1.org), or phone (204-668-0493), or in person. Participation in this study will not have any effect on your grade.

Your participation means that you will be in one of two courses of Grade 10 English. One will be the usual teaching while the other will test out a new way of teaching. If you agree to this study, you will be asked to write a reading comprehension test at the beginning and end of the term. If you agree to participate in the research, the results of your tests will be analyzed by the researcher and your teacher will not know the results. If you don’t agree to participate in the research, then your results will not be analyzed by the researcher.

Any interviews conducted will be arranged at a convenient time and location for you and all participants will be free to disregard any questions or withdraw from the interview at any time. Although the identities of the participants will be known to me at the time of the interviews, this information will be kept strictly confidential in any information that is disseminated. Participation in this study also means that the researcher may ask you to participate in a focus group, and will have access to your “student portfolio”. All of the interviews will be audio taped, and detailed written notes will be kept to record their ideas and responses. The interviews will not be videotaped. I
will be the only person who will have access to these documents. The written documents will be stored in a locked office at all times to ensure confidentiality of the information. All audio recordings and notes will be destroyed (shredded) at the conclusion of the study. Any written notes will not include the participants’ names or identifying information about the school.

Thank you again for your time and consideration. Here are the letters and envelope for you to take home.”
Appendix P

Teaching Methods of Class A vs. Class B

Class A (Traditional Novel Study)

- Obtain permission from teacher A and grade 11 class (and parents)
- Interview teacher A about instruction, keeping daily log of classroom instructional activities
- Gates McGinitie Standardized Pre-test (Reading comprehension) for class A
- Teacher A commences novel instruction, keeping daily log of classroom instructional activities
- Mid-study interview with teacher A about pros and cons of novel study thus far
- Novel study post-test (same test in both classes)
- Standardized Post-test (Reading comprehension) for class A (test to be determined)
- Post-study interview with Teacher A

Class B (UD Novel Study)

- Obtain permission from teacher B and grade 11 class (and parents)
- Interview teacher B about teaching practices, pedagogy, etc
- Gates McGinitie Standardized Pre-test (Reading comprehension) for class B
- Teacher B given instruction on UD
- Teacher B commences novel instruction, keeping daily log of classroom instructional activities
- Focus group (3-5 students) interviewed prior to, midway, and post novel study, and asked to make portfolios
- Continuous (weekly) UD pd sessions with Teacher B
- Mid-study interview with teacher B about pros and cons of novel study thus far
- Novel study post-test (same test in both classes)
- Standardized Post-test (Reading comprehension) for class B (test to be determined)
- Post-study interview with Teacher B
Appendix Q

Teacher Information Sheet

Name: ______________________

1. In total, how many years have you been teaching? Please list the classes/programs you have instructed.

2. How long have you taught high school English? What grade levels?

3. Please list all post-secondary education that you have received (i.e. Degrees, diplomas, special education or other certificates).

4. Have you heard of the term, “Universal Design”? If “yes”, how would you define the term?
Introduction

The survey contains a cover sheet, an introduction, and summary pages. The cover sheet asks you to fill in some personal information.

"Universal Design in Education" Information Booklet

Appendix R

Appendix R

Universal Design in Education Survey
Principle 1. Equitable Use

Instruction is designed to be usable by students with diverse abilities. The same means of use is provided for all students, regardless of whether they are learning through print or through electronic media.

Principle 2. Flexibility in Use

Instruction is designed to be usable by students with diverse abilities, regardless of whether they are learning through print or through electronic media.

Principle 3. Simplicity and Intuitive Use

Instruction is designed to accommodate a wide range of individual abilities and preferences. Provide choice in method of use.

Principle 4. Portable Information

Instruction is designed so that necessary information is communicated efficiently to the student regardless of ambient conditions or current communication level. Information is designed in a straightforward and predictable manner, regardless of the student's expressive knowledge.

Principle 5. Tolerance for Error

Instruction is designed to minimize physical, cognitive, and psychological fatigue.

Principle 6. Low Error

Instruction is designed to minimize physical, cognitive, and psychological fatigue.

Principle 7. Appropriate Size and Space

Instruction is designed with consideration for appropriate size and space for effective reach, manipulation, and use.

Principle 8. Adjustment of Views

Instruction is designed to accommodate a wide range of individual abilities and preferences. Provide choice in method of use.

Principle 9. Sensory-Motor Interface

Instruction is designed so that necessary information is communicated efficiently to the student regardless of ambient conditions or current communication level. Information is designed in a straightforward and predictable manner, regardless of the student's expressive knowledge.

Introduction

Regardless of a student's body size, posture, mobility, and communication needs, instruction is designed with consideration for appropriate size and space for effective reach, manipulation, and use.
<table>
<thead>
<tr>
<th>Planning</th>
<th>Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>The planning includes the removal of physical space and architecture barriers.</td>
<td>Yes</td>
</tr>
<tr>
<td>The planning includes accessible technology.</td>
<td>Yes</td>
</tr>
<tr>
<td>The planning includes adequate staff expertise.</td>
<td>Yes</td>
</tr>
<tr>
<td>The planning includes accessible materials.</td>
<td>Yes</td>
</tr>
<tr>
<td>The planning includes accessible learning activities.</td>
<td>Yes</td>
</tr>
<tr>
<td>The planning includes accessible learning environments.</td>
<td>Yes</td>
</tr>
<tr>
<td>The planning includes accessible learning activities in the unit.</td>
<td>Yes</td>
</tr>
<tr>
<td>The planning includes accessible learning activities for the unit are open.</td>
<td>Yes</td>
</tr>
<tr>
<td>The planning includes accessible learning activities for students in a guiding framework (e.g., concept map) were used.</td>
<td>Yes</td>
</tr>
<tr>
<td>The planning includes accessible learning activities for students in a guiding framework (e.g., concept map) were used.</td>
<td>Yes</td>
</tr>
<tr>
<td>The planning includes accessible learning activities for students in a guiding framework (e.g., concept map) were used.</td>
<td>Yes</td>
</tr>
</tbody>
</table>

Example/Notes
| YES | The classroom has been arranged to easily accommodate a variety of groups. |
| Yes | Routes for moving in and out of groups have been established. |
| Yes | Levels, mixed genders, culturally diverse, different ability groups (e.g. physical disability). Students are placed in planned heterogeneous skills or sheltered rooms. |
| Yes | Ability groups are used only for short-term, non-permanent instructional activities. |
| Yes | Independent seat work is used in this unit and small group instruction, co-operative learning, small group, and whole class instruction. Teacher-directed small group activities are also used. A balance of instructional groupings (e.g. 9:1). |

**B. Grouping**

**Examples/Notes**

**Response**

**Date:**

**Time:**
<table>
<thead>
<tr>
<th>YES</th>
<th>Textbooks are considered &quot;clear.&quot; Teachers and students feel comfortable answering questions.</th>
</tr>
</thead>
<tbody>
<tr>
<td>YES</td>
<td>Unit (s), computer use, and role for student take main, throughout this course. Assistive devices and technological tools are used.</td>
</tr>
<tr>
<td>YES</td>
<td>Self-threatening materials and software are used.</td>
</tr>
<tr>
<td>YES</td>
<td>Highlighted notes, etc., are provided. Guides, graphics, quizzes, and taking guides. Materials which support students (e.g., study skills).</td>
</tr>
<tr>
<td>YES</td>
<td>Instructional materials used in this course are easy to use and extend unnecessary complexity.</td>
</tr>
<tr>
<td>YES</td>
<td>Instructions, materials, and tests of the course are clear.</td>
</tr>
<tr>
<td>YES</td>
<td>Videos and audio are used in this unit. Materials include photographs, drawings, or maps.</td>
</tr>
</tbody>
</table>
| YES | Student knowledge, skills and interests were guided by the pre-assessment of this unit. The selection of instructional materials for this course is broad.
<table>
<thead>
<tr>
<th>Response</th>
<th>Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>D. Instructional Methods</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Yes</strong></td>
<td>Instructional materials used in this unit. Students can physically access all of the resources.</td>
</tr>
<tr>
<td>YES</td>
<td>Feedback is quick and specific, with specific and prompt graphs and/ or demonstrations.</td>
</tr>
<tr>
<td>YES</td>
<td>students are provided with specific and prompt feedback.</td>
</tr>
<tr>
<td>YES</td>
<td>more difficult topics, students and teachers discuss and between goals and steps, learning outcomes of the attention and expectations of the steps.</td>
</tr>
<tr>
<td>YES</td>
<td>clearly communicated in discourse, manageable directions for learning tasks are explicit and provided using multiple modalities, e.g., written, oral.</td>
</tr>
</tbody>
</table>

**Examples/Notes**

| Response |
|__________|

| Date |
|__________|

**UNIVERSAL DESIGN IN EDUCATION**
<table>
<thead>
<tr>
<th>E. Assessment</th>
<th>Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>yes</td>
<td>Students are allowed sufficient time to complete assignments and tests in this unit.</td>
</tr>
<tr>
<td>yes</td>
<td>Is need to adapt instruction.</td>
</tr>
<tr>
<td>yes</td>
<td>Full-modality approach (listening, speaking, reading, writing) is provided using a variety of methods.</td>
</tr>
<tr>
<td>yes</td>
<td>Assessment is communicated in a clear, meaningful way.</td>
</tr>
<tr>
<td>yes</td>
<td>Assessment criteria is clearly explained and understood.</td>
</tr>
<tr>
<td>yes</td>
<td>During this unit, students give insight into their learning.</td>
</tr>
<tr>
<td>yes</td>
<td>Assessment criteria is defended and supported.</td>
</tr>
<tr>
<td>yes</td>
<td>Product are used in this unit.</td>
</tr>
</tbody>
</table>
| yes           | Additional assessment strategies are used in this unit.
<table>
<thead>
<tr>
<th>Section</th>
<th>Yes</th>
<th>No</th>
<th>In Part</th>
<th>NA</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. Planning</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>B. Grouping</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>C. Instructional Materials</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>D. Instructional Methods</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>E. Assessment</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

Survey Totals

<table>
<thead>
<tr>
<th>Response</th>
<th>Examples/Notes</th>
</tr>
</thead>
</table>
|          | Questions are avoided. Structure, clarity, measure and embedded. 
|          | Vocabularies on tests is clear. Complex sentence |
|          | Use of Title |
1. In which areas is your unit the most UD-friendly? Why might this be the case?

2. In which areas is your unit the least UD-friendly? Why might this be the case?

3. Which examples are you most interested in learning more about?

4. Which examples are you most interested in trying out?

5. What barriers might you encounter in trying to make your unit more UD-friendly? What if anything,
can be done about these barriers?

Survey Summary

Date

[Signature]
Appendix S

Questions for Interview #1 with Teachers A and B

1. What do you do to make your classroom useful and attractive to people with diverse abilities?

2. How does your classroom instruction accommodate a wide range of individual preferences and abilities?

3. How is your unit easy to understand, regardless of students’ experience, knowledge, language skills, or current concentration level?

4. How do you communicate necessary information effectively to all students, regardless of their abilities.

5. Does your unit minimize hazards and the adverse consequences of accidental or unintended actions? How?

6. Can you teach and your students learn using a minimum amount of effort? Please elaborate.

7. Do you have appropriate size and space in the classroom to teach your unit, regardless of user's body size, posture, or mobility?
Appendix T

Interview #1 Questions for Teacher B

1. Have you heard of universal design (UD) in education before? Where?

2. What do you think of the concept and/or principles of UD?

3. In which areas is your unit the most UD-friendly? Why might this be the case?

4. In what areas is your unit the least UD-friendly? Why might this be the case?

5. Were there any surprises in this process? Disappointments?

6. Which examples are you the most interested in trying out?

7. Which examples are you most interested in learning more about?

8. What barriers might you encounter in trying to make your unit more UD-friendly?

9. What, if anything, can be done about these barriers?

10. Are there supports that you can identify that would help make your classroom more UD-friendly?
Appendix U

Interview #1 Questions for Teacher B – UD Process

1. What type of unit are you designing?

2. Describe the type of students that you are designing the unit for?

3. Will you involve the students in the unit design process? How?


5. How will you plan for accommodations?

6. What do you feel you need to be appropriately trained in incorporating UD?

7. How are you planning on evaluating outcomes, efficacy, and impact?
Appendix V

Questions for Focus Group

1. What do you think about the subject of English, or language arts?

2. Tell me what you like about English class this year.

3. What percentage does your class: read in class, take notes, discuss, do presentations, write.

4. Tell me about some of the best aspects of English as a subject.

5. Tell me about some of the challenges you face in the subject of English.

6. In your own words, tell me what Universal Design is?

7. Have you noticed any changes in your class since an attempt has been made to have Universal Design incorporated into English? Please provide examples, if any.

8. Do you find that your classroom is useful and attractive to kids with diverse abilities?

9. Does your teacher accommodate for a wide range of individual preferences and abilities?

10. Has your novel study been easy or hard to understand?

11. How does your teacher communicate instructions to you?

12. How much effort does it take in class to do your work assignments, etc? Please elaborate.

13. Tell me about your class. Is there enough room for you all? Easy or hard to get around?

14. Is technology being used in your classroom? Does it help?
Appendix W

Novel Study Information

1. Have you ever done a novel study unit before? ___________

2. Please circle the number on the scale below that represents how much you like studying novels in English class:

<table>
<thead>
<tr>
<th>Worst thing</th>
<th>It's o.k.</th>
<th>I love it!</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>7</td>
<td>8</td>
<td>9</td>
</tr>
<tr>
<td>10</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

3. Please list the novels you remember studying at school in the past.

4. What are your favourite types of activities and/or assignments that you like to do in English class (i.e. reading, writing, artwork, drama, video, etc…)?

What are your least favourite types of activities in English class?

5. What would help make reading and studying a novel easier for you (chapter summaries provided in advance, audiotape of novel, bigger font, etc…)?
Appendix X

University of Manitoba ENREB Approval Certificate

UNIVERSITY OF MANITOBA
Office of Research Services
Office of the Vice-President (Research)

APPROVAL CERTIFICATE

August 20, 2009

TO: Kenneth Reimer (Advisor – R. Freeze)
Principal Investigator

FROM: Lorna Guse, Chair
Education/Nursing Research Ethics Board (ENREB)

Re: Protocol #E2009:082
“The Missing Link? Universal Design in Education”

Please be advised that your above-referenced protocol has received human ethics approval by the Education/Nursing Research Ethics Board, which is organized and operates according to the Tri-Council Policy Statement. This approval is valid for one year only.

Any significant changes of the protocol and/or informed consent form should be reported to the Human Ethics Secretariat in advance of implementation of such changes.

Please note:

- if you have funds pending human ethics approval, the auditor requires that you submit a copy of this Approval Certificate to Eveline Saurette in the Office of Research Services (e-mail eveline.saurette@umanitoba.ca, or fax 261-0325), including the Sponsor name, before your account can be opened.

- if you have received multi-year funding for this research, responsibility lies with you to apply for and obtain Renewal Approval at the expiry of the initial one-year approval; otherwise the account will be locked.


Bringing Research to Life
Appendix Y

School Division Permission for Research

September 23, 2009

Ken Reimer
University of Manitoba Masters Student
kereimer@wsd1.org.

Dear Mr. Reimer,

Permission has been granted for you to conduct your research project titled, “The Missing Link? Universal Design in Education” study.

Please contact the principal of the school to arrange a time to discuss the study on the process necessary to request the participation of educators.

We would like to request a summary of the study results when completed.

Please feel free to contact me if you have any questions.

Sincerely,

(Name removed)
Assistant Superintendent of Schools

Cc: (Name removed)
Principal of SY Schools