

Elementary School Educators' Assumptions on the
Identification of Students Who Are Gifted and Talented

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ABSTRACT

The purpose of this study was to investigate the assumptions held by Saskatchewan educators in the identification of students who are gifted and talented. Elementary school educators from Kindergarten to grade 8 were approached to participate in this study, and were asked to complete a 20-item survey that examined educators' assumptions relating to the identification of students who are gifted and talented (Brown, Renzulli, Gubbins, Siegle, Zhang, & Chen, 2005). Findings suggest that there are differences in assumptions relating to the identification of students who are gifted and talented not only between educators of various grades, but also between those educators in different classroom environments (i.e., dedicated, multiple, or no classroom). Educators' roles in the classroom include engaging students in authentic assessment procedures, which take into account students' day-to-day learning and progress.

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DEDICATION

“Whether civilization moves on and up depends most on the advances made by creative thinkers and leaders in science, politics, art, morality, and religion. Moderate ability can follow or imitate, but genius must show the way.”

Terman, 1916, p. 12

This thesis, as with everything else I do in my life, is forever dedicated to my family—to my daughters, who are the brightest, most interesting people I have ever had the privilege to meet.

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CHAPTER 1: INTRODUCTION

Intelligence and subsequently, testing of intelligence has long been shrouded in mystery for the layperson not versed in this school of thought. As a parent of children identified as gifted and talented, the mystery deepens: what does it mean to be gifted and talented, and what are educators' assumptions on the identification of students who are gifted and talented? Educators in the classroom are the primary observers of the day-to-day learning that occurs in the classroom. As such, their role in the identification of students who are gifted and talented becomes inherently important, and an understanding of their assumptions relating to this process becomes a significant factor to consider. More importantly, educators have the skills and tools necessary to assess students in an authentic way, to assess in a manner that takes into account the multi-disciplines in which gifts and talents are expressed.

Psychometric measures of intelligence (Terman, 1916), still widely accepted in the educational field as viable and accurate measurements, have predominantly been used to assess academic success (Renzulli, 1998). Theorists such as Gardner (1983, 1999, 2003), Sternberg (1985), and Renzulli (1998) argued that psychometric assessment of intelligence was not accurate and did not measure the true spectrum of giftedness. Gardner (1983) initially identified six intelligences; constructs such as linguistic, musical, logical-mathematical, spatial, bodily-kinesthetic, and personal intelligences (e.g., intrapersonal and interpersonal facets of intelligence) were included in his theoretical model.

In more recent years, Gardner (1999) expanded this list to include a naturalist intelligence (i.e., the understanding of natural elements such as flora), and has proposed an existentialist intelligence (i.e., awareness on matters such as life and death). Sternberg's (1985) Triarchic Theory of Intelligence encompassed analytical, creative, and practical aspects to intelligence.

These three facets of intelligence, in combination with environmental and individual factors, created varying levels and types of gifts or talents (Sternberg, 1985). Renzulli (1978) suggested that the Three-Ring Conception of Giftedness might define a student who is gifted and talented as one who possesses above-average intellect, creativity, and task commitment. Renzulli (1998) also suggested that external, or contextual, factors were important in defining giftedness.

Assessment theory and practice naturally emerge from theories such as these, and of paramount importance are the assumptions held by educators who conduct and interpret these assessments.

A Saskatchewan-wide assessment of teacher assumptions underlying the identification of students who are gifted and talented has not been conducted. As such, a study that examined differences in assumption on the identification students who are gifted and talented was lacking. Significantly absent from the literature was research pertaining to First Nations schools within the province, and research that compared assumptions of educators who work in rural and urban schools, and schools with high population of Aboriginal students.

Purposes of the Study

The purpose of this study was to investigate the assumptions held by Saskatchewan educators in the identification of students who are gifted and talented in today's schools. Assumption differences between educators working in urban, rural, and First Nations schools were examined. In order to gather data on the assumptions of the identification process in general education classrooms (which may have included assessment tools such as parent or teacher nominations, standardized testing, parent and student interviews), elementary school professionals were approached to respond to a survey. The study was reflective of elementary school professionals' perceptions regarding the identification of students who are gifted and talented.

Saskatchewan's high rural population base was suggestive that differences amongst various school demographics should be more pronounced. Comparatively speaking, the ratios of rural to urban schools were lower than other Canadian provinces (Statistics Canada, 2005). As teachers are at the forefront of the identification process, and are in constant direct contact with students, their presumptions of how children ought to be identified as gifted and talented (i.e. what assessment procedures are more relevant, used or beneficial in this practice) becomes inextricably linked with practice (Brown, Renzulli, Gubbins, Siegle, Zhang & Chen, 2005).

Research Questions

In order to investigate elementary educators' assumptions on the identification of students who are gifted and talented, the following research questions were posed:

1. What are elementary educators' assumptions underlying the identification of students who are gifted and talented?
2. Are there differences in urban, rural, or First Nations schools' educators in terms of their assumptions underlying the identification of students who are gifted and talented?

Definition of Terms

Gifted and Talented. A gifted and talented student is one who "possesses demonstrated or potential abilities that give evidence of exceptionally high capability with respect to intellect, creativity, or the skills associated with specific disciplines. Students who are gifted often demonstrate outstanding abilities in more than one area. They may demonstrate extraordinary intensity of focus in their particular areas of talent or interest. However, they may also have accompanying disabilities and should not be expected to have strengths in all areas of intellectual functioning" (BC Ministry of Education, 2002b, para. 2).

Gifted. For the purposes of this study, a gifted student is defined as a student who possesses academic gifts.

Urban schools. Urban schools were defined according to Saskatchewan Learning (2004) parameters, which indicated that the “urban category includes 17 school divisions whose boundaries coincide with the municipal boundaries of the corresponding Saskatchewan cities” (p. 2). For example, Prince Albert Separate, Saskatoon Public, and Saskatoon Catholic were considered urban school divisions. Within the context of the survey, respondents self-classified their school as urban, urban/First Nation, rural, or rural/First Nation. No band-operated schools were accessed during the course of this study, and educators who self-identified their schools as First Nation did so on the basis of a high Aboriginal student base.

Rural/Urban Schools. Rural/urban school divisions were classified in accordance with Saskatchewan Learning’s (2004) guidelines, which stated that “the urban/rural category includes nine school divisions whose boundaries include both urban and rural municipalities” (p. 2). For example, Battlefords Public, Saskatchewan Rivers Public, and York Public were considered rural/urban school divisions. For the purposes of the study, schools classified by Saskatchewan Learning (2004) as rural/urban were reclassified as rural schools.

Rural Schools. The category of rural schools “includes all other school divisions that are not part of the northern or French school divisions” (Saskatchewan Learning, 2004, p. 2). For example, the Estevan Rural School Division was considered a rural school division.

First Nation Schools. This school category included all schools on land that were officially designated as reserves (Western Economic Diversification Canada, 2005). As of 2006, there were 502 schools on reserves within Canada (Indian and Northern Affairs Canada, 2006). La Loche Community School, St. Louis School, and Chief Taylor Elementary School are examples

of band-operated schools within Saskatchewan (First Peoples on SchoolNet, 2006). No band-operated schools were accessed during the course of this study.

Aboriginal peoples. The term Aboriginal people, currently accepted by Indian and Northern Affairs Canada, will be used. Specifically, the term Aboriginal will be used in reference to “[t]he Canadian Constitution [which]...recognizes three groups of Aboriginal people – Indians, Métis and the Inuit” (Western Economic Diversification Canada, 2005).

First Nation. Similarly used by Indian and Northern Affairs Canada, the term First Nation will be “used to replace the word ‘Indian’ or ‘band’ when referring to a community” (Western Economic Diversification Canada, 2005).

Chapter Organization

A review of selected literature related to the topics of intelligence, gifted/talented, and identification procedures are presented in Chapter 2. Chapter 3 outlines participant recruitment, the survey instrument, and how data were collected and analyzed. Chapter 4 presents statistically significant results as they relate to the study’s two research questions. Chapter 5 describes the major findings and limitations of the study, and outlines implications for both practice and future research.

CHAPTER 2: LITERATURE REVIEW

Literature relating to conceptions of giftedness, theoretical foundations of intelligence and giftedness, as well as concerns with the identification process were reviewed. The literature reviewed forms the theoretical base for the study, which involved examining educators' assumptions regarding the identification of students who are gifted and talented.

Theoretical Foundations

There will always be doubt as to whether or not intelligence is a measurable construct, and whether or not the thing that is being measured is a valid reflection of a person's ability. A literature review of the relevant theoretical foundations, however, begins with the notion that intelligence can be measured in a meaningful way. While more recent theories have begun to touch on more inclusive conceptions of intelligence, the basic tenet remains the same: intelligence is a measurable construct. The literature reviewed here holds true to that principle, and examines the various ways in which intelligence has been defined throughout the better part of the last century.

Definitions pertaining to the identification of students who are gifted and talented range from conservative to liberal, and range equally in the accepted methods of assessing and identifying such students (Renzulli, 2002). Terman's (1916) conception of superior ability was based on psychometric measures of intelligence, as calculated through tests such as the Stanford-Binet. Thorndike (1927) considered both biological and environmental factors in his theories, while Piaget (1950) focussed on developmental theories. Gardner (1983, 1999, 2003) reevaluated popular conceptions of intelligence, and included constructs such as musical and kinesthetic intelligence within his theories. Sternberg (1985) stated that psychometric testing, such as the ones proposed by Terman (1916), do not fully represent the breadth and scope of intelligence.

Lastly, Renzulli (1978) created a theory based on ability, commitment, and creativity. The theories of Terman (1916), Thorndike (1927), Piaget (1950), Gardner (1983, 1999, 2003), Sternberg (1985), and Renzulli (1978, 1999) need to be considered in more detail in order to clarify the historical process of defining and identifying students who are gifted and talented.

Lewis M. Terman

Terman's (1916) theories on intelligence and intelligence testing were, in part, based on the observation that some children progressed at a slower rate than others, regardless of similarity in upbringing and schooling. Intelligence testing was viewed, at least in the beginning, as a way of identifying which children were at risk of failing in school, and what were the potential reasons for that failure. According to Terman (1916), "[w]hen instruction must be repeated, it means that the school, as well as the pupil, has failed" (p. 5). Differentiation between lack of ability on the student's part, or a deficiency inherent in another aspect (e.g., school or motivation) was critical to the student's success (Terman, 1916). Terman (1916) indicated that superior ability did not equate with success in school, as he observed that teachers were not always capable of recognizing superior ability, especially when the student had been bored or unmotivated within the classroom. Furthermore, out of misapprehensions or out of fears of losing a model pupil, a teacher may have been reluctant to advance a gifted and talented student.

Terman (1916) believed the number of people who could be considered as having "superior ability" was equal in number to those whose abilities were lacking (p. 12). Additionally, those with superior abilities often had their intelligences underestimated (Terman, 1916). Those with superior abilities could thus be defined as:

exceptionally intelligent children [who] are fully as likely to be healthy as ordinary children; their ability is far more often general than special, they are studious above the

average, really serious faults are not common among them, they are nearly always socially adaptable, are sought after as playmates and companions, their play life is usually normal, they are leaders far oftener than other children, and notwithstanding their many superior qualities they are seldom vain or spoiled. (Terman, 1916, p. 16)

Terman (1916) believed that the greatest threat to this superior ability was a lack of support for which the student could put forth their best effort.

Terman (1916) indicated that those who had superior abilities could lead the way, while those with moderate or inferior abilities were capable only of becoming followers. He believed that “[w]hether civilization moves on and up depends most on the advances made by creative thinkers and leaders in science, politics, art, morality, and religion” (Terman, 1916, p. 12).

Terman (1916) stated, however, that all persons, regardless of their level of intelligence, would benefit from a system tailored to their unique attributes and needs. Thorndike (1927) further examined differences in intelligence, but additionally speculated on factors such as natural ability and environment.

Edward L. Thorndike

Thorndike (1927) considered four environmental and biological assumptions in defining the nature of intelligence: circumstance, environment, testing as reflection of a whole, and training or influence. Circumstance would be thought of as “[i]f two men had been subjected to identical circumstances in life, each and every difference between them would be due to original nature; if two were alike originally, all their later differences would be due to the circumstances of life” (Thorndike, 1927, p. 436). Persons from identical socioeconomic circumstances and identical upbringings should, theoretically, have succeeded similarly on intellectual tasks (Thorndike, 1927). If similar success was not achieved, then it could be supposed that the testing

measured differences in innate intelligence, rather than difference in experience or circumstance (Thorndike, 1927).

Thorndike (1927) argued that original capacity, the intrinsic intelligence we are born with, can be measured when the intellectual task is one in which all persons have been educated. The “inherited intellectual promise...[is defined]...[i]n proportion as an intellectual task...[as]...one in respect of which all persons have had equally adequate training, so that no conceivable classification by environmental opportunities would correlate at all with success in the task, that task is a measure of original capacity (plus original interest)” (Thorndike, 1927, p. 426). School advantages, or the advantage of one person’s education or experience over another’s, unduly influenced intellectual tasks and results; a person’s inherent interests in one subject over another also influenced these tasks and results (Thorndike, 1927). A person who was truly intelligent, however, would learn and master a great many more things than a person who was less intelligent, regardless of schooling achieved. If a person who had lived the entirety of his or her life in an adverse environment succeeded at a rate similar to a person who had lived in better circumstances, then it can be argued that the former person’s intellect was greater than the latter (Thorndike, 1927).

Thorndike (1927) presented the notion that a measurement subset was representative of a culmination of both environment and intelligence. In short, the “proportion as a *series* of intellectual tasks gives *on the whole* as much advantage to any one set of environmental opportunities as to any other set, that *series* is a measure of original capacity (plus original interest)” (Thorndike, 1927, p. 426). As with Thorndike’s (1927) previous truism, a person's original capacity or potential for intelligence, in combination with inherent interest in a particular subject, or an interest in learning altogether, were essential factors in the consideration of

measurement of intelligence. Intelligence could not be measured as a whole entity, and it must therefore be assumed that a series of tasks was representative of the whole of intelligence, as each portion of the measurement tool would be equally influenced by both environment and natural ability (Thorndike, 1927).

Lastly, Thorndike's (1927) fourth axiom stated that performance on all intellectual tasks was influenced by environment and training. An intellectual task that relied solely on original capacity was impossible. Thorndike (1927) presented the idea that "[i]ntellectual tasks, success in which requires zero training and is uninfluenced by any kind or amount of training, do not exist and cannot exist, at least not in shape to measure appreciable amounts of intellect" (p. 436). To a certain extent, formal or informal training received throughout a person's lifetime influenced outcome in intellectual tasks. As a person could not escape having been taught anything by anyone, each person would bring to an intellectual task his or her own educational background (formal or informal), which would in turn influence the results of that task (Thorndike, 1927).

Intrinsic difficulties encountered in the measurement of intelligence included, according to Thorndike (1927), the use of intelligence tests as "representative of the whole of intellect" (p. 10), the reliability of instruments, and the effort put forth by those who had taken the test. Thorndike (1927) perceived that there was a rather subjective and arbitrary nature to the selection of items included in the testing of intelligence, but he stated that "the arbitrariness is greatly tempered by certain guiding principles and facts" (p. 61). Due to his assumption that some factors included within intelligence tests were given more weight or credence than other factors (arbitrarily, it seemed), Thorndike (1927) viewed poorly-constructed intelligence tests little more than an inaccurate summation.

Even though persons who administered these tests were careful to administer them at various times to allow for natural fluctuations in performance, the test-taker would naturally become accustomed to the test, and would therefore score higher on subsequent testing (Thorndike, 1927). The higher score would then not be reflective of higher intelligence, but would merely reflect an acquaintance with the method used in the intelligence test. Furthermore, the basic fundamentals of intelligence testing held the assumption that persons who took the test were applying their full potential towards the test-taking procedure, when this may simply not have been the case (Thorndike, 1927). Thorndike's (1927) influence was substantial, as his theories subsequently became the foundation for modern tests of intelligence (Human Intelligence, 2006). Whereas Thorndike (1927) emphasized the testing of intelligence, Piaget (1950), through a developmental psychological base, began to redefine the construct of intelligence.

Jean Piaget

Piaget (1950) defined intelligence as a method of adaptation within cognitive structures; that is to say, that the brain adapts to novel stimuli and seeks to cognitively organize it within existing structures, or that it creates new structures with which to make sense of the novel stimuli. Adaptation, an “equilibrium between the action of the organism on the environment and vice versa,” was best thought of as the brain's reaction to its environment (Piaget, 1950, p. 7). Intelligence could then be described as the end objective in the quest for sense-making of one's environment (Piaget, 1950). Intelligence, all at once a changing yet stable entity, is a sort of communication between stimuli from the external world and self. According to Piaget (1950), intelligence occurs when a person adapts to the environment to either assimilate or accommodate to that environment. Intelligence, Piaget (1950) argued, is “an extension and a perfection of all

adaptive processes,” and it is this extension and perfection that permits human intellectual functioning (p. 9).

Piaget (1950) largely focussed on developmental determinants of intelligence, and included notions such as equilibrium and perception in his theories. Piaget (1950) argued that “the explanation of intelligence amounts to linking the higher operations with the whole process of development, development being regarded as an evolution governed by an inherent need for equilibrium” (p. 49). An equilibrium state is one that finds balance between the need for growth and novel stimuli, and that of stability. Intelligence, therefore, would develop in reaction to increasingly complex stimulus, while maintaining the equilibrium that Piaget (1950) stated was needed by all. Perception, on the other hand, “is a process of statistical nature, confined to a certain stage, while processes of an intellectual nature determine complex relations confined to a higher level” (Piaget, 1950, p. 76). Perception might be construed as developmentally-bound disruptions in the strive for equilibrium, while intelligence may be defined as a constant strive to make sense of novel and increasingly complex stimuli (Piaget, 1950).

The formation of habits could lead to the development of intelligence, especially if complex schema are associated with the habit, thus leading to a more intricate understanding of the habit in an intellectual capacity (Piaget, 1950). Piaget (1950), however, determined that “habit, like perception, is irreversible because it is always orientated in one direction towards the same result, while intelligence is reversible” (Piaget, 1950, p. 90). Habit may occur simply, and without much in the way of intelligent thought; intelligence, however, develops through habit, “by virtue of the growing complexity of the acquired associations” (Piaget, 1950, p. 90). Associations exist only in the presence of reinforcement, and if reinforcement is non-existent, then complex associations will not be made. Conditioned response (as a mere reflex), although

linked to association, is not the same entity. A conditioned response is made without the addition of complex organizational schema linked to intelligence (Piaget, 1950). Gardner (1983, 1999, 2003) further questioned traditional theories on intelligence.

Howard Gardner

Gardner (2003) indicated that there are three uses for the term *intelligence*: (1) intelligence is “a property of all human beings (All of us possess these 8 or 9 intelligences)” (p. 8); (2) intelligence is “a dimension on which human beings differ (No two people—not even identical twins—possess exactly the same profile of intelligences)” (p. 8); and (3) intelligence is “[t]he way in which one carries out a task in virtue of one’s goals (Joe may have a lot of musical intelligence but his interpretation of that piece made little sense to us)” (p. 8). According to Gardner (2003), the Multiple Intelligences are not learning styles, nor are they mastered abilities.

Gardner’s (1983) initial theories of Multiple Intelligences included constructs such as linguistic, musical, logical-mathematical, spatial, bodily-kinesthetic, intrapersonal, and interpersonal intelligences. In 1999, Gardner added naturalist intelligence and existentialist intelligence to his construct of Multiple Intelligences (see Appendix A). Gardner (1983) theorized that new approaches to defining intelligence were important in the fields of cognitive and developmental psychology. Psychometric tests “rarely assess skill in assimilating new information or in solving new problems” (Gardner, 1983, p. 18). The proposed Multiple Intelligences addressed problem solving, various cognitive and developmental abilities, and other areas of intelligence as defined by Gardner (1983, 1999).

Gardner (1983) also proposed biological theories to support his claims. These theories are not entirely relevant to the proposed discussion on identification of children who are gifted and talented within educational systems. The focus of this study is the assumptions that educators

have in regards to the process of identifying students who are gifted and talented. These assumptions include factors that relate to specific cut-off scores for identifying giftedness, the consideration of cultural factors, and the inclusion of multiple criteria for identification (e.g., portfolios). As such, Gardner's (1983) theories on the biological aspects of intelligence have been intentionally omitted from this review.

In terms of intelligence testing, Gardner (1983) stated that psychometric or limited definitions of intelligence might not be appropriate for assessing true intelligence. He indicated that "only if we expand and reformulate our view of what counts as human intellect will we be able to devise more appropriate ways of assessing it and more effective ways of educating it" (Gardner, 1983, p. 4). Identification procedures, which take into account multiple areas in which gifts and talents can be manifested, must be considered in order to accurately represent the spectrum of gifts and talents which exist within students of all ethnic, linguistic, and socioeconomic backgrounds (Hunsaker, 1994). In contrast to Gardner's types of intelligences, Sternberg (1985) suggested three facets to intelligence—analytical, creative, and practical.

Robert J. Sternberg

Sternberg (1985) proposed that intelligence should be considered in the context of a triarchic model—that is to say, that analytical, creative, and practical aspects of intelligence all should be considered when defining the constructs, or in creating definitions of intelligence. The triarchic theory of intelligence incorporated both contextual or external mechanisms as well as internal mechanisms for intelligent behaviour. This theory could be defined as:

a theory of individuals and their relations to their internal worlds, their external worlds, and their experiences as mediators of the individuals' internal and external worlds...[it] seeks to understand intelligence in terms of three subtheories: a contextual subtheory that

relates intelligence to the external environment of the individual, a componential subtheory that relates intelligence to the internal environment of the individual, and an experiential subtheory that applies to both the internal and external environments.

(Sternberg, 1985, pp. 317-319)

Sternberg (1985) critiqued the psychometric theories of intelligence by stating that: (a) they are based on individual attributes or differences which may not necessarily be based on neurobiological mechanisms, and also not be accurately measured by psychometric tests; (b) the different theories in this discipline measure essentially the same thing, as “the basic processes contributing to the factors are the same” (p. 8); and lastly (c) purported differences may be due to varying emphasis on attributes and not in the attributes or personal differences themselves. Psychometric methods of measuring intelligence, therefore, may simply be one way of measuring one aspect of intelligence (Sternberg, 1985).

Sternberg (1985) also proposed evolutionary theories of intelligence, but, similar to Gardner’s (1983) biological theories of intelligence, these facets of intelligence have been intentionally omitted due to their irrelevance to this particular study. It appeared as though Sternberg (1985) sought to bridge the gap between cognitive and developmental psychologists in his development of a theory, which encompassed multiple factors in the explanation for what he called intelligent behaviour. It is from a similar internal and external approach that Renzulli’s (1998) theory of giftedness seemed to emerge.

Joseph S. Renzulli

Renzulli’s (1978) three-ring conception of giftedness also included multiple factors of giftedness. These factors were: well-above average ability, task commitment, and creativity. The first factor, well-above average ability, referred to both general ability and specific ability.

General ability included critical thinking, adaptability to novel situations, and superior memory processing skills (Renzulli, 1998). Specific ability included the application of general ability to specific areas of performance and the ability to solve problems (and all that is involved in problem-solving, such as sorting out relevant from irrelevant information, making use of gained knowledge, etc.; Renzulli, 1998). The second factor, task commitment, referred to the ability to motivate oneself to determine what is necessary for task completion, belief in self, and in the work that is being done. Finally, the third factor, creativity, referred to a sensitivity to detail, to a willingness to take risks, and to innovative thinking (Renzulli, 1978, 1999).

The interaction between these three factors, in addition to external or environmental influences, are determined to be critical for identifying giftedness, and each factor within the model are equally important (Renzulli, 1978). Renzulli (1998) argued that giftedness is a relative concept as opposed to an absolute concept, and that it cannot be measured on single-trait analyses. Furthermore, giftedness, as a construct, cannot be equated with success, as success appears to be independent from giftedness (Renzulli, 1978). In summary, from Terman (1916) to Sternberg (1985) and Renzulli (1978), there continues to be debate on not only the nature of intelligence, and how it can both best be defined and subsequently how intelligence can be measured in a meaningful way. While Terman's (1916) approach in defining intelligence is too limited, with a focus that is too narrow, an approach to intelligence as a measureable construct ceases to carry much meaning when it becomes too inclusive in nature.

Controversies in Measuring Intelligence

The notion of intelligence as a non-quantifiable measure is contradictory with traditional intelligence tests designed to evaluate academic potential (Baldwin, 2005; Renzulli, 1998). Measurement tools, such as intelligence tests, “cannot always indicate the innate mental abilities

of human beings” (Baldwin, 2005, p. 108). As such, students who might not possess the academic abilities that are purportedly measured using these tests are often not identified as gifted and talented. This omission can be based solely on measurement tools that may not be culturally sensitive, or may not encompass a multi-faceted approach to defining giftedness (Baldwin, 2005; Renzulli, 2002).

Even when culturally-appropriate assessment tools are used in the identification of students who are gifted and talented, educators may place more emphasis on linguistic and logical-mathematical aspects of the assessment (Plucker, Callahan, & Tomchin, 1996). Plucker, Callahan, and Tomchin (1996) determined that “[t]eacher subjectivity may be influencing the assessments, or the use of performance assessments to avoid ethnic bias on standardized tests may simply be misguided” (p. 165). Other variables, such as moving away from verbal standardized tests to performance tests, as well as educator bias, appear to influence the identification process even when culturally-appropriate tools are in use (Plucker, Callahan & Tomchin, 1996). Various definitions on what is meant by *intelligence* further complicate matters.

Conceptions of Gifted and Talented

Conceptions of gifted and talented have traditionally ranged from an academic sense of high achievement and intelligence to a spectrum of gifts and talents that may not necessarily be applied or demonstrable in school settings (e.g., from Terman’s (1916) superior ability as being in the top 3% of students, or genius in the top 1%, to Gardner’s (1983) Multiple Intelligence framework). In addition:

not all individuals who are identified as being “gifted” possess all of the cognitive, affective, physical, or intuitive characteristics that are ascribed to gifted and talented individuals. In fact, a single characteristic in one child may actually indicate a very

special gift or talent. Compilations of characteristics of gifted and talented individuals are useful only if it is remembered that individuals may not possess all of the traits and behaviours ascribed to a group of gifted/talented persons. (Passow, 1981, p. 9)

Passow (1981) argued the nature of individual gifts could be more readily researched and agreed upon, despite the lack of a global definition. Definitions of gifted and talented, therefore, seem to have evolved into sets of characteristics that may or may not be present in individuals who are gifted and talented.

Definitions of gifted and talented are wide-ranging and can be gathered from various international, national, and local agencies. An examination of these definitions serves to highlight the myriad of definitions at the disposal of educational institutions, which then inform individual schools and educational professionals. Federally, the U.S. Department of Education (1993) defined giftedness as:

Students, children, or youth who give evidence of high achievement capability in areas such as intellectual, creative, artistic, or leadership capacity, or in specific academic fields, and who need services and activities not ordinarily provided by the school in order to fully develop those capabilities. (U.S. Department of Education, 1993, para. 5-8)

As indicated by this definition, there might be multiple ways in which gifts or talents display themselves. Therefore, current assessment practices, which may heavily rely on psychometric measures of intelligence, should be examined to determine whether they are the most accurate method of identifying students who are gifted and talented (Brown et al., 2005).

The National Association for Gifted Children (NAGC, 2005b), located in the United States of America, defined a child who is gifted and talented as a person “who shows, or has the potential for showing, an exceptional level of performance in one or more areas of expression”

(NACG, 2005b, para. 4). The NAGC (2005b) stated that their definition of gifted and talented encompassed aptitudes or talents such as leadership and math and that “the term *giftedness* provides a general reference to this spectrum of abilities without being specific or dependent on a single measure or index” (NAGC, 2005b, para. 5). The NAGC (2005b) appears to encompass a holistic approach to gifted and talented similar to ones advocated by Gardner (1983, 1999, 2003), Renzulli (1998), and Sternberg (1985).

In Canada, policies regarding identification and education of students who are gifted and talented are created and regulated at provincial and school division levels, similar to America’s educational system (NAGC, 2005a). Selected provincial designations can convey Canadian conceptions of gifted and talented. For example, the province of Ontario, a largely populated and federally central province, defined intellectual giftedness as having:

an unusually advanced degree of general intellectual ability that requires differentiated learning experiences of a depth and breadth beyond those normally provided in the regular school program to satisfy the level of educational potential indicated. (Ontario Ministry of Education, p. 32, 2001)

The Association for Bright Children of Ontario (ABCO, 2005) expanded upon the Ministry of Ontario’s definition by adding that a child who is gifted and talented is “one who has the potential for unusual accomplishment in any of several areas, including intellectual and creative ability, musical, artistic and athletic performance and social and leadership skills” (ABCO, 2005, para. 4). These definitions failed to consider the breadth demonstrated in the U.S. Department of Education’s (1993) definition, which encompassed cultural, linguistic, and socioeconomic factors. The ABCO (2005) definition stated, however, that some identified characteristics of gifted and talented may not be present in all individuals who are gifted and

talented, and that talented youth are represented by a diverse range of achievement in students (ABCO, 2005).

In contrast, British Columbia's definition appeared to encompass a more holistic approach in defining a student who is gifted and talented. The BC Ministry of Education (2002b) stated that a student may be gifted and talented if:

she/he possesses demonstrated or potential abilities that give evidence of exceptionally high capability with respect to intellect, creativity, or the skills associated with specific disciplines. Students who are gifted often demonstrate outstanding abilities in more than one area. They may demonstrate extraordinary intensity of focus in their particular areas of talent or interest. However, they may also have accompanying disabilities and should not be expected to have strengths in all areas of intellectual functioning. (para. 2)

The BC Ministry of Education (2005b) also advocated for multiples measures when assessing children who may be gifted and talented. The suggested assessment measures included teacher observations, student records, nominations, interviews, and formal assessments (BC Ministry of Education, 2002b). In addition, the provincial guidelines suggested that educators must take into consideration "language; culture; gender; physical ability; learning or sensory disabilities; and personality style" (BC Ministry of Education, 2002b, para. 2), which may then influence the identification process.

The Gifted Children's Association of British Columbia (GCABC, 1999) viewed gifted and talented from an early childhood and developmental perspective:

Giftedness is Asynchronous Development in which advanced cognitive abilities and heightened intensity combine to create inner experiences and awareness that are qualitatively different from the norm. This asynchrony increases with higher intellectual

capacity. The uniqueness of the gifted renders them particularly vulnerable and requires modifications in parenting, teaching and counselling in order for them to develop optimally. This means these children develop in an uneven manner, significantly out of developmental step with their age peers. (Columbus Group, as cited in GCABC, 1999, para. 6)

The conditions in which assessments take place and the actual measurement tools themselves, are not likely to be of much use for very young children who are at the beginning stages of their academic careers. At a young age, indicators of giftedness might include observations of the child's desire to learn, behavioural changes, as well as unusual reaction intensity, specifically in the realms of psychomotor, senses, intellectual and emotional reactions (GCABC, 1999).

Various provincial definitions of students who are gifted and talented can also be found within the scope and boundaries of educational mandates in the province of Saskatchewan. The Education Act (1995) of Saskatchewan, although neglecting to specifically define what is meant by the term *gifted*, stated that:

Where the ordinary programs of instruction of the school are considered by the board of education or the conseil scolaire to be insufficient to meet the educational needs of certain pupils of superior natural ability or exceptional talent, the board of education or the conseil scolaire may make provision for any special programs that it considers feasible and appropriate. (Saskatchewan Learning, 1995, p. 111)

The provision for students who are gifted and talented within Saskatchewan schools is not clearly explained. The provincial department of education has not mandated a single definition or provided guidelines as to what are appropriate provisions for students who are gifted and talented or how these provisions might be implemented in a classroom setting.

The Saskatchewan Special Education Review Committee (SSERC, 2000) reported on the special needs of diverse students within the province. The SSERC convened in 1999, and was comprised of five persons within Saskatchewan whose ties to the educational community ranged from being a parent to a special needs child, to a director within a school division. The committee's underlying purpose was to comprehensively review Saskatchewan's educational system (SSERC, 2000). Their foundational beliefs included providing "appropriate educational opportunities and equitable benefits for all children and youth with exceptional needs" (SSERC, 2000, p. 27). The SSERC (2000) also maintained a community-centered view of schooling in which students with diverse and special needs are integral and contributing members of their communities. The SSERC defined students with diverse needs as being "students served traditionally by special education, that is students with disabilities and gifted learners" (Saskatchewan Special Education Review Committee, 2000, p. vi). This definition, however, did not consider students who were not typically served by special education services, as some students may display asynchronous gifts and talents, or may be achieving at a level that is not consistent with their potential.

SSERC's (2000) final report indicated that supports and programs for gifted and talented learners were lacking in Saskatchewan and that early intervention strategies were not implemented with effectiveness. In terms of identification practices, the committee suggested that:

use of IQ tests should be limited, and they should not be used alone to make educational decisions. Instead, authentic assessment practices need to be developed. These evaluation practices need to be ongoing so student programs can be dynamically updated. (SSERC, 2000, p. 105)

The SSERC (2000) also identified a need for additional training in special education, presumably also targeting the gifted and talented population and difficulties in identification specific to those students.

More recently, Saskatchewan Learning (2004) stated that an important goal in Saskatchewan education was diversity recognition. Diversity recognition:

support[s] all aspects of student diversity including cultural diversity, students living in vulnerable circumstances and students with exceptional learning and behavioural needs.

This includes learning difficulties and disabilities, gifted learners, mild and moderate designated disabilities, speech and language disabilities, and social, emotional and behavioural disorders. (Saskatchewan Learning, 2004, p. 113)

Saskatchewan Learning (2004) expanded the concept of gifted and talented to state that this particular exceptionality can exist in conjunction with behavioural needs and can encompass both intellectual and artistic gifts. Conceptions of intelligence and gifted/talented are the basis for special education programs for this exceptional population. These programs are diverse in terms of where they are more prevalent, and which populations they serve.

School Demographics

It seems as though much of the literature on gifted and talented in educational settings has focussed on programs and students in urban schools. Montgomery (2004) stated that “program models in gifted educational history were designed for urban areas” (p. 4). Perhaps research literature is simply reflective of the larger number of urban gifted and talented programs than rural programs, and the lack of gifted and talented programs in other school settings. A 2001 report by Statistics Canada revealed that 36% of Saskatchewan’s population lives in rural areas. This amounts to roughly 350,000 people living in rural areas versus approximately 630,000

living in urban communities. Compared to a national rural population of 20%, it seems as though informed assessment practices and subsequent program models that reflect the diversity in our population should be implemented.

In addition to rural and urban splits, diversity also exists within Saskatchewan's population. Of all Saskatchewan residents, approximately 130,000 reported being of Aboriginal identity (Statistics Canada, 2005). Although Statistics Canada (2005) also reported relatively high numbers of French-speaking citizens (approximately 17,000) within Saskatchewan, they also reported nearly 118,000 speakers of languages other than French or English (e.g., Cree). Taking into consideration the tremendous ethnic, linguistic, and socioeconomic diversity within Saskatchewan, current identification and programming practices in regards to students who are gifted and talented should be reflective of that diversity.

Rural schools were typically viewed in the literature as deficient in terms of smaller school size and population base (Cross & Dixon, 1998; Spicker, Southern & Davis, 1987). They were also viewed as deficient in terms of decreased proximity to larger centers, and subsequent decreased access to extracurricular or other enrichment activities (Cross & Dixon, 1998; Spicker, Southern & Davis, 1987). On the other hand, Cross and Dixon (1998) argued that the perception of rural disadvantage in gifted and talented education was false. They contended that rural schools, though perhaps not capable of offering the same type of gifted and talented education than that of larger schools, are still proficient at serving students who are gifted and talented (Cross & Dixon, 1998).

Smaller school size encourages leadership and personal responsibility, and smaller communities create opportunities for mentorships (Cross & Dixon, 1998). Other programs outside the school and smaller class sizes meant that educators could more easily adapt the

curriculum to meet students' needs (Cross & Dixon, 1998). Neighbouring communities could share resources, experts, or buses to send students who are gifted and talented to pull-out programs, and that technology could increase access to enrichment programs (Spicker et al., 1987). Funding for rural schools, however, is typically more scarce (Spicker et al., 1987). Lack of finances might mean that specialized gifted and talented programs could be a financial burden for small communities, especially considering typically small numbers of students who are gifted and talented (Spicker et al., 1987).

Schools may encounter difficulties, even when they follow procedures for multiple assessments, and when identification procedures take into account multiple manifestations of gifted/talented (Hunsaker, 1994). Students who may be identified as being creatively gifted and talented or possessing superior leadership qualities may not be suited for traditional programs for students who are academically gifted. Alternate procedures for the identification process must be paired with alternate programs or adaptations that address students' unique gifts and talents (Hunsaker, 1994). These alternate procedures and programs might more adequately address the diverse population of students who fall within this special education category.

Diversity in Students who are Gifted and Talented

Students who are gifted and talented are not uniquely identifiable and generalizable by culture, race, socioeconomic status, or ability (Elhoweris, Mutua, Alsheikh & Hollowsay, 2005). Exceptional students exist within each of these parameters. Due to the diversity, risks, and challenges of students who are gifted and talented within these constructs, these students are typically under-identified (Elhoweris et al., 2005; Hunsaker, 1994). Typically, "children from linguistically and culturally diverse backgrounds are enrolled in gifted and talented programs in disproportionately low numbers" (Elhoweris et al., 2005, p. 29). The identification of students

who are gifted and talented is influenced by cultural bias of test-taking procedures, educator bias and prejudice, and even by definitions of the term giftedness (Baldwin, 2005; Elhoweris et al., 2005; Hunsaker, 1994; Renzulli, 2002). Students who are *identified* as gifted and talented do not accurately represent all students that are gifted and talented who exist in and out of school systems. As such, procedures for the identification of students who are gifted and talented must accurately reflect the diversity and range of students.

Identification Procedures

Concurrent to difficulties in defining intelligence, agreed-upon identification procedures of gifted and talented individuals have been a point of contention amongst researchers and educators, and one where little consensus has been reached (Baldwin, 2005; Renzulli, 2002). Single-measure tests of intelligence may not be the most accurate measure of gifts and talents, especially of those whose gifts or talents may be unrealized potentials (Passow, 1981). According to Passow (1981), “a variety of techniques, procedures, and instruments must be used to identify students who are gifted and talented, to differentiate their educational experiences” (p. 9). In many schools, however, psychometric tests are still considered the primary barometer of a child’s potential or intelligence (Brown et al., 2005). “If there is ever any hope of expanding the conception of giftedness beyond that which can be measured precisely by tests, then we must also be willing to accept, and even revere, forms of identification information that are derived from nontest sources” (Renzulli, 2002, p. 72). Renzulli (2002) also stated that potential in performance in conjunction with actual performance are important factors in the identification process.

Typical identification procedures for students who are gifted and talented focus on academic gifts or talents, or the academic potential (as measured by intelligence tests) of students

(Hunsaker, 1994). Many underrepresented students might excel in the areas of arts or leadership and, as such, not be identified through traditional psychometric tests as being gifted and talented. The under-representation of students who excel in areas other than academics is not limited to ethnic or linguistic minorities, or groups with low socioeconomic status (Hunsaker, 1994). Assessment procedures should reflect diversity in people and intelligence. Educators who use standard assessment procedures should make concerted efforts to identify students who are gifted and talented through alternative methods of measurement, such as portfolio assessments. Non-verbal tests, and peer, teacher, and parent nominations can be used as successful alternatives to traditional intelligence tests in the identification process of gifted and talented children of cultural minorities (Baldwin, 2005; Hunsaker, 1994). One note of warning: Sternberg (1985) argued that:

nonverbal tests, contrary to the claims that have often been made for them, are *not* culture-fair (and they are certainly not culture-free). Individuals who have been brought up in a test-taking culture are likely to have had much more experience with these tests than individuals not brought up in such a culture. (p. 309)

Sternberg (1985) suggested that between-group comparisons are not appropriate for assessing various sociocultural groups, and that identification based on normative or criterion-referenced samples are not the most accurate or relevant methods of intellectual assessment.

There cannot be a single profile that encompasses all the characteristics of a typical gifted and talented student, because giftedness, by varying definitions, is uniquely exceptional in differing areas and occurs within all populations (McCoach, Kehle, Bray, & Siegle, 2001). Identification of students who are gifted and talented within ethnic or linguistic minorities, or within low socioeconomic status groups, is a concern for educational professionals. It appears

that educators (along with other school personnel) are a leading factor in successful implementation of alternative identification procedures for students who are gifted and talented (Hunsaker, 1994).

Another important factor to consider in the identification of students who are gifted and talented is the failure to identify students within disadvantaged groups. Testing procedures and policies at the school division level interfere with, or eliminate the possibility of, accurate representation of minority gifted/talented (Hunsaker, 1994). Hunsaker's (1994) study "examine[d] the success or failure of alternative strategies for identifying students who are gifted" (p. 72). Problems with measurement procedures occur when school policies define giftedness predominantly as being academically talented or intelligent. Assessment tools, perhaps mandated at the school division level, might not be reflective of the multiplicity of intelligence, gifts, and talents displayed by students across all ethnic, linguistic, and socioeconomic groups. As such, these assessment tools might wrongfully eliminate, or not identify children as gifted and talented whose talents lie outside the scope of academia. All persons who work with students must consider the diversity of students, and whether or not the assessment procedures used are reflective of that diversity. Additionally, teacher assessment practices, as they relate to grade levels, also influence the process of identification of students as gifted and talented.

Grade Level and Assessment Practices

Other variables, such as grade level, may be correlated with assessment practices (McMillan, Myran, & Workman, 2002). McMillan, Myran, and Workman (2002) analyzed grade level as it related to assessment and grading. They identified differences between grade levels, in terms of things such as homework, examinations, and objective assessments (all three were more

important to teachers as the grade level increased; McMillan, Myran, & Workman, 2002). The researchers noted, however, an absence in the literature of "...large-scale examinations of relationships between classroom assessment practices and grade level and subject matter" (McMillan, Myran, & Workman, 2002, p. 204).

Bol, Stephenson, O'Connell, and Nunnery (1998) also considered the influence of grade level and content area on teachers' attitudes and assessment practices. The researchers found that "[e]lementary teachers were more likely to use alternative methods of assessment...than high school teachers were" (Bol et al., 1998). In addition, the frequency with which teachers used alternative assessments (such as portfolios or observation) varied significantly by grade level ($F(2, 646) = 7.06, p = <.01$; Bol et al., 1998). That is, the frequency with which elementary school teachers used alternative assessments may be in part due to the greater numbers of students in a high school program, thus indicating a need for more traditional types of assessment, such as standardized tests (Bol et al., 1998). It is important that administrators and other professionals within the educational field are aware of research on relationships between teaching grade level and use of standardized versus self-created assessments, teacher concern about assessment, and quality of assessment.

Research was suggestive of a trend that educators' self-reported assessment practices were more traditional (e.g., standardized tests) in higher grades, and more alternative (e.g., portfolio assessments) in lower grades (Zhang & Burry-Stock, 2003). Content areas tend to shift from elementary to secondary grades, with teachers in secondary grades responsible for specific subject areas, while elementary grade teachers are responsible for all content areas (Stiggins & Bridgeford, 1985). Contrary to Zhang and Burry-Stock (2003), Stiggins and Bridgeford (1985) identified an opposite trend for grade level and self-created assessments versus published tests.

The researchers stated that there are three main relationships between grade level and assessment procedure:

[f]irst, the higher the grade level, the greater the tendency for teachers to report using their own assessments rather than published tests. Second, teachers' concern about assessment increases with grade level. And third, teachers' attention to quality control issues with performance assessments increases slightly with grade level. Thus, grade level appears to be an important variable in understanding classroom assessment.

(Stiggins & Bridgeford, 1985, p. 281)

Multiple reasons may explain this relationship, such as differences in school environment between elementary and secondary schools, and increased importance of assessment results in secondary schools (Stiggins and Bridgeford, 1985). Despite suggested differences in assessment between grade levels, there appear to be some consistent guidelines in assessment practice.

Assessment

Using multiple assessments to identify students as gifted and talented should be part of the identification process. Assessment, such as “parent and teacher nominations, plus grades in school and achievement test scores, are to be considered along with socio-economic and cultural differences, interests and talents, and scores on intelligence tests” (Birch, 1984, p. 2). A multi-faceted approach to assessing or identifying giftedness appears to be supported through definitions of gifts and talents as encompassing more than the one dimension of intelligence (Birch, 1984). However, and contrary to recommended practice, verification of intelligence through testing is most often used as the benchmark for the identification of students who are gifted and talented (Birch, 1984).

Assessment tools, even when considering multiple gifts and talents, are often culturally biased and are not appropriate for use in all cultural and economic settings (Armour-Thomas, 1992; Borland & Wright, 1994). Standardized measures of intelligence, for instance, are justified based on “three implicit criteria: (a) the tasks tap the cognitive processes underlying intellectual behaviour; (b) the tasks embody the attributes that require intellectual behaviour; and (c) the tasks reflect equivalent prior experiences” (Armour-Thomas, 1992, para. 9). These tests assume similar cultural, linguistic, socio-historical, and socio-economic backgrounds and experiences. Assessments should consider differences attributable to these factors, as opposed to differences attributable to variations in cognition or intelligence (Armour-Thomas, 1992). Classroom and student observation, nontraditional assessments procedures (such as enrichment activities based on classroom learning), standardized assessments, portfolio assessments, teacher nomination, and careful review and consideration of the candidate pool, when viewed as a whole, are all viable and more accurate reflections of students’ gifts and talents than traditional benchmark practices (Borland & Wright, 1994). When best practices are not implemented, or when populations of students are not considered, identification remains limited in its scope and usefulness.

Implications of Limited Identification Practices

In addition to missed identification of gifts and talents in culturally diverse populations, other exceptional students, such as those who underachieve or those with multiple exceptionalities, deserve further attention in this literature review. Students who are gifted/talented that underachieve or do not meet their full academic potential have been identified as a source of major concern for professionals, students, families, and researchers (Reis, Colbert, & Hébert, 2005). The predominant influences and prevention of

underachievement of students who are gifted and talented included: (a) having a non-challenging curriculum in elementary school, where underachievement typically began; (b) absences in pattern of parental support; (c) preventative influence of peers; (d) extracurricular activities which served as a buffer between risk and achievement; (e) structure in personal, family, and school life could help students to self-regulate and achieve; (f) a support system (in the form of a mentor or caring adult) could prevent or reverse underachievement; and (g) the idea that intervention practice and research was lacking in that area (Reis et al., 2005).

One should also note the main patterns of behaviour in underachievement involved chronic underachievement as a result of more “periodic and episodic” pattern of achievement (Reis et al., 2005, p. 111). It appears, then, that underachievement can be limited, prevented, or reversed based on the level of risk involved, the level of intervention and support, as well as student interest and involvement in successful activities (Reis et al., 2005).

Other students who may not be identified as gifted and talented include students who have been identified with other exceptionalities, such as a learning disability (Baum & Olenchak, 2002). Perhaps due to asynchrony in their talents, students with multiple exceptionalities traditionally have had the greater need served first (Baum & Olenchak, 2002). When co-morbidity between giftedness and other exceptionalities exist, such as learning disabilities, Attention-Deficit Hyperactivity Disorder (ADHD), and emotional or behavioural difficulties, the gifts and talents are all but ignored in favour of addressing the exceptionality that might create more pressing or immediate difficulties for the student (Baum & Olenchak, 2002). McCoach, Kehle, Bray, and Siegle (2001) argued that gifted/talented might mask a learning disability or that a learning disability might mask the gift or talent. In such cases, intelligence tests are insufficient to identify the giftedness or the learning disability (McCoach et al., 2001).

A basic difficulty of identifying students may be when a discrepancy between ability and performance exists. If the discrepancy is significant enough to designate a learning disability, the student could still be performing on the same level with peers and, therefore, not appear to need intervention (McCoach et al., 2001). The focus on deficits in the school system seems to be pervasive (Bazylak, 2002), despite Hunsaker's (1994) belief that educators have "shifted away from the deficiency perspective" (p. 75). Professionals within the educational system must permit students a choice, must work within the parameters of each student's unique difficulties, and must also address and highlight each student's unique strengths (McCoach et al., 2001). Success, personal definitions of what is meant by the term, and the factors that contribute to that success should become the focus of educational institutions (Bazylak, 2002).

Educators' and administrators' assumptions underlying the identification of students who are gifted and talented is necessary, as "[t]he beliefs of practitioners and policymakers are important because, in the final analysis, these are the people who must carry out their responsibilities harmoniously and ensure that there is integrity" (Brown et al., 2005, p. 68). As such, these professionals' opinions are relevant in an examination of both empirical and practical significance of these assumptions.

Assumptions Underlying Identification Practices

A demographics questionnaire and survey entitled "Assumptions Underlying the Identification of Gifted and Talented Students," was created by Renzulli, Brown, and Gubbins (2005). This survey was used by Brown et al. (2005) to examine "assumptions of educators underlying the identification of gifted and talented students" (p. 69). This survey was distributed to a national sample of 6,000 that included educators, specialists, administrators and other professionals in the area of gifted and talented education. Brown et al. (2005) stated that the

predominant rationale for studying the assumptions of this specific population was that “assumptions about identification techniques definitely influence the process and strategies one uses to screen and identify gifted and talented students” (p. 76). Essentially, participants were either in direct contact with children (i.e., worked in schools), had the largest influence on written policies, or were responsible for implementing or creating procedures and policies for the identification of gifted and talented children.

Professionals’ perceptions ranged from the idea that gifted/talented is an absolute concept that can be measured with intelligence tests (and is either present or not present within an individual), to gifted/talented as a relative concept that can grow over developmental periods (Brown et al., 2005). The dynamic concept of gifted and talented, one that has become more widely accepted in more recent years, stated that gifts or talents can be assessed with multiple measures (Brown et al., 2005). Additionally, the very nature of the giftedness varies within individuals, as well as within specific academic or nonacademic situations (Brown et al., 2005).

Brown et al. (2005) suggested that the opinions expressed by the professionals on their survey did not necessarily match with actual identification practices identified by previous researchers. Most often, intelligence, ability, or aptitude assessments were the major determinants for entry into a gifted and talented program or identification as a student who was gifted and talented. The use of a convenience sample, participants at a gifted and talented conference, was offered by Brown et al. (2005) as an explanation for the discrepancy between assumptions and reflected practice. This suggested that opinions expressed by the respondents may not have necessarily reflected practices implemented in the field of education. Naturally, professionals that participate in such a conference would be interested in gifted and talented education and how best to serve those students. As such, survey data gathered in such settings

may not be an accurate measure of general opinions of educational professionals. Future research could assess educators' assumptions as well as actual formal or informal procedures used in the identification of students who are gifted and talented. This might more reliably indicate whether or not the assumptions held are actually different than the procedures that are being implemented (Brown et al., 2005).

Conclusion

Incongruencies in the definitions of gifted and talented/intelligence, lack of agreement in assessment methods, as well as design and implementation of appropriate programs for students who are gifted and talented, are all factors involved in the identification of students who are gifted and talented (Baldwin, 2005; Brown et al., 2005; Gardner, 1983; Montgomery, 2004; Renzulli, 1998; Renzulli, 2002; Sternberg, 1985). It is important to consider ethnical and linguistic assumptions of educators (as well as other factors) in conjunction with theoretical assumptions on the nature of giftedness (Cross & Dixon, 1998; Elhoweris et al., 2005; Hunsaker, 1994). Giftedness is manifested in various forms that are relative to culture, time, student development, as well as susceptible to the assumptions held by educators throughout students' educational careers (Baldwin, 2005; Brown et al., 2005; McCoach et al., 2001). An analysis of educators' assumptions on the identification of students who are gifted and talented, therefore, is one facet of this dynamic exceptionality that needs to be considered.

CHAPTER 3: METHODS AND PROCEDURES

This study examined educators' assumptions underlying the identification of students who are gifted and talented. Specifically, this study examined differences in assumptions of educators from urban, rural, and schools with high Aboriginal populations. Suggested methods of identification of students who are gifted and talented are not necessarily reflected in actual practice (Brown et al., 2005). There are indicators that multiple assessment criteria and acknowledgment of a continuum or spectrum of ability are critical factors for international, national, and local educational organizations (Lewis, 2002). In addition, there are several key issues that exacerbate the complexity of this research area. Diversity in students who are gifted and talented and co-morbidity with other exceptionalities such as learning disability, or giftedness existing in conjunction with linguistic, economic, cultural, and motivational factors, influence the identification of students who are gifted and talented (Elhoweris et al., 2005; Hunsaker, 1994; Terman, 1916; Thorndike, 1927).

Instrument

An adapted version Renzulli et al.'s (2005) survey, entitled Assumptions Underlying the Identification of Gifted and Talented Students (see Appendix B) was used in this study. This survey was designed to assess educators' assumptions in the identification of students who are gifted and talented. The survey was constructed by using items that "reflect an amalgamation of the collective wisdom of major theorists, researchers, and textbook writers...[t]wenty items were generated, field-tested, revised and field-tested again with content area experts (professors and doctoral students majoring in gifted and talented education) and participants at gifted and talented conferences" (Brown et al., 2005, p. 71). The items of the survey use a five-point Likert scale (Strongly Agree, Agree, Uncertain, Disagree, Strongly Disagree) to assess respondents'

agreement or disagreement on topics, such as use of intelligence tests (e.g., “Identification should be based primarily on an intelligence or achievement test”). Permission was granted by the authors for use of this survey.

The Renzulli et al. (2005) survey was modified for use in this study with the addition of an optional open-ended question at the end of the instrument (i.e., “In the space provided below, please identify what you feel are the important issues in the identification of students who are gifted and talented. Your answers will remain confidential and all personally identifying information will be removed prior to reviewing your responses”). This question was included to garner a deeper sense of understanding of educators’ opinions regarding the identification of students who are gifted and talented. Additionally, respondents’ answers to an open-ended question may serve to further determine whether or not the factors present in the Likert-scale questions permitted for adequate inferences on the constructs of gifted and talented.

In addition to the survey, demographic information was gathered from each participant (see Appendix C). This included information on: (a) school setting in which respondents were currently employed (i.e., urban, urban/First Nations, rural, rural/First Nations); (b) respondents’ current educational position (i.e. gifted and talented classroom educator, regular classroom educator, special education educator); (c) grade(s) respondents were currently teaching; and (d) school division in which the respondents were currently employed (e.g., public, Catholic, or community schools). School setting, educational position, grade level(s), and school division were factors against which differences in assumptions on the identification of students who are gifted and talented were measured.

Five Factors

Brown et al. (2005) conducted a factor analysis of participants' responses to the twenty survey items to identify common factors within the instrument. Initially, the researchers identified six factors. However, the sixth factor had a Cronbach's alpha of 0.36, which was considered to be low. Subsequently, "[f]our outside experts in gifted education believed that the items of the fifth and sixth factor were conceptually connected and these two factors could be collapsed" (Brown et al., 2005, p. 73). The final five factors were described as such:

(1) *Restricted Assessment* involved the sole use of test data with precise cutoff scores, (2) *Individual Expression* emphasized case study data with multiple formats for students to express their talents, (3) *Ongoing Assessment* advocated periodic review using alternative criteria, (4) *Multiple Criteria* involved selection based on multiple types of information, and (5) *Context-Bound* considered student's cultural, environmental, and experiential background. (Brown et al., 2005, p. 74)

Respectively, the reliability estimates for the five factors were 0.61, 0.67, 0.51, 0.54, and 0.52.

These resulting five factors were used in this study's data analysis.

Reliability and Validity of Instrument

The survey was intended to reflect attitudes and assumptions regarding the identification process used, or not used, in educational practice. Brown et al. (2005) created the survey used in this study by conducting a review of the literature, and by taking into consideration best practice employed by experts in the field. The survey was created using guidelines:

...selected because they reflect an amalgamation of the collective wisdom of the major theorists, researchers, and textbook writers in the field when broader conceptions of giftedness began to emerge. Twenty items were generated, field-tested, revised, and field-

tested again with content area experts (professors and doctoral students majoring in gifted and talented education) and participants at gifted and talented conferences. (Brown et al., 2005, p. 71)

A recognized limitation of Brown et al.'s (2005) study was in the use of a convenience sample. The survey respondents had all attended gifted and talented conferences and, as such, had already expressed interest in the field of gifted and talented education. The use of a convenience sample may have limited the range of responses that might otherwise have occurred had the survey been given to a population representative of all educational professionals.

Participants

From May to October 2005, approximately 300 elementary First Nation, rural, and urban schools were approached to participate in this study. Of these, 20 principals agreed to allow their school staff to participate, and all responses were collected by January 2006. Follow-up telephone calls were made within two months of receipt of surveys, in an attempt to increase the total number of returned surveys.

The target sample for this study was teachers and administrative professionals within urban, rural, and First Nations elementary (K-8) schools in Saskatchewan. Although it was not implied that school environment or location dictates teacher assumptions, it was surmised that school location would attract or detract various types of teachers, and may indicate an abundance or lack of resources and skilled personnel. Participants were not categorically identified (i.e., as being of a certain culture or race).

Elementary educators of these grades were chosen based in part on Reis, Colbert, and Hébert's (2005) theories, which suggested that achievement is relatively fluid and changing in elementary school. Negative behaviours (such as underachievement) do not manifest themselves

in a chronic manner until further along a student's educational career (Reis, Colbert, & Hébert, 2005). If underachieving behaviours can begin to manifest themselves in elementary school, then gifted and talented behaviours should also be apparent at an early age. Given the theory that early identification in a regular classroom environment is important for student success, it seemed logical to recruit elementary school educators as participants in a study on assumptions underlying the identification of students who are gifted and talented (Fetzer, 2000). As such, educators of non-adolescent or early adolescent youth were asked to participate in the study.

Data Collection

Upon receiving ethics approval from the University of Saskatchewan's Behavioural Research Ethics Board (see Appendix C), twelve school divisions were approached to participate in the study. Participation was completely voluntary. The researcher received permission to proceed from nine school divisions. Principals within each approved school division were approached via letter (for seven school divisions), or email (two school divisions), dependent upon the school division's specific request. These principals were asked if they were interested in having their elementary school staff (e.g., administrators and educators) participate in the study.

When permission was granted on this level, principals received an email or letter including: an invitation to participate in the survey; a link to the survey; an explanation of the survey; confidentiality statements; and statements of the incentive offered (see Appendix D). The principal then forwarded to school staff (e.g., administrators or educators) the invitations to participate by email. Principals also had the option of selecting a paper survey to forward to their staff. For the paper version of the survey, all matters regarding explanation of the survey, confidentiality, and incentives remained the same as the web-based survey.

The web and paper survey took approximately ten minutes to complete. The majority of respondents completed a web-based survey versus a paper survey. No personally identifiable information was collected in connection with the survey responses, and any contact information used to drive participants to the survey was not associated with their responses. Survey results were password-protected, and were not accessible by anyone other than the researcher and her thesis supervisor. Any potentially identifying information, such as name of school, that was provided as part of open-ended responses was removed. In addition, analyses of the survey data were only presented in aggregate form.

Upon completion of the survey, the respondents were given a code number that was linked to their answers. They were asked to keep that code number, should they wish to withdraw their answers from the data pool. Respondents who chose to complete a mail-out survey were also given a code number, which was on both the survey and the withdrawal form. The respondent, if he or she chose, could submit the code for removal of data from this study. No respondents chose to withdraw their survey answers once they were submitted. As an incentive, participants who completed the survey were given the option to submit their email address for a chance to win one of three \$100 amazon.ca gift certificates. Three email addresses were drawn at random, and all three incentive prizes were given after data collection had ended.

Data Analysis

The dependent variables in this study were the five factors (i.e., Restricted Assessment, Individual Expression, Ongoing Assessment, Multiple Criteria, and Context-Bound). The independent variables in this study consisted of the information gathered from the participants, such as school location (e.g., First Nation, urban, rural), school sector (e.g., public or Catholic), grade(s) taught, and school position (e.g., regular classroom, special education, etc.). The

Statistical Package for the Social Sciences, version 14.0 (SPSS, 2006) was the software package used in the data analysis. Additionally, the accuracy of entered data was independently verified by an Information Technology specialist. The number of missing responses was low, in comparison to overall survey answers (i.e., ten missing responses out of a total 180 responses). These missing responses within the data set were substituted using question means.

The survey questions were categorized into the following five factors: (1) questions 4, 8, 11, 14, 15 were computed as the *Restricted Assessment* factor (Brown et al., 2005); (2) questions 6, 7, 10, 19 were computed as the *Individual Expression* factor (Brown et al., 2005); (3) questions 9, 13, 17, 18 were computed as the *Ongoing Assessment* factor; (4) questions 1, 2, 3 were computed as the *Multiple Criteria* factor (Brown et al., 2005), and; (5) lastly, questions 5, 6, 12, 20 were computed as the *Context-Bound* factor. These five factors are identical to Brown et al.'s (2005) study. To restate, each factor was described as such:

(1) Restricted Assessment involved the sole use of test data with precise cutoff scores, (2) Individual expression emphasized case study data with multiple formats for students to express their talents, (3) Ongoing assessment advocated periodic review using alternative criteria, (4) Multiple criteria involved selection based on multiple types of information, and (5) Context-Bound considered student's cultural, environmental, and experiential background. (Brown et al., 2005, p. 74)

Four methods of analysis were used in this study. First, descriptive analyses (i.e., calculation of means, standard deviations, and variances for continuous variables, such as the five factor scores) were calculated. Second, correlational analyses (Pearson r) between the independent variables (urban/rural/First Nations, school position, grade(s) taught, and school sector) and dependent variables (i.e., the five factor scores) were conducted to determine the

magnitude and direction of relationships. Third, two independent samples t-Tests were conducted to examine potential relationships between the dependent and independent variables (i.e., regular classroom teacher/all other professionals, and single or split classroom teacher/all other respondents). Fourth, two analyses of variance (ANOVA) were conducted to determine the extent of the effect of the independent variables (i.e., urban/rural, and grade categories) on the dependent variables. Due to the increased chance of a Type I error when conducting multiple ANOVAs, the error rate was controlled by applying a Bonferroni correction ($\alpha = \alpha_{fw}/p$, where α_{fw} is the family-wise error rate, and p is the number of tests; Tabachnick, & Fidell, 2001). A restricted alpha level of 0.025 was used. If a significant F-value (the statistical measure for ANOVA) was found within the five factors, then it could be determined that the effect was due to real differences between the groups, and not due to chance. When significant F-values were found, post-hoc analyses determined the location of the main effect (i.e., Scheffé). The Scheffé method is used “when complex comparisons are of interest and/or when samples sizes are not equal” (Evans, 1992, p. 296). The Scheffé post-hoc analysis was conducted on any statistically significant ANOVA results.

In order to gain a sense of the issues most important to participants in the identification of students who are gifted and talented (e.g., multiple assessment methods, cut-off scores), responses to the open-ended question were coded and categorized into related themes. A descriptive analysis examining educators’ responses in terms of common characteristics between respondents, or that examined thematic relationships between respondents, was conducted. The initial coding was conducted using Brown et al.’s (2005) five factors as guides (e.g., Restricted Assessment), and subsequent coding was conducted using common themes not present in Brown

et al.'s (2005) study (e.g., Boundaries of System). The data was predominantly used to report similarities or differences between respondents' comments.

Summary

A web-based survey was the predominant method of data collection for this study. School divisions were approached for their permission to approach principals. Once that permission had been secured, principals were approached on an individual basis, and asked if they were interested in disseminating the survey to teachers within that school. School division, principal, and teacher participation was completely voluntary. In addition to collecting survey responses, demographic information (i.e., school setting, educational position, grade/s teaching, and school division) was collected from participants. Brown et al.'s (2005) five factors, Restricted Assessment, Individual Expression, Ongoing Assessment, Multiple Criteria, and Context-Bound, were the dependent variables in this study. Descriptive and correlational analyses, independent samples t-Tests and ANOVA were used to analyze the data. Additionally, responses to the open-ended question were examined. Chapter 4 reviews the significant results obtained from these statistical analyses, as well as themes gathered from the open-ended question.

CHAPTER 4: RESULTS

The principal aim of this chapter was to outline the main results obtained from the data, as calculated with the research questions taken into consideration. In order to examine assumption differences on the identification of students who are gifted and talented, elementary school professionals (i.e., educators and administrators) from across Saskatchewan were surveyed. An adapted web-based and paper version of a survey created by Renzulli, Brown, and Gubbins (2005), "Assumptions Underlying the Identification of Gifted and Talented Students," was used in this study. The specific factors examined within the survey included: Restricted Assessment, Individual Expression, Ongoing Assessment, Multiple Criteria, and Context Bound.

Descriptive, inferential (analysis of variance and independent-samples t-Test), and correlational analyses were used to determine relationships between each of the five factors and the independent variables (e.g., urban or rural, grade/s taught, public or Catholic school, and single grade vs. multi-grade).

Descriptive Analyses

A total of 90 teachers and administrators completed the survey used in this study. The respondents were split fairly evenly across rural and urban schools, and the majority of respondents taught in only one or two grades only (see Table 4.1). There were insufficient responses from First Nations Schools to warrant analysis. Factor and item means for the 20-question survey can be found in Appendix E.

Research Question 1

The first research question posed was: what are educators' assumptions in the identification of students who are gifted and talented?

Table 4.1

Descriptive Analyses

| Independent Variables | <i>n</i> | % |
|--|----------|----|
| School Sector | | |
| Urban Schools | 44 | 49 |
| Rural Schools | 46 | 51 |
| Grade(s) Currently Teaching | | |
| Kindergarten to Grade 3 | 27 | 30 |
| Grades 4 to 6 | 22 | 24 |
| Grades 7 to 8 | 17 | 19 |
| Multiple Grades | 17 | 19 |
| Does Not Teach (Administrative) | 7 | 8 |
| Dedicated or Multiple Classroom | | |
| Teaches One or Two Grades Only | 59 | 66 |
| Teaches Three+ Grades, or No Classroom | 31 | 34 |
| School Sector | | |
| Public School Sector | 63 | 70 |
| Catholic School Sector | 15 | 17 |
| Community School Sector | 12 | 13 |

Pearson *r* correlations were conducted to examine relationships between the independent variables (e.g., grade(s) taught, school sector) and the dependent variables. Two correlations were significant at $p < .01$, and one correlation was significant at $p < .05$. Negative correlations were significant between grade categories (e.g., K-Gr. 3, Gr. 4-Gr. 6, Gr. 7-Gr. 8) and Factor III: Ongoing Assessment ($r = -.246, p < .05$), which indicated that, as educators taught higher grades, the more they agreed with ongoing assessment for students (e.g., alternative identification). Additionally, a negative correlation between grade categories and Factor V: Context Bound ($r = -.357, p < .01$) indicated that a high score on one variable was linked to a low score on the other variable, and that this association was not due to chance. A negative

correlation was also significant among single-classroom teachers versus multiple-classroom teachers, and Factor I: Restricted Assessment ($r = -.281, p < .01$).

Table 4.2

Analysis of Variance for Grade Categories: Kindergarten to Gr. 3; Gr. 4 to Gr. 6; Gr. 7 and Gr. 8

| Dependent Variable | Grade Category | Mean | F value | df | ES | PC |
|----------------------------------|----------------|-------|---------|-------|------|-----|
| Factor I: Restricted Assessment | Kind. – Gr. 3 | 11.65 | .802 | 2, 63 | | |
| | Gr. 4 – Gr. 6 | 11.86 | | | | |
| | Gr. 7 – Gr. 8 | 12.60 | | | | |
| Factor II: Individual Expression | Kind. – Gr. 3 | 7.30 | .379 | 2, 63 | | |
| | Gr. 4 – Gr. 6 | 7.32 | | | | |
| | Gr. 7 – Gr. 8 | 6.76 | | | | |
| Factor III: Ongoing Assessment | Kind. – Gr. 3 | 8.11 | 2.155 | 2, 63 | | |
| | Gr. 4 – Gr. 6 | 7.23 | | | | |
| | Gr. 7 – Gr. 8 | 6.88 | | | | |
| Factor IV: Multiple Criteria | Kind. – Gr. 3 | 4.78 | .951 | 2, 63 | | |
| | Gr. 4 – Gr. 6 | 4.68 | | | | |
| | Gr. 7 – Gr. 8 | 4.18 | | | | |
| Factor V: Context-Bound | Kind. – Gr. 3 | 10.30 | 4.696* | 2, 63 | 0.13 | 1>3 |
| | Gr. 4 – Gr. 6 | 8.86 | | | | |
| | Gr. 7 – Gr. 8 | 8.00 | | | | |

Note. Kind. = Kindergarten; Gr. = Grade; df = degrees of freedom; ES = effect size; PC = pairwise comparisons; * $p < .025$

Analysis of variance (ANOVA) was conducted on three grade groupings (i.e., respondents who taught primarily in one of the following groupings: Kindergarten to Grade 3; Grades 4 to 6; Grades 7 and 8; see Table 4.2). ANOVA was conducted, in order to examine

potential differences between the grade groupings (independent variables). The dependent variables were the five factors (i.e., Restricted Assessment, Individual Expression, Ongoing Assessment, Multiple Criteria, and Context-Bound). Due to the increased chance of a Type I error when conducting multiple ANOVAs, the error rate was controlled by applying a Bonferroni correction (Tabachnick & Fidell, 2001). The alpha level was set at ($p \leq .025$). There were significant differences among grade categories on Factor V: Context-Bound [$F(2, 63) = 4.696, p = 0.013, n^2 = 0.13$].

Based on the ANOVA results, Scheffé posthoc analyses were conducted on the statistically significant results (e.g., Factor V: Context-Bound). A statistically significant mean difference was found between the *Kindergarten to Grade 3* ($M = 10.30$) and *Grades 7 and 8* ($M = 8.00$) categories.

Two independent-samples t-Tests were conducted, and the alpha level was accordingly restricted to 0.025 (i.e., the error rate was controlled by applying a Bonferonni correction, Tabachnick & Fidell, 2001). First, an independent-samples t-Test (see Table 4.3) was conducted to determine if school sector (i.e., participants responded whether they were currently employed in a Public, Catholic, Community, Reserve, or Private/Independent school) had an effect on the study's dependent variables (i.e., factor means). The school sectors chosen for this analysis were *Public school* ($n = 63$) and *Catholic school* ($n = 15$). The independent-sample T-test was not significant relative to the restricted alpha level of 0.025.

A second independent-samples t-Test was conducted to determine if the assessment assumptions of teachers who worked primarily with one group of students (i.e., teachers who taught in a single grade or split classroom) (*Single Classroom*, $n = 59$) differed from other professionals' assessment assumptions (*Other Professionals*, $n = 31$). Other professionals within

Table 4.3

Comparison of School Sector on Five Factors

| School Sector | <i>Public School</i> | | <i>Catholic School</i> | | t-Test | ES* |
|----------------------------------|----------------------|------|------------------------|------|--------|-----|
| | <i>n = 63</i> | | <i>n = 15</i> | | | |
| | Mean | SD | Mean | SD | | |
| Factor I: Restricted Assessment | 11.67 | 2.69 | 11.27 | 1.98 | .541 | |
| Factor II: Individual Expression | 6.81 | 1.88 | 7.4 | 2.50 | -1.022 | |
| Factor III: Ongoing Assessment | 7.50 | 1.86 | 7.27 | 1.66 | .459 | |
| Factor IV: Multiple Criteria | 4.59 | 1.40 | 4.53 | 1.19 | .151 | |
| Factor V: Context-Bound | 8.99 | 2.54 | 8.87 | 2.39 | .152 | |

Note. *n* = Sample Size; SD = Standard Deviation; ES = Cohen's *d* Effect Size; *No significant values were found, therefore no Effect Sizes were calculated

a school include teachers who work in three or more classrooms, or those who do not have a direct teaching role (e.g., those who work within administration). This classification was created in order to differentiate between educators with a dedicated classroom, who would spend the most time with a single group of students, versus other professionals within the school. Levene's Test for Equality of Variances, a statistical test that measures variances across the groups that are tested, revealed no significant variances. It can therefore be assumed that the samples had equal variances.

Teachers who worked primarily in single grade or split classroom (*Single Classroom*) varied significantly from *Other Professionals* on Factor I: Restricted Assessment [$t(88) = 2.752$,

Table 4.4

Comparison of Educator Position on Five Factors

| Educator Position | <i>Single Classroom</i> | | <i>Other Professionals</i> | | t-Test | ES |
|----------------------------------|-------------------------|------|----------------------------|------|--------|------|
| | <i>n = 59</i> | | <i>n = 31</i> | | | |
| | Mean | SD | Mean | SD | | |
| Factor I: Restricted Assessment | 12.17 | 2.42 | 10.61 | 2.81 | 2.752* | .597 |
| Factor II: Individual Expression | 7.26 | 2.22 | 6.90 | 2.04 | .739 | |
| Factor III: Ongoing Assessment | 7.63 | 2.08 | 7.77 | 1.76 | -.333 | |
| Factor IV: Multiple Criteria | 4.63 | 1.52 | 4.43 | 1.14 | .635 | |
| Factor V: Context-Bound | 9.39 | 2.65 | 8.79 | 2.89 | .986 | |

Note. *n* = Sample Size; SD = Standard Deviation; ES = Cohen's *d* Effect Size; **p* < .025

p = .007, Cohen's *d* = .597]. The change in mean scores between *Single Classroom* (*M* = 12.17) and *Other Professionals* (*M* = 10.61) was statistically significant (see Table 4.4). When considering effect size values, 0.20 can be considered a small effect size, 0.50 a medium effect size, and 0.80 a large effect size (Cohen, 1992). A medium effect size “represent[s] an effect likely to be visible to the naked eye of a careful observer” (Cohen, 1992, p. 156), while small and large effect sizes are approximately equidistant from the midpoint. The effect size calculated here (i.e., .597) is thus likely to be noticeable, and the differences between educators with a dedicated classroom versus those with multiple or no classrooms may be directly observable within the school system.

Research Question 2

The second research question posed was: what are the assumptions of educators who work in urban, rural and First Nation schools on the identification of students who are gifted and talented?

The majority of respondents indicated that they worked in an urban setting ($n = 42$), or in a rural setting ($n = 44$). There were insufficient responses in either the urban/First Nations category ($n = 2$), or in the rural/First Nations category ($n = 2$) to complete separate analyses on responses from First Nations schools. Responses from urban and urban/First Nations categories were combined ($n = 44$), and responses from rural and rural/First Nations categories were also combined ($n = 46$) prior to analysis.

Potential differences between educators from urban schools versus rural schools were assessed. An analysis of variance (ANOVA) was conducted on the five factors. A restricted alpha level of $p = .025$ was used to determine statistical significance. No significant results were found (see Table 4.5).

Open-Ended Responses

One open-ended question was included in the survey: What do you feel are the important issues in the identification of students who are gifted and talented? A total of 37 respondents answered the open-ended question ($37/90 = 41\%$). The responses were reviewed, and categorized in accordance with the five factors that were identified in the survey: (1) *Restricted Assessment*, (2) *Individual Expression*, (3) *Ongoing Assessment*, (4) *Multiple Criteria*, and (5) *Context-Bound* (Brown et al., 2005). Although many of the responses fit within these factors, the broad categorical names assigned to each factor did not necessarily match specifically with the responses collected.

Table 4.5

Analysis of Variance for Urban and Rural Categories

| Dependent Variable | Independent Variables | Mean | F value | df | Sig. |
|----------------------------------|-----------------------|-------|---------|------|------|
| Factor I: Restricted Assessment | Urban | 11.73 | .129 | 1,88 | .720 |
| | Rural | 11.53 | | | |
| Factor II: Individual Expression | Urban | 7.16 | .011 | 1,88 | .918 |
| | Rural | 7.11 | | | |
| Factor III: Ongoing Assessment | Urban | 7.59 | .164 | 1,88 | .687 |
| | Rural | 7.76 | | | |
| Factor IV: Multiple Criteria | Urban | 4.53 | .037 | 1,88 | .848 |
| | Rural | 4.59 | | | |
| Factor V: Context-Bound | Urban | 8.64 | 5.54 | 1,88 | .063 |
| | Rural | 9.71 | | | |

Note. df = degrees of freedom

In addition, some problems were identified by respondents, but not mentioned by Brown et al. (2005; e.g., boundaries and restrictions of the school system). Therefore, responses were categorized according to prevalent themes within the responses themselves. As such, the participants' responses were grouped into five categories: (1) Inequality of Resources and Services; (2) Segregation of Students Who Are Gifted and Talented; (3) Identification Criteria; (4) Development and Availability of Services; and (5) Boundaries of System. Each of these groupings is subsequently described in further detail.

Inequality of Resources and Services

Of those that answered the open-ended question, 19% (i.e., 7/37) of respondents indicated that inequality of resources between the high-achieving (gifted and talented) students and high-needs (designated) students was a primary problem within a classroom. Respondents identified

that students who are gifted and talented are ignored in favour of students with more immediate concerns. One respondent expressed that “[i]t seems that this identification of gifted students doesn’t receive nearly the same attention as the identification of special needs which impair performance at school. I don’t think we consider the needs of gifted students enough.”

Other respondents indicated that, due to the number of students with special needs within a classroom, there is not enough time or sufficient resources to effectively teach students who are gifted and talented. As one respondent wrote, “[w]ith the integration of all special needs and behaviour problems and only help with designated students, teachers are having difficulty meeting the needs of all students.” While there appear to be difficulties encountered meeting the needs of all students, respondents were hesitant to remove students who are gifted and talented from the regular classroom.

Segregation of Students Who Are Gifted and Talented

Of those that answered the open-ended question, 13.5% (i.e., 5/37) of respondents indicated that schools should look to options other than segregation of students who are gifted and talented, in order to meet needs of students who are gifted and talented. While respondents emphasized students with special needs as requiring additional resources, they indicated that they were not in favour of segregated programs created for students who are gifted and talented. Respondents indicated that students who are gifted and talented should be included within a classroom, and school should avoid “a pull-out program where gifted/talented students are removed from a school or classroom – their example and leadership are important to balancing a school/classroom.” Another respondent indicated that “[i]t is important that the academically gifted students are not segregated. Their talents need to be shared and enjoyed by all students.”

Respondents suggested that segregation of students who are gifted and talented might also be viewed as providing unequal treatment to students with special needs. Not all students with exceptionalities are segregated from their peers in order to receive necessary programming. Furthermore, one respondent stated "[w]hen you look at an inclusionary model of delivering gifted education, there are opportunities to reach some of those students who might otherwise miss opportunities for enrichment because they didn't make the score." Part of delivering necessary programming to all students is the need to broaden currently-accepted methods of identifying students who may be eligible for that programming.

Identification Criteria

Alternative identification criteria, in addition to standardized testing, are essential in the assessment process of students who are gifted and talented. Of all those that answered the open-ended question, ten respondents (i.e., 10/37, or 27%) indicated that children demonstrate giftedness in a variety of ways, and that standardized IQ tests are not always a sufficient method of assessment. One respondent indicated that "[w]e must be sure to look beyond academic achievement when identifying students. If we rely solely on tests of cognitive potential, we will also miss many students. A combination of many criteria will allow us to make the best decisions in identifying the gifted student." Other respondents suggested that areas such as the arts, sports, leadership, and cultural factors should be considered in the assessment process.

An identification process that assesses only one facet of intelligence may not be appropriate, "[p]articularly if you look into the area of multiintelligences [sic], a definition based on an IQ score is hopelessly outdated." Additionally, three respondents indicated that identification was only part of the process, and that "although standardized assessments are important in initially identifying giftedness, emphasis needs to be put on the student's level of

performance and motivation." Appropriate methods of identifying students who are gifted and talented in and of themselves are not sufficient; after identification, there must be resources available to meet student needs (e.g., mentorship programs for students, professional development for educators).

Development and Availability of Services

Of all those that answered the open-ended question, eight (i.e., 8/37, or 20%) respondents indicated problems inherent in the development and availability of services available to both teachers and students. "Perhaps the role of the school should be in identification and then providing input into the appropriate programs." Other respondents agreed that the identification process is merely one part of a whole. Identification should be reflective of available services and/or services that will be available shortly. According to one respondent, "[i]dentification without curriculum adaptation would be a useless exercise." Respondents identified the lack of funding and expertise as barriers in an inclusive model of education. Schools, at present, are not capable of meeting the needs of all students.

Boundaries of System

Of all those that answered the open-ended question, ten respondents (i.e., 10/37, or 27%) identified boundaries of their school system(s) as important issues to consider. Boundaries identified by respondents included a lack of resources and adequately trained personnel to effectively teach to all students. One respondent indicated that schools cannot "meet the needs of all areas of giftedness since we don't have the resources nor the expertise in all areas." Furthermore, "[a] student can be gifted in an area where the school has neither the resources nor the personnel to benefit the student's talent or gift. The gift may fall far outside the curricula. Budgets only stretch so far. Whose responsibility is it to see the gift developed? The general tax-

paying public? The parents?" In terms of roles of the schools and school division, it seems that "[t]he teacher should be given time and tools to facilitate the delivery of this [a gifted] program." Although there appeared to be consensus on giftedness as an important area to consider, respondents presented a number of barriers to providing adequate support for students who are gifted and talented. These barriers included: limited resources, expertise, problems with designation, and inadequate identification criteria.

Summary

The first research question posed was: what are educators' assumptions in the identification of students who are gifted and talented? Pearson r correlations were significant between grade categories (e.g., K-3, 4-6, 7-8), and *Factor III: Ongoing Assessment* ($r = -.246, p < .05$) and *Factor V: Context Bound* ($r = -.357, p < .05$). Additionally, there was a negative correlation between single classroom/multiple classroom and *Factor I: Restricted Assessment* ($r = -.281, p < .05$). ANOVA was statistically significant between the *Kindergarten to Grade 3* and *Grades 7 and 8* independent variables, and *Factor V: Context Bound* [$F(2, 66) = 4.909, p = 0.013, \eta^2 = 0.13$]. An independent samples t-Test was significant between those with a single (or split) classroom versus all other professionals (e.g., 3 or more classrooms, or administrative) within the school and *Factor I: Restricted Assessment* [$t(88) = 2.752, p = .007, \text{Cohen's } d = .597$]. The second research question posed was: what are the assumptions of educators who work in urban, rural, and First Nation schools on the identification of students who are gifted and talented? No significant results were found.

Five main categories were extracted from the open-ended responses: 1) Inequality of Resources and Services; 2) Segregation of Students Who Are Gifted and Talented; 3) Identification Criteria; 4) Development and Availability of Services; 5) Boundaries of System.

The major findings, limitations, and implications for future practice are described in further detail in Chapter 5.

CHAPTER 5: DISCUSSION

Purpose and Procedures

Educators across all grades have the skills and tools necessary to provide students with the best and most authentic assessment practices possible. While it would be unrealistic to presume that educators are in a position to be all things to all people, it is realistic to assume that they are in the best position to provide the best overall assessment of any student with whom they have regular, day-to-day contact and with whom they are able to notice things such as potential and patterns of behaviour.

The purpose of this study was to investigate the assumptions held by Saskatchewan educators in the identification of students who are gifted and talented in today's schools. Assumption differences between educators working in urban, rural, and First Nations schools were examined. In order to gather data on the assumptions of the identification process in general education classrooms (which may have included assessment tools such as parent or teacher nominations, standardized testing, parent and student interviews), elementary school professionals were approached to respond to a written survey. The study was reflective of elementary school professionals' perceptions regarding the identification of students who are gifted and talented across various demographics.

Findings

1. As the grade(s) participants taught increased (i.e., from Kindergarten to Grade 3, to Grades 7 and 8), the more teachers agreed that ongoing assessments should incorporate a variety of evidence ($r = -.246, p < .05$).

2. Educators working in single or split classrooms favoured services such as precise cut-off scores and specific testing over educators working in multiple classrooms ($r = -.281$, $p < .05$).
3. Educators working in multiple classrooms were less in favour (i.e., they disagreed more strongly) of *Restricted Assessment* for students [$t(88) = 2.752$, $p = .007$, $d = .597$].
4. When considering factors such as a student's cultural background and services available at the school level in the identification process, there was a difference between the ratings of educators in early elementary grades (i.e., Kindergarten to Grade 3) and educators in later elementary grades (i.e., Grades 7 to 8) [$F(2,66) = 4.909$, $p = .013$, $n^2 = 0.13$].
5. Five main categories were extracted from the open-ended responses: (1) Inequality of Resources and Services; (2) Segregation of Students Who Are Gifted and Talented; (3) Identification Criteria; (4) Development and Availability of Services; and (5) Boundaries of System.

Identification Assumptions

The first research question posed was: what are educators' assumptions in the identification of students who are gifted and talented?

As the grade(s) participants taught increased (i.e., from Kindergarten to Grade 3, to Grades 7 and 8), the more educators agreed that ongoing assessments should incorporate a variety of evidence ($r = -.246$, $p < .05$). This category included periodic review using alternative criteria, such as portfolios, for identification of students who are gifted and talented (Brown et al., 2005).

In addition, educators from higher grades (e.g., Grades 7 and 8) indicated that a student's cultural and experiential background, as well as availability of services, ought to be considered in

the assessment process ($r = -.357, p < .01$). This may indicate a trend towards working within the boundaries of the system (e.g., assessment should reflect services offered by the school), as well as a greater sensitivity to a student's prior educational and personal experiences.

Educators in single or split classrooms favoured services such as precise cut-off scores and specific testing over educators working in multiple classrooms. There was a negative correlation between single classroom (coded 1), multiple classroom (coded 2), and *Factor I: Restricted Assessment*. The Likert scale on this factor was originally negatively worded. As a result, the factor scores were reversed. This means a low score on the reversed scale indicated a disagreement with *Restricted Assessment*, while a high score indicated agreement. In a negative correlation, this suggested that educators working in multiple classrooms who scored lower on the scale disagreed with this factor. This could mean that the principle educator in a classroom has limited time to produce self-created assessments (i.e., rather than standardized tests), or the educator may not have adequate resources available for use (e.g., time or other resources such as materials to create portfolios) in order to move away from using standardized assessment procedures.

Educators working in multiple classrooms were less in favour (i.e., they disagreed) of *Restricted Assessment* for students [$t(88) = 2.752, p = .007$, Cohen's $d = .597$]. As noted previously, the *Restricted Assessment* factor examined items such as reliance on: achievement or intelligence testing; precise cut-off scores; objective assessment methods; and services only for those students who have been identified as gifted and talented. Educators who do not have a dedicated classroom, or those who have multiple classrooms, may encourage a broader range of assessment practices. It may be useful for educators with dedicated classrooms to collaborate

frequently with other educators (e.g., those with no classroom, or those working in multiple classrooms), in order to realize the best assessment practices possible for each individual.

When considering factors such as a student's cultural background and services available at the school level in the identification process, there was a difference between the ratings of educators in early elementary grades (i.e., Kindergarten to Grade 3) and educators in later elementary grades (i.e., Grades 7 to 8) [$F(2,66) = 4.909, p = .013, n^2 = 0.13$].

This suggested that educators in the lower grades responded less favourably on the inclusion of a student's cultural background, school services, and context-specific services in the identification process than did educators in the higher grades. Perhaps this is indicative of a more diverse approach to teaching in the higher grades (e.g., Grades 7 and 8), and a more inclusive approach to teaching in the lower grades (e.g., Kindergarten to Grade 3). It is important to examine educators' assumptions on items such as these, because these professionals will ultimately be the ones who will carry out the day-to-day assessment procedures within the classroom.

It is inevitable that primary educators complete the majority of assessment procedures; it is not feasible in many school systems to employ professionals in measurement and evaluation to carry out the day-to-day assessments that seem to have become commonplace in classrooms. As such, it may be best to gather educators' opinions on what they feel constitutes better assessment practices, then implementing theoretically sound practices that are in line with these opinions. If a trend can be captured that reflects educators in the first grade as opposed to, say, educators in the eighth grade, then it becomes much easier to implement assessment practices that are in line with these trends. In order to further observe potential trends, a more comprehensive study that examines a larger sample population of teachers from all grades will need to be conducted.

Five main categories were extracted from the open-ended responses: (1) Inequality of Resources and Services; (2) Segregation of Students Who Are Gifted and Talented; (3) Identification Criteria; (4) Development and Availability of Services; (5) Boundaries of System. Respondents indicated that *Inequality of Resources* might exist in the school system, where students who are identified as gifted and talented do not receive the resources that other exceptional students receive. Specific concerns over academic versus creative talent were expressed, and it appeared as though currently school systems are predominantly focussed on academic talents. It appears that the pendulum of 1980's focus on giftedness has shifted, and primary attention in classrooms has changed to those students whose needs may appear to be more urgent (e.g., students with learning disabilities). It may be possible to provide minimal attention and instruction to a gifted and talented child, and that child may still succeed in the school environment. Conversely, it is not possible to provide minimal attention and instruction to a student who is struggling with a high-need exceptionality (e.g., dyslexia). Limited resources provide boundaries on what an educator is able to do within the classroom, and those students with the highest (i.e., most urgent) needs are typically viewed as highest priority.

Additionally, respondents expressed that *Segregation of Students Who Are Gifted and Talented* served only to pull out capable students from the school, thus eliminating the positive effects those students could have had on their peers. Terman (1916) identified that educators may even be hesitant to advance a student who is gifted and talented, out of fear of losing that pupil. In cases such as these, the student is at risk for missing out on potentially beneficial programming.

In Saskatoon, Saskatchewan, there is a program within the Public School Division called the Academically Talented program (AcTal). Students in grade four all complete standardized

testing (i.e., the Canadian Achievement Test), and are subsequently nominated by their for admission into the program. Criteria for admission takes into consideration the scores on the standardized testing, as well as other factors such as creativity, motivation, and needs of the student. The AcTal program is offered in a *congregated* setting, which means that students are enrolled in one of two schools in the city (Saskatoon Public School Division, 2008). While there may be issues with removal of students who are gifted and talented from the regular classroom, it is imperative to first examine the needs of the individual student, and to consider carefully how those needs will be met. If the student's needs cannot be met within a regular classroom setting, then alternative methods of education must be considered.

Standard *Identification Criteria* is limited, and respondents suggested that alternative criteria should be included in the assessment process. Assessment that is both ongoing and sensitive to the student's present needs is necessary for a rounded approach to identification of the student who is gifted and talented. While it is important to provide initial assessments in a student's academic career, it is also important to provide ongoing assessment so the needs of students who are exceptional can be met. Exceptionalities are not static; they will fluctuate throughout a student's life, based on interventions, home life, and normal (or abnormal) development of self. It is important that the whole of the student be examined when conducting an assessment. Specialists in measurement and evaluation must be employed by school divisions in order to fully evaluate any student with exceptionalities (e.g., a student who is gifted and talented, or a student with dyslexia). If such a specialist is not available, then an arsenal of assessments—both traditional and non-traditional—must be in the hands of the educators, along with training on how to complete and interpret those assessments.

Furthermore, identifying the student is not sufficient in and of itself, as the school system must be prepared for the *Development and Availability of Services*, in order to support the student who has been identified. Identification must be combined with adequate programming to meet the needs of the student. As mentioned previously, a student in the Saskatoon Public School Division who has been identified as gifted has the option of attending one of two schools offering the AcTal program (Saskatoon Public School Division, 2008). This program, however, serves fewer than 60 students in total per grade. This surely does not cover all needs of students who are gifted and talented within this school division.

Students who are either not nominated for the program (for whatever reason), or students who choose to not attend the congregated programs, must receive sufficient education within the regular classroom. There appears to be a gap between services offered for those students identified, nominated, and accepted into the AcTal program, and those students who are gifted and talented who remain in the regular classroom. Every school division is unique, and the development and availability of services will be entirely dependent upon the student population, as well as the human, school, and community resources available.

If services are not developed and readily available, educators may face *Boundaries of the System*, whereby they may be faced with multiple barriers that prevent them from addressing the students' needs. These barriers include, but are not limited to: lack of resources; staff persons or available professionals with sufficient expertise; and lack of time to carry out specialized programming. Every school division and in turn, every school, will prioritize their allocation of funding based on what needs are present within the school. It is up to the individual divisions to prioritize gifted and talented education, in order to prevent system boundaries and to give these students the best opportunities possible for a quality education.

Limitations

Time constraints for schools and teachers were one limitation of this study. The first round of data collection began near the end of the school year (i.e., May 2006). This was a busy time of year for teachers and may have limited participation. In order to increase participation, a gift certificate draw was included as an incentive. Participants had the option of submitting their email for a chance to win one of three gift certificates. The majority of participants exercised this option, and amazon.ca gift certificates were given out to three randomly-selected participants. Letters of information were sent out to school divisions, and one division agreed to participate. A total of 16 surveys were returned in this first round of data collection. Lack of interest from both school divisions and participants was noticeable, and data collection was put on hold until the fall. In October 2006, an additional eight school divisions had agreed to participate, and an additional 74 participants responded to the survey.

Both the beginning and end of the school year proved to be busy times for both educators and principals, and it would have been useful to send the letters at less busy times (e.g., November or February). In addition, an incentive to the school may have been more beneficial than an incentive to each participant, as the principals were ultimately the individuals who determined whether or not they felt the educators within their school had sufficient time to participate. In the end, consideration of the time of year was likely the largest factor that affected participation. The sample in this study was small ($n = 90$), and although participants were from all across the province, it may be difficult to generalize to all educators in all areas. Having said that, these preliminary results can still provide useful information with regards to elementary educators' (e.g., Kindergarten to Grade 8) assumptions relating to the identification of Saskatchewan students as gifted and talented.

Lastly, the web-based format of this survey may have hindered some educators from participating if their school did not have email or internet access. Paper versions of the survey were provided as an option, in the case of unavailable (or limited) email or internet access. Regardless of a paper version of the survey being made available, the majority (79%) of respondents completed a web-based version of the survey, where as only 21% of respondents completed a paper version of the survey. The practical implications of this research are based primarily on identified needs of students who are gifted and talented, and what schools and school divisions can do in order to meet those needs. Assessment of students who are gifted and talented, while only one part of the equation, is an important step in the process of establishing adequate resources and supports for students with exceptionalities. The importance of assessment and educator assumptions in the practice of assessments cannot be overlooked.

Implications for Practice

In 2000, the Saskatchewan Special Education Review Committee's (SSERC) developed its final report: *Directions for Diversity: Enhancing Supports to Children and Youth with Diverse Needs* (Saskatchewan Learning, 2000). This report drew upon the United Nations Educational, Scientific, and Cultural Organization's (UNESCO) framework in creating an inclusive school environment that would be accommodating to the needs of all children. The SSERC strove to maintain equitable educational opportunities for all students with the emphasis of responsibility being placed on individual schools. While the SSERC asserted that an inclusive school setting should be the first choice, there may be circumstances in which an inclusive setting is not in the student's best interest (Saskatchewan Learning, 2000).

All students must be addressed individually, and be placed in an environment that best suits their unique circumstance. Funding is delivered to schools that require additional supports

for exceptional students (Saskatchewan Learning, 2000). However, “support for gifted learners is not available in many school divisions and schools” (Saskatchewan Learning, 2000, p. 99). It was recommended flexible programming, changes to the funding structure, and changes to resources be made to ensure students with exceptionalities, including students who gifted and talented, are receiving the supports they need (Saskatchewan Learning, 2000). While there is no one answer to providing education that will be suitable for all, this study has provided some direction for areas that should be examined more closely in the scope of supporting students who are gifted and talented.

Professionals in measurement and evaluation (e.g., Psychologist, Educational Psychologist, or person who has graduated from an accredited measurement and evaluation program specializing in student or youth assessment) are critical for the assessment process, and should be made available in every school division for those assessments that require specialized training. For assessments that are carried out by educators, it is imperative that there is training in not only the methods of administering the assessments, but also in the interpretation. In addition, when determining the appropriate method for identifying students as being gifted and talented, one needs to consider potential differences in the assumptions held by stakeholders (e.g., educators, administrators) as well as each student’s strengths and areas of need.

Particular attention also needs to be paid to the progression and changes in assumptions as educators move into the higher grades. Although further study is required to determine the extent of this progression, it appears as though there are differences in the educators’ assumptions on factors such as taking a student’s cultural and experiential background into account, and basing assessment on the services that are actively offered within the school. While it is not currently possible to determine exactly why these differences exist, it is important to

note that educators of older grades (e.g., grades 7 and 8) were in agreement that a student's context (e.g., culture and experience) should be taken into account in the identification process, while educators of younger grades (e.g., Kindergarten to grade 3) were in disagreement with this factor. While it is not possible to tailor assessments based on specific ideologies of a particular teacher, it may be possible (with more research on the subject matter) to tailor assessments by grade, based on trends in ideologies.

Implications for Future Research

Web-based or paper surveys for educators may be an effective method of collecting data, providing that consideration is given to the time of year in which educators are requested to give of their time. The opinions derived from the open-ended question offered a rich examination of the barriers encountered when assessing students who are gifted and talented, as well as when working within a school system that may not have the necessary support structure for these students. It would be beneficial to use a focus group or other discussion group to further explore educators' present-day practices. In addition, recruiting a larger sample of educators to respond to this survey in a web or paper format would allow the further examination of changes in assumptions (i.e., from lower to higher grades) on a larger scale (i.e., across Western Canada).

Although there were not sufficient responses from First Nations schools to analyze data relating to the identification of students who are gifted and talented, this is an area of study that is under researched. Euro-Canadian views of giftedness may not provide the most accurate guiding principles for defining giftedness and determining culturally-sensitive assessment procedures. Therefore, an examination of how Aboriginal (e.g., First Nations, Métis, and Inuit) people define giftedness itself is another area to be explored.

There appears to be a significant difference in assumptions between teachers of various grade levels. This particular study did not examine educators' assumptions regarding identification from grades 9 to 12. It may be interesting to investigate if the changes in assumptions (i.e., cultural and experiential consideration, reflection of services offered) continued on to the higher grades. An examination of educators' assumptions in all grades may be required for a more in-depth analysis of this trend. It may be interesting to study further differences in assumptions between teachers of various grade levels, especially in terms of best practices used for each grade level.

Educators are in the best position possible to accomplish what is best for each student: they are able to provide authentic assessment based on the student's own day-to-day functioning which, in the end, will be a more accurate reflection of the student's actual performance or ability. Terman (1916) suggested that "the teacher's estimate of a child's intelligence is much more reliable than that of the average parent; more accurate even than that of the physician who has not had psychological training" (p. 34). Educators are on the front lines; they are the ones who see students day after day. In the end, they are the ones who will need to be given not only the tools for identifying students who are gifted and talented, but these educators must also be given the necessary services and personnel in order to support advanced learning.

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APPENDIX A

A Summary of Howard Gardner's Multiple Intelligences (Gardner, 1983, 1999)

| Intelligences | Description |
|----------------------|---|
| Linguistic | An intelligence in which the person has a mastery or affinity for language's semantics, phonology, syntax, and pragmatic functions (Gardner, 1983). |
| Musical | An intelligence which emerges early in life, and is characterized by a keen sensitivity to pitch, rhythm and timbre, which are "the characteristic qualities of a tone" (Gardner, 1983, p. 105). |
| Logical-Mathematical | An intelligence in which the person uses abstract thinking and skepticism, in order to "handle skillfully long chains of reasoning" (Gardner, 1983, p. 139). Persons with this intelligence are capable thinking of problems, and of analyzing solutions and implications to both problem and solution (Gardner, 1983). |
| Spatial | An intelligence in which the person is capable of accurately perceiving visual stimuli, and to retain and modify the visual experience, regardless of whether or not the stimuli is present (Gardner, 1983). |
| Bodily-Kinesthetic | An intelligence in which a person has "...control over one's bodily motions and capacity to handle objects skillfully" (Gardner, 1983, p. 206). This person develops mastery in areas such as sports or the arts (Gardner, 1983). |

| | |
|----------------|--|
| Intrapersonal | An intelligence that focuses on a person's internal self. Of importance are not only the ability to recognize personal emotions, but also how to understand those emotions and to use them to best guide present and future behaviour (Gardner, 1983). |
| Interpersonal | An intelligence in which a person is keenly aware of others' "...moods, temperaments, motivations, and intentions" (Gardner, 1983, p. 239). This may be considered an intelligence in terms of relationships (Gardner, 1983). |
| Naturalist | An intelligence in which a person demonstrates capability of vast knowledge on all matters of flora and fauna, including awareness of relationships that exist in nature (Gardner, 1999). |
| Existentialist | Persons with existentialist intelligence ask philosophically profound questions that relate to matters such as life and death (Gardner, 1999). |

Note. From *Frames of mind: The theory of multiple intelligences* by Gardner, H. (1983), and from *Intelligence reframed: Multiple intelligences for the 21st century* by Gardner, H. (1999).

APPENDIX B: SURVEY

Assumptions Underlying the Identification of Students who are gifted and talented Survey

Joseph S. Renzulli, Scott W. Brown, & E. Jean Gubbins (2005)

This survey is intended to examine assumptions underlying the identification of students who are gifted and talented. For purposes of this research, students who are gifted and talented are defined as highly able or potentially able students, even if they have not been formally identified as gifted or enrolled in a special program for students who are gifted.

Listed below are 20 assumptions related to the identification of students who are gifted and talented. Read each statement, and indicate the degree to which you agree or disagree by **circling** the appropriate response using the following scale:

SA = Strongly Agree A = Agree U = Uncertain D = Disagree SD = Strongly Disagree

1. Students who are gifted and talented may express their abilities in many ways. **SA A U D SD**
2. Giftedness in some students may develop at certain ages and in specific areas of interest. **SA A U D SD**
3. An effective plan for identification requires the use of several types of information about the students. **SA A U D SD**
4. Identification should be based primarily on an intelligence or achievement test. **SA A U D SD**
5. Identification should take into consideration the cultural and experiential background of the student. **SA A U D SD**
6. At least part of the identification process should be individualized, using case study data unlikely to be obtained by group standardization instruments. **SA A U D SD**
7. Identification should include the assessment of tasks selected by the student as well as required activities. **SA A U D SD**
8. A precise cut-off score should be set for all tests used in identification. **SA A U D SD**
9. Information obtained during the identification process should provide the basis for follow-up programming experiences and opportunities. **SA A U D SD**
10. Identification should include options that allow students to express themselves in many ways (e.g. written, visual, oral, constructed, interpersonal). **SA A U D SD**
11. Teacher judgment and other subjective criteria should not be used in identification. **SA A U D SD**

- | | |
|---|--------------------|
| 12. Identification techniques can be locally developed using methods and criteria that are appropriate for a particular population. | SA A U D SD |
| 13. The identification process should include the judgment of persons best qualified to assess the quality of performance in particular areas of study. | SA A U D SD |
| 14. Identification should be restricted to a fixed percentage of the total student population. | SA A U D SD |
| 15. Only identified students should have access to special program services. | SA A U D SD |
| 16. Identification should include the involvement of persons who understand the cultural and environmental background of individual students. | SA A U D SD |
| 17. Alternative identification criteria should be developed for identifying artistically talented students. | SA A U D SD |
| 18. Regular, periodic reviews should be carried out on both identified and non-identified students. | SA A U D SD |
| 19. The identification process should include the assessment of non-intellectual factors such as creativity and leadership as well as academic performance. | SA A U D SD |
| 20. The identification process should reflect the types of services and activities provided by individual schools and school divisions. | SA A U D SD |

In the space provided below, please identify what you feel are the important issues in the identification of students who are gifted and talented. Your answers will remain confidential and all personally identifying information will be removed prior to reviewing your responses.

Demographics Information

Modified from The National Research Center on the Gifted and Talented

The survey data will be analyzed according to the demographic categories listed below. Please complete the Demographic Data section that follows, and then complete the survey. A summary of the results of this study will be provided by contacting the researcher, Danielle Gaudet, through email at dyg125@mail.usask.ca or by calling (306) 242-0108. **Thank you very much for your assistance.**

Please check ONE school setting below that best describes your **PRESENT** work setting:

| | |
|--|--|
| <input type="checkbox"/> Urban | <input type="checkbox"/> Rural |
| <input type="checkbox"/> Urban/First Nations | <input type="checkbox"/> Rural/First Nations |

Please complete ONE box below that best describes your **PRESENT** position:

| | |
|---|--|
| <input type="checkbox"/> Teacher of the gifted | <input type="checkbox"/> Regular classroom teacher |
| <input type="checkbox"/> Special Education professional | <input type="checkbox"/> Resource Room teacher |
| <input type="checkbox"/> Other (specify) _____ | |

Please indicate the grade level/s of your student/s:

| | | |
|---------------------------------------|----------------------------------|----------------------------------|
| <input type="checkbox"/> Kindergarten | <input type="checkbox"/> Grade 3 | <input type="checkbox"/> Grade 6 |
| <input type="checkbox"/> Grade 1 | <input type="checkbox"/> Grade 4 | <input type="checkbox"/> Grade 7 |
| <input type="checkbox"/> Grade 2 | <input type="checkbox"/> Grade 5 | <input type="checkbox"/> Grade 8 |

Please indicate the school sector of your current position:

| | |
|---|---|
| <input type="checkbox"/> Public School | <input type="checkbox"/> Reserve School |
| <input type="checkbox"/> Catholic School | <input type="checkbox"/> Private/Independent School |
| <input type="checkbox"/> Community School | <input type="checkbox"/> Other (specify) _____ |

APPENDIX C: BEHAVIOURAL RESEARCH ETHICS BOARD APPLICATION



Behavioural Research Ethics Board (Beh-REB)

Application for Approval

Information Required:

1. Name of researcher/s and/or supervisor/s and related department/s.

Thesis Advisor: Dr. Laureen J. McIntyre
Department of Educational Psychology & Special Education
College of Education
University of Saskatchewan

1a. Name of student/s, if a student study, and type of study (e.g., B.A., Hon., M.A., Ph.D.)

Student: Danielle Y. Gaudet
Graduate student in M.Ed.
Department of Educational Psychology & Special Education
College of Education
University of Saskatchewan

1b. Anticipated start date of the research study (phase) and the expected completion date of the study (phase).

Thesis Deadlines:

Starting date (dd/mm/yy): 01/02/06

Ending date (dd/mm/yy): 31/12/06

2. Title of Study

Thesis Title: Identification Process of Students who are gifted in Urban, Rural, and First Nations Schools

3. Abstract (100-250 words)

Provide a brief statement of the hypotheses (or a brief statement of the research questions) to be examined.

This research project will explore the underlying assumptions of Saskatchewan elementary teachers in the identification processes for students who are gifted and talented.
Teachers'

assumptions in the identification of students who are gifted and talented influence procedures involved in the identification process (Brown, Renzulli, Gubbins, Siegle, Zhang, & Chen, 2005). Theories, such as Terman's (1916) influential notions of intelligence as a measurable construct and Gardner's (1983, 1999, 2003), Sternberg's (1985) and Renzulli's (1998) various constructs of giftedness as fluid and existing along multiple dimensions, have influenced modern conceptions of giftedness. Although theories of intelligence have changed in the last century, current educational practices imply that concrete measures of ability and intelligence are the most objective and accurate assessment methods. Teachers' personal definitions of giftedness inform their day-to-day practices in identifying gifted and talented youth in their classrooms and, as such, it is important to understand what factors are deemed most relevant to this process. A web or paper version of the survey entitled "Assumptions Underlying the Identification of Gifted and Talented Students" (Renzulli, Brown & Gubbins, 2005) will administered to elementary teachers across the province of Saskatchewan, Canada. Results will be analyzed according to demographic information such as teachers' current grade assignment and location of school (rural, urban or reserve).

The research questions are as follows:

3. What are elementary Saskatchewan Educators' assumptions underlying the identification of students who are gifted and talented within their classrooms?
4. Are there differences in urban, rural or First Nations schools' educators' in terms of their assumptions in regards to the identification of students who are gifted and talented?

4. **Funding**

Indicate the source of funds supporting the research. If externally funded, state whether the grant or contract is in application or has been awarded.

Not applicable.

5. **Expertise**

Only in cases where the research involves special or vulnerable populations, distinct cultural groups, or in cases where the research is above minimal risk, the researcher should describe their experience or training in working with the population . If none of these criteria apply, this section may be omitted.

Although the research will be, in part, conducted in schools where vulnerable populations are being educated, the target respondents will be teachers and not the school population and, as such, this section is not applicable.

6. **Conflict of Interest**

If there is a potential for a conflict of interest, this should be disclosed to the committee. For example, if the researcher has had, currently has, or expects to have a relationship with the participants, such as teacher, health care provider, counsellor, family member, etc., this relationship should be revealed. The researcher should also disclose any financial benefits that accrue from the research, including, but not limited to monetary incentives for recruiting the participants or for conducting the research. Potential limits on the publication or distribution of the findings should be described.

Incentives to complete the web or paper survey will be presented to the participants. Upon completion of the survey, participants will be given the option to enter their name into a random drawing for one of three \$100 gift certificates to www.amazon.ca, to be distributed as one gift certificate per demographic (urban, rural, First Nations). The participants' survey responses will be linked to a randomly generated code and will not be associated with the monetary incentive in any form. There are not expected to be limitations on the publication or distribution of findings.

7. **Participants**

Describe the procedures for recruiting, selecting and assigning participants, that is, who will contact the participants, how will the researcher identify potential participants, what information will he/she have about the participants, and what criteria will be used to select participants for the study? In cases where a particular group is being selected (i.e., a specific gender or sex), provide justification as to why this distinction is necessary.

There are two main issues of concern to the committee:

- a) the potential for coercion that arises when the researcher is a perceived position of power relative to the participant. Please see section 8d for additional information that may be required.*
- b) a possible loss of privacy or anonymity that may occur when researchers are able to identify potential participants in advance of their consent to participate. This situation often arises when participants are identified through their affiliation with an agency or organization. Often it would be preferable for the agency to make the initial contact with participants, rather than releasing identifying information directly to the researcher.*

Three to four urban, rural, and First Nations school divisions will be approached to participate in this study. Once approval has been granted by the school division, school principals in those divisions will be contacted for individual school approval. The requested participant pool will be clearly defined as teachers who are currently employed half- or full-time as an elementary school teacher, which will be defined as Kindergarten through grade eight. Once approval has been granted by individual school principals, links to the web survey, for those teachers who have access to a computer, or paper surveys will be distributed through those principals to elementary-school teachers who have been identified as potential participants. The researcher does not expect to have any relationship with potential participants or be in a position in which potential participants will feel coerced to participate.

7a. *The committee will require a sample of all **recruitment material** used. Recruitment material, such as posters and advertisements, should provide all of the following information:*

- 1. Name and contact information of the researcher.*
- 2. Clear statement that the project is a research study.*
- 3. Brief description of the nature of the study, and the expected time commitment.*
- 4. The potential benefits of the study should not be exaggerated.*

5. *Selection criteria (where relevant).*

Letters of invitation should provide the following information:

1. *Clear statement that the project is a research study.*
2. *Name and contact information of the researcher.*
3. *Procedures of the study and what is expected of the participant.*
4. *Amount of time required to participate.*
5. *The following standard statement, “If you are interested in learning more about this study, please contact X and more details will be provided”.*
6. *REB approval and contact information statement.*

SEE APPENDIX A: Participant Information Letter—Web-based Survey

SEE APPENDIX B: Participant Information Letter—Paper Survey

8. **Consent**

Please refer to Consent Form Guidelines and Templates for consent format. Consent forms should follow this format.

In addition, the committee requests that researchers describe:

1. *The process by which participants consent to participate in the research project. To this end, the committee wants to know how participants will be informed of their rights as participants, and by what means will they signify their understanding of those rights and consent to participate. A copy of the consent form (or consent protocol, if verbal consent is sought), and assent protocol (if relevant) must be attached to the application.*
2. *The procedures that will be in place to ensure timely opportunities to give or withdraw consent. Because research participants should be provided with periodic and meaningful opportunities to withdraw their consent; researchers should describe the protocol by which participants are reminded of their right to withdraw and to signal their continued consent to participate. The longer the duration of the research, and the higher the degree of risk or discomfort, the more important this concern becomes, and the more elaborate the procedures that need to be in place.*

In addition, researchers should consider whether any of the following concerns apply, and address them accordingly:

a) *Alternative consent protocols*

Not applicable.

b) *Recruitment from organizations*

In cases where the researcher requires permission from another organization in order to proceed with the research (e.g., a school board, community organization, etc.), the committee also requires a copy of the correspondence that will be sent to that organization, in which permission is requested to conduct research in that setting.

SEE APPENDIX C: Letter of Information to School Divisions
SEE APPENDIX D: Letter of Information to School Principals

The researcher will present a written description of the study for potential participants to review. Contact information will be provided to the teachers, and those interested in participating will complete an online consent form (or a written consent form if filling out a paper survey), and complete the survey. The information letter describing the project, and the consent form itself, informs participants of their rights.

SEE APPENDIX E: Copy of Participant Consent Form

c) Children under 18 years of age

Not applicable.

d) Participants are in a dependent relationship to the researcher

Not applicable.

e) Participants are not able to give either consent or assent

Not applicable.

f) Participant-Observation research

Not applicable.

g) Research involving small groups

Not applicable.

9. Methods/Procedures

Describe the procedures to obtain research data and attach copies of measures, instruments, questionnaires or interview protocols to be used. Note that sensitive issues will require a higher level of detail and/or more justification will be required.

Participants will be asked to spend approximately 10 to 15 minutes completing an online or paper survey consisting of 20 scaled questions (Strongly Agree, Agree, Uncertain, Disagree, Strongly Disagree) and one open-ended question. As previously described, prior to participation, participants will have been presented with a written description of the study along with a consent form. Information outlining how participants can contact the researcher or the researcher's supervisor is provided in this written letter (i.e. email addresses and phone numbers). This ensures participants are able to contact the researcher at **any time** with questions, concerns, or to inform the researcher that they wish to withdraw consent to participate.

SEE APPENDIX F: Copy of the Survey
SEE APPENDIX G: Copy of Demographics Form

10. Storage of Data

Examples of research data include, but are not limited to: tapes and videos, transcripts, interview notes, original survey responses, and any supporting correspondence and documentation.

Indicate the procedures you plan to implement to safeguard and store the data. Identify the person who will be assuming responsibility for data storage (University regulations require the researcher or the supervisor, in the case of student research, to securely store the data at the University of Saskatchewan for a minimum of five years upon the completion of the study – approved by University Council, December 8, 1993; revised February 21, 1994.)

During the study, quantitative data resulting from both paper and web surveys will be stored in aggregate form at the researcher's home. The data from the open-ended questions will be transcribed into Word format and collated without reference to the originating school. Upon completion of this study, the original web (in disc format), and paper surveys will be securely stored in a locked cabinet in Dr. Laureen McIntyre's office at the University of Saskatchewan.

11. Dissemination of Results

Indicate how the data collected is intended to be used (thesis, journal articles, conference presentations, report to an agency, etc.).

The resulting data will be used primarily in the completion of a thesis for a Masters of Education degree. The information gathered from teachers who participate in the study will expand current understanding of gifted identification among educators within Saskatchewan. In addition, the information gathered will be presented at professional conferences, may be used in presentations to professionals, parents, and educators, and will be written up in article form and submitted for publication in scholarly journals.

12. Risk, Benefits, and Deception

a) *Are you planning to study a vulnerable population? This would include, for example, people who are in a state of emotional distress, who are physically ill, who have recently experienced a traumatic event, or who have been recruited into the study because they have previously experienced a severe emotional trauma, such as abuse.*

No

b) *Are you planning to study a captive or dependent population, such as children or prisoners?*

No

c) *Is there is a institutional/ power relationship between researcher and participant (e.g., employer/employee, teacher/student, counsellor/client)?*

No

d) *Will it be possible to associate specific information in your data file with specific participants?*

Confidentiality will be maintained, where the open-ended questions are concerned. All identifying information will be removed and replaced with a randomly-generated code number. The associated consent form will be removed from the data and will be stored separately from the survey results. Demographic information (such as urban, rural and First Nations designations) will be kept with the survey.

e) *Is there a possibility that third parties may be exposed to loss of confidentiality/ anonymity?*

No

f) *Are you using audio or videotaping?*

No

g) *Will participants be actively deceived or misled?*

No

h) *Are the research procedures likely to cause any degree of discomfort, fatigue, or stress?*

No

i) *Do you plan to ask participants questions that are personal or sensitive? Are there questions that might be upsetting to the respondent?*

No

j) *Are the procedures likely to induce embarrassment, humiliation, lowered self-esteem, guilt, conflict, anger, distress, or any other negative emotional state?*

No

k) *Is there any social risk (e.g., possible loss of status, privacy or reputation)?*

No

l) *Will the research infringe on the rights of participants by, for example, withholding beneficial treatment in control groups, restricting access to education or treatment?*

No

m) *Will participants receive compensation of any type? Is the degree of compensation sufficient to act as a coercion to participate?*

Participants will be given the opportunity to enter into a draw for one of three \$100 gift certificates, but the prize is not seen as sufficient enough to cause either participant to feel coerced to participate nor to cause administrative staff to pressure teachers to complete the survey.

n) *Can you think of any other possible harm that participants might experience as a result of participating in this study?*

Participants will not be exposed to harm, discomforts, or perceived harm.

13. Confidentiality

Describe what measures will be taken to protect participant and third party privacy (confidentiality and anonymity). In situations where it is necessary to link identifying information for a participant, please indicate that this data link will be destroyed upon completion of data collection. Also describe how the data are to be reported (i.e., only aggregate results reported, direct quotations will be used, etc.), and the means that will be taken to minimize the risks that participants may be identifiable to others from the final reporting of the data. This concern often arises when, for example, participants have been drawn from a small, closed group who are likely to be known to each other, and to those who may read the final report of the findings; in these instances, participants may be identifiable to others on the basis of what they have said.

The survey used in this study will be Saskatchewan-wide, which will gather enough of a participant pool that removal of identifying schools or personnel in the open-ended questions will be sufficient for confidentiality. It is anticipated that three to four school districts, representing urban, rural, and First Nations schools, will be part of the study. Names and schools/school districts associated with all data will be removed and replaced with randomly generated codes and the original name/survey associations will be severed. All quantitative data will be collected in aggregate form so as to maintain single-respondent confidentiality. The incentive to participate will not be associated with the survey, as the entries for the random draw and the survey answers will be kept separate from each other.

As previously mentioned, elementary teachers across Saskatchewan will be asked to complete the survey and all participants' names will be removed and replaced with a code number. Therefore, there is limited opportunity for loss of privacy or confidentiality even though the researcher will be able to identify potential participating schools and teachers in advance of their consent to participate. Upon completion of the survey, participants will be given the code

number that corresponds with the completed survey and this code number will be used in the event of participants' wish to withdraw consent to participate.

14. Data/Transcript Release

When the anonymity of participants is not compromised, this section does not apply. When the anonymity of participants is compromised (i.e., when they have provided direct words that would make them identifiable), participants should be given the opportunity to withdraw their responses after their interview and prior to the publication of the findings. There are a number of means to achieve this goal; the method that is chosen should be proportional to the risks entailed by a breach of anonymity and the sensitivity of the information provided. Researchers who chose options "c", "d" or "e" below should clarify why the chosen procedure is appropriate for their study:

- a) Participants review the final transcript and sign a transcript release form wherein they acknowledge by that the transcript accurately reflects what they said or intended to say.*
- b) Participants review the quotations that will appear in written or oral presentations of the material, and grant permission to the researcher to include those quotations.*
- c) Participants are given the option to review their transcripts or the quotations that will appear in the presentations of the material.*
- d) Participants are clearly told in the consent form that direct quotations from the interview will be reported, and that if, at some later point, they have any second thoughts about their responses, they should contact the researcher, who will remove them from the data base.*

The participant consent form (see Appendix C) will outline the procedures used for reporting of data. The consent form clearly outlines efforts to maintain confidentiality, as evidenced by use of codes and removal of potentially personally identifying information. Upon completion of the survey, participants will be informed of their rights to withdraw and have information they provided removed from the collected data without penalty. Any withdrawal of consent will be made through the coding system (see Appendix H). Also upon completion of the survey, participants will be given a randomly-generated code which will, from then on, be the only identifier for individual surveys. Participants will be asked to keep that code on file and, should they request to be withdrawn from the study, the survey that responds to their individual code will be removed from the collected data.

- e) Participants are not provided the opportunity to review transcripts*

15. Debriefing and feedback

Indicate how the participants will be debriefed following their participation, and describe how information on the results of the research will be made available to the participants once the study has ended. Researchers may debrief participants at the end of any type of research project, but the debriefing session is particularly important if deception has been used as a research method.

Individuals may access the study results through the researcher, Danielle Gaudet, or may look up the finished thesis at the University of Saskatchewan's College of Education library.

SEE APPENDIX H: Withdrawal Form

16. Required Signatures

Student applications must be signed by the student/s and the supervisor/s, and the Department Head or his/her designee.

SEE APPENDIX I: Signature Page

17. Contact Name and Information

Please include name, telephone, fax, email and mailing address.

Danielle Gaudet
214 Allegretto Way
Saskatoon, SK S7K 6V8
(306) 242-0108
dyg125@mail.usask.ca

APPENDIX D: LETTERS OF INTENT/CONSENT/INFORMATION/WITHDRAWAL

Letter of Information to School Divisions

Danielle Y. Gaudet
Department of Educational Psychology
and Special Education
College of Education
University of Saskatchewan
28 Campus Drive
Saskatoon, SK S7N 0X1

Contact Name
School Division Address

March 1, 2006

Dear *Contact Name*:

I am a graduate student in the Department of Educational Psychology and Special Education at the University of Saskatchewan supervised by Dr. Laureen McIntyre. As part of the requirements for the completion of my masters degree, I am conducting a research project to explore elementary teachers' assumptions in the identification of students who are gifted, specifically to examine potential similarities or differences of the assumptions in teachers who are employed in urban, rural and First Nations schools in Saskatchewan. This involves having participants complete a 10-minute survey.

I am approaching you, as the Director of the school division, to request permission to complete a study within your school division. If the study is approved, I am requesting permission to approach elementary school principals within your school division. I would further be asking the school principals to forward an email, which contains a web-linked survey, or to distribute a paper survey to the teachers within the school.

The information gathered from teachers who participate in this study will expand current understanding of gifted identification within Saskatchewan. Results from this project will be used for my thesis, scientific publications, and may be used in presentations to professionals, parents and educators. The confidentiality of all information gathered from participants will be ensured. Responses on any materials associated with the study will be identified by a randomly generated code number and not by name. In addition, potentially identifying information generated by the open-ended question will be removed. Data from this study will be kept securely in a locked cabinet in Dr. Laureen McIntyre's University of Saskatchewan office for at least five years. Participation is completely voluntary, and participants may withdraw from the study at any time by contacting Danielle Gaudet at (306) 242-0108 or via email (dyg125@mail.usask.ca).

This study has been approved on ethical grounds by the Behavioural Research Ethics Board on _____, 2006 at the University of Saskatchewan. Please let me know if you are able to grant my request. If you have any questions or concerns, I can be contacted by email at dyg125@mail.usask.ca or a message can be left at my home phone number (306-242-0108). Dr. Lauren McIntyre, my thesis supervisor, can be contacted at (306) 966-5266. Additionally, the Behavioural Research Ethics Board office may be contacted at (306) 966-2084. Your cooperation in completing this portion of my thesis would be greatly appreciated.

Sincerely,

Danielle Gaudet, B.A.
Graduate Student
Department of Educational Psychology
and Special Education
University of Saskatchewan

Letter of Information to School Principals

Danielle Y. Gaudet
Department of Educational Psychology
and Special Education
College of Education
University of Saskatchewan
28 Campus Drive
Saskatoon, SK S7N 0X1

Contact Name
School Address

March 1, 2006

Dear *Contact Name*:

I am a graduate student in the Department of Educational Psychology and Special Education at the University of Saskatchewan supervised by Dr. Laureen McIntyre. As part of the requirements for the completion of my masters degree, I am conducting a research project to explore elementary teachers' assumptions in the identification of students who are gifted, specifically to examine potential similarities or differences of the assumptions in teachers who are employed in urban, rural and First Nations schools in Saskatchewan. This involves using a survey to examine assumptions in the identification of students who are gifted. The survey will be administered to elementary school teachers in urban, rural and First Nations schools. I have already received permission from your school division to conduct this research study and I am now approaching you, as the principal, to request permission to complete a study within your school. If you approve this study within your school, you will be requested forward an email to all teachers (K-8) within your school. The email will contain a consent form, a web-linked survey, a chance to win a \$100 www.amazon.ca incentive for completion of the survey, and steps to take if the teachers wish to later withdraw from the study. Alternately, if teachers do not have access to email, a paper survey can be mailed to you. The paper survey will contain the same elements as the web-based survey, and both will be confidential in nature.

The information gathered from teachers who participate in this study will expand current understanding of gifted identification within Saskatchewan. Results from this project will be used for my thesis, scientific publications, and may be used in presentations to professionals, parents and educators. The confidentiality of all information gathered from participants will be ensured. All responses obtained from the participants will remain confidential. Responses on any materials associated with the study will be identified by a randomly generated code number and not by name. In addition, potentially identifying information generated by the open-ended question will be removed. Data from this study will be kept securely in a locked cabinet in Dr. Laureen McIntyre's University of Saskatchewan office for at least five years. Participation is completely voluntary, and participants may withdraw from the study at any time by contacting Danielle Gaudet at (306) 242-0108 or via email (dyg125@mail.usask.ca).

This study has been approved on ethical grounds by the Behavioural Research Ethics Board on _____, 2006 at the University of Saskatchewan. If you have any questions or concerns, I can be contacted by email at dyg125@mail.usask.ca or a message can be left at my home phone number (306-242-0108). Dr. Laureen McIntyre, my thesis supervisor, can be contacted at (306) 966-5266. Additionally, the Behavioural Research Ethics Board may be contacted at (306) 966-2084. Please let me know if you are able to grant my request. Your cooperation in helping me complete this portion of my thesis would be greatly appreciated.

Sincerely,

Danielle Gaudet, B.A.
Graduate Student
Department of Educational Psychology
and Special Education
University of Saskatchewan

Participant Information Letter—Web-based Survey

Danielle Y. Gaudet
Department of Educational Psychology
and Special Education
College of Education
University of Saskatchewan
28 Campus Drive
Saskatoon, SK S7N 0X1

March 1, 2006

Dear Participant:

I am a graduate student in the Department of Educational Psychology and Special Education at the University of Saskatchewan supervised by Dr. Laureen McIntyre. As part of the requirements for the completion of my masters degree, I am conducting a research project to explore elementary teachers' assumptions in the identification of students who are gifted . Specifically, I want to examine teachers' assumptions and potential similarities or differences in urban, rural and First Nations schools in Saskatchewan. Elementary school teachers from all three school demographics are being approached to participate in this project. Participants will be asked to complete a web-based survey that will investigate educators' assumptions in the identification of students who are gifted . This survey will take approximately **10 minutes** to complete. A paper survey will also be made available as an alternate option.

The information gathered from teachers who participate in this study will expand current understanding of gifted identification among educators within Saskatchewan. Results from this project will be used for my thesis, scientific publications, and may be used in presentations to professionals, parents and educators. The confidentiality of all information gathered from participants will be ensured. All responses obtained from you will remain confidential. Responses on any materials associated with the study will be identified by a randomly generated code number and not by name. In addition, potentially identifying information generated by the open-ended question will be removed. Data from this study will be kept securely in a locked cabinet in Dr. Laureen McIntyre's University of Saskatchewan office for at least five years. Participation is completely voluntary, and you may withdraw from the study at any time by contacting the researcher, Danielle Gaudet, at (306) 242-0108 or via email (dyg125@mail.usask.ca).

This study has been approved on ethical grounds on _____, 2006 by the Behavioural Research Ethics Board at the University of Saskatchewan. I have also spoken to and received permission to complete this study within your school from both your school division as well as your school principal. Your cooperation in completing this portion of my project would be greatly appreciated. I have asked your school principal to forward this email to all elementary teachers within the school, and if you would like to complete the web survey, please click on the link that is provided within this email and follow the stated directions. Please complete the

survey by June 15th, 2006. If completing a paper survey, please seal your completed survey in the provided prepaid self-addressed University of Saskatchewan envelope to ensure confidentiality and return it to me by June 15th, 2006.

In appreciation for your time and effort in completing the survey, you have the opportunity to win one of three \$100 www.Amazon.ca gift certificates. When you have completed the questionnaire, please fill in the draw slip on the last page of the survey. Draws will be made July 31, 2006. Winners will be contacted through their listed contact (email or phone), and prizes will be forwarded by mail.

If you have any questions or concerns about this study, I can be contacted by email at dyg125@mail.usask.ca or a message can be left at my home phone number (306-242-0108). If after participating in this study you are interested in the results, you can contact me at the above number or email address. Alternately, you may contact my supervisor, Dr. Laureen McIntyre (966-5266), or the Behavioural Research Ethics Board office (966-2084) and request a summary of the findings be sent to you upon completion of the study. Results will also be available at the University of Saskatchewan library.

Thank you for taking time to consider participating in this project.

Sincerely,

Danielle Y. Gaudet, B.A.
Graduate Student
Department of Educational Psychology
and Special Education
University of Saskatchewan

Participant Information Letter—Paper Survey

Danielle Y. Gaudet
Department of Educational Psychology
and Special Education
College of Education
University of Saskatchewan
28 Campus Drive
Saskatoon, SK S7N 0X1

March 1, 2006

Dear Participant:

I am a graduate student in the Department of Educational Psychology and Special Education at the University of Saskatchewan supervised by Dr. Laureen McIntyre. As part of the requirements for the completion of my masters degree, I am conducting a research project to explore elementary teachers' assumptions in the identification of students who are gifted . Specifically, I want to examine teachers' assumptions and potential similarities or differences in urban, rural and First Nations schools in Saskatchewan. Elementary school teachers from all three school demographics are being approached to participate in this project. Participants will be asked to complete a paper survey that will investigate educators' assumptions in the identification of students who are gifted . This survey will take approximately **10 minutes** to complete. The paper survey is an alternate option for the web-based survey.

The information gathered from teachers who participate in this study will expand current understanding of gifted identification among educators within Saskatchewan. Results from this project will be used for my thesis, scientific publications, and may be used in presentations to professionals, parents and educators. The confidentiality of all information gathered from participants will be ensured. All responses obtained from you will remain confidential. Responses on any materials associated with the study will be identified by a randomly generated code number and not by name. In addition, potentially identifying information generated by the open-ended question will be removed. Data from this study will be kept securely in a locked cabinet in Dr. Laureen McIntyre's University of Saskatchewan office for at least five years. Participation is completely voluntary, and you may withdraw from the study at any time by contacting the researcher, Danielle Gaudet, at (306) 242-0108 or via email (dyg125@mail.usask.ca).

This study has been approved on ethical grounds on _____, 2006 by the Behavioural Research Ethics Board at the University of Saskatchewan. I have also spoken to and received permission to complete this study within your school from both your school division as well as your school principal. Your cooperation in completing this portion of my project would be greatly appreciated. I have asked your school principal to distribute a paper survey to all elementary school teachers (K-8) within your school. If you wish to participate, please seal your

completed survey in the provided prepaid self-addressed University of Saskatchewan envelope to ensure confidentiality and return it to me by June 15th, 2006.

In appreciation for your time and effort in completing the survey, you have the opportunity to win one of three \$100 www.Amazon.ca gift certificates. When you have completed the questionnaire, please fill in the draw slip on the last page of the survey. Draws will be made July 31, 2006. Winners will be contacted through their listed contact (email or phone), and prizes will be forwarded by mail.

If you have any questions or concerns about this study, I can be contacted by email at dyg125@mail.usask.ca or a message can be left at my home phone number (306-242-0108). If after participating in this study you are interested in the results, you can contact me at the above number or email address. Alternately, you may contact my supervisor, Dr. Laureen McIntyre (966-5266), or the Behavioural Research Ethics Board office (966-2084), and request a summary of the findings be sent to you upon completion of the study. Results will also be available at the University of Saskatchewan library.

Thank you for taking time to consider participating in this project.

Sincerely,

Danielle Y. Gaudet, B.A.
Graduate Student
Department of Educational Psychology
and Special Education
University of Saskatchewan

Participant Consent Form

You are invited to participate in a study entitled *Identification of Students who are gifted in Urban, Rural and First Nations Schools*. This study is being conducted by Danielle Y. Gaudet, a graduate student in the Department of Educational Psychology and Special Education at the University of Saskatchewan. Any questions, concerns, or complaints participants may have can be directed to Danielle Gaudet at dyg125@mail.usask.ca, or at (306) 242-0108, or her supervisor Dr. Laureen McIntyre at (306) 966-5266. If you have any questions concerning the study, please feel free to ask at any point; you are also free to contact the researcher or her supervisor at the phone numbers or email address provided above if you have questions at a later time.

The purpose of this thesis is to explore current understanding of gifted education among educators within Saskatchewan. It will take approximately 10 minutes to complete this survey, and participants have the right to refuse to answer individual questions or to withdraw their responses after submitting them to the researcher. Withdrawal can be completed by contacting the researcher, Danielle Gaudet, or her supervisor, Dr. Laureen McIntyre. Results from this project will be used for my thesis, scientific publications, and may be used in presentations to professionals, parents and educators. All potentially identifying information will be removed in any presentation or publication. Therefore, it will not be possible to identify any individual participants in any document resulting from this research.

All data will be kept confidential, and participants can withdraw from the study at any time, without penalty of any sort. For participants who have completed the survey, they will have the option of entering and keeping their name in a prize draw, regardless of whether they later withdraw their responses. There are no known risks, discomforts or inconveniences involved in the study. The researcher will be responsible for the safeguard and storage of data for at least five years, and that the data will be placed in a locked cabinet in Dr. Laureen McIntyre's office at the University of Saskatchewan. The information gathered will only be accessible to the researcher and her supervisor. Consent forms (from paper surveys) will be stored separately from the completed surveys. Identifying information will be removed and replaced with randomly generated code numbers, both on paper surveys and with web-based surveys, so it will not be possible to associate a name with any given set of responses. Following the completion of the study, any information identifying participants will be destroyed. If a participant decided to withdraw from this study any information identifying that individual and any data that he/she has contributed will be destroyed.

This study has been approved on ethical grounds by the University of Saskatchewan Behaviour Research Ethics Board on _____, 2006. Any questions regarding your rights as a participant may be addressed to that committee through the Office of Research Services (306-966-2084). Participants interested in finding out about the results of the study can contact the researcher by phone or email to receive a written summary.

I have read and understood the description provided above. I have been provided with an opportunity to ask questions and my questions have been answered satisfactorily. I consent to participate in the study described above, understanding that I may withdraw this consent at any time. A copy of this consent form has been given to me for my records; if completing a web-based survey, I have printed out a copy of this consent form for my records.

Name of participant (please print or type): _____

Signature (not applicable in web survey): _____

Date: _____

Signature of Researcher: _____

Danielle Y. Gaudet
Graduate Student, University of Saskatchewan

Participant Withdrawal Form

I would like to thank you for your participation in the study. To maintain confidentiality in the study, your survey answers will be identified with a randomly generated code, rather than be identified with personally identifying information (your name and school). Your randomly generated code number is:

(NUMBER)

Please keep this number on file, as it is necessary for withdrawal from the study.

You may choose to withdraw from the study at any time, and if you do so, all information you have given us will be destroyed and will not be included in the study. You are under no obligation to stay in the study and will not be penalized for withdrawing. Withdrawal from the study will not affect the \$100 www.Amazon.ca draw, and your name will still be kept in the draw. If you wish to withdraw from the study, please contact the researcher, Danielle Gaudet, by telephone at (306) 242-0108, or via email (dyg125@mail.usask.ca).

Following the completion of this study, results will be available in the University of Saskatchewan library. Alternately, I can be contacted at the above phone number and email address, or you may contact my supervisor, Dr. Laureen McIntyre, at (306) 966-5266.

Thank you again for your participation,

Danielle Gaudet, B.A.
Graduate Student
Department of Educational Psychology
and Special Education
University of Saskatchewan

APPENDIX E: FACTOR/ITEM MEANS FOR 20-ITEM SURVEY

Item/Factor Means and Standard Deviations for 20-Item Survey

| Item | M | SD |
|--|------|------|
| <i>Factor I: Restricted Assessment, M = 2.33, SD = .53</i> | | |
| 4. Achievement/IQ | 2.20 | .90 |
| 8. Precise cutoff score | 2.66 | 1.09 |
| 11. No teacher judgment/subjective criteria | 2.51 | 1.07 |
| 14. Restricted percentage | 2.01 | .80 |
| 15. Services for identified students only | 2.25 | .95 |
| <i>Factor II: Individual Expression, M = 1.78, SD = .54</i> | | |
| 6. Case study data | 1.74 | .68 |
| 7. Assess student-selected tasks | 2.17 | .84 |
| 10. Multiple formats for expressing talent | 1.39 | .61 |
| 19. Non-intellectual factors | 1.83 | .84 |
| <i>Factor III: Ongoing Assessment, M = 1.92, SD = .49</i> | | |
| 9. Identification information lead to programming | 1.78 | .65 |
| 13. Judgment by best qualified person | 1.96 | .65 |
| 17. Alternative identification criteria | 1.97 | .89 |
| 18. Regular periodic reviews | 1.98 | .70 |
| <i>Factor IV: Multiple Criteria, M = 1.52, SD = .47</i> | | |
| 1. Multiple expression of abilities | 1.32 | .67 |
| 2. Developmental perspective and interest | 1.80 | .75 |
| 3. Multiple types of information | 1.43 | .58 |
| <i>Factor V: Context-Bound, M = 2.30, SD = .68</i> | | |
| 5. Cultural/experiential background | 2.02 | .95 |
| 16. Knowledge of student's cultural/environmental background | 2.14 | .94 |
| 12. Locally developed methods and criteria | 2.53 | .90 |
| 20. Reflect services and activities provided | 2.49 | .99 |

Note. M = Mean; SD = Standard Deviation