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LEARNING COMMUNITIES, ACHIEVEMENT AND COMPLETION:
EXPLORING RELATIONSHIPS IN SOUTHERN ALBERTA
SECONDARY SCHOOLS

By

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Dissertation
presented in partial fulfillment of the requirements
for the degree of

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Major: Educational Leadership

Learning Communities, Achievement And Completion:

Exploring Relationships In Southern Alberta Secondary Schools

Chairman: Dr. John C. Lundt

Longitudinal studies carried out by Statistics Canada and Human Resources Development Canada (Bowlby & McMullen, 2002) identified that dropout rates are high in Canada in relation to other developed nations. In 2003, Alberta's Commission on Learning found that one quarter of Alberta's high school enrollees were not completing high school. The Commission proposed the formation of learning communities as one way to increase the achievement of students in Alberta, with the intention that this would then increase the number of students completing high school. This research was undertaken to ascertain how mature the learning communities were in the high schools in Zone 6 of Southern Alberta, and whether there was a relationship between the maturity of a school's learning community and the school's achievement and high school completion rates.

As the findings demonstrate, some relationships may have existed between the maturity of the schools' learning community and the diploma examination results, especially in Social Studies. Correlations were not found between the maturity of a school's learning community and eligibility for Rutherford Scholarships, the percentage of students taking four or more diploma examinations, and high school completion rates. The research did show, however, the levels of maturity in each of the learning communities at the time of this study, and the areas requiring further attention. The dimension of the learning communities requiring the most attention was found to be in the area of peer observation and feedback.

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CHAPTER ONE

INTRODUCTION

In 2003, the Government of Alberta implemented several recommendations from the Alberta Commission on Learning's report entitled *Every Child Learns, Every Child Succeeds* (2003). One of the recommendations stated that every school would be required to operate as a professional learning community (PLC) dedicated to continuous improvement in students' achievement. This intent, that every child would learn and every child would succeed, further supported the provincial mandate of 1993 entitled *Educational Placement of Students with Special Needs* (Barrington, 1995). The mandate states that every child has the right to learn and receive a quality education within his or her local community school. From this mandate began the full inclusion of all students in the regular classrooms of their neighborhood schools. These mandates would closely parallel the *No Child Left Behind* legislation in the United States.

In the early 1900s, John Dewey argued the importance of students learning by working together in groups to solve problems. Applying Dewey's theory of community to schools, Gutek (1997) explains: "The group should be envisioned as possessing immense educational potentialities. Collaborative group problem solving, planning, and implementation reduces the isolation of the individual from others and through mutual activities produces an enriched social intelligence" (p. 325). Senge (1990) expands this belief in the strength of a group to the entire school, students and staff; he describes this learning community as a place "where people continually expand their capacity to create the results they truly desire, where new and expansive patterns of thinking are nurtured, where collective aspiration is set free, and where people are continually learning how to

learn together” (p. 3). Other authors have reinforced these ideas by stressing that, to improve learning by the students in a professional learning community, educators and educational leaders must be prepared to make significant cultural changes in their school communities and engage in ongoing learning about their instructional practice (Barth, 1990; DuFour, DuFour, & Eaker, 2002; Hord, 1997a).

Recommendation #11 of the Alberta Commission on Learning’s (ACOL) report challenged Alberta Education to “Prepare the next generation by developing and implementing a comprehensive, province-wide strategy with the goal of ensuring that 90% of students complete Grade 12 within four years of starting high school” (ACOL, 2003, p. 7). The Commission further challenged the Provincial Education Department to meet this need with Recommendation #13, which states that “the province should develop professional learning communities by requiring every school to operate as a professional learning community dedicated to continuous improvement in students’ achievements.” Recommendation #53 further stresses this idea by stating that “Alberta’s Department of Education should encourage school improvement, research and innovation by insuring that the primary focus of school and school jurisdiction education plans continues to be on improving students’ achievements” (pp. 8-12). All schools within the Province of Alberta are expected to comply with these recommendations with the expectation that they will improve the academic success of the students in Alberta’s schools, resulting in greater numbers of students completing high school in this province.

Since the government accepted the Commission on Learning’s (2003) recommendations, the staff members in school divisions throughout Alberta have attended workshops and conferences where the DuFours and Eaker have been keynote

speakers describing how their professional learning communities have positively affected the learning levels of all of their students. The model that they present is more prescriptive than Senge's (1990); it involves an important cultural shift from "a primary focus in the schools on teaching, to placing the primary focus on learning" (DuFour et al., 2002, p. 18). Through collaborative inquiry, which Dewey stressed a century ago, the teachers determine exactly what they expect the students to learn, as well as how to assess regularly to see if the students have learned the concepts. If all students are not being successful, the collaborative team of teachers and educational assistants are to seek out best practices using the process of collective inquiry (DuFour et al., 2002). Sergiovanni (1994) explains that inquiry helps to bond principals and teachers together as a special group; the inquiry connects them to a shared set of ideas, which in turn enables them to become a community of learners. The inquiry enables the entire staff to gather new ideas and information so they can collectively solve problems and create new conditions for the students. The emphasis is on finding practices that positively affect learning rather than finding approaches that the teachers like (Bateman & Karr-Kidwell, 1995).

The group inquiry method in a learning community ensures that the teacher is not working in isolation. The individual teachers are able to expand their repertoire of instructional strategies with the help of their colleagues through the collective inquiry, which involves techniques such as peer observations, mentoring, and team teaching, as well as formal and informal discussions of students and specific learning situations. These strategies further help them to focus on the success of each individual in their care.

Members of the Commission believed that these learning communities would increase student achievement as well as decrease Alberta's dropout rates.

The Problem

High School Completion

Dropout rates in Canada are high in relation to those in other developed countries (Alberta Learning, 2001b). The Government of Canada commissioned the *Statistics Canada School Leavers Survey* (SLS) in 1991 and the *School Leavers Follow-up Survey* (SLF) in 1995, to measure the extent of the dropout problem across Canada and to report on factors associated with early school leaving. The findings of these reports estimated that 15 to 18%, almost one-fifth of young Canadians, were dropping out of school annually (Alberta Learning, 2001b). The results are stated as an estimate because schools differ in their definition of a dropout and the methods they use for counting dropouts, and because some students return to school at a later date to finish their education (Hale, 1998; Schwartz, 1995). Earlier studies by Employment and Immigration and Statistics Canada suggest that much higher dropout rates actually exist (Alberta Learning, 2001a). In comparison, the National Center for Education Statistics in the United States reported that in 1992 approximately 4.5% of their high school students dropped out (Cantelon & LeBoeuf, 1997). The *School Leavers Follow-up Survey* data showed that, in 1995, roughly 160,000 Canadians aged 22 to 24 had left high school without a Grade 12 diploma. In *A Qualitative Analysis of the Alberta Learning Removing Barriers to High School Completion*, Alberta Learning (2001b) expressed its belief that this statistic highlights the severity of the problem and that dropping out results in a "squandering of

human talent and potential in Canada” (p. 7). Such figures and comments have attracted a great deal of media attention and public discourse in Alberta and across Canada.

The report by Alberta’s Commission on Learning’s (ACOL, 2003) *Every Child Learns, Every Child Succeeds* highlighted the fact that Alberta’s high school completion rate was below the national average in the early 1990s. The Commission found that one quarter of Alberta’s high school enrollees were not completing high school within four years of entering Grade Ten (p. 62). They believed that this situation could have serious repercussions.

Bowlby and McMullen (2002) examined youth in transition as part of a longitudinal study conducted for Statistics Canada and Human Resources Development Canada. This study surveyed 23, 592 youth across Canada, ranging in age from 18 to 20, in 2000 about their experiences in 1999. Bowlby and McMullen defined the high school dropout rate as the percentage of the population who had not completed high school and were not working towards its completion. They found that, at the end of 1999, although about 38% of these youth had not graduated high school at the age of 18, by the age of 20 this rate was reduced to about 16%. Some of the 18 year olds were continuing their studies, so only 10% were recorded as actually dropping out. By age 20, however, the percentage of dropouts was about 12%. This was a reduction in the dropout rate from 18% in 1991. Alberta’s dropout rate in 1999 was still above the national average at 12.5%, with 13.8% for men and 11.1% for women (p. 22-25). The third cycle of the youth in transition studies found that in 2003 the national percentage of dropouts had been further reduced to 10%. Once again Alberta came out as the province with the highest dropout rates for both males and females. In December 2003, more than one male

in six (15%) was a high school dropout, while slightly more than one female in ten (11%) were dropping out (Shaienks, Eisl-Culkin, & Bussiere, 2006). It is believed that the “highly active labour market in that province may be a factor in explaining this high dropout rate” (p. 9).

Alberta Education (2006c) shows different percentages for the province’s dropout rates than Statistics Canada and Human Resources Development Canada found in their youth in transition studies. This difference can be attributed to the fact that the national studies also include in their dropout calculations the 19 and 20 year olds who never completed high school. This inclusion serves to raise the percentage of students dropping out nationally and within each province. Alberta Education (2006c) reported that the dropout rate calculated by their department had decreased from an average of 6.4% in 1998 to an average of 5.3% in 2003. This lower percentage is explained by the fact that Alberta Education is calculating the rate using only the 14 to 18 year olds who did not return to school in subsequent years after first enrolling in high school (Alberta Learning, 2005). Alberta Education does not include those students who do not complete their high school education beyond the age of 18.

In *Dropout Rates in the United States: 2002 and 2003*, the National Center for Education Statistics in the United States took a similar approach to calculating the dropout rates. The researchers applied an event dropout rate that estimates the percentage of both private and public high school students who left high school from one school year to the next without earning a high school diploma or its equivalent (Laird, Lew, DeBell & Chapman, 2006). The event dropout rate of youth from 15 to 24 years who dropped out of grades 10 to 12 from one academic school year to the next had decreased from 6.1% in

1972 to 4.0% in 2003. The dropout rates by state were provided for 2001; they ranged from 1.9% in Wisconsin to 10.5% in Arizona. A difference similar to Canada's national and provincial rates is demonstrated between the dropout rates nationally and the rates within the individual states. This report also demonstrated that a higher dropout rate of 9.9% was seen when the rate measured the percentage of individuals who had not enrolled in high school and who did not have a high school credential by the age of 24. Again this is similar to the situations reported by Statistics Canada.

In the North American culture, successful completion of high school and attainment of a high school diploma are seen as the minimal educational requirement to open the door to higher learning or the labour market (Shaienks, Eisl-Culkin & Bussiere, 2006). Dropping out of high school, on the other hand, is seen as a developmental transition that has often been associated with a more problematic life course (Liem, Dillon & Gore, 2001). Researchers focus on the economic and employment effects as well as the psychological effects of this life course.

Economic and Employment Effects

Researchers have discovered that one result of students' leaving high school early can be several years of working in minimum wage and part-time jobs. The gap between the lifetime wages of dropouts and more educated adults is widening steadily, as demonstrated by estimates in 1993 that the dropout pool will earn \$212,000 less than high school graduates and \$812,000 less than college graduates (Hale & Canter, 1998; Schwartz, 1995). Some dropouts do eventually return to post-secondary institutions to attain the equivalent of a high school education. When this occurs in Alberta, taxpayers pay twice for the education of this group of people -- once when they are in high school

and again when they are upgrading at post-secondary institutions (ACOL, 2003; Alberta Learning, 2001a; Frank, 1996; Gilbert, 1994).

Students who leave school early create other social and economic costs for society (Educational Testing Service, 1995; Kammoun, 1991). As Quinn (1991) stated, research has shown that the estimated cost of students dropping out in the United States is roughly \$50 billion in lost wages. Furthermore, these teens are among millions of young people who engage in high-risk behaviours such as drug abuse, delinquency, criminal activity, and eventually incarceration (Bateman & Karr-Kidwell, 1995; Quinn, 1991; Sum & Harrington, 2003). In Canada, Judge Zuker emphasized in Alberta Learning's (2001b) *Removing Barriers* report the importance of deviance in the dropout equation: "Failure at school and truancy are early and clear indicators of young persons who are at very high risk of committing offences in our communities" (p. 47). Researchers agree that among high-risk groups, especially young males, dropping out of school is associated with delinquent activity (Alberta Learning, 2001b). The Dropout Prevention Organization (2005) of the United States explained that dropouts comprise a disproportionate percentage of the prison and death row inmates, of whom more than 80% are high school dropouts. According to the National Association of School Psychologists (NASP), the annual cost of maintaining a prisoner is at least three times higher than the annual cost of educating a school-aged child (Hale & Canter, 1998).

Economic costs may also include reliance on social programs such as employment insurance, welfare, and increased costs for health care. In a report for the Educational Testing Service, Coley (1995) combined data on dropout trends over time with data from the National Education Longitudinal Study to provide a picture of the

dropout situation at that time in the United States. Coley reported that early school leavers headed approximately 50% of welfare families in the U.S. Other researchers have found that youth who drop out of school are more likely to live in poverty (Cantelon & LeBoeuf, 1997; Dallas Commission on Children & Youth, 2000). Relying on a Statistics Canada survey, Ross, Scott, and Kelly (1996) reported that twice as many poor teenagers living in poverty dropped out compared to non-poor teenagers.

There are other costs to the individual of leaving school early. Young women who drop out are more likely to become pregnant at younger ages and more likely to be single mothers, with all of the challenges implicit in single parenting (McMillen, Kaufman, Hausken & Bradby, 1992; Snyder & Sickmund, 1995). Without the training and skills that schooling provides, those who do not complete their schooling face a lifetime of limited opportunities. Not only do they earn less throughout their lifetimes, but they also experience more unemployment during their working years (Cantelon & LeBoeuf, 1997). It is this perceived loss that drives many of them to a life of drugs, delinquency and crime (Cantelon & LeBoeuf; Kaplan, Damphousse & Kaplan, 1994).

Psychological Effects

Research has shown that dropouts experience more incidents of depression, anxiety, and self-derogation years after leaving school (Cantelon & LeBoeuf, 1997; McCaul, Donaldson, Coladarci, & David, 1992). Montigny and Jones (1990) claim that many unemployed and illiterate young people experience marginalization and will be unable ever to participate fully in society. By dropping out, these young people are sentencing themselves to a life of lower earnings and long-term unemployment that eventually leads to increased stress, anxiety and a lowering of their self-esteem. These, in

turn, result in higher rates of welfare, drug abuse, suicide, other psychological problems, and possibly even criminal activities. All of these situations may require professional interventions (Liem, Dillon & Gore, 2001; Neufeld & Stevens, 1992).

If drug abuse is involved, other consequences may occur that further impact the quality of life for high school dropouts. Garnier, Stein, and Jacobs (1997) explain that the results of drug abuse can include decreased cognitive functioning, lower academic achievement, and a lack of motivation. Abusers may demonstrate an increased occurrence of mood disorders and an even higher risk of early death from suicide (Greenwald, Reznikoff & Plutchik, 1994). Those involved with alcohol and drugs are also more likely to be homeless and involved with the justice system (Windle & Blane, 1989).

Leaving school early does not simply impact the individual; its consequences impact the entire citizenry of a province and a nation. The Province of Alberta recognizes the importance of educating responsible citizens who can actively participate in our communities. The Department of Education stresses this as one of the major objectives in the social studies programs being taught throughout the province. As Chow, Aronson, Linqanti, and Berliner (1996) note, “Dropping out is a process, not a single event” (p. 4). Dropping out occurs over time, and often it is the culminating point of a long downward spiral that may have occurred over months or years. By applying the Alberta Commission on Learning’s recommendations, the Department of Education in Alberta hopes to slow, or possibly eliminate, this downward spiral by improving students’ achievement. The following sections of this chapter will examine not only the research question, but also the purpose and importance of carrying out the research at this time. A

definition of key terms is included so that their meanings will be clear when the terms are utilized in the next chapter.

Research Question

Has the introduction of professional learning communities in secondary schools been associated with any changes in student achievement and the rate of high school completion in secondary schools in the South Zone of Alberta?

Purpose of the Study

The purpose of this study is to discover if the introduction of professional learning communities in the secondary schools can be associated with changes in student achievement and the rate of high school completion in the secondary schools in the South Zone of Alberta. By the completion of the 2006 - 2007 school year, the Department of Education's mandated move to professional learning communities in the Province of Alberta will be in its fourth year of implementation. The Alberta Commission on Learning recommended the professional learning community as a way of improving the rates of achievement and increasing the number of students completing high school within four years of entering Grade 10. In Alberta, this movement is quite early in its development; however, this research will allow educators within the South Zone to examine the maturity of their professional learning communities, and to discover if the implementation of these learning communities can be associated with positive growth in student achievement as well as an increase in the number of students who are staying on to complete their high school education.

Importance of the Study

Following the Alberta Commission on Learning's report in 2003, the Provincial Department of Education in Alberta directed that all schools in the province would fulfill the terms of many of the recommendations, including Recommendations #11, 13 and 53 which deal with the formation of professional learning communities, ongoing school improvement, research and innovation to insure improved students' achievements, and attainment of 90% of students completing Grade 12 in four years. At this time, it is important to survey Alberta's secondary schools to assess their development into professional learning communities and the impact, if any, on the levels of high school achievement and completion.

Although each school in the province will undertake its own action research to improve its practice, this study can provide a broader independent picture of the changes taking place throughout the southern portion of the province in the areas of creation of professional learning communities, improvements in student achievement, and high school completion. The importance of this research lies in its potential to provide data that jurisdictions may be able to use to improve achievement and high school completion. Improving achievement and completion rates in public education is important for the individual and common good, for a variety of reasons. A well-educated citizenry will reduce the burden on our social welfare system, as well as the health care and justice systems. If the development of learning communities impacts the achievement levels of our students, there is a greater chance that society will gain responsible citizens who can actively participate in our communities.

Definitions of Terms

Professional Learning Community

Definitions of a professional learning community (PLC) tend to centre on the attributes that transform a group of professionals into a learning community. Hord defined these as communities in which “the professional staff learns together to direct their efforts toward improved student learning” (quoted in Hipp & Huffman, 2003, p. 5). For the purposes of this study, the score attained on the *School Professional Staff as Learning Community Questionnaire* (Hord, 1996) will define the maturity of a professional learning community. This score measures the degree to which schools have developed as professional learning communities on a five-point scale for each of the five descriptors of a professional learning community. The descriptors are stated on the *School Professional Staff as Learning Community Questionnaire* as follows:

1. School administrators who participate democratically with teachers sharing power, authority and decision-making;
2. A staff who shares visions for school improvement that have an undeviating focus on student learning, and these visions are consistently referenced in the staff's work;
3. The staff's collective learning and the application of the learning create high intellectual learning tasks and solutions to address student needs;
4. Peers review and give feedback based on observing each other's classroom behaviors in order to increase individual and organizational capacity; and
5. School conditions and capacities support the staff's arrangement as a professional learning organization. (SEDL, 1996, pp. 1-5)

Student Achievement

Alberta Education outlines how student achievement and success will be measured within Accountability Pillars that it established in 2004. The Accountability Pillar was created to provide school boards with a consistent way to measure their success and assess progress using a broad spectrum of measures. Seven categories are used to track a jurisdiction's progress. This study will examine two categories. The first is the three-pronged measure of student learning achievement: (a) the percentage of students achieving the Acceptable Standard and the Standard of Excellence on the Diploma Examinations written in each core subject area, (b) the overall rate of eligibility for the Alexander Rutherford scholarship, and (c) the diploma exam participation numbers (Alberta Education, 2006a). The second category is student learning opportunities, measured with annual dropout rates and high school completion rates.

Alexander Rutherford Scholarship

The Alexander Rutherford Scholarship recognizes and rewards exceptional academic achievement at the senior high school level and encourages students to pursue post-secondary studies. In addition to other eligibility criteria, applicants must have attained a minimum combined average of 80% in five designated subjects in Grade 10, Grade 11, and/or Grade 12 as calculated from marks on a valid Alberta Education transcript. A student need not have met this average in all three school years or in all courses to qualify for a portion of the scholarship. Each applicant must, however, be enrolled full time in a post-secondary program at least one semester in length, or be an apprenticeship student. Increases in the rate of eligibility are believed to demonstrate high

levels of achievement as well as increases in the number of students enrolled in post-secondary programs.

High School Completion

Alberta high school completion rates are calculated by tracking Grade 10 students for three, four, and five years and determining the percentages that have completed high school in each timeframe. Students are considered high school completers if they receive a high school diploma or equivalent, or have enrolled in an Alberta post-secondary institution or apprenticeship program within the tracking period. An attrition adjustment is applied. This adjustment is an estimate of the number of students who leave the province or die in the year subsequent to the establishment of the Grade 10 cohort. The three-year rate is the Accountability Pillar measure and will be used in this study.

Dropout Rate

Each year Alberta Education establishes an Age Specific Cohort that consists of students aged 14 to 18 who can reasonably be expected to have the capacity to move through the provincial educational system and complete their schooling, and whom the government of Alberta is responsible to educate. This Cohort is comprised of all students from 14 to 18 years who are registered in public, separate, Francophone, charter, or private school authorities on September 30th of the given school year. It does not include students registered in post-secondary institutions, First Nations Band Schools that are under federal authorities, students with severe cognitive disabilities or severe multiple disabilities, students attending Hutterite Colony schools, and exchange or visiting students (Alberta Education, 2005).

Once this Cohort is established for a given year, it is used in calculations of the Dropout Rate. The annual Dropout Rate is calculated by determining the number of students from the Cohort who are found not to be in the learning system in the subsequent school year. This Dropout Rate is calculated by dividing the number of students who have dropped out of high school by the number of 14 to 18 year old students who were registered in the Age Specific Cohort established in the previous school year, minus an attrition estimate. The attrition estimates are derived from information obtained from Statistics Canada data at the census division level (Alberta Learning, 2005).

Summary

This chapter provides background information regarding the problem of low high school completion rates in the province of Alberta. Alberta Education sees this as a serious educational and societal problem and made the decision to accept recommendations by the Alberta Commission on Learning that included the formation of professional learning communities within all schools in the province. As the end of the fourth year of implementation approaches, it is time to measure the growth of these learning communities in our secondary schools, and to discover if their growth can yet be associated with changes in high school achievement and completion rates in the province since 2003.

Chapter Two consists of a literature review related to the variables of this research project. The chapter will examine the purpose for the Alberta Commission on Learning, as well as the recommendations that pertain to this study. Professional learning communities will be defined from the point of view of several authors; the five dimensions of learning communities identified by Hord (2004) will be discussed; and the

emergence of learning communities in schools will be explored. The factors that longitudinal studies have identified as being related to students dropping out will be presented, as well as factors that contribute to better achievement by students. The final section of the literature review will explain how student achievement and high school completion are measured within Alberta Education's Accountability Pillar.

CHAPTER TWO

REVIEW OF LITERATURE

Introduction

The report by Alberta's Commission on Learning (ACOL) in 2003 to Alberta Learning made it apparent that Alberta's high school completion rate was below the national average, with a national survey showing that one quarter of Alberta's high school enrollees were not completing high school within four years of entering Grade 10 in the early 1990s (ACOL, 2003). The provincial government, along with several researchers, believes that this situation can have serious repercussions for early school leavers: working for lower wages, experiencing more unemployment, living on welfare, experiencing health problems and possibly getting involved in illegal activities (Alberta Learning, 2001a; Cantelon & LeBoeuf, 1997; Dallas Commission on Children & Youth, 2000; Montigny & Jones, 1990). A more recent study done by Bowlby and McMullen (2002) for Statistics Canada and Human Resources Development Canada involved the responses of over 23,000 youth across Canada; almost 42% of these youth cited school-related reasons for leaving school early (p. 41). To combat the dropout problem and increase timely high school completion rates, the Alberta government stated that all schools would fulfill the terms of all but eight of the 95 recommendations put forth by the Commission on Learning. Those accepted included the formation of professional learning communities, ongoing school improvement, and ongoing research and innovation.

The purpose of this research project is to discover if professional learning communities are developing in secondary schools, and if this development can be

associated with any changes in student achievement and the rate of high school completion in secondary schools in the South Zone of Alberta.

Alberta's Commission on Learning

Purpose

Alberta's Commission on Learning was mandated in 2001 to "provide recommendations and advice to the Minister of Learning on ensuring a sustainable basic learning (K to Grade 12) system that supports the lifelong learning needs of students and the societal and economic well-being of the province" (ACOL, 2003, p. 20). The Education Settlement Act introduced in 2002 included a commitment by the provincial government to launch an in-depth examination of Alberta's education system that began in June of that year. Although the provincial government believed that Alberta already had a strong public education system that was open to all students, they wanted to follow the suggestions made by Collins (2001) in *Good to Great*, that is, "to provide an even better, more effective, success oriented system" (ACOL, 2003, p. 34). Collins argued that, in order to go from good to great, organizations must create a culture made up of people whose moral codes require building excellence for its own sake and who are self disciplined and creative; furthermore, these people must be placed within a culture that provides tremendous opportunities to be heard and to deal collaboratively with the facets of their lived situations. The Learning Commission adopted the vision that the "first and only criterion for judging the success of schools and the education system should be how well every child learns" (p. 4). The Commission believed that the entire focus of the education system should be on students and on ensuring the best possible education for every child.

Recommendations of Alberta's Commission on Learning

After months of meeting with Albertans, Alberta's Commission on Learning (2003) formed a vision for the future of education in Alberta that can be expressed succinctly as "every child learns, every child succeeds" (p. 4). This vision begins with five important points:

- (a) Alberta has an outstanding education system;
- (b) Education is the most important investment we can make as a society;
- (c) It's critical to look beyond the pressing issues of today and prepare for the future, whatever that future might hold;
- (d) Education will become even more critical to individual Albertans, to their communities, and to our province as a whole, especially with the growing importance of skills, knowledge and ideas to the future of our society and Alberta's role in a global economy; and
- (e) The most important point is that everything in the education system must start and end with children and youth. (p. 4)

To achieve their vision, the Commission (2003) made 95 recommendations to the provincial Department of Education. Although provincially in the 2001-2002 academic school year the rate of high school dropouts was less than the previous school year, the Commission found that the high school completion rate was still lower than the federal rate. In order to prepare the next generation and develop the schools needed, the province accepted all but eight of the Commission's recommendations. Those accepted included Recommendations 11, 13 and 53:

Recommendation #11: Develop and implement a comprehensive, province-wide strategy with the goal of ensuring that 90% of students complete grade 12 within four years of starting high school. (p. 7)

Recommendation #13: Require every school to operate as a professional learning community dedicated to continuous improvement in students' achievement. (p. 8)

Recommendation #53: Encourage school improvement, research and innovation by ensuring that the primary focus of school and school jurisdiction education plans continues to be on improving students' achievement. (p. 12)

Professional Learning Communities

The Emergence of Professional Learning Communities

The idea of professional learning communities is not a new one. The modern version is based on the beliefs and observations of many educational writers, including Dewey. Dewey discussed the importance of educators being open and willing to accept the challenge of change needed to improve their situations. In applying his general theory of community to education, Dewey argued that the isolation from others felt by individual teachers could be decreased and the range of possibilities for improvement increased through collaborative group problem solving, planning and implementation of collaborative solutions (cited in Gutek, 1997).

Rosenholtz (1989) discussed teaching quality and the importance of several workplace factors, including the use of teacher networks, cooperation among staff members, and expanded professional roles. Rosenholtz found that teachers who were supported in their ongoing learning and their classroom practice through these factors were more committed and effective than those who were not.

Senge (1990) popularized many of these ideas and the notion of learning organizations in *The Fifth Discipline*. He advocated the need for a different organizational structure that was better suited to our complex, interdependent and fast-changing society. The learning organization would be oriented toward learning rather than controlling mechanisms. Senge discussed a learning organization where creative patterns of thinking are nurtured and where collectively people work to attain the results they desire while continually learning how to learn and grow together. Senge believes that five disciplines are necessary for successful organizations: (a) systems thinking, in which individuals realize that everything undertaken is interrelated to all other actions taking place in that system; (b) personal mastery or the commitment to lifelong learning; (c) mental models of the organization and the ability to bring this model to the forefront where individuals scrutinize the effectiveness of the model through open conversations; (d) a genuine shared vision built upon a set of principles and guiding practices where those involved want to excel and learn; and (e) team learning in which individuals suspend assumptions and enter into thinking and learning together. For Senge, these five disciplines do not create the learning organization, but they establish the framework for ongoing experimentation and advancement.

Over the next few years, Senge's (1990) paradigm was explored and shared in educational journals as educators continued their search for school improvement initiatives. The type of communities Senge described became known as "learning communities" (Hord, 2004). In 1992, professionals working with and for the Southwest Educational Development Laboratory (SEDL) noticed a school that was markedly different in atmosphere and educational results from other schools around it. The

educators at this school saw themselves as a community of learners where the entire school community, including teachers, parents and students, learned together. The members of this school community had a common vision of what they could accomplish and what type of environment was required to do it. The teachers were innovative and encouraged to reflect on their practice while being involved in shared decision-making. If conflict occurred, it was shared openly and resolved (Hord, 2004). SEDL followed this school for four years and considered how to enable other schools to work as communities of continuous inquiry and improvement, otherwise known as professional learning communities.

McLaughlin and Talbert (1993) supported this fledgling educational paradigm and suggested that, when teachers had opportunities for collaborative inquiry and its related learning, the result was a body of wisdom about teaching that could be widely shared. Sergiovanni (1996), who also had been exploring communities of learning, suggested that effective classrooms must become communities of learning, caring and inquiring. For this growth to happen within the classrooms, however, the teachers need to involve themselves in the same type of environment with ongoing learning, caring for one another's progress, and ongoing inquiry about learning and teaching practices (Mitchell & Sackney, 2001; Sergiovanni, 1996). The conditions that these theorists recommend cannot exist without a supportive democratic leader who also becomes a part of the learning community (Hord, 1997a; Louis & Kruse, 1995; Sergiovanni, 1994). Sergiovanni explains that willingness to share ideas and encourage inquiry is the leader's source of authority, not simply the leader's position of power.

Learning Communities Defined

Several authors have defined learning communities. Barth (1990) defines a learning community as “a place where students and adults alike are engaged as active learners in matters of special importance to them and where everyone is thereby encouraging everyone else’s learning” (p. 9). He also explores the role of teachers and principals as learners and the importance of cooperative and collegial relationships as important aspects of community.

Sergiovanni (1994), one of the premier learning community theorists, defines learning communities as “collections of individuals who are bonded together by natural will and who are together bonded to a set of shared ideas and ideals” (p. xvi). He explains that these communities are defined by their centers rather than by individuals. The centers are “repositories of values, sentiments, and beliefs that provide the needed cement for bonding people together in a common cause” (p. 47).

Kruse, Louis and Bryk (1995) state that “a professional community has at its focus the cultivation of learning and interaction among teachers and administrators so as to improve teaching and learning outcomes for students and for the school community at large” (p. 7). Myers and Simpson (1998) define learning communities as “cultural settings in which everyone learns, in which every individual is an integral part, and in which every participant is responsible for both the learning and the overall well-being of everyone else” (p. 2).

Speck (1999) recognized the importance of defining the learning community for administrators:

A learning community is one that promotes and values learning as an ongoing, active, collaborative process with dynamic dialogue by teachers, students, staff, principal, parents and the school community to improve the quality of learning and life within the school. (p. 8)

After carrying out an extensive literature review of professional learning communities (PLCs) as part of a five-year multi-method study, Hord (1997a), a senior research associate at the Southwest Educational Development Laboratory (SEDL), noted that there was no universally accepted definition of these communities. The definitions tend to centre on the attributes that transform a group of professionals into a PLC. Hord succinctly defined professional learning communities as communities in which “the professional staff learn together to direct their efforts toward improved student learning” (cited in Hipp & Huffman, 2003, p. 5). Hord and other SEDL professionals, however, were able to identify five dimensions containing the specific attributes that appeared to be essential for the existence of a professional learning community. These five dimensions will be discussed in greater detail later in this chapter.

Mitchell and Sackney (2001) stated that their interest in professional learning communities arose from the attention in the business and educational sectors to the notion of the learning organization. Over the past decade, their understanding of the concept has moved from thinking about schools as learning organizations to thinking about them as learning communities. Mitchell and Sackney explain that, while the two terms are similar, they are not synonymous. They assume that, while learning organizations are concerned with productivity and efficiency, the learning community is concerned with the growth and development of the people in the community. The learning community

focuses on encouraging all to take an active, collaborative, reflective approach to learning and growing so that they can more successfully find solutions to the problems involved in teaching and learning.

The Annenberg Institute for School Reform (2003) at Brown University engages in intensive work with urban school systems across the United States that are pursuing system-wide efforts to improve educational experiences and opportunities for learners. Researchers at the Institute found that professional learning communities (PLCs) can be made up of educators, administrators, community members, and any other stakeholders who collectively look to improve their own professional practice. The membership in the PLC may be determined by the focus, or vision, that the group sets. This means that, while the PLCs may be different types of groupings that are school-based, they may also stretch out to include other schools in the district, province or nation. The Institute provides examples that include grade-level teams forming a PLC to focus on coordinating curriculum, a multi-grade level group collaborating to ensure coherent learning pathways from grade to grade, teachers and administrators meeting as a group to learn about and support innovative teaching ideas, teachers and superintendents working to create better communication, or groups meeting as a part of national reform initiatives. According to the definition provided by researchers at the Annenberg Institute, the types of PLCs appear to be limited only by the number and variety of issues that can be effectively solved in a collaborative manner.

Five Dimensions of a Professional Learning Community

Hord (2004), other professionals at SEDL, and researchers at the Appalachia Educational Laboratory conceptualized five dimensions that reflected the essence of a

PLC. They stressed that these dimensions are not isolated, but intertwined; each affecting the others in a variety of ways. Much of the previous research stresses the need for the attributes found in these five dimensions for the success of a professional learning community.

Supportive and shared leadership. A professional learning community requires a principal who shares leadership, and thus power and authority, by inviting staff input and action in decision-making (Bitter et al., 2005; Elmore, 2000; Hord, 2004). Leadership among the staff must be nurtured along with broad-based decision-making that reflects commitment and accountability (Hipp & Huffman, 2003). This requires sharpening the staff members' skills in communication, group-process facilitation, inquiry, conflict mediation and dialogue (Annenberg Institute, 2003).

Shared values and vision. The concept of shared values and vision includes “an unwavering commitment to student learning that is consistently articulated and referenced in the staff's work” (Hord, 2004, p. 7). In the PLC vision, students are pictured as academically capable. The staff envision learning environments to support and realize each student's potential achievement by centering on ways to improve student achievement (Hord, 2004; InPraxis Group, 2006). The principal's most significant effect on student learning comes through his/her efforts to establish a vision of the school and to develop goals related to the accomplishment of the vision. Sharing leadership and aligning people to a vision is extremely important (Bitter et al., 2005; Hipp & Huffman, 2003).

Collective learning and application of learning. Collective learning and application of this learning require that “school staff at all levels are engaged in processes

that collectively seek new knowledge among staff and application of the learning to solutions that address students' needs" (Hord, 2004, p. 7). The collaborative work is grounded in reflective dialogue and inquiry. The staff members are engaged in conversations and research about students and teaching and learning, and are collecting data through engaging in action research and literature reviews, identifying related issues and problems, and actively seeking out best practices so that informed decisions are made (Hipp & Huffman, 2003; In Praxis Group, 2006). These collegial relationships produce solutions to problems that are both appropriate to each problem and creative. As well, the collegial relationships strengthen the bond between the principal and the teachers, thereby increasing the learning community's commitment to improvement efforts (Morrissey, 2000).

Supportive conditions. Supportive conditions include "physical conditions and human capacities that encourage and sustain a collegial atmosphere and collective learning" (Hord, 2004, p. 7). Supportive relationships are those that establish caring relationships built on trust and respect, take time to recognize and celebrate individual and group successes, and encourage risk-taking, while all members of the community are involved in a unified effort to bring about change (Hipp & Huffman, 2003; Hord, 1997a). Supportive structures include the provision of resources such as time, money, materials and people, as well as appropriate facilities and communication systems to enable successful change (Hipp & Huffman). It is imperative to provide adequate time for teachers to meet and exchange ideas; to locate them physically close to one another so they can observe and interact with their peers; and to create school-wide communication structures including regularly established meetings (Kruse et al., 1995). The creation of

supportive conditions is “a key to maintaining the growth and development of a community of professional learners” (Morrissey, 2000, p. 7).

Shared personal practice. Shared practice involves “the review of a teacher’s behaviour by colleagues and includes feedback and assistance activities to support individual and community improvement” (Hord, 2004, p. 7). The sharing of practice includes peer observations that offer knowledge, skills and encouragement, feedback to improve instructional practices, sharing outcomes of instructional practices, and coaching and mentoring (Fulton, Yoon & Lee, 2005; Hipp & Huffman, 2003). This dimension is characterized by ongoing conversations and decision making about curriculum, teaching and learning that concentrate on student outcomes. These conversations lead teachers to open their classrooms to observation by other teachers. As well, methods are employed such as team teaching that require teachers to practice their craft together (Kruse et al., 1995). Morrissey (2000) explains that the sharing of personal practice allows schools to deal with the issue of isolation that is felt within learning communities. This interaction allows teachers to build cultures of mutual respect and trustworthiness and brings about increased commitment to their work. Darling-Hammond (1998) found that time spent collectively studying teaching practices allowed teachers to develop higher-order thinking skills, and these same teachers appeared to meet the needs of diverse learners more effectively.

An Instrument to Assess the Development of a PLC

The Southwest Educational Development Laboratory (SEDL) in partnership with Appalachia Educational Laboratory (AEL) crafted an instrument that could be used as an identification, diagnostic, and evaluative tool to assess where individual schools placed

on a continuum of development for each of the five dimensions involved in a professional learning community (Hord, Meehan, Orletsky, & Sattes, 1999). Written permission has been granted by SEDL to use this survey instrument.

Because professionals at SEDL had been involved in studying and supporting schools in their efforts to improve their practices so that students learned more successfully, they discovered a school whose staff worked together in a very different way than most other school staffs. After studying this school for three years, SEDL began working on a project entitled Creating Communities of Continuous Inquiry and Improvement (Hord et al., 1999). The first step taken in this project was engaging Shirley Hord to undertake an extensive literature review on professional learning communities or communities of inquiry.

Hord (2001) then used information garnered from her literature review to group her findings into 17 descriptors; these were then grouped into the five dimensions that are involved in such organizations: school administrators' participation, the use of shared visions, the staff's collective learning and application of that learning, peer reviews and feedback, and supportive school conditions. Since the Appalachia Educational Laboratory (AEL) was also involved in studies on shared leadership, AEL joined with SEDL to test this 17-item instrument to verify if it would measure the maturity of professional learning communities (Hord, 2001). SEDL and AEL agreed that AEL would conduct the statistical processing to test the instrument. Initially the instrument was pilot tested on a sample of 21 schools, then field-tested on a sample of 690 teachers to determine its reliability and validity as an assessment instrument for professional learning communities.

Descriptive Analysis

All of the descriptive statistics for the 17 individual instrument descriptor items and the total scores were calculated. The same descriptive statistics were then calculated by school level – elementary, middle/junior high, and high school. Then, as one measure of usability of the instrument, these same descriptive statistics were calculated for the 21 different schools in the field test. Hord et al. (1999) found that, based on the mean scores from the instrument with the 21 schools, the instrument did differentiate among all of the schools. When the schools are subgrouped into the three levels of elementary, middle/junior high, and high school, the instrument also differentiated among the school faculties in terms of their development as professional learning communities.

Reliability Analyses

The reliability analyses consisted of two types: (a) internal consistency and (b) stability (test-retest). The internal consistency coefficient was calculated for the total instrument on the main file of 690 cases using Cronbach's Alpha formula and was .94. To assess the instrument's reliabilities at the individual school level, the instrument's Alpha reliabilities were calculated for the 21 individual schools in the field test and found to range from .62 to .95. Hord and the three researchers from AEL (1999) concluded, "the instrument yielded satisfactory internal consistency reliabilities for the total instrument in the field test and they were evident at both the full group and individual school levels" (p. 6).

Next, the stability (test-retest) reliability coefficient was computed with a subsample of four high school faculties. The resulting value for the total instrument score of

.6147 was felt to be marginally satisfactory with the potential to increase or decrease if the sample size increases (Hord et al., 1999).

Validity Analyses

Validity analysis consisted of three types: content, concurrent, and two methods of construct.

Content validity. This was assessed at three stages: during the development of the instrument, an early review, and after a modest reformatting. In the first stage, Hord established the content of the five dimensions from her extensive review of educational and business literature and her field research with U.S. schools that were functioning as professional learning communities. During the second stage of assessment, three AEL staff independently reviewed the five dimensions and the seventeen descriptors. The AEL staff slightly reformatted the instrument to gain clarity and consistency. In the third stage of content review, Hord assessed the minor word changes and confirmed that the reformatting was consistent with the original intentions of the instrument. Hord et al. (1999) concluded that the instrument possessed sufficient content validity to measure the concept of a learning community within the professional staff of K-12 schools.

Concurrent validity. This assessment involved comparing the instrument to a school climate instrument claiming to measure the same content. The instrument was seen to possess a satisfactory correlation of .7489 and was significant at the 0.001 level (Hord et al., 1999).

Construct validity. The first construct validity asked the question of whether or not the instrument measured the psychological construct called professional learning community. After applying a t-test, Hord found that the higher scores from the teachers

known to be functioning as a professional learning community differed significantly (.0001) from those of the teachers in the field test. Hord et al. (1999) concluded, “the instrument appears to represent the construct of a mature professional learning community” (p. 7).

The second construct validity analysis applied was a factor analysis that included unconstrained principal components analysis followed by both varimax and oblique rotations of the data. Based on the factor analysis, Hord et al. (1999) determined, “the 17 item instrument appears to represent a unitary construct of a professional learning community within schools” (p. 7).

Dropouts and Student Achievement

Dropout Factors

Since 1990, Statistics Canada and Human Resources have carried out Youth in Transition longitudinal studies to garner an understanding of Canada’s school dropout situation. These studies demonstrated that the high school dropout rates in every province in Canada declined from the early to the late 1990s (Bowlby & McMullen, 2002). A Youth in Transition study carried out by Bowlby and McMullen for Statistics Canada and Human Resources in 2000 involved a sample of 23, 592 persons aged 18 to 20 and had an overall response rate of 80.9%. Bushnik, Barr-Telford and Bussiere (2004) surveyed the same sample in 2002. While the dropout rates for 20 year olds declined from 18% in 1991 to 12% in 1999, the federal and provincial governments are still concerned that these rates are too high. The terms “high school dropout” and “early leavers” are used interchangeably in much of the literature reviewed.

This section will explore some of the factors that appear to influence the completion of high school. The nature of the school experience is quite complicated, as family, individual, and school factors tend to interact over the time the student is in the school community. As Bushnik et al. (2004) stated, “The leaving begins before high school. It is related to many events, experiences and choices that take place throughout a young person’s life, in addition to those that take place during high school” (p. 16).

Family Factors

The Youth in Transition studies done by Statistics Canada and Human Resources Development Canada (Bowlby & McMullen, 2002; Bushnik et al., 2004) demonstrated several factors that would affect whether 15 to 20 year old youth in Canada between 1991 and 2002 would graduate or drop out. These researchers found that high school graduates were more likely than dropouts to have lived in two-parent families. The dropouts also tended to live in lower-income homes. Three times as many dropouts as high school graduates had parents who had not completed high school. In the study of 17 year-olds, only 43% of the dropouts had parents who had completed some form of post-secondary education. Many of the dropouts reported that they believed that their parents were not concerned about them having a high school diploma or going on to a post-secondary education. When the parents of these youth were surveyed, the perceptions held by the youth were often incorrect.

Individual Factors

The 15 to 17 year olds demonstrated lower levels of self-esteem, self-efficacy, and self-mastery (Bushnik et al., 2004). Self-esteem was defined as a measure of “a respondent’s feelings of self worth or self acceptance”; self-efficacy measured “a

respondent's confidence to achieve a positive outcome"; and self-mastery measured "a respondent's sense of the extent to which he/she regards his/her chances as being under his/her control" (p. 37). Of those who dropped out by age 17 in 2002, 23% reported that at age 15 a high school diploma or even less was their highest educational aspiration. While graduates and dropouts both reported working at the age of 15, the dropouts were more likely to work 20 hours per week or more, while the graduates worked between one and ten hours per week (Bowlby & McMullen, 2002; Bushnik et al., 2004).

Compared to graduates, dropouts at all ages were less engaged in school both socially and academically. The dropouts also participated less than graduates in extracurricular activities (Bowlby & McMullen, 2002). The social group they chose had an effect as well. Dropouts were less likely to have friends who valued education. Bushnik et al. (2004) reported that 29% of the dropouts answered that most or all of their friends skipped classes at least once a week, and 25% said that their friends had a reputation for causing trouble. As well, 25% of the dropouts had been kicked out of school. Dynarski and Gleason (1999) evaluated the second phase of the U.S. Department of Education's School Dropout Demonstration Assistance program that operated from 1991-1996. They studied the experiences of more than 20 programs and collected data for more than 10,000 students to measure the various program effects. The surveys of administrators showed that many of the students dropping out are also those who become disengaged in the classroom and as a result have attendance or behavioral issues which make it difficult for them to attain passing grades.

School was not the only reason, however, for leaving. Some females left for personal or family reasons, including health reasons, pregnancy or the need to take care

of their own child, and other problems at home (Bushnik et al., 2004). Males tended to leave more for work-related factors, such as wanting or needing to work.

School Factors

Respondents in both of the longitudinal Youth in Transition studies and earlier studies cited school-related reasons the most frequently for leaving school early (Bowlby & McMullen, 2002; Bushnik et al., 2004; Dynarski & Gleason, 1999; Hahn, 1987). Many of the dropouts reported having learning difficulties. The reading literacy levels of the dropouts were often lower than those of the graduates (Bushnik et al., 2004; Dynarski & Gleason, 1999; Knighton & Bussiere, 2006). Overall marks of less than 59% were reported by 32% of the dropouts in the 15 to 17 year-old Youth in Transition study (Bushnik et al., 2004). Alberta Learning (2001b) found that one-half of the students in the *Early School Leaving Study* done in 2001 across Canada attended remedial classes, with several repeating grades. On the Wide Range Achievement Test (WRAT), the participants' reading abilities were well below grade level. Other authors identified similar at-risk factors for leaving school early: being behind in their grade level, being older than the other students, and scoring low or having failing grades on proficiency exams (Chow et al., 1996; Hahn, 1987). Bowlby and McMullen (2002) stated that high school dropouts were more likely to obtain lower overall grades under 60% and were “more than five times more likely to have repeated an elementary school grade” (pp. 33-34).

Not all of the dropouts, however, had low marks. In fact, many had marks that were in the 70s but they, like other dropouts, viewed school less favorably. Earlier studies found that dropouts had negative experiences with teachers and /or staff members and felt

that teachers did not care and could not help them (Chow et al., 1996; Hahn, 1987). In the more recent studies, the dropouts still had less favorable perceptions of both teacher and peer relationships. They did not see school as a friendly place, nor did they feel respected there or accepted as individuals. Forty-nine percent of the dropouts at age 15 also believed that discipline was not handled fairly in their school (Bowlby & McMullen, 2002; Bushnik et al., 2004). The trend does not appear to have changed over time. Although many factors are involved in students' choosing to leave school before completion, relationships established with staff and school achievement are areas that schools can affect.

Improving Achievement

The report by Alberta's Commission on Learning (2003) explained that, after months of meeting with educational stakeholders and experts and after reviewing reports and research, their vision for the future of education in Alberta came down to "a few simple but compelling words – every child learns, every child succeeds" (p. 4). The report continues:

The most important point is that everything in the education system must start and end with children and youth...and the first and only criterion for judging the success of schools and the education system should be how well every child learns. (p. 4)

Contributing Factors

A review of current literature highlighted several factors that contribute to improved student achievement. The authors of the Final Report for the Evaluation Study of the Immediate Intervention/Underperforming Schools Program of the Public Schools

Accountability Act of 1999 in the United States grouped the many interrelated factors that affect achievement under three broad categories: school and staff capacity, coherence of instructional programs, and systematic assessment and data based decision making (Bitter et al., 2005, IV-2).

School and staff capacity. The capacity of a school and staff is a measure of the interactions among teachers and students and how they deal with educational materials (Cohen & Ball, 1999). This category includes the factors of leadership, instructional support, professional development, teacher collaboration in professional communities, and school culture.

Effective leadership is an important factor that leads to improved achievement. Leaders are needed who are able to create and support an environment that is focused on clear outcomes, while setting high standards for behaviour and academic achievement (Bitter et al., 2005; Kannapel & Clements, 2005). For the school to be effective, the leadership must be distributed among staff members so that teachers become engaged in the improvement process and have a voice in the direction and approaches to be used. Elmore (2000) suggests that this distribution of leadership results in an evolution of the quality of leadership into a format that enhances the skills and knowledge of the staff, creates a common culture of expectations, and encourages productive relationships. The end result is more individuals being accountable for their contributions to the success of the school. Effective leadership also ensures that times for collaboration and administrative instruction, as well as peer instruction, are timetabled into the work schedule of the school (Bitter et al., 2005; Hall & Kennedy, 2006). Increased learning occurs when teacher strengths are matched to the individual needs of the learners. For

this reason, the administration, after consultation with staff members, must consider the most advantageous assignments (Hall & Kennedy; Kannapel & Clements).

Instructional support was closely tied to professional development and staff collaboration in the literature reviewed. Quality instruction should now be viewed as the responsibility of the entire learning community. Providing a supportive community helps “new teachers become good teachers—good teachers become great teachers—and is critical to providing a rewarding career path for education and a quality learning environment for students” (Fulton et al., 2005, p. 24). It is important that the staff have a say in the professional development that will be undertaken so that they are able to concentrate on meeting the needs of their current students and furthering their instructional abilities (Hall & Kennedy, 2006; Iowa Department of Education, 2005). It is crucial that the professional development provides not only information and theory about instructional strategy, but also model demonstrations, collaboration among staff members, peer instruction and opportunities to practice over time (Bitter et al., 2003; Cohen & Ball, 1999; Iowa Department of Education, 2005). All of these are connected to the provision of a positive and academically focused school climate where the expectations of staff and students are held high (Daggett, 2004; Iowa State Board of Education, 2005; Hall & Kennedy, 2006; Kannapel & Clements, 2005; Lumsden, 1994).

Coherence of instructional programs. Two factors within this category are a common vision or focus and coherence in curriculum and instruction. The vision that is developed by the entire school community must be integral to all school activities, guide professional development, and encourage the growth of teacher collaboration to attain shared goals that are set to ensure that the vision is attained (Bitter et al., 2005; Hipp &

Huffman, 2003). Having a common, or coherent, curriculum fosters consistency across classrooms in regards to how the students are learning and the strategies used to enhance their learning. It is important as well to have common performance expectations; each teacher must be aware where his or her individual course curriculums fit into the broader curriculum of the school (Cohen & Ball, 1999; Kannapel & Clements, 2005). In order to fulfill the latter requirements successfully, effective professional development must be put into practice (Bitter et al., 2005; Cohen & Ball, 1999).

Systematic assessment and data based decision-making. The data from systematic assessments can be used by teachers to assess the individual needs of their students, as well as pointing to areas of instruction that may need improvement (Bitter et al., 2005; Kannapel & Clements, 2005). With the systematic assessments, teachers are able to collaborate in subject or grade-level meetings. During these meetings, staff may look at their goals and the achievement levels, and then determine how to adjust and differentiate instruction for individual students or groups. The staff may plan specific instructional strategies they will apply or organize new units collaboratively. They may even plan other interventions necessary for student success, such as extra practice sessions, after-school programs, or summer college intervention programs (Bitter et al., 2005; Snipes, Holton & Doolittle, 2006). It is essential to evaluate how well goals and learning standards are being met, in order to understand and increase student achievement.

Relationships Between Learning Communities and Achievement

To achieve the vision of every child learning and every child succeeding, in 2003 Alberta Learning chose to accept the recommendation of Alberta's Commission on Learning to implement the formation of professional learning communities (PLCs). Many

of the factors found to be necessary for increasing student achievement come into play within a PLC. This may be because the foundation of the learning community is the assumption that the primary mission of formal education is not simply to ensure that students are taught, but to ensure that they learn (DuFour, DuFour & Eaker, 2005). Three central questions drive these communities: (a) What do we want each student to learn? (b) How will we know when each student has learned it? and (c) How will we respond when a student experiences difficulty in learning? (p. 33). Finding the solutions to the third question that will bring about an increase in student achievement. The DuFours and Eaker (2005) explain that, in order to find these solutions, teachers have to be willing to discontinue practices that are not working and to work together collaboratively to find solutions to help all students learn. The U.S. National Commission on Teaching and America's Future (quoted in Fulton et al., 2005) described the current situation in the U.S. Their description can be applied to Canada as well. The Commission stated:

...to meet the needs of the 21st century learners, we must move away from the norms that governed factory-era schools. The most persistent norm that stands in the way of 21st century learning, is isolated teaching in stand-alone classrooms. Transforming schools...means recognizing that teachers must become members of a growing network of shared expertise. (p. 1)

Michael Fullan (2001), an author and educational adviser to the provincial government in Ontario, Canada, contends that, in order to make highly effective schools the norm, provinces and school divisions within them must undertake systemic reforms to support professional learning communities. In order for this reform to take place, educators must take the first step by realizing that each of them is the system.

Some school staffs believe that, because they work collaboratively, theirs is a successful learning community. However, the focus on student learning differs in schools that are organized as PLCs: they collaborate for the purpose of improving the achievement of all students and adapt their practice to ensure that this achievement occurs (Little, 1990). For this to happen, the educational staff make a combined effort to assist the student experiencing difficulty by responding immediately with interventions at the time of assessments, rather than waiting for a later date to implement remediation. In addition, for improvements in achievement, the students need a systematic plan that requires them to commit extra time to receive the assistance until they have mastered the concept that they found difficult (DuFour et al., 2005; Snipes et al., 2006).

Since 1998, Richard and Rebecca DuFour and Robert Eaker have taken the professional learning community construct, and their successes with it, out to the public in a more prescriptive format. They provide practical strategies and tools to assist educators in their transition to a professional learning community. They promote “10 Steps in Becoming a Professional Learning Community: A General Guide” (DuFour et al., 2002, p.131). The strategies are based upon the beliefs of Dewey and Senge and include attributes found within Hord’s (1997a) five dimensions of professional learning communities. The DuFours and Eaker applied their strategies in Adlai Stevenson High School District in Illinois, where Richard DuFour was the superintendent, and in Boones Mill Elementary School, where Rebecca DuFour was the principal. Their first-hand accounts showed how effective the professional learning community constructs could be in improving the success of all students. DuFour et al. (2002) stress the importance of shared goals and visions, collaborative teams, and the development of a results-oriented

culture where the focus is always on improving learning. Their model is based on the assumption that schools are not there only to ensure that students are taught, but also to ensure that they learn (DuFour, 2004).

Other researchers have identified the benefits of having a professional learning community. Barth (1990) argues that the school community should be a place where everyone, staff and students, are actively involved in learning that supports change and innovation. Sergiovanni (2000) describes learning communities as places where people are committed to “thinking, growing and inquiring and where learning is an attitude as well as an activity, a way of life as well as a process” (p. 59). Roberts and Pruitt (2003) explain:

[The] ultimate purpose of the movement to the learning community model is to improve learning opportunities and outcomes for students. Teachers in learning community schools engage in collaborative activities that are directed toward helping them to improve their instructional practices. Their students are likely to be the beneficiaries as the teachers share ideas, learn innovative and better ways of teaching and try the newly learned approaches in the classroom. (p. 11)

Ancess (2000), exploring the link between teacher learning, teacher instructional behaviour and student outcomes, found that “the engagement in an ongoing learning process led teachers to identify and carry out practices that had resulted in increased graduation rates, improved college admission rates and higher academic achievement for their students” (p. 11).

The Annenberg Institute (2003) found four key areas in which PLCs can enhance the professional culture within a school:

[Professional learning communities can] (a) build productive relationships that are required to collaborate, partner, reflect, and act to carry out a school improvement program; (b) engage educators at all levels in collective, consistent and context-specific learning; (c) address inequities in teaching and learning opportunities by supporting teachers who work with students requiring the most assistance; and (d) promote efforts to improve results in terms of school and system culture, teacher practice, and student learning. (p. 1)

Assessing Achievement in Alberta

In 2004, Alberta Education introduced an innovative funding framework that would provide school boards throughout the province with the flexibility and freedom needed to meet the unique needs of their students. The Renewed Funding Framework (RFF) provides core funding based on student enrollment and additional funding to meet the needs of specific student groups and certain geographic or population challenges (Alberta Education, 2006b). The RFF is based on three pillars: Funding, Flexibility and Accountability.

The Accountability Pillar

It is the Accountability Pillar that assists school jurisdictions in determining how well they are meeting their own learning goals and which areas require additional work, while providing the means to ensure that all jurisdictions are measuring success in the same way. When all jurisdictions measure the same factors in the same way and at the same time, the result is timely, accurate, and consistent data that can be reported and evaluated publicly (Alberta Education, 2006a). The common categories and measurement tools used to amass the data required in the Accountability Pillar allow jurisdictions not

only to examine their own progress, but also to compare their successes to other jurisdictions throughout the province. The data retrieved helps schools to assess their successes and to identify opportunities for improvement so that students are provided with the best possible learning experiences. It also makes it easier to determine if challenges that are occurring are local or province-wide.

Categories in the accountability pillar. Seven categories are included in the Accountability Pillar: (a) Safe and caring schools; (b) Student learning opportunities; (c) Student learning achievement K-9; (d) Student learning achievement Grades 10-12; (e) Preparing for lifelong learning, world of work and citizenship; (f) Parental involvement; and (g) Continuous improvement. Each category consists of measures that evaluate both individually and as a group, including evaluations on achievement with comparison against fixed provincial standards, and improvement with comparison against previous performance. Combining the achievement and improvement results provides an overall assessment.

Measuring success. The Accountability Pillar collects data on student achievement from the Provincial Achievement Tests administered in Grades 3, 6 and 9 in Social Studies, Language Arts, Science and Mathematics, and the Diploma Examinations that are administered in all Grade 12 core subjects, including English 30-1 and English 30-2, Pure Mathematics 30 and Applied Mathematics 30, Social Studies 30 and Social Studies 33, Biology 30, Physics 30 and Chemistry 30. Information on the perceived quality of education is garnered from surveys that students, parents and teachers complete between January and March each year. Additional student outcome data, such as dropout rates, high school completion rates, and the number of students eligible to receive the

Rutherford scholarships, are also used to measure the educational success in the province (Alberta Education, 2006a).

The category of safe and caring schools is assessed with one survey measure that shows the percentage of teacher, parent and student agreement that students are safe at school, are learning the importance of caring for others, are learning respect for others, and are treated fairly at school.

The category of student learning opportunities is measured with annual dropout rates, annual high school completion rates, and two survey measures. The annual dropout rate is based on data for three consecutive school years. An initial cohort of students aged 14 to 18 is established for a given school year. The dropout rate is calculated by determining the number of students from the cohort who are not registered in the education system in the subsequent year or who have not completed high school. It is calculated by dividing the number of students who have dropped out of high school by the number of 14 to 18 year old students who were registered in the K-12 system in the previous school year. This is adjusted for attrition, which is an estimate of the number of students who leave the province or die in the year subsequent to the establishment of the cohort. Alberta high school completion rates are calculated by tracking Grade 10 students for three, four and five years and determining the percentages who have completed high school in each timeframe. Students are considered high school completers if they have received a high school diploma or equivalent or have enrolled in an Alberta post-secondary institution or apprenticeship program within the tracking period. As with the dropout rate, an attrition adjustment is applied. The survey measures include the following: (a) the percentage of teachers, parents and students satisfied with the

opportunity for students to receive a broad program of studies, including fine arts, careers, technology, and health and physical education; and (b) the percentage of teachers, parents and students satisfied with the overall quality of basic education (Alberta Education, 2006a).

The category of student learning achievement K-9 is measured by the percentage of students achieving the Acceptable Standard and the Standard of Excellence on the Provincial Achievement Tests. A three-pronged measure is used for student achievement in Grade 10-12: (a) the percentage of students achieving the Acceptable Standard and the Standard of Excellence on the Diploma Examinations in each subject; (b) the overall rate of eligibility for the Rutherford scholarship; and (c) the diploma exam participation numbers, specifically the percentage of students who wrote four or more diploma exams. On the Diploma Exams, Alberta Education expects that 15% of the students writing will meet the standard of excellence, and 85% will meet the Acceptable Standard that is set for each exam by the Learner Assessment Branch (Alberta Education, 2006a). It has not been possible to directly compare achievement on the various diploma courses across years prior to 2004 in some subjects, and 2006 in others, because of curriculum changes and changes in standards. However, in 2003 an initiative was begun to maintain consistent standards associated with the diploma examinations. This initiative was introduced to ensure fairness to students regardless of when they wrote a diploma exam, and equal opportunity in relation to scholarships and entrance to post-secondary institutions. The Learner Assessment Branch has determined a method whereby they are able to determine whether or not an examination was more difficult or less difficult than the baseline exam and then eight equating methods are used. Adjustments may be upward

or downward depending on the differences in difficulty between the baseline exam and subsequent exams (Alberta Education, 2006a). School jurisdictions have access to five-year results charts to examine their progress. The new initiative will make this an easier process.

Alberta Rutherford Scholarship eligibility rates are calculated by determining the percentages of Grade 12 students in Alberta whose marks in eligible courses any time in their high school years meet the criteria for the scholarship. Rates are calculated for each high school year, and an overall rate is calculated as well. It is the overall rate that is the Accountability Pillar measure. Five-year reports are available to school jurisdictions and individual schools (Alberta Education, 2006a).

The Diploma Examination participation rates are calculated by tracking Grade 10 students for three years and determining the number of diploma exams each student writes. Obtaining Grade 12 credit in English and Social Studies is a requirement for high school graduation in Alberta, so all students must write these two exams. The Accountability Pillar measure is the percentage of students who wrote four or more exams, as this is believed to be a good indication that students have a solid foundation in the four core subject areas of English, math, sciences and social studies (Alberta Education, 2006a).

The category of preparing for lifelong learning, the world of work and citizenship is assessed using two survey measures. The first is the percentage of teachers and parents who agree that students are taught the attitudes and behaviors that will make them successful at work when they finish school. The second is the percentage of teachers,

parents and students who are satisfied that students model the characteristics of active citizenship.

The category of parental involvement is assessed using one survey measure, which shows the percentage of teachers and parents who are satisfied with parental involvement in decisions about the child's education.

The final category, continuous improvement, is measured using one survey measure that includes the percentage of teachers and parents who indicate that their school and schools in their jurisdiction have improved or stayed the same in the last three years.

Chapter Summary

While the number of school dropouts in Alberta has been gradually declining since 1990, Alberta Education is still concerned because of the personal and societal effects of dropping out. Although school factors are not the only reasons given for dropping out, there are several educational situations that the schools can improve. These include the number of students with failing grades, the students' sense of alienation and feelings of worthlessness, and negative encounters with the school staff. To combat many of these factors, Alberta's Commission on Learning (2003) recommended that every school in the province become a professional learning community dedicated to ensuring that everything possible is done to ensure that every student learns and succeeds.

This review of the literature indicates that student achievement is connected to the provision of a positive and academically focused school environment where the expectations of staff and students are high. The achievement is positively affected by increasing the number of positive interactions between and among staff and students.

Shared leadership also increases achievement, with more individuals feeling they are accountable for their contributions to the success of the school. The factors of a common vision and coherence in curriculum and instruction have been found to positively affect student achievement and are closely linked to appropriate and timely professional development. Systematic assessment and data based decision-making are found to be essential if teachers and students are to identify and adjust learning situations to provide positive learning experiences.

The dimensions and descriptors identified in professional learning communities appear to be closely linked to the factors identified in the literature as increasing student achievement. Professional learning communities are dedicated to doing whatever is necessary to improve the learning opportunities and outcomes for the students. If indeed professional learning communities are associated with improving students' achievement, the association may become evident in this study. This study seeks to determine whether or not professional learning communities are developing in secondary schools in Southern Alberta, and whether their formation can be associated with changes in high school achievement and completion, thereby reducing the provincial dropout rates.

Chapter Three describes the methodology used to study the relationships among these variables, outlining the population selection, details of the research procedures, and the statistical analysis procedures used in the study. The delimitations used to narrow the scope of this research project are presented, as well as the limitations that identify possible weaknesses in this research.

CHAPTER THREE

METHODOLOGY

Introduction

This research sought to determine whether or not professional learning communities were developing in the secondary schools in southern Alberta, and whether their formation was associated with changes in student achievement and high school completion. In 2003, Alberta Learning, which is now known as the Department of Education, mandated that schools within the province of Alberta meet recommendations made by Alberta's Commission on Learning. One of these recommendations stated that every school would be required to operate as a professional learning community (PLC) dedicated to continuous improvement in students' achievement. This, in turn, is expected to increase the number of students completing high school within four years of entering Grade 10.

The review of literature suggested that professional learning communities can successfully reduce the isolation experienced by teachers and provide them with collaborative communities in which they can better assess learning and improve their practice to ensure ongoing learning by staff and students. Furthermore, researchers in the area of student dropouts confirm that one factor affecting almost 50% of the students leaving early is low school achievement.

Research Design

This research involves a quasi-experimental correlational study exploring the relationship among the variables of professional learning communities, student achievement, and the rate of high school completion. During May and June 2007, a

survey entitled *School Professional Staff as Learning Community Questionnaire* was made available online to secondary school teachers in publicly funded secondary schools in Zone 6 (South Zone) of Southern Alberta. Its purpose was to determine each school's placement on the continuum of a learning community. Five-year comparative reports detailing high school completion rates, as well as five-year comparisons of achievement in English 30-1, English 30-2, Social 30, and Social 33 diploma examinations courses, were accessed from the Department of Education in Alberta in order to examine the increases or decreases from 2002 to 2006 in high school completion and academic achievement. Annual Education Results Reports prepared by secondary schools were accessed to determine the percentage of students eligible for Rutherford Scholarships and each school's rate of diploma examination participation. The Accountability Pillar for achievement, which includes the three measurement prongs of diploma exam results, Rutherford Scholarship eligibility, and diploma examination participation numbers as well as the measure of high school completion, were compared to the school's placement on the professional learning community continuum to examine their correlation.

Population

The population for this research project consisted of 24 publicly funded schools in Zone 6 of Southern Alberta. While there are varying grade configurations from Grade 6 to Grade 12 found within the population, all 24 schools include Grade 10, 11, and 12. The population is a mixture of rural and urban schools. These schools had a combined total of approximately 550 teachers. All of the teachers who instructed one or more secondary courses within these 24 schools were asked to complete the questionnaires for their

institutions. Some of the 550 teachers did not meet the requirements due to the other grades configured into their schools.

Variables and Levels of Data

Professional Learning Communities

Census Instrument

The *School Professional Staff as Learning Community Questionnaire* was used to identify the maturity of each secondary school as a professional learning community. Written permission was gained from the Southwest Educational Development Laboratory (SEDL) to utilize the survey in this study. This questionnaire is comprised of 17 descriptors grouped into five major dimensions, or factors, of professional learning communities that were identified in a literature review done at the SEDL by Shirley Hord in 1997. The descriptors are unevenly distributed across the five dimensions and are designed as a series of three statements structured along a continuum reflecting most desirable, or more mature, practice of the descriptor to least desirable, or less mature. This instrument provides a total score out of 85, or it can show the frequencies of answers on the individual descriptors. The level of data for the professional learning communities was ordinal because the perceptions were ranked on a Likert-type scale, thus providing ordinal data.

The Appalachia Educational Laboratory (AEL) carried out the reliability and validity analyses for the questionnaire. These researchers undertook a descriptive analysis, two reliability analyses including internal consistency and stability, and three validity analyses including content, concurrent, and two methods of construct analysis. Hord and AEL determined that the instrument yielded satisfactory internal consistency

reliabilities for the total instrument in the field test that was carried out, and the consistencies were evident at the full group and individual school levels (Hord et al., 1999). Content validity analysis determined by Hord and AEL determined that “the instrument possessed sufficient content validity for its original intention of measuring the concept of a community of learners within the professional staff of K-12 schools” (p. 6). The concurrent validity analysis deemed that the instrument possesses a satisfactory correlation with a school climate instrument. Construct validity analyses concluded the 17-item instrument appears to represent a unitary construct of a professional learning community within schools (Hord et al., 1999). A more extensive description of these analyses is provided in Chapter 2.

Student Achievement

Instrument for Measurement

Within the Accountability Pillar of the Province of Alberta, academic achievement consists of a three-pronged measure for the secondary schools: (a) the percentage of students achieving the Acceptable Standard and the Standard of Excellence on the Diploma Examinations in each diploma examination that is written at the completion of each Grade 12 core subject class, (b) the overall rate of eligibility for the Rutherford scholarship, and (c) the percentage of students who wrote four or more diploma exams, which is the diploma examinations participation number. For the purposes of this study, this portion of the achievement variable was determined by examining the percentage increases or decreases in overall yearly results in the acceptable standards and the standards of excellence on the diploma examinations in English 30-1, English 30-2, Social 30, and Social 33. The percentages of students who met the Standard

of Excellence and the Acceptable Standard respectively were attained from the Annual Education Results Reports prepared by each secondary school from 2002 to 2006 based on data received from Alberta Education. The Annual Education Results Report also reported the Alberta Rutherford Scholarship overall rate of eligibility and the percentage of students writing four or more diploma examinations. All three prongs, or variables, were reported as ratio level data.

Rate of High School Completion

Alberta Education informs schools of the percentage of their students who complete school within three, four or five years of entering Grade 10 using a table format. The three-year rate is the Accountability Pillar measure. This was used in this study to measure the percentage of increases or decreases in high school completion rates. This variable was reported as ratio level data.

Variables and Level of Data Summary

This study involves the dependent continuous variables related to professional learning communities, student achievement, and high school completion. The levels of data for the professional learning communities variables are ordinal because the perceptions are ranked on a Likert-type scale. Frequencies in choices are recorded as a percentage of the total responses.

Alberta Education in their Accountability Pillars defines student achievement with a three-pronged measure. Individual examination scores are not reported. All data on the Annual Results Report are reported as ratio level data. The three-year rate of high school completion is also ratio level data.

Null Hypotheses

1. There will be no experimentally important or experimentally consistent difference in the frequency between the degree to which a school reflects the attributes of a mature professional learning community and the percentage of students achieving the Acceptable Standard and the Standard of Excellence on the Diploma Examinations.
2. There will be no experimentally important or experimentally consistent difference in the frequency between the degree to which a school reflects the attributes of a mature professional learning community and the overall rate of eligibility for the Rutherford scholarship.
3. There will be no experimentally important or experimentally consistent difference in the frequency between the degree to which a school reflects the attributes of a mature professional learning community and the percentage of students writing four or more diploma examinations.
4. There will be no experimentally important or experimentally consistent difference in the frequency between the degree to which a school reflects the attributes of a mature professional learning community and the percentage of increases or decreases in high school completion rates.

Statistical Procedures

As the data were collected, collation was done on a spreadsheet. The maturity of each learning community, the achievement variables, and the rate of high school completion were analyzed to detect any relationships, using Kendall's Tau B correlation coefficient.

Research Procedures

After obtaining permission from The University of Montana's Human Subjects Review Board, a research proposal was provided via their superintendents to the School Boards of the nine school divisions within Zone 6 of Southern Alberta, listing the schools that qualified to participate in this research project. After approval was sought (see Appendix A) and obtained from the jurisdictional senior level administrator, the principals of the qualifying secondary schools were contacted by phone to explain the purpose of the research. Next an informative cover letter was emailed to the principals (see Appendix B) and staff (see Appendix C) containing the purpose for the research, an explanation of how anonymity would be maintained for the individual teachers and schools, the web address to access the questionnaire with the completion deadline, and contact numbers for the researcher in case of questions. Anonymity was maintained by assigning a code to each school division and the 24 schools within them. Individual participants were assigned a number as they took part in the online survey.

The subjects who were invited to participate in the survey included all of the professional teaching staff aged from 23 to 65 who were teaching at least one secondary level course in a public school in the South Zone of Alberta that had grade configurations of Grade 6 to Grade 12. The population consisted of 24 schools with approximately 550 teachers from rural and urban schools. While participation was voluntary, staff members were encouraged to participate in order to provide a clear representation of their learning community. The teachers' personal choice to do the online questionnaire was regarded as their consent to participate. Staff anonymity was attained by not requiring the teachers' names or subjects being taught to be entered anywhere on the census. Participants were

instructed to fill in only their gender, years of teaching experience, and school name on the questionnaire. Results were collected under the assigned school codes. Schools will not receive individual questionnaire results. Rather they will be offered summary data indicating where their school was located for each dimension on the continuum of a learning community. While the entire South Zone was being studied, questionnaires were collated according to secondary school names and school divisions, in order to provide findings reports to individual school divisions. The final reporting of the South Zone schools does not identify individual school jurisdictions or the individual schools.

The rest of the required data involving diploma exam results, Rutherford Scholarship eligibility percentages, percentages of students writing diploma exams and high school completion rates were obtained either from the jurisdictional senior level administrator, or from the individual school administrators. These data are available on school and provincial reports that are made public annually. The individual administrators were asked to determine if they wanted the researcher to collect the data in person at their board offices for the annual results reports, or if they preferred to fax the data compiled on the table provided from the completed reports for the years 2002, 2003, 2004, 2005, and 2006 to the researcher. These reports do not identify individual students, but instead report entire class results for entire school years, so no individual students were contacted. If the reports were not faxed within two weeks of the initial contact, the researcher made contact with the principal and arranged to obtain the desired reports. If the school could not locate the data, the board office was contacted and the data were forwarded from there. To the best of the researcher's knowledge, the research activity

that the subjects participated in posed no harm (physical, psychological, professional, financial, legal, spiritual, cultural) or discomfort.

Limitations

The researcher was relying on percentages of achievement calculated by Alberta Education and not determined by herself.

The amount of achievement data available for analysis was dependent on the willingness of each school division and each secondary school to participate in this research project.

If a school had recently conducted research to assess its development as a professional learning community, participants were sensitized to the types of questions being asked on the assessment instrument and responses may have been less individualistic and more what they believed they should be answering from discussions of their prior assessment.

Delimitations

The population for this study was delimited to schools having grade configurations of Grade 6 to Grade 12. Schools containing kindergarten to Grade 5 were excluded.

The time span for completion of the questionnaire by participants was two weeks in order to reduce the number of external events that might occur and affect the choices of the participants, as well as to reduce the time span in which intellectual and emotional changes might occur.

Chapter Summary

This is a quasi-experimental correlational study involving 24 schools in Zone 6 of Southern Alberta that contain Grades 10 to 12. The purpose of this study is to discover the maturity of each of the 24 school's professional learning communities on a professional learning community continuum. The Southwest Educational Development Laboratory created this continuum, comprised of five dimensions, after extensive research into the attributes that they found are essential for the success of a learning community. Each school's level of maturity was then compared to changes in its achievement and high school completion, as measured by the guidelines in Alberta Education's Accountability Pillars. The raw data were collected on spreadsheets, then analyzed with an SPSS statistical program by applying Kendall's Tau B correlational coefficient. Upon its completion, this research is intended to provide a fairly clear picture to these schools of their development as a professional learning community.

CHAPTER FOUR

FINDINGS

Introduction

The purpose of this study is to ascertain the maturity of the professional learning communities in high schools in Zone 6 of Southern Alberta and to determine if the maturity of the learning community has a relationship with the achievement and high school completion rates of its students. The chapter begins with a description of the research sample, followed by frequency statistics for Zone 6 for each of the questions on the learning communities survey instrument, *School Professional Staff as Learning Community Questionnaire* (Hord, 1996). Next the Zone 6 results are reported for the three achievement measures included in Alberta Education's Accountability Pillar and for the high school completion rates measure. The final section addresses the research questions and hypotheses.

Research Sample

The Province of Alberta has divided Zone 6, the southernmost educational zone in the province, into nine jurisdictional regions. Eight out of nine (89%) of the jurisdictional superintendents in Zone 6 of Southern Alberta gave permission for qualifying Grade 6-12 schools within their boundaries to take part in this study. The final decision about participating was given to the high school administrators. After multiple contacts, 13 out of 24 (54%) of the administrators agreed to have their schools participate. Administrators who opted not to participate explained that they declined for differing reasons; these included the time of year (only two weeks remaining to the writing of the diploma

exams), the number of studies they had already been involved with during the school year, or recent announcements of significant changes in staff placement.

The group of schools that chose to participate is diverse and spans the entire geographical area of Zone 6. The Zone has within its boundaries rural and urban schools comprised of large and small professional staffs with corresponding student populations. Ten regular public schools that are fully funded by Alberta Education took part in the study. In Alberta, Catholic schools are also fully funded by Alberta Education. Three Catholic public schools chose to participate.

Demographics of Participating Schools

Table 1 illustrates the population demographics of the 13 participating schools. Each of the eight jurisdictions is identified in the first column with a number ranging from one to eight. Schools within each jurisdictional area are then identified with a letter of the alphabet. Four of the jurisdictions had only one school participating; however, three jurisdictions had two schools taking part, and one jurisdiction had three schools participating. An identification of 1A indicates the first jurisdiction chosen (1) and the first school within this jurisdiction (1A) to participate. Thus, 1B indicates the same jurisdiction and the second school within the jurisdiction to participate, and so forth.

The second column identifies whether the participating school is in an urban or rural community, according to the provincial classification. Centers designated by the provincial government as cities are identified as urban, while centers designated as towns or villages are identified as rural.

The number of students enrolled is included to provide a clearer picture of the size of the educational facility. The grade configuration demonstrates how the school met the grade configuration requirement for this study.

Table 1. Demographics of Research Sample

Jurisdiction/ school	Urban/rural ^a	No. of staff participating in the study	No. of students enrolled	Grade configuration
1A	Rural	15	392	10-12
1B	Rural	12	169	7-12
1C	Rural	8	203	10-12
2A	Rural	4	466	10-12
3A	Rural	8	186	7-12
3B	Rural	10	135	7-12
4A	Urban	12	770	9-12
5A	Rural	3	288	9-12
6A	Urban	10	156	9-12
7A	Rural	3	65	6-12
7B	Rural	12	147	9-12
8A	Urban	21	970	10-12
8B	Rural	7	108	6-12

^a Urban schools were in centers designated as cities within the Province of Alberta; rural schools were in centers designated as towns or villages.

Demographics of Respondents

Gender

Within the sample, the gender distribution of respondents was comparatively even, with 56% identified as male and 46% as female. Thus gender did not impact the results of the survey (see Table 2). Each of the eight participating school jurisdictions is identified within the table with a number from one to eight. The schools within each jurisdiction are once again identified with a letter of the alphabet.

Table 2. Gender of Participants

Gender	Jurisdiction/School														Total	Percent
	1			2	3		4	5	6	7		8				
	A	B	C	A	A	B	A	A	A	A	B	A	B			
Male	8	9	8	2	4	4	4	2	3	2	6	15	3	70	56	
Female	7	3	--	2	4	6	8	1	7	1	6	6	4	55	44	

Teaching Experience

There is also a broad representation of teaching experience among respondents, with both novice and veteran teachers taking part (see Table 3). The final row in Table 3 identifies the percentage that each teaching experience grouping represents of the total 125 respondents. The frequencies demonstrate a relatively even distribution between novice and veteran teachers. Once again each school is identified with a number that represents the jurisdiction in which it is located, and a letter that identifies the individual school within that jurisdiction. The columns indicate respondents' years of teaching experience, as reported on the online learning community survey.

Table 3. Years of Teaching Experience

School	Years of Experience									
	0-3	4-6	7-9	10-12	13-15	16-18	19-21	22-24	25-28	28+
1A	1	3	1	--	2	4	--	3	1	--
1B	--	--	--	2	2	--	1	1	5	1
1C	--	1	1	3	1	--	--	--	1	1
2A	--	--	--	2	--	2	--	--	--	--
3A	2	--	--	1	--	2	1	2	--	--
3B	1	2	2	1	--	--	--	3	1	--
4A	4	2	--	3	--	2	--	1	--	--
5A	--	--	--	--	--	1	1	--	--	1
6A	1	3	--	--	1	1	2	1	--	1
7A	--	--	--	--	1	--	--	--	1	1
7B	6	--	--	1	1	1	2	--	--	1
8A	3	2	6	--	1	1	--	2	4	2
8B	--	--	2	1	1	1	--	1	--	1
Totals	18	13	12	14	10	15	7	14	13	9
%	14.4	10.4	9.6	11.2	8	12	5.6	11.2	10.4	7.2

Zone 6 Questionnaire Results

The questionnaire, *School Professional Staff as Learning Community*

Questionnaire (see Appendix D), created by Dr. Shirley Hord (1996) for the Southwest Educational Development Laboratory (SEDL) is organized around the five dimensions of a professional learning community identified by Hord. These include supportive and

shared leadership, shared values and vision, collective learning and application of learning, shared personal practice, and supportive conditions.

The survey was administered online to ensure participants' anonymity. The questionnaire presents each dimension of the learning community, along with an overriding statement that describes the behavioral expectations of a mature learning community within that dimension. Beside each overriding statement are the sub-items that constitute the actual questions of the survey. The questionnaire includes a total of 17 questions, the number of questions varying within each dimension. Respondents are asked to select a number from 1 to 5 that best represents the degree to which they feel their school has developed within each of the sub-items or questions. On this scale, 5 represents a high level of maturity and 1 represents a low level of maturity (Hord, 2001). Only question choices 1, 3 and 5 on the instrument contain a written statement describing the expected behaviour in the learning community at that level of maturity. Respondents may select 2 or 4 if they feel the development of their learning community falls somewhere between the written descriptors on the scale.

The overriding statement for each dimension of a learning community, as well as the sub-item or question choices under each dimension, are included here in order to enhance the meaning of the results for each question. In each of the following tables, the first column identifies the question choices from 1 to 5. The second column, frequency, shows the number of respondents who chose that numerical answer on the online questionnaire. The final column indicates what percentage of the 125 respondents the frequency number represents.

Dimension 1: Supportive and Shared Leadership

Overriding Statement: School administrators participate democratically with teachers sharing power, authority, and decision-making.

Question 1a Choices:

- 1 - Administrators never share information with the staff nor provide opportunities to be involved in decision-making.
- 2 -
- 3 - Administrators invite advice and counsel from staff and then make decisions themselves.
- 4 -
- 5 - Although there are some legal and fiscal decisions required of the principal, school administrators consistently involve the staff in discussing and making decisions about school issues.

As indicated in Table 4, 1.6% of the respondents perceived that their administrators never share information with the staff or provide an opportunity for them to be involved in decision-making. The next 8.8% felt they were receiving some information or being allowed some involvement in decision-making. There were 27.2% of the respondents that perceived their advice and counsel are invited, but the administrators are making decisions about school issues by themselves. An additional 38.4 % believed that their administrator allows them to be involved in some of the decisions being made, but not all decisions. The final 24.0% believed that they are consistently involved in the discussion of issues and the decisions made in their schools.

Table 4. Question 1a Responses

Choices ^a	Frequency ^b	Percent
1	2	1.6
2	11	8.8
3	34	27.2
4	48	38.4
5	30	24.0
Total	125	100.0

^a These are the number choices available on the continuum for each survey question.

^b These numbers represent the number of respondents choosing this answer.

Question 1b Choices:

- 1 - Administrators do not involve any staff.
- 2 -
- 3 - Administrators involve a small committee, council, or team of staff.
- 4 -
- 5 - Administrators involve the entire staff.

As Table 5 shows, none of the respondents reported that administrators do not involve staff at all; however, 6.4% felt their administrator did not always involve even small groups in the decisions being made. A total of 28.0% indicated that a portion of the staff (e.g. a committee, counsel or team of staff) are being involved in decision making. The next 37.6% felt that their administration are headed in the direction of involving the entire staff, but have not achieved this at this time. The remaining 28.0% reported that the administrators involve the entire staff.

Table 5. Question 1b Responses

Choices	Frequency	Percent
1	0.0	0.0
2	8	6.4
3	35	28.0
4	47	37.6
5	35	28.0
Total	125	100.0

Dimension 2: Shared Values and Vision

Overriding Statement: The staff shares visions for school improvement that have an undeviating focus on student learning, and these visions are consistently referenced in the staff's work.

Question 2a Choices:

- 1 - Visions for improvement held by the staff members are widely divergent.
- 2 -
- 3 - Visions for improvement are not thoroughly explored; some staff members agree and others do not.
- 4 -
- 5 - Visions for improvement are discussed by the entire staff such that consensus and a shared vision result.

As Table 6 illustrates, only 2.4% of the respondents (in this case, three people) believed that the visions for improvement held by their community are widely divergent.

The following 8.0% perceived that while visions for improvement are not divergent, either their school vision was not well explored, or they are uncertain of the agreement of the staff members with the vision. An additional 30.4% felt that there was no consensus for a shared vision because the visions for improvement are not thoroughly explored in their learning community. The next 35.2% reported that they are headed in the direction of consensus and a shared vision but have not yet attained that level of maturity; 24.0% perceived that the entire staff discuss the visions for improvement and are in consensus.

Table 6. Question 2a Responses

Choices	Frequency	Percent
1	3	2.4
2	10	8.0
3	38	30.4
4	44	35.2
5	30	24.0
Total	125	100.0

Question 2b Choices:

- 1 - Visions for improvement do not target students, teaching, and learning.
- 2 -
- 3 - Visions for improvement are sometimes focused on students, teaching, and learning.
- 4 -
- 5 - Visions for improvement are always focused on students, teaching, and learning.

As Table 7 indicates, one person, or 0.8%, felt that the visions for improvement in their learning community never target students, teaching, and learning. The next 1.6% of the respondents reported that visions for improvement sporadically focus on students, teaching, and learning, but not as consistently as the 18.4% that felt their community's visions for improvement sometimes focused on students, teaching, and learning. The next 40.0% reported that they are advancing in the direction of always focusing on students, teaching, and learning, but are not at the maturity level of the 39.2% that perceived that their visions for improvement are always focused on students, teaching, and learning.

Table 7. Question 2b Responses

Choices	Frequency	Percent
1	1	0.8
2	2	1.6
3	23	18.4
4	50	40.0
5	49	39.2
Total	125	100.0

Question 2c Choices:

- 1 - Visions for improvement do not include concerns about the quality of learning experiences.
- 2 -
- 3 - Visions for improvement address quality-learning experiences in terms of students' abilities.
- 4 -

- 5 - Visions for improvement target high-quality learning experiences for all students.

As the results for question 2c show, not every community’s visions for improvement focus on high-quality learning experiences for all students (see Table 8). There were 3.2% of the respondents that reported their learning communities’ visions for improvement do not include concerns about the quality of learning experiences. The next 4.0% perceived that their visions for improvement include concerns about the quality of learning experiences, but not in terms of students’ abilities. There were 22.4% that felt their visions for improvement addressed quality learning, but only in terms of students’ abilities. The next 40.8% felt that they are beyond thinking only in terms of students’ abilities, but are still progressing towards the highest level of maturity. The final 29.6% believed they are at the highest level of maturity with visions for improvement that target high-quality learning experiences for all students

Table 8. Question 2c Responses

Choices	Frequency	Percent
1	4	3.2
2	5	4.0
3	28	22.4
4	51	40.8
5	37	29.6
Total	125	100.0

Dimension 3: Collective Learning and Application of Learning

Overriding Statement: The staff's collective learning and application of the learnings (taking action) create high intellectual learning tasks and solutions to address student needs.

Question 3a Choices:

- 1 - Individuals randomly discuss issues, share information, and learn with and from one another.
- 2 -
- 3 - Subgroups of the staff meet to discuss issues, share information, and learn with and from one another.
- 4 -
- 5 - The entire staff meets to discuss issues, share information, and learn with and from one another.

The responses concerning the staff's collective learning and its application showed that this area requires some attention (see Table 9). Just 4.0% felt that their communities meet only randomly to discuss issues or learn together. While 13.6% felt that their communities are still growing towards the level of maturity at which subgroups meet, 24.8% of the respondents reported that subgroups of the staff do meet to discuss issues, share information, and learn with and from one another. A total of 40.0% reported that they are beyond having subgroups of the staff meeting and are working towards having their entire staffs meet to discuss issues, share information, and learn with and from one another. Only 17.6% of the respondents felt that their entire staff meets to discuss issues, share information, and learn with and from one another.

Table 9. Question 3a Responses

Choices	Frequency	Percent
1	5	4.0
2	17	13.6
3	31	24.8
4	50	40.0
5	22	17.6
Total	125	100.0

Question 3b Choices:

- 1 - The staff never meets to consider substantive educational issues.
- 2 -
- 3 - The staff meets occasionally on substantive student-centred educational issues.
- 4 -
- 5 - The staff meets regularly and frequently on substantive student-centred educational issues.

As the results show (see Table 10), schools need to meet more often to deal with student-centered educational issues. Of the respondents, 2.4% felt that the staff never meets to consider substantive educational issues. The next 9.6% felt they had not yet reached the level of maturity where they meet even occasionally for this purpose. Although 41.6% perceived that the staff does meet occasionally on substantive student-centered educational issues, 30.4% reported meeting more than occasionally, but not yet

regularly or frequently, to consider these matters. The remaining 16.0% reported that they meet regularly and frequently on substantive student-centered educational issues.

Table 10. Question 3b Responses

Choices	Frequency	Percent
1	3	2.4
2	12	9.6
3	52	41.6
4	38	30.4
5	20	16.0
Total	125	100.0

Question 3c Choices:

- 1 - The staff basically discusses non-teaching and non-learning issues.
- 2 -
- 3 - The staff does not often discuss their instructional practices nor its influence on student learning.
- 4 -
- 5 - The staff discusses the quality of their teaching and students' learning.

The respondents saw this sub-item as an area that needed development. The first 2.4% of the respondents felt their learning communities were at the lowest level of maturity and basically only discuss non-teaching and non-learning issues, while the next 5.6% believed that they discussed teaching and learning issues but did not discuss their instructional practice nor its influence on student learning. The next 29.6% perceived that their staffs do not often discuss their instructional practices or the influence of these on

student learning. This was followed by 43.2% that believed their staffs did discuss these more often, but not as often as the 19.2% that believed their staffs do discuss the quality of their teaching and students' learning.

Table 11. Question 3c Responses

Choices	Frequency	Percent
1	3	2.4
2	7	5.6
3	37	29.6
4	54	43.2
5	24	19.2
Total	125	100.0

Question 3d Choices:

- 1 - The staff does not act on their learning.
- 2 -
- 3 - The staff occasionally acts on their learnings and makes and implements plans to improve teaching and learning.
- 4 -
- 5 - The staff, based on their learnings, makes and implements plans that address students' needs, more effective teaching, and more successful student learning. (1996, p.2)

As Table 12 shows, none of the respondents believed that they did not act on their learnings. However, 4.0% felt they had not reached the maturity level at which they even

occasionally acted on their learnings. An additional 18.4% believed they occasionally acted on their learnings and made or implemented plans to improve teaching and learning. The next 53.6% felt they worked on this more than just occasionally, but did not make and implement these plans all of the time. Only 24.0% of the respondents perceived that they made and implemented plans that addressed students' needs, more effective teaching and more successful student learning based on what they had learned.

Table 12. Question 3d Responses

Choices	Frequency	Percent
1	0	0.0
2	5	4.0
3	23	18.4
4	67	53.6
5	30	24.0
Total	125	100.0

Question 3e Choices:

- 1 - The staff does not assess their work.
- 2 -
- 3 - The staff infrequently assesses their actions and seldom makes revisions based on the results.
- 4 -
- 5 - The staff debriefs and assesses the impact of their actions and makes revisions.

Table 13 illustrates the responses for this question. Only one respondent (0.8%) believed that staff members do not assess their work. Another 7.2% indicated that they are moving towards assessing their actions and making revisions but have not yet reached this level of maturity. The next 24.8% felt that staff infrequently assess their actions and seldom make revisions based on the results when they do. Over half of the respondents, 50.4%, felt that their staffs have not yet reached the maturity level where they debrief and assess the impact of their actions with revisions for improvement. They felt, however, that they do assess and make revisions based on the results often enough that they do not perceive their staff as doing this infrequently. The remaining 16.8% of the respondents reported that the staff in their learning communities do debrief and assess the impact of their actions and make revisions.

Table 13. Question 3e Responses

Choices	Frequency	Percent
1	1	0.8
2	9	7.2
3	31	24.8
4	63	50.4
5	21	16.8
Total	125	100.0

Dimension 4: Shared Personal Practice

Overriding Statement: Peer review and give feedback based on observing one another's classroom behaviours in order to increase individual and organizational capacity.

Question 4a Choices:

- 1 - Staff members never visit their peers' classrooms.
- 2 -
- 3 - Staff members occasionally visit and observe one another's teaching.
- 4 -
- 5 - Staff members regularly and frequently visit and observe one another's classroom teaching.

Staff members across Zone 6 perceived this dimension of peer review and feedback as the dimension requiring the greatest attention. Within the sub-items of the four other dimensions, from 8.8% to 39.2% of the respondents reported perceiving their schools at the highest level of maturity on the learning community continuum. However, respondents clearly perceive performance in this dimension to be at a much lower level of development.

Table 14 displays the results. There were 27.2% of the participants that perceived that their staff members never visit their peers' classrooms. An additional 40.0% indicated their inability to agree that staff members even occasionally visit and observe one another's teaching. The next 22.4% reported that they do occasionally visit and observe another's teaching. An additional 9.6% of the respondents felt that they were visiting other peers' classrooms more than occasionally, but not regularly or frequently.

Only one person (0.8%) indicated that staff members are at the highest level of maturity in his/her learning community. In other words, only one person out of 125 felt that staff members regularly and frequently visit and observe one another's classroom teaching.

Table 14. Question 4a Responses

Choices	Frequency	Percent
1	34	27.2
2	50	40.0
3	28	22.4
4	12	9.6
5	1	0.8
Total	125	100.0

Question 4b Choices:

- 1 - Staff members do not interact after classroom observations.
- 2 -
- 3 - Staff members discuss non-teaching issues after classroom observations.
- 4 -
- 5 - Staff members provide feedback to one another about teaching and learning based on their classroom observations.

As indicated on Table 15, 25.6% of the respondents perceived that staff members do not interact after classroom observations. If they do, 25.6% believed that they discuss non-teaching issues. The following 27.2% felt that when they do interact after classroom observations the discussion relates to non-teaching issues. The next 16.8% perceived that

they discussed teaching issues, but did not always provide feedback to one another based on the classroom observations. Only 4.8% of the participants felt that staff members provided feedback to one another about teaching and learning based on classroom observations.

Table 15. Question 4b Responses

Choices	Frequency	Percent
1	32	25.6
2	32	25.6
3	34	27.2
4	21	16.8
5	6	4.8
Total	125	100.0

Dimension 5: Supportive Conditions

Overriding Statement: School conditions and capacities support the staff’s arrangement as a professional learning organization.

Question 5a Choices:

- 1 - Staff cannot arrange time for interacting.
- 2 -
- 3 - Time is arranged but frequently the staff fails to meet.
- 4 -
- 5 - Time is arranged and committed for whole staff interactions.

This sub-item, which deals with school conditions and capacities that support staff arrangements as a learning community, elicited the greatest diversity in responses (see Table 16). Just 7.2% felt that staff could not arrange time for interacting, while 21.6% perceived that there was some time arranged but they could not move to the third choice that stated the time is arranged but frequently the staff fails to meet. The next 16.8% believed that although time is arranged, frequently the staff does fail to meet. By selecting choice 4, 33.6% indicated that they were not yet ready to join the 20.8% who perceived that time is arranged in their communities and that staff are committed to meeting.

Table 16. Question 5a Responses

Choices	Frequency	Percent
1	9	7.2
2	27	21.6
3	21	16.8
4	42	33.6
5	26	20.8
Total	125	100.0

Question 5b Choices:

1 - The staff takes no action to manage the facility and personnel for interaction.

2 -

- 3 - Considering the size, structure, and arrangements of the school, the staff are working to maximize interaction.
- 4 -
- 5 - The size, structure, and arrangements of the school facilitate staff proximity and interaction.

This sub-item concerns how well staff members work to maximize interaction considering the size, structure, and arrangements of their schools. Table 17 displays the results. Only two people (1.6%) believed that staff members take no action to manage the facility and personnel for interaction, while 22.4% felt that staff members are taking some action but are not working to maximize interactions considering the size, structure and arrangements of the school. There were 39.2% that perceived staff members are working to maximize interactions dependent on their school configurations. The next 28.0% were already maximizing interactions, but felt that the school did not facilitate staff proximity and interaction. Only the remaining 8.8% felt their schools facilitated staff proximity and interaction.

Table 17. Question 5b Responses

Choices	Frequency	Percent
1	2	1.6
2	28	22.4
3	49	39.2
4	35	28.0
5	11	8.8
Total	125	100.0

Question 5c Choices:

- 1 - Communication devices are not given attention.
- 2 -
- 3 - A single communication method exists and is sometimes used to share information.
- 4 -
- 5 - A variety of processes and procedures are used to encourage staff communication.

Communication appears to be a sub-item that is developing in the schools, as can be seen in Table 18. Only two people (1.6%) felt that communication devices are not given attention in their learning community. The next 10.4% fell between no attention to communication devices and a single existing method being used occasionally, while 26.4% felt that a single communication method existed and was sometimes used to share information. There were 36.8% of the respondents that believed a single communication method is used to share information, but their learning communities did not use a variety of processes and procedures for community. Only the last 24.8% perceived that a variety of processes and procedures are used to encourage staff communication.

Table 18. Question 5c Responses

Choices	Frequency	Percent
1	2	1.6
2	13	10.4
3	33	26.4
4	46	36.8
5	31	24.8
Total	125	100.0

Question 5d Choices:

- 1 - Trust and openness do not exist among the staff members.
- 2 -
- 3 - Some of the staff members are trusting and open.
- 4 -
- 5 - Trust and openness characterize all of the staff members.

The area of trust and openness clearly requires more maturity, as Table 19 indicates. Trust and openness do not exist between staff members, according to 2.4% of the respondents. The next 8.8% felt that while there was the existence of trust and openness it was not at the level where they could say that even some of the staff members were trusting and open. There were, however, 39.2% that reported some of their staff members are trusting and open. An additional 36.8% believed that while more than some of the staff members were trusting and open, this could not be said of all staff members in their learning communities. In fact, only 12.8% perceived that trust and openness characterize their entire staff.

Table 19. Question 5d Responses

Choices	Frequency	Percent
1	3	2.4
2	11	8.8
3	49	39.2
4	46	36.8
5	16	12.8
Total	125	100.0

Question 5e Choices:

- 1 - Staff members are isolated and work alone at their tasks.
- 2 -
- 3 - Caring and collaboration are inconsistently demonstrated among the staff members.
- 4 -
- 5 - Caring, collaborative, and productive relationships exist among all staff members.

As indicated in Table 20, only two (1.6%) respondents perceived that they are isolated and work alone on tasks. This is followed by 6.4% that believed that while staff members are not isolated and working alone, caring and collaboration are not demonstrated among staff members. The next 32.0% felt that staff members do inconsistently demonstrate caring and collaboration. The fourth level of maturity had 42.4% of the respondents that saw their communities as being more consistently caring and collaborative, but still needing some development. The remaining 17.6% believed

that caring, collaborative, and productive relationships existed among all of their staff members.

Table 20. Question 5e Responses

Choices	Frequency	Percent
1	2	1.6
2	8	6.4
3	40	32.0
4	53	42.4
5	22	17.6
Total	125	100.0

Appendix E lists the frequencies of the choices for each of these 17 questions from the questionnaire, regrouped under each jurisdiction.

Zone 6 Total Frequencies

The total of the choices selected on all 17 questions on the learning community questionnaire represents the level of maturity of the learning community as perceived by each respondent. The highest score that can be attained to demonstrate the maturity of a learning community is 85. The closer the total score is to 85, the more mature and effective the learning community is perceived to be. There is quite a spread in the totals attained by individual respondents. Some perceive that their school’s learning communities are barely beginning to develop, responding with total scores of 24 or 34 out of the possible 85. Fifty percent of the respondents perceived that their learning communities were still developing with totals of 60 or less out of 85. Ninety percent of the respondents’ totals equaled 73 or less out of the possible 85. None of the respondents

perceived that their learning community deserved a total of 85 out of 85. Clearly the respondents perceive that their learning communities have room for growth. The frequencies for the individual totals from 24 to 84 on the learning communities survey are presented in Appendix F.

A school's learning community is comprised not of a single staff member but of every staff member. To demonstrate the diversity in the development of learning communities from the point of view of each entire staff or learning community, Table 21 presents the survey averages for each of the 13 participating schools. A number and letter identify jurisdictions and schools within them on this table, as they were identified on previous tables.

To calculate the survey mean, the individual participants' totals on the 17 questions from the questionnaire were grouped according to their jurisdiction and school. Once all of the staff's totals within a school were grouped, the mean of these totals was calculated. The number participating is the number of staff members from that school that participated in the survey. The range shows the numerical differences between the highest and lowest totals in each school. It shows the spread of the perceptions held by individual staff members within each learning community.

Table 21. Perceived Levels of Maturity

Jurisdiction/School	Survey Mean	# Participating	Range
1A	54.6	15	36
1B	52.7	12	34
1C	70.0	8	11
2A	58.5	4	19
3A	53.9	8	26
3B	50.1	10	39
4A	63.1	12	25
5A	53.7	3	20
6A	58.5	10	30
7A	69.3	3	11
7B	60.9	12	41
8A	70.6	21	30
8B	56.4	7	24

While the individual participant frequency responses for the totals of the learning community questionnaire (see Appendix F) may imply that the learning communities are maturing well, the school or learning community data show that none of the learning communities were perceived to be more mature than 70.6 out of a total of 85. In fact, 8 of the 13 schools attained total scores between 50 and 60 out of the possible 85. These results demonstrate the growth that is still needed within the learning communities across Zone 6.

Gender Differences

A Mann-Whitney U test was applied to ascertain if there were any significant differences in mean rankings on the answers chosen on the learning community questionnaire, depending on the gender of the respondents. This test is typically applied when using nonparametric ordinal data such as that found on a Likert scale (Howell, 1997). Since several tests were being run on each of the 17 choices made by the 125 respondents, a significant difference could be expected by chance. By setting the significance level to 0.05, the likelihood of this chance occurrence is lessened. The asymptotic significance (2-tailed) scores for each of the 17 questions on the questionnaire ranged from 0.002 on questions 4a and 4b, to 0.974 on question 3e. With the *a priori* significance level set at 0.05, the outcomes from the Mann-Whitney U test demonstrated that significant differences were found in the perceptions of the male and female participants within three dimensions. Questions 4a and 4b had significance levels of 0.002. These questions dealt with staff perceptions of the amount of peer review and feedback that occurred in the schools, based on observing one another's classroom behaviours in order to increase individual and organizational capacity. On 4a, the mean rank for the males was 71.63 while the mean rank for the females was 52.02. Question 4b showed a mean rank for the males of 71.64 while the mean rank for the females was 52.00. Question 5d had a significance level of 0.003, while question 5a had a significance of 0.012. Question 5d dealt with the amount of trust and openness existing among the staff members. The mean rank for the males was 71.03, while the females' mean rank was 52.78. Question 5a was concerned with the time arranged and committed for whole staff interactions. The mean rank for the men was 68.14, and the mean rank for the

women was 56.45. Questions 3a and 3c dealt with the number of staff that met and whether their discussions in these meetings involved the quality of their teaching and students' learning. Results were similar, with question 3a having a mean rank of 68.46 for the men and 56.05 for the women. On question 3c, the men's mean rank was 68.36, and the women's was 56.18. In each of these items, the men perceived the learning communities to be more mature than did the females. The statistical results for the Mann-Whitney U test on genders are presented in Appendix G.

Differences in Years of Experience

A Kruskal Wallis test was first applied to determine if there was a significant difference in the answers chosen depending on the years of experience of the participating staff members. This test is typically used for nonparametric ordinal level variables like the Likert scale when there are three or more independent groups (Howell, 1997). Each of the groupings for years of experience would be recognized as an independent grouping. Once again the significance level (p) was set *a priori* at 0.05. Three questions attained this significance level. Question 5b, dealing with whether the school size, structure, and arrangements facilitated staff interactions, showed a significance level of 0.001. Question 5a, dealing with time arrangements for staff interaction, was the next closest with a significance level of 0.013. Question 3a dealt with how many individuals on staff met to discuss, share information, and learn with and from one another. Other questions ranged as high as 0.749. The complete statistical results related to years of experience are presented in Appendix H.

The significance levels obtained on questions 5a and 5b necessitated the application of the Mann-Whitney U test to determine which pairings of years of

experience produced the significant differences. On question 5a dealing with the time arranged for staff interactions, the results of the Mann-Whitney U showed a significance value of 0.002 for the comparison of 0-6 years experience and 19-24 years of experience. The mean rank for the 0-6 years of experience group was 31.71, while the mean rank for 19-24 years was 18.81. This suggests that the teachers with less experience perceived that more time was arranged for interactions. The analysis showed a significance level of 0.004 on this question between the 19-24 and 25+ experience groupings. In this case, however, the more experienced teachers had a mean rank of 27.27 while the 19-24 years of experience had a mean rank of 16.48. In this pairing, the teachers with more experience perceived that more time was arranged for interactions.

Significant differences emerged on question 5b, asking whether the size, structure and arrangements of the school facilitated staff interaction. Between the choices of teachers with 0-6 years of experience and those with 19-24 years of experience, an asymptotic significance (2-tailed) of 0.001 resulted. The mean rank for the 0-6 years of experience group was 31.82, while the mean rank was 18.64 for the 19-24 grouping. An asymptotic significance of 0.007 resulted between the choices of teachers with 7-12 years of experience and teachers with 19-24 years of experience. The mean rank for the 7-12 grouping was 28.63, and that of the 19-24 grouping was 18.26. These two results illustrate that the staff with fewer years of experience perceived that the school size, structure and arrangements did facilitate staff interaction more than the more experienced grouping. However, the comparison of teachers with 13-18 and 19-24 years of experience to those with 25 or more years showed different results. The significance level obtained between the 13-18 years of experience and 25+ years was 0.006. The mean rank for the

13-18 years was 19.08 while the 25+ was 29.59. A comparison of the 19-24 years with the 25+ years of experience resulted in an asymptotic significance level of 0.000. In the latter two situations, the more experienced staff members perceived that the school conditions facilitated staff interactions.

On question 3a, teachers with 0-6 years of experience and 25+ years of experience believed more that staff members met to discuss issues, share information and learn with and from one another. The mean rank for 0-6 years was 75.89, and for 25+ years it was 72.16, while the mean ranks for 7-12, 13-18, and 19-24 years were 54.04, 58.36, and 51.00 respectively.

Zone Achievement Results

Diploma Exams

Alberta Education prepares diploma examinations for all core courses in Grade 12, and all students in Grade 12 are expected to write these examinations. The diplomas are valued at 50% of the grade that the students will receive for that subject on their high school transcripts. The Learner Assessment Branch of the provincial government establishes what the Standard of Excellence and Acceptable Standard will be each year on each diploma examination.

On the English 30-1 and English 30-2 exams, the percentages of students attaining the Acceptable Standard and the Standard of Excellence were collected for the school years ending in June 2004, 2005, and 2006 (see Table 22). A new curriculum was initiated in 2004, so Alberta Education did not provide the percentages from the 2001/2002 and 2002/2003 school years for comparison. Since Alberta Education has not included English in its list of subjects involved in their initiative to maintain consistent

standards over time, the diploma exam results cannot be compared directly from year to year (Alberta Education, 2007b).

For Social 30 and Social 33, the percentages of students attaining the Acceptable Standard and the Standard of Excellence were collected for the school years ending in June 2002, 2003, 2004, 2005, and 2006 (see Table 23). Social has been included in Alberta Education's list of subjects involved in their initiative to maintain consistent standards over time since the 2004 school year; consequently, direct comparisons of the results from 2004 to 2006 are possible (Alberta Education, 2007b).

Both an English course and a Social course at the Grade 12 level are mandatory for the attainment of a high school diploma in Alberta. The percentages show how many students across Zone 6 attained the Acceptable Standard and the Standard of Excellence that was set by the Learner Assessment Branch of Alberta Education. Alberta Education expects that 85% of the students writing will meet the Acceptable Standard established for the diploma examination each year, and 15% will meet the Standard of Excellence (Alberta Education, 2006a).

Tables 22 and 23 present the results for the English and Social diploma examinations respectively for the 13 participating schools. "Minimum" indicates the lowest percentage and "maximum" indicates the highest percentage of students attaining this standard from one of the participating schools. The mean column shows the average of the percentages attained by all 13 schools in that particular area of Acceptable Standard or standard of excellence. The standard deviation row indicates the number of standard deviations that are represented by the percentages attained. A normal distribution of results would cover approximately 99% of the responses within three

standard deviations. The larger number of standard deviations attained identified a greater spread in the results for each year's exams, indicating a broad diversity in the results.

Table 22. English Diploma Exam Results

Subject	Standard	Statistics	2004	2005	2006
Eng. 30-1	Excellence	Minimum	6.9	6.7	11.5
		Maximum	28.1	25.0	38.9
		Mean	17.4	16.2	21.3
		Std. Dev.	6.61	6.16	7.81
Eng. 30-1	Acceptable	Minimum	87.4	84.6	69.2
		Maximum	100.0	100.0	100.0
		Mean	95.2	93.6	92.4
		Std. Dev.	4.53	5.26	7.84
Eng. 30-2	Excellence	Minimum	0	0	1.8
		Maximum	33.3	42.9	31.3
		Mean	9.6	13.8	11.1
		Std. Dev.	9.45	14.11	8.38
Eng.30-2	Acceptable	Minimum	68.8	81.3	77.8
		Maximum	100.0	100.0	100.0
		Mean	86.7	92.8	91.1
		Std. Dev.	10.23	6.09	7.12

In English 30-1, a university preparatory level English, the range of percentages attained in the Standard of Excellence level was from 6.7% to 38.9% throughout the

three-year span. In each of the three years, the means in the Standard of Excellence for Zone 6 were above the provincial expectation of 15%. The individual school results provided to each jurisdiction by Alberta Education are more useful than these combined results for planning at each site. The range of percentages for the Acceptable Standard in English 30-1 was far below the provincial expectation of 85% only in 2006, when one of the schools attained a percentage of 69.2. These percentages can be greatly influenced by one or two individuals in the smaller high schools so the results must be carefully interpreted (Alberta Education, 2007b).

In English 30-2, a college preparatory level English, the percentages attaining the Standard of Excellence demonstrated a greater range, and the mean for Zone 6 never met Alberta Education's expected attainment percentage of 15%. When the acceptable standards were examined, the mean percentages for Zone 6 in each of the three years met the province's standards, but the percentages attained roller coasted over the three-year span.

There was no clear indication that the achievement in English increased over the three-year span. This could be dependent on many factors, including the early developmental stage of the school learning communities, school populations, class sizes, individual student abilities, the experience of teachers, and differing difficulty levels on the examination questions.

Table 23. Social Diploma Exam Results

Subject	Standard	Statistics	2002	2003	2004	2005	2006
Social 30	Excellence	Minimum	5.3	4.9	6	0	16.7
		Maximum	42.9	41.6	40	38.7	43.8
		Mean	22.4	24.8	23.6	21.9	26.1
		Std. Dev.	10.12	11.57	10.57	10.15	8.70
Social 30	Acceptable	Minimum	73.3	72.0	76.5	71.9	80.2
		Maximum	100.0	98.3	100.0	100.0	100.0
		Mean	91.2	91.0	88.2	91.6	93.8
		Std. Dev.	8.22	6.48	7.71	8.26	6.34
Social 33	Excellence	Minimum	0	0	0	0	3.6
		Maximum	23	48	38	58.8	53.1
		Mean	9.2	15.9	17.0	21.3	21.4
		Std. Dev.	7.32	12.56	11.78	14.73	13.58
Social 33	Acceptable	Minimum	58.8	64.3	62.5	77.6	66.7
		Maximum	92.3	95.2	100.0	100.0	100.0
		Mean	77.6	86.3	83.6	87.8	88.4
		Std. Dev.	10.47	9.67	10.72	6.19	10.19

Note: Some of the rural schools had a smaller number of students writing. The fewer the students, the more carefully the results must be interpreted, because the overall results for small groups can be greatly influenced by the scores of one or two individuals (Alberta Education, 2007b).

In Social 30, the university preparatory social course, the 2006 results showed an increase in achievement. The minimum percentage attained in the Standard of Excellence

division met the provincial expectation at 16.7%, while the maximum percentage attained in this category was 43.8% of the students at one of the schools attaining this standard of excellence. This was an increase of 3.8% over the results in 2004. The mean for Zone 6 rose from 23.6% in 2004 to 26.1% attaining this level in 2006. The acceptable standard, while not attaining the expected 85%, showed a growth from 76.5% attaining this level in 2004 to 80.2% attaining it in 2006. The mean for Zone 6 showed a continual increase over the three-year span from 88.2% in 2004 to 93.8% in 2006.

Social 33, the college preparatory social studies course, showed an increase in the percentage attaining the Standard of Excellence with a minimum of 3.6% in 2006, when 0% had been demonstrated in the two prior years. There was a slight mean increase across Zone 6 with 17.0% in 2004 and 21.4 % attaining the Standard of Excellence in 2006. The percentage attaining the Acceptable Standard also gradually increased over three years, with mean Zone 6 averages growing from 83.6% attainment in 2004 to 88.4% in 2006. Increases in the mean scores may be due to many factors, such as school populations, class sizes, individual student abilities, and the experience of the teachers.

Rutherford Scholarship Eligibility Rates

Rutherford Scholarship eligibility rates are calculated by determining the percentages of Grade 12 students in Alberta whose marks in eligible courses at any time during high school meet the criteria for the scholarship. Rates are calculated for each high school grade, and an overall rate is calculated based on these. This overall rate is the Accountability Pillar measure (Alberta Education, 2006a).

Table 24 shows the results of this measure for the five years from June 2002 to June 2006. These results were obtained from each participating jurisdiction for the

eligible schools that participated in this study. Alberta Education prepared the results for the individual jurisdictions and made them available to jurisdictional offices in June 2007. The word “minimum” in the tables represents the lowest percentage of students that obtained the Rutherford Scholarship in one of the participating schools in Zone 6. The word “maximum” represents the maximum percentage of students that obtained the Rutherford Scholarship from one of the 13 participating schools. The numbers in the mean column represent the average of the percentages obtained on the Rutherford Scholarship by all 13 schools. The standard deviation row indicates the number of standard deviations represented by the percentages of students qualifying for the Rutherford Scholarship. The larger the number of standard deviations, the greater is the spread of the percentages of students qualifying for the scholarship across Zone 6. A normal distribution of the results would cover approximately 99% of the responses within three standard deviations. If the results attained are spread farther, then the number of standard deviations will increase, indicating the diversity attained in the results.

Table 24. Rutherford Scholarship Eligibility Results

Statistics	2002	2003	2004	2005	2006
Minimum	13.9	22.5	28.1	29.7	33.3
Maximum	56.7	77.1	76.4	62	82.0
Mean	39.1	44.9	45.7	46.0	47.6
Std. Dev.	13.96	13.99	14.54	10.75	13.35

The standard deviations in Table 24, while indicating that there was a considerable spread among the results for the 13 schools participating over the five-year

span, range closer across the years than the standard deviations on the other variables.

The data demonstrate that the percentages of students qualifying for the scholarship have increased steadily from 2002 to 2006. Thus increased numbers of students are attaining over 80% in the courses eligible for this scholarship.

Diploma Examination Participation Rates

Alberta Education (2006a) requires all students that graduate from high school in Alberta to obtain credit in English and Social diploma courses at the Grade 12 level. Students entering Grade 10 are tracked for three years to determine the number of diploma examinations they have written before leaving high school. The Accountability Pillar measure is the percentage of students who wrote four or more diploma exams. Alberta Education (2006a) believes the writing of four diploma examinations to be a good indication that students have a solid foundation in the four core subject areas of language arts, social studies, mathematics and science.

Table 25 shows the results for the schools participating in this study for the school years ending in June 2002 to June 2006. These results were obtained from each jurisdiction for the eligible schools that participated in this study. Alberta Education prepared the results for the individual jurisdictions and made them available to jurisdictional offices in June 2007. The minimum and maximum percentages respectively represent the lowest and highest percentages of students that wrote four or more exams out of the 13 participating schools. The mean is the mean of the percentages of students that wrote four or more exams from all 13 participating schools.

Table 25. Diploma Examination Participation Rates

Statistics	2002	2003	2004	2005	2006
Minimum	30.0	44.1	45.0	39.5	38.6
Maximum	63.4	66.8	74.1	67.1	72.9
Mean	53.8	54.4	57.6	55.2	55.7
Std. Dev.	9.37	6.82	9.26	8.99	10.24

A small increase is evident in the mean Zone percentages when comparing 2002 to 2006; however, overall the percentages of students writing four or more courses have endured a roller coaster effect over the five-year span. This could be due to many factors, including student populations, student abilities, career choices, and reductions in staffing.

Zone High School Completion Rates

The Accountability Pillar measure for the high school completion rate is the percentage of students who have completed high school within three years of entering Grade 10. Alberta Education keeps accurate records of the arrival and departure dates for students throughout the province. Students are considered high school completers if they have received a high school diploma or equivalent, if they have enrolled in an Alberta post-secondary institution, or if they have enrolled in an apprenticeship program within the tracking period (Alberta Education, 2006a).

The Zone 6 results were obtained from each participating jurisdiction for the eligible schools that participated in this study. Alberta Education provided the jurisdictions with this data in June 2007. Table 26 shows the results for the school years ending in June 2002 to June 2006.

Table 26. High School Completion Rates

Statistics	2002	2003	2004	2005	2006
Minimum	65	71	73	70	74
Maximum	91	87	96	89	93
Mean	78.8	81.4	82.6	79.4	83.1
Std. Dev.	7.85	4.99	6.36	7.37	5.93

The “minimum” row identifies the minimum percentage of students that completed high school after 3 years out of the 12 participating schools, from 2002 to 2006. One of the schools was unable to attain this data for their school. The “maximum” row identifies the highest percentage of students that attained this standard out of the 12 participating schools. Once again the mean is the average of all of the percentages within each year attained by all 12 schools.

The mean percentage of students completing high school in three years shows gradual growth from 78.8% in 2002, to 83.1% in 2006. The minimum percentages have increased steadily from 65% in 2002, to 74% in 2006. Although the maximum percentages have seesawed, the 93% in 2006 is still an increase over the 91% in 2002 before the initial movements to develop learning communities in the high schools. This would appear to demonstrate that more students are graduating, enrolling in post-secondary schools, or enrolling in apprenticeship programs after three years of high school.

Research Question

Longitudinal studies carried out by Statistics Canada and Human Resources Development Canada (Bowlby & McMullen, 2002) identified that dropout rates are high

in Canada in relation to other developed nations. In 2003, Alberta's Commission on Learning (ACOL) found that one quarter of Alberta's high school enrollees were not completing high school. ACOL proposed the formation of learning communities as one way to increase the achievement of students in Alberta, with the intention that this would then also increase the number of students completing high school.

This research was undertaken to ascertain whether there is a relationship between the maturity of a school's learning community and the school's achievement and high school completion rates. The research question is this: Has the introduction of professional learning communities in secondary schools been associated with any changes in student achievement and the rate of high school completion in secondary schools in Zone 6 of Alberta? Four null hypotheses were put forward:

1. There will be no experimentally important or experimentally consistent difference in the frequency between the degree to which a school reflects the attributes of a mature professional learning community and the percentage of students achieving the Acceptable Standard and the Standard of Excellence on the Diploma Examinations.
2. There will be no experimentally important or experimentally consistent difference in the frequency between the degree to which a school reflects the attributes of a mature professional learning community and the overall rate of eligibility for the Rutherford Scholarship.
3. There will be no experimentally important or experimentally consistent difference in the frequency between the degree to which a school reflects the

attributes of a mature professional learning community and the percentage of students writing four or more diploma examinations.

4. There will be no experimentally important or experimentally consistent difference in the frequency between the degree to which a school reflects the attributes of a mature professional learning community and the percentage of increases or decreases in high school completion rates.

An SPSS statistical program was used to apply Kendall's Tau B Correlation to the data obtained. The maturity of the learning community in Zone 6 was correlated with each of the achievement variables and the high school completion rate. An *a priori* significance level of 0.05 was applied. This was applied because when several correlation tests are being run the probability of a Type I error is high if the significance level is set at 0.10. That is to say, a significant result could occur by chance simply because several correlations were run (Howell, 1997). Setting the significance level at 0.01 or 0.001 could increase the probability of a Type II error occurring.

Some correlations were found with the diploma examination prong of the achievement variables. English 30-2 in 2004 had a one-tailed significance of 0.025 at the Standard of Excellence level, and 0.014 at the Acceptable Standard level. Social 30 in 2004 had a one-tailed significance of 0.50 at the Standard of Excellence level, while Social 33, in the same year, also had a significance of 0.50 at the Standard of Excellence level. Social 33 also demonstrated the same significance level, 0.50, at the Standard of Excellence level in 2003. More recently, Social 30 demonstrated a significance level of 0.022 in 2006. The overall rate of eligibility for the Rutherford scholarship, the percentage of students who wrote four or more diploma exams, and the high school

completion rates showed no significant correlations at this time. The correlation coefficients and significance levels are presented in Appendix I.

Howell (1997) explains that the null hypothesis may be rejected, or if the significance levels do not meet the *a priori* levels, then the researcher must fail to reject the hypotheses. As Howell explains, “Statisticians agree that we can never claim to have proved the null hypothesis” (p. 93). The failure to reject often means that not enough data has been collected. Since the results from Kendall’s Tau B Correlation did not meet the significance levels for all of the variables, this researcher must fail to reject the hypotheses dealing with the following variables: the percentage eligible for the Rutherford Scholarship, the percentage completing four or more diploma exams, and the percentage completing high school within three years. In the achievement variable of the Social and English diploma examinations, some significance was seen; however, it was not consistent across the span from 2004 to 2006. While there is some significance showing primarily in the Social Diploma examination results, at this time there does not appear to be a significant relationship amongst the maturity of the learning communities and the other two prongs of achievement, or the high school completion rates of the students in Zone 6 of Southern Alberta.

CHAPTER FIVE

CONCLUSION

Summary

Longitudinal studies carried out by Statistics Canada and Human Resources Development Canada (Bowlby & McMullen, 2002) identified that dropout rates are high in Canada in relation to other developed nations. Alberta's Commission on Learning in 2003 found that one quarter of Alberta's high school enrollees were not completing high school (2003). The Commission put forth the formation of learning communities as one way to increase the achievement of students in Alberta with the intention that this would then increase the number of students completing high school.

This research was undertaken to ascertain how mature the learning communities were in the high schools in Zone 6 of Southern Alberta, and whether there was a relationship between the maturity of a school's learning community and the school's achievement and high school completion rates. Correlational analyses determined that, at the time of this study, there was some evidence of significance in one English diploma examination and four Social Studies diploma examinations, so the first null hypothesis is rejected. It appears that there may have been some correlation between the growing professional learning communities and the diploma examination results from 2004 to 2006. There was not, however, a significant relationship between the maturity of the learning community and the Rutherford Scholarship eligibility, the percentage of students writing four or more diploma exams, and the rate of high school completion. These results require the researcher to fail to reject these three null hypotheses.

Conclusions

On the *School Professional Staff as Learning Community Questionnaire* (Hord, 1996), the five dimensions of effective learning communities are examined to establish the maturity of the learning community within each dimension. The five dimensions include: democratic leadership, a shared vision, staff's collective learning, peer reviews and feedback, and school conditions that support a professional learning organization. The responses acquired on the questionnaire demonstrated that there is room for growth as a professional learning community in every school involved in the study. The area requiring the most attention is dimension four dealing with shared personal practice. On the first sub-item within this dimension only one person out of 125 felt the school was at the highest level of maturity, with teachers regularly and frequently observing each other's practice. On the second sub-item, a mere 5% perceived that feedback to improve the practice of the teachers is provided by staff members based on classroom observations. The literature review that was undertaken for this research demonstrated the importance of persevering with the development of all five dimensions within these learning communities, in order to positively affect the achievement of students.

The first dimension identified in the questionnaire developed by Hord (1996), based on her extensive research on learning communities, dealt with democratic leadership that involved shared power, authority and decision-making. Of the respondents, only an average of 26% on the two sub-items perceived that the leadership within their learning communities was at the maximum maturity level that could be attained. Elmore (2000) suggested that this type of leadership is important because it enhances the skills and knowledge of the staff, and creates a common culture of

expectations while encouraging productive relationships. This links the type of leadership to another dimension of the learning community found in the second section of the questionnaire. This dimension involves the staff's shared visions for school improvement that focus all decisions on improving student learning. Hord (2004) stressed that in the professional learning community vision, the students are pictured as being academically capable, and the staff must envision environments that support and realize each student's potential, by centering on ways to continually improve student achievement. Yet only 24% of the respondents believed that their learning community had consensus on the vision for improvement in their school. This vision, shared by all on staff, should be integral to all school activities. The vision should guide professional development and encourage teacher collaboration so that there is a coherent curriculum that fosters consistency across classrooms in regards to how the students learn, and the teaching strategies that are to be used by all staff. These strategies are used to enhance the learning of the students, as well as establish common performance expectations (Bitter, et al, 2005; Kannapel & Clements, 2005).

This dimension of the learning community needs to be greatly developed in Zone 6. The expectation of teachers applying common teaching strategies, and holding common student learning expectations, links the fourth and fifth dimensions of the learning community, involving peer review and school conditions that support the staff's arrangement as a professional learning community. In the professional learning community, quality instruction is viewed as the responsibility of the entire learning community. By observing one another, and modeling teaching strategies, good teachers are able to become even more effective teachers (Fulton, Yoon, & Lee, 2005). Individual

teachers become accountable for their contributions to the overall success of the school (Elmore, 2000). However, as stated earlier, only one person out of 125 believed that staff members regularly and frequently visit one another's classrooms for observation of their practice. Hall and Kennedy (2006) stressed that effective leadership ensures time for collaboration, including peer instruction, is timetabled into the work schedule of the school. Only one-fifth of the respondents perceive that their staffs meet to discuss educational issues, share information, and learn with and from one another, then use what they have learned to modify their own practice. The results from the questionnaire demonstrate the growth and improvement still needed within the professional learning communities in Zone 6's high schools.

There are many factors that may have affected the outcome of this study. To begin, the implementation of learning communities is a very young development in the province. Although Alberta accepted this recommendation in 2003 (ACOL, 2003), many schools took time to learn about the characteristics of learning communities and what needed to be in place to make them successful, before actually diving in and organizing one. For this reason, many schools' learning communities are still in the infancy stage. Despite being conducted four years after the provincial recommendation, this study may have been done too soon to be an accurate accounting of the effects a learning community can bring about in the area of achievement. As well, the time of year in which the study was conducted may have impacted the results. Possibly more schools would have participated in a study conducted in March or April, because the pressures of imminent diploma exams would have been less and there may have been less demand on their time. As well, staffs would not have been in turmoil over assignment changes and

placements. There is also difficulty in measuring achievement changes over a five-year span since the student population and examination questions are not the same from year to year. Each year presents a new group of Grade 12 students with different learning needs and abilities. In addition, the diploma examination questions are comparable but not exactly the same from year to year. Even if the examinations' questions are comparable, the learners are not.

The descriptive statistics demonstrated, nonetheless, that there were slight increases found in the rates of some of the variables. For example, in the year 2006, 10 out of the 13 schools saw increases in the percentage of students qualifying for the Alberta Rutherford Scholarship over the previous 2003 rates. This means that these schools had more students attaining grades over 80% in the eligible courses. There were eight out of the 13 that kept the same percentage or had slight increases in the percentages writing four or more diploma examinations. Nine out of 12 of the schools saw increases in their high school completion rates between 2005 and 2006. One of the schools was unable to attain these rates. There have recently been concerns raised by Alberta Education that the booming economic situation in Alberta is luring students out of school. High salaries offered in the oil sands projects and the construction booms in the cities are significant lures for the students.

Recommendations

In light of the findings, this research offers the following four recommendations.

1. Schools should continue with the development of the professional learning communities since they have within them many of the characteristics the literature identified as being essential to successful achievement by all students.

Within the dimension of shared values and vision, authors of the longitudinal studies in Canada's Youth in Transition research argued that the principal's most significant effect on student learning comes through his/her efforts to establish a vision of the school and to develop goals related to the accomplishment of the vision (Bitter et al., 2005). This parallels Bass's (1985) belief that a transformational leader is required who can ensure that a vision is developed and is constantly brought to the forefront in all decisions. This interrelatedness demonstrates how the five dimensions of the professional learning community rely on one another for the success of the community. Hord's (2004) literature review of professional learning communities revealed that this shared vision is essential if all staff members are going to have an unwavering commitment to improving student learning.

In addition, Kouzes and Posner (2002) explained that people are motivated most by ideas that capture their imagination and that they are empowered when given the ability to put their ideas into action. Elmore (2000) suggests that this distribution of leadership amongst the staff results in an evolution of the quality of leadership into a format that enhances the skills and knowledge of the staff, creates a common culture of expectations, and encourages productive relationships. The end result is more people being accountable for their contributions to the success of the school. Transformational leadership also activates the higher order needs of staff members. One of these is the innate desire to be involved in higher levels of learning. The desire to learn and improve professional practice links to the third dimension, which requires staff involvement in collective learning and the application of this learning, as identified by Hord (2004) and the Southwest Educational Laboratory.

As well, a transformational leadership style contributes in a positive manner to the fifth dimension, identified as social condition. One of the conditions identified by Hord (2004) is that time for collaboration must be timetabled into the work schedule of the school (Bitter et al., 2005; Hall & Kennedy, 2006). With transformational leadership in place, the entire staff will be problem solving together to find workable solutions so that they can meet successfully to collaborate on significant learning situations for themselves and their students. This collaboration assists student learning in that all staff members are working towards the same goals for achievement in their classrooms. Another social condition involves feelings of trust among staff members. Through the ongoing collaboration involved in the creation of a shared vision, and the encouragement for ongoing experimentation with different strategies for reaching learners, trust develops amongst staff members, and they are willing to take even greater chances for the betterment of the community without fear of retribution (Roberts & Pruitt, 2003).

2. Across Zone 6, dimension four, dealing with peer review and feedback, is at the lowest level of maturity of all of the dimensions and needs to become a part of the educational goals set yearly within each secondary school.

Lortie (1975) argues that beginning teachers lack the skills of personal reflection and inquiry that are essential to improve their practice. These novice teachers, he believes, need to observe how more experienced teachers teach in their rooms and engage in reflective conversations about what they have observed. This is essential to their professional development. The problem with novice teachers, as Lortie explains, is that during student teaching they do not have enough opportunities to explore the daily decisions made by teachers regarding planning, evaluation, and the choices of particular

instructional or behavior management techniques. When novice teachers then find themselves in a situation that they did not experience during their teaching practicum, they fall back on methods that were used with them when they were students in secondary school. Often these methods are outdated, and they are not the strategies to be used for instruction or behaviour management in today's classrooms. In essence, novice teachers have a limited repertoire of strategies to use in the classroom.

To combat this problem, Lortie suggests that more peer observation and collaborative reflection are needed. He is not alone in his thinking. Hord (2004) identified peer review and feedback as essential to the creation of a mature learning community whose primary goal is to improve the learning of students. Israel (2006) explains that reflective dialogue is a professional development tool that is essential to every school and benefits everyone. Administrators benefit from reflective dialogue among teachers since it produces an increased sense of shared responsibility and results in an increased focus on student achievement. Teachers benefit from the opportunity to engage in reflective dialogue about their daily practice; it leads to focused classroom support and improvement of the classroom practices of the teachers involved. The stress level of teachers is also reduced as they reflect on daily problems and collaboratively seek solutions. These increased opportunities for collaboration increase trust and collegiality among staff. The isolation of teaching is greatly reduced by the comfort of knowing that someone is available to assist in any situation. The school benefits from increased collaboration among teachers, which creates and strengthens the professional learning community and results in an increased focus on student achievement. Teachers strengthen

and develop an enthusiasm for their profession that evolves into a passion to further increase every student's achievement.

3. Since significant financial contributions are being made by all school jurisdictions to the development of learning communities throughout the province, future studies need to be undertaken to gain a more accurate assessment of the development of the five dimensions of the learning community in each secondary school.
4. Future studies are needed to assess the effect of the learning communities on the percentage of students eligible for the Alberta Rutherford Scholarship, writing four or more diploma examinations, and completing high school within three years of entering Grade 10.

This research is significant, as it has examined the formation of professional learning communities, a factor singled out by the Department of Education in the province of Alberta as contributing to academic success. The findings and recommendations of this study can contribute to improvements in the education system in this province.

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APPENDICES

Appendix A. Request for Jurisdictional Permission to Conduct Research

Cory Beres
Box 555
Magrath, Alberta
Canada T0K 1J0

May 12, 2007

Superintendent of Schools Name
Address

Dear _____,

I am currently a doctoral student in educational leadership studies at The University of Montana. I have been a member of the same cohort as two superintendents in the South Zone, Cheryl Gilmore and Doug Bennett. While their research is complete, my journey just begins. The topic of my research is "*Learning Communities, Achievement, and Completion: Exploring Relationships in Southern Alberta Secondary Schools.*" In 2003, Alberta's Commission on Learning put forth recommendations that were intended to increase student achievement and high school completion within four years of entering Grade 10. Alberta Education accepted many of these recommendations including the formation of professional learning communities within our schools.

The purpose of this study is to explore where on a continuum schools place the development of their professional learning communities in secondary schools in Southern Alberta Zone 6 schools, and to see if there is any association between their development and changes in student achievement and high school completion. Individual schools may be able to use the data obtained to further improve their professional practice and the achievement of their students.

The research design identifies the target population as public secondary school professional staff and students located in Zone 6 in Southern Alberta. I am requesting permission to conduct this research in schools with grade configurations of Grade 6 to Grade 12. Upon approval from the Superintendent, letters will be sent to the principals of the schools that meet the grade configurations. Once school approval has been obtained from the principal, the web address for the learning community questionnaire will be faxed to the school with a letter explaining the research project that will be given to all professional staff teaching a minimum of one high school course. The school principal will also be asked to forward the annual school results reports showing diploma exam results in the two levels of English and Social, the overall rate of students qualifying for the Alberta Rutherford Scholarships, and the rate of high school completion after three years of high school for the school years from 2002 to 2006. These are the results that have been made public by each school. Reporting of results will not identify jurisdictions,

schools, or individual teachers. The results of the *School Professional Staff as Learning Community Questionnaire* may be shared with individual jurisdictions or schools desiring a summary of their individual placement on the learning community continuum.

Thank you for your consideration in providing permission to include schools within your jurisdiction as part of this study. If you have any questions, please contact me at (403) 758-3366 (Magrath High School) during the day, or my advisor Dr. John Lundt at (406) 243-5204.

A response form is attached for ease in replying. Simply fax the completed form to 403-758-3775, Attention: Cory Beres.

I look forward to your response.

Respectfully,

Cory Beres
Graduate Student
University of Montana

Appendix B. Letter of Explanation to School Administrators and Consent Form

Cory Beres
Box 555
Magrath, Alberta
Canada T0K 1J0

Date

School Principal Name
School Address

Dear _____,

Your jurisdiction Superintendent, _____, has granted permission for me to collect data from schools having Grade 6 to Grade 12 configurations within the jurisdiction. The data will be used to complete my doctoral studies in educational leadership studies at The University of Montana. The topic of my research is "*Learning Communities, Achievement, and Completion: Exploring Relationships in Southern Alberta Secondary Schools.*"

In 2003, Alberta's Commission on Learning put forth recommendations that were intended to increase student achievement and high school completion within four years of entering Grade 10. Alberta Education accepted many of these recommendations including the formation of professional learning communities. The purpose of this study is to explore where on a continuum schools place the development of their professional learning communities in secondary schools in Southern Alberta Zone 6 schools, and to see if there is any association between their development and changes in student achievement and high school completion.

I am requesting permission to collect data from all of your professional staff members teaching students in one class or more from Grade 10 to Grade 12. Once school approval has been obtained from the principal, teachers will be asked to complete a learning community questionnaire containing 17 questions on-line. This will take less than fifteen minutes of the staffs' time. The staff members are not individually identified and will be required only to enter the school's name, their gender, and years of experience on the questionnaire. Although participation is voluntary, a clearer picture of the school's development as a learning community will be provided if all staff members participate. This will provide schools with data that may allow them to further improve their practice and possibly the achievement of their students.

The school principal will be asked to forward the annual school results reports that show diploma exam results in the two levels of English and Social, the overall rate of students qualifying for the Alberta Rutherford Scholarships, and the rate of high school completion after three years of high school for the school years from 2002 to 2006. This information is a part of the annual results reports that have been made public within your

jurisdictions. Reporting of the research results will not identify jurisdictions, schools, or individual teachers although individual jurisdictions may be provided with their individual results on the learning community questionnaire if they desire them.

Thank you for your consideration in providing permission to include your school as part of this study. If you have any questions, please contact me at (403) 758-3366 (Magrath High School) during the day, or my advisor Dr. John Lundt at (406) 243-5204.

A response form is attached for ease in replying. Simply fax the completed form to 403-758-3775, Attention: Cory Beres.

I look forward to your response.

Respectfully,

Cory Beres
Graduate Student
University of Montana

Permission to Conduct Study in (Specific High School)

Dissertation Research: *Learning Communities, Achievement, and Completion: Exploring Relationships in Southern Alberta Secondary Schools*

School Principal
Address

Date: _____

Cory Beres
Box 555
Magrath, AB T0K 1J0

Dear Mrs. Beres:

I have reviewed your "Request for Principal's Permission to Conduct a Study" including the teacher questionnaire and teacher letters of permission.

_____ I grant permission for you to include (**Specific High School**) in the population for the study.

_____ I do not grant permission for you to include (**Specific High School**) in the population for the study.

Signature: _____
Principal's Signature

Appendix C. Informational Letter for Professional Teaching Staff

Mrs. Cory Beres
Box 555
Magrath, Alberta
Canada T0K 1J0

Date

Dear Professional Staff Member,

Your jurisdiction Superintendent, _____, and Principal have granted permission for me to collect data from your school. The data will be used to complete my doctoral studies in educational leadership studies at The University of Montana. The topic of my research is “*Learning Communities, Achievement, and Completion: Exploring Relationships in Southern Alberta Secondary Schools.*”

As you are aware, in 2003 Alberta’s Commission on Learning put forth recommendations that were intended to increase student achievement and high school completion within four years of entering Grade 10. Alberta Education accepted these recommendations including the development of professional learning communities. The purpose of this study is to explore where on a continuum school professional staff members place the development of their professional learning communities in secondary schools in Southern Alberta Zone 6 schools, and to see if there is any association between their development and changes in student achievement and high school completion.

I am requesting that you go to (*web site of questionnaire*) to complete a learning community questionnaire containing 17 questions before date . This will take less than fifteen minutes of your time. Staff members are not individually identified and will be required only to enter their school’s name, gender, and years of teaching experience on the questionnaire. Although participation is voluntary, a clearer picture of the school’s development as a learning community will be provided if all eligible staff members participate. By going online to complete the questionnaire you are consenting to be a participant in this research project. It is hoped that this research will provide schools with data that may allow them to further improve their practice and possibly the achievement of their students.

Thank you for your assistance with this part of my research. If you have any questions, please contact me at (403) 758-3366 (Magrath High School) during the day, or my advisor Dr. John Lundt at (406) 243-5204.

Respectfully,

Cory Beres
Graduate Student
University of Montana

Appendix D. School Professional Staff as Learning Community Questionnaire

School Professional Staff as Learning Community Questionnaire

Directions: This questionnaire concerns your perceptions about your school staff as a learning organization. There are no right or wrong responses. Please consider where you believe your school is in its development of each of the five numbered descriptors shown in bold-faced type on the left. Each sub-item has a five-point scale. On each scale, circle the number that best represents the degree to which you feel your school has developed.

Date: _____

Name: _____

School: _____

1. School administrators participate democratically with teachers sharing power, authority, and decision making.	1a	5 _____ 4 _____ 3 _____ 2 _____ 1	Although there are some legal and fiscal decisions required of the principal, school administrators consistently involve the staff in discussing and making decisions about school issues.	Administrators invite advice and counsel from staff and then make decisions themselves.	Administrators never share information with the staff nor provide opportunities to be involved in decision making.
	1b	5 _____ 4 _____ 3 _____ 2 _____ 1	Administrators involve the entire staff.	Administrators involve a small committee, council, or team of staff.	Administrators do not involve any staff.
2. The staff shares visions for school improvement that have an undeviating focus on student learning, and these visions are consistently referenced in the staff's work.	2a	5 _____ 4 _____ 3 _____ 2 _____ 1	Visions for improvement are discussed by the entire staff such that consensus and a shared vision result.	Visions for improvement are not thoroughly explored; some staff members agree and others do not.	Visions for improvement held by the staff members are widely divergent.
	2b	5 _____ 4 _____ 3 _____ 2 _____ 1	Visions for improvement are always focused on students, teaching, and learning.	Visions for improvement are sometimes focused on students, teaching, and learning.	Visions for improvement do not target students, teaching, and learning.
	2c	5 _____ 4 _____ 3 _____ 2 _____ 1	Visions for improvement target high-quality learning experiences for all students.	Visions for improvement address quality learning experiences in terms of students' abilities.	Visions for improvement do not include concerns about the quality of learning experiences.

3. The staff's collective learning and application of the learnings (taking action) create high intellectual learning tasks and solutions to address student needs.

3a	5 _____ 4 _____ 3 _____ 2 _____ 1	The entire staff meets to discuss issues, share information, and learn with and from one another.	Subgroups of the staff meet to discuss issues, share information, and learn with and from one another.	Individuals randomly discuss issues, share information, and learn with and from one another.
3b	5 _____ 4 _____ 3 _____ 2 _____ 1	The staff meets regularly and frequently on substantive student-centered educational issues.	The staff meets occasionally on substantive student-centered educational issues.	The staff never meets to consider substantive educational issues.
3c	5 _____ 4 _____ 3 _____ 2 _____ 1	The staff discusses the quality of their teaching and students' learning.	The staff does not often discuss their instructional practices nor its influence on student learning.	The staff basically discusses non-teaching and non-learning issues.
3d	5 _____ 4 _____ 3 _____ 2 _____ 1	The staff, based on their learnings, makes and implements plans that address students' needs, more effective teaching, and more successful student learning.	The staff occasionally acts on their learnings and makes and implements plans to improve teaching and learning.	The staff does not act on their learning.
3e	5 _____ 4 _____ 3 _____ 2 _____ 1	The staff debriefs and assesses the impact of their actions and makes revisions.	The staff infrequently assesses their actions and seldom makes revisions based on the results.	The staff does not assess their work.

4. Peers review and give feedback based on observing one another's classroom behaviors in order to increase individual and organizational capacity.

4a	5 _____ 4 _____ 3 _____ 2 _____ 1	Staff members regularly and frequently visit and observe one another's classroom teaching.	Staff members occasionally visit and observe one another's teaching.	Staff members never visit their peers' classrooms.
4b	5 _____ 4 _____ 3 _____ 2 _____ 1	Staff members provide feedback to one another about teaching and learning based on their classroom observations.	Staff members discuss non-teaching issues after classroom observations.	Staff members do not interact after classroom observations.

5. School conditions and capacities support the staff's arrangement as a professional learning organization.

5a	5 _____ 4 _____ 3 _____ 2 _____ 1	Time is arranged and committed for whole staff interactions.	Time is arranged but frequently the staff fails to meet.	Staff cannot arrange time for interacting.
5b	5 _____ 4 _____ 3 _____ 2 _____ 1	The size, structure, and arrangements of the school facilitate staff proximity and interaction.	Considering the size, structure, and arrangements of the school, the staff are working to maximize interaction.	The staff takes no action to manage the facility and personnel for interaction.
5c	5 _____ 4 _____ 3 _____ 2 _____ 1	A variety of processes and procedures are used to encourage staff communication.	A single communication method exists and is sometimes used to share information.	Communication devices are not given attention.
5d	5 _____ 4 _____ 3 _____ 2 _____ 1	Trust and openness characterize all of the staff members.	Some of the staff members are trusting and open.	Trust and openness do not exist among the staff members.
5e	5 _____ 4 _____ 3 _____ 2 _____ 1	Caring, collaborative, and productive relationships exist among all staff members.	Caring and collaboration are inconsistently demonstrated among the staff members.	Staff members are isolated and work alone at their task.

Hord, Shirley M. (1996). *School Professional Staff as Learning Community Questionnaire*. Available from: Southwest Educational Development Laboratory 211 E. 7th St., Suite 200 Austin, TX 78701-3253 <http://www.sedl.org>

Appendix E. Jurisdictional Questionnaire Response Frequencies

The first column presents the individual questions from the questionnaire *School Professional Staff as Learning Community Questionnaire*. The second column identifies the five choices available to the respondents. The third column states the number of respondents out of 125 that chose each of the choices available. The final column presents the percentage the number of respondents equaled out of the total 125 participants.

Jurisdiction 1: Frequency of Responses

Question	Response ^a	Frequency	Percent
Leadership 1a	1	0	0.0
	2	5	14.3
	3	13	37.1
	4	13	37.1
	5	4	11.4
Leadership 1b	1	0	0.0
	2	2	5.7
	3	13	37.1
	4	13	37.1
	5	7	20.0
Vision 2a	1	2	5.7
	2	5	14.3
	3	11	31.4
	4	13	37.1

Question	Response ^a	Frequency	Percent
	5	4	11.4
Vision 2b	1	0	0.0
	2	2	5.7
	3	11	31.4
	4	16	45.7
	5	6	17.1
Vision 2c	1	0	0.0
	2	4	11.4
	3	10	28.6
	4	13	37.1
	5	8	22.9
Learning 3a	1	1	2.9
	2	9	25.7
	3	6	17.1
	4	16	45.7
	5	3	8.6
Learning 3b	1	1	2.9
	2	4	11.4
	3	17	48.6
	4	9	25.7
	5	4	11.4
Learning 3c	1	0	0.0

Question	Response ^a	Frequency	Percent
	2	4	11.4
	3	12	34.3
	4	11	31.4
	5	8	22.9
Learning 3d	1	0	0.0
	2	1	2.9
	3	9	25.7
	4	18	51.4
	5	7	20
Learning 3e	1	0	0.0
	2	4	11.4
	3	13	37.1
	4	16	45.7
	5	2	5.7
Peers 4a	1	6	17.1
	2	18	51.4
	3	8	22.9
	4	3	8.6
	5	0	0.0
Peers 4b	1	4	11.4
	2	14	40.0
	3	8	22.9

Question	Response ^a	Frequency	Percent
	4	7	20.0
	5	2	5.7
Conditions 5a	1	2	5.7
	2	12	34.3
	3	7	20.0
	4	7	20.0
	5	7	20.0
Conditions 5b	1	0	0.0
	2	10	28.6
	3	14	40.0
	4	7	20.0
	5	4	11.4
Conditions 5c	1	1	2.9
	2	5	14.3
	3	10	28.6
	4	16	45.7
	5	3	8.6
Conditions 5d	2	5	14.3
	3	13	37.1
	4	12	34.3
	5	5	14.3
Conditions 5e	2	4	11.4

Question	Response ^a	Frequency	Percent
	3	8	22.9
	4	16	45.7
	5	7	20

^a Total respondents = 35

Jurisdiction 2: Frequency of Responses

Question	Response ^a	Frequency	Percent
Leadership 1a	1	0	0.0
	2	0	0.0
	3	0	0.0
	4	4	100
	5	0	0.0
Leadership 1b	1	0	0.0
	2	0	0.0
	3	1	25.0
	4	3	75.0
	5	0	0.0
Vision 2a	1	1	25.0
	2	0	0.0
	3	2	50.0
	4	0	0.0
	5	1	25.0
Vision 2b	1	0	0.0
	2	0	0.0
	3	2	50.0
	4	1	25.0
	5	1	25.0
Vision 2c	1	0	0.0

Question	Response ^a	Frequency	Percent
	2	1	25.0
	3	1	25.0
	4	2	50.0
	5	0	0.0
Learning 3a	1	0	0.0
	2	0	0.0
	3	2	50.0
	4	1	25.0
	5	1	25.0
Learning 3b	1	0	0.0
	2	0	0.0
	3	2	50.0
	4	2	50.0
	5	0	0.0
Learning 3c	1	0	0.0
	2	0	0.0
	3	2	50.0
	4	2	50.0
	5	0	0.0
Learning 3d	1	0	0.0
	2	0	0.0
	3	2	50.0

Question	Response ^a	Frequency	Percent
	4	2	50.0
	5	0	0.0
Learning 3e	1	0	0.0
	2	1	25.0
	3	2	50.0
	4	1	25.0
	5	0	0.0
Peers 4a	1	0	0.0
	2	2	50.0
	3	1	25.0
	4	1	25.0
	5	0	0.0
Peers 4b	1	0	0.0
	2	1	25.0
	3	3	75.0
	4	0	0.0
	5	0	0.0
Conditions 5a	1	0	0.0
	2	0	0.0
	3	1	25.0
	4	2	50.0
	5	1	25.0

Question	Response ^a	Frequency	Percent
Conditions 5b	1	0	0.0
	2	0	0.0
	3	3	75.0
	4	1	25.0
	5	0	0.0
Conditions 5c	1	0	0.0
	2	0	0.0
	3	1	25.0
	4	3	75.0
	5	0	0.0
Conditions 5d	1	0	0.0
	2	0	0.0
	3	3	75.0
	4	1	25.0
	5	0	0.0
Conditions 5e	1	0	0.0
	2	0	0.0
	3	1	25.0
	4	3	75.0
	5	0	0.0

^a Total respondents = 4.

Jurisdiction 3: Frequency of Responses

Question	Response ^a	Frequency	Percent
Leadership 1a	1	1	5.6
	2	3	16.7
	3	5	27.8
	4	7	38.9
	5	2	11.1
Leadership 1b	1	0	0.0
	2	3	16.7
	3	8	44.4
	4	6	33.3
	5	1	5.6
Vision 2a	1	0	0.0
	2	3	16.7
	3	9	50.0
	4	4	22.2
	5	2	11.1
Vision 2b	1	1	5.6
	2	0	0.0
	3	2	11.1
	4	10	55.6
	5	5	27.8
Vision 2c	1	1	5.6

Question	Response ^a	Frequency	Percent
	2	0	0.0
	3	4	22.2
	4	11	61.1
	5	2	11.1
Learning 3a	1	0	0.0
	2	5	27.8
	3	3	16.7
	4	8	44.4
	5	2	11.1
Learning 3b	1	0	0.0
	2	5	27.8
	3	4	22.2
	4	5	27.8
	5	4	22.2
Learning 3c	1	3	16.7
	2	1	5.6
	3	6	33.3
	4	7	38.9
	5	1	5.6
Learning 3d	1	0	0.0
	2	2	11.1
	3	2	11.1

Question	Response ^a	Frequency	Percent
	4	11	61.1
	5	3	16.7
Learning 3e	1	0	0.0
	2	3	16.7
	3	5	27.8
	4	7	38.9
	5	3	16.7
Peers 4a	1	11	61.1
	2	6	33.3
	3	1	5.6
	4	0	0.0
	5	0	0.0
Peers 4b	1	11	61.1
	2	4	22.2
	3	3	16.7
	4	0	0.0
	5	0	0.0
Conditions 5a	1	4	22.2
	2	7	38.9
	3	2	11.1
	4	5	27.8
	5	0	0.0

Question	Response ^a	Frequency	Percent
Conditions 5b	1	1	5.6
	2	8	44.4
	3	8	44.4
	4	1	5.6
	5	0	0.0
Conditions 5c	1	1	5.6
	2	4	22.2
	3	7	38.9
	4	4	22.2
	5	2	11.1
Conditions 5d	1	2	11.1
	2	1	5.6
	3	13	72.2
	4	2	11.1
	5	0	0.0
Conditions 5e	1	2	11.1
	2	1	5.6
	3	11	61.1
	4	4	22.2
	5	0	0.0

^a Total responses = 18.

Jurisdiction 4: Frequency of Responses

Question	Response ^a	Frequency	Percent
Leadership 1a	1	0	0.0
	2	1	8.3
	3	3	25.0
	4	5	41.7
	5	3	25.0
Leadership 1b	1	0	0.0
	2	0	0.0
	3	3	25.0
	4	5	41.7
	5	4	33.3
Vision 2a	1	0	0.0
	2	0	0.0
	3	4	33.3
	4	6	50.0
	5	2	16.7
Vision 2b	1	0	0.0
	2	0	0.0
	3	0	0.0
	4	6	50.0
	5	6	50.0
Vision 2c	1	0	0.0

Question	Response ^a	Frequency	Percent
	2	0	0.0
	3	2	16.7
	4	6	50.0
	5	4	33.3
Learning 3a	1	0	0.0
	2	0	0.0
	3	5	41.7
	4	3	25.0
	5	4	33.3
Learning 3b	1	1	8.3
	2	0	0.0
	3	5	41.7
	4	4	33.3
	5	2	16.7
Learning 3c	1	0	0.0
	2	0	0.0
	3	5	41.7
	4	5	41.7
	5	2	16.7
Learning 3d	1	0	0.0
	2	0	0.0
	3	2	16.7

Question	Response ^a	Frequency	Percent
	4	4	33.3
	5	6	50.0
Learning 3e	1	0	0.0
	2	0	0.0
	3	2	16.7
	4	6	50.0
	5	4	33.3
Peers 4a	1	3	25.0
	2	5	41.7
	3	3	25.0
	4	1	8.3
	5	0	0.0
Peers 4b	1	3	25.0
	2	2	16.7
	3	5	41.7
	4	1	8.3
	5	1	8.3
Conditions 5a	1	1	8.3
	2	0	0.0
	3	4	33.3
	4	3	25.0
	5	4	33.3

Question	Response ^a	Frequency	Percent
Conditions 5b	1	0	0.0
	2	0	0.0
	3	9	75.0
	4	3	25.0
	5	0	0.0
Conditions 5c	1	0	0.0
	2	0	0.0
	3	5	41.7
	4	1	8.3
	5	6	50.0
Conditions 5d	1	0	0.0
	2	0	0.0
	3	8	66.7
	4	4	33.3
	5	0	0.0
Conditions 5e	1	0	0.0
	2	0	0.0
	3	3	25.0
	4	8	66.7
	5	1	8.3

^a Total responses = 12.

Jurisdiction 5: Frequency of Responses

Question	Response ^a	Frequency	Percent
Leadership 1a	1	0	0.0
	2	0	0.0
	3	1	33.3
	4	2	66.7
	5	0	0.0
Leadership 1b	1	0	0.0
	2	0	0.0
	3	1	33.3
	4	2	66.7
	5	0	0.0
Vision 2a	1	0	0.0
	2	0	0.0
	3	3	100
	4	0	0.0
	5	0	0.0
Vision 2b	1	0	0.0
	2	0	0.0
	3	0	0.0
	4	2	66.7
	5	1	33.3
Vision 2c	1	0	0.0

Question	Response ^a	Frequency	Percent
	2	0	0.0
	3	1	33.3
	4	2	66.7
	5	0	0.0
Learning 3a	1	0	0.0
	2	1	33.3
	3	1	33.3
	4	1	33.3
	5	0	0.0
Learning 3b	1	0	0.0
	2	1	33.3
	3	2	66.7
	4	0	0.0
	5	0	0.0
Learning 3c	1	0	0.0
	2	1	33.3
	3	1	33.3
	4	1	33.3
	5	0	0.0
Learning 3d	1	0	0.0
	2	0	0.0
	3	2	66.7

Question	Response ^a	Frequency	Percent
	4	1	33.3
	5	0	0.0
Learning 3e	1	0	0.0
	2	0	0.0
	3	2	66.7
	4	1	33.3
	5	0	0.0
Peers 4a	1	1	33.3
	2	1	33.3
	3	1	33.3
	4	0	0.0
	5	0	0.0
Peers 4b	1	1	33.3
	2	0	0.0
	3	0	0.0
	4	2	66.7
	5	0	0.0
Conditions 5a	1	1	33.3
	2	1	33.3
	3	0	0.0
	4	1	33.3
	5	0	0.0

Question	Response ^a	Frequency	Percent
Conditions 5b	1	0	0.0
	2	2	66.7
	3	1	33.3
	4	0	0.0
	5	0	0.0
Conditions 5c	1	0	0.0
	2	0	0.0
	3	1	33.3
	4	1	33.3
	5	1	33.3
Conditions 5d	1	0	0.0
	2	1	33.3
	3	0	0.0
	4	2	66.7
	5	0	0.0
Conditions 5e	1	0	0.0
	2	1	33.3
	3	1	33.3
	4	1	33.3
	5	0	0.0

^a Total responses = 3.

Jurisdiction 6: Frequency of Responses

Question	Response ^a	Frequency	Percent
Leadership 1a	1	0	0.0
	2	2	20.0
	3	5	50.0
	4	2	20.0
	5	1	10.0
Leadership 1b	1	0	0.0
	2	1	10.0
	3	5	50.0
	4	2	20.0
	5	2	20.0
Vision 2a	1	0	0.0
	2	1	10.0
	3	2	20.0
	4	4	40.0
	5	3	30.0
Vision 2b	1	0	0.0
	2	0	0.0
	3	2	20.0
	4	5	50.0
	5	3	30.0
Vision 2c	1	0	0.0

Question	Response ^a	Frequency	Percent
	2	0	0.0
	3	4	40.0
	4	3	30.0
	5	3	30.0
Learning 3a	1	0	0.0
	2	0	0.0
	3	2	20.0
	4	6	60.0
	5	2	20.0
Learning 3b	1	0	0.0
	2	1	10.0
	3	4	40.0
	4	4	40.0
	5	1	10.0
Learning 3c	1	0	0.0
	2	0	0.0
	3	2	20.0
	4	5	50.0
	5	3	30.0
Learning 3d	1	0	0.0
	2	1	10.0
	3	3	30.0

Question	Response ^a	Frequency	Percent
	4	5	50.0
	5	1	10.0
Learning 3e	1	0	0.0
	2	0	0.0
	3	2	20.0
	4	7	70.0
	5	1	10.0
Peers 4a	1	3	30.0
	2	6	60.0
	3	1	10.0
	4	0	0.0
	5	0	0.0
Peers 4b	1	3	30.0
	2	4	40.0
	3	2	20.0
	4	1	10.0
	5	0	0.0
Conditions 5a	1	0	0.0
	2	1	10.0
	3	2	20.0
	4	7	70.0
	5	0	0.0

Question	Response ^a	Frequency	Percent
Conditions 5b	1	0	0.0
	2	3	30.0
	3	4	40.0
	4	2	20.0
	5	1	10.0
Conditions 5c	1	0	0.0
	2	3	30.0
	3	1	10.0
	4	5	50.0
	5	1	10.0
Conditions 5d	1	0	0.0
	2	2	20.0
	3	2	20.0
	4	6	60.0
	5	0	0.0
Conditions 5e	1	0	0.0
	2	1	10.0
	3	4	40.0
	4	5	50.0
	5	0	0.0

^a Total responses = 10

Jurisdiction 7: Frequency of Responses

Question	Response ^a	Frequency	Percent
Leadership 1a	1	1	6.7
	3	4	26.7
	4	5	33.3
	5	5	33.3
Leadership 1b	1	0	0.0
	2	1	6.7
	3	3	20.0
	4	5	33.3
	5	6	40.0
Vision 2a	1	0	0.0
	2	1	6.7
	3	3	20.0
	4	6	40.0
	5	5	33.3
Vision 2b	1	0	0.0
	2	0	0.0
	3	2	13.3
	4	3	20.0
	5	10	66.7
Vision 2c	1	1	6.7
	2	0	0.0

Question	Response ^a	Frequency	Percent
	3	2	13.3
	4	5	33.3
	5	7	46.7
Learning 3a	1	1	6.7
	2	2	13.3
	3	2	13.3
	4	3	20.0
	5	7	46.7
Learning 3b	1	1	6.7
	2	1	6.7
	3	5	33.3
	4	5	33.3
	5	3	20.0
Learning 3c	1	0	0.0
	2	1	6.7
	3	4	26.7
	4	6	40.0
	5	4	26.7
Learning 3d	1	0	0.0
	2	1	6.7
	3	2	13.3
	4	8	53.3

Question	Response ^a	Frequency	Percent
	5	4	26.7
Learning 3e	1	1	6.7
	2	0	0.0
	3	3	20.0
	4	8	53.3
	5	3	20.0
Peers 4a	1	3	20.0
	2	5	33.3
	3	6	40.0
	4	1	6.7
	5	0	0.0
Peers 4b	1	3	20.0
	2	2	13.3
	3	6	40.0
	4	4	26.7
	5	0	0.0
Conditions 5a	1	1	6.7
	2	3	20.0
	3	3	20.0
	4	4	26.7
	5	4	26.7
Conditions 5b	1	1	6.7

Question	Response ^a	Frequency	Percent
	2	2	13.3
	3	4	26.7
	4	6	40.0
	5	2	13.3
Conditions 5c	1	0	0.0
	2	0	0.0
	3	6	40.0
	4	6	40.0
	5	3	20.0
Conditions 5d	1	0	0.0
	2	2	13.3
	3	5	33.3
	4	6	40.0
	5	2	13.3
Conditions 5e	1	0	0.0
	2	0	0.0
	3	8	53.3
	4	4	26.7
	5	3	20.0

^a Total reponses = 15

Jurisdiction 8: Frequency of Responses

Question	Response ^a	Frequency	Percent
Leadership 1a	1	0	0.0
	2	0	0.0
	3	3	10.7
	4	10	35.7
	5	15	53.6
Leadership 1b	1	0	0.0
	2	1	3.6
	3	1	3.6
	4	11	39.3
	5	15	53.6
Vision 2a	1	0	0.0
	2	0	0.0
	3	4	14.3
	4	11	39.3
	5	13	46.4
Vision 2b	1	0	0.0
	2	0	0.0
	3	4	14.3
	4	7	25.0
	5	17	60.7
Vision 2c	1	2	7.1

Question	Response ^a	Frequency	Percent
	2	0	0.0
	3	4	14.3
	4	9	32.1
	5	13	46.4
Learning 3a	1	3	10.7
	2	0	0.0
	3	10	35.7
	4	12	42.9
	5	3	10.7
Learning 3b	1	0	0.0
	2	0	0.0
	3	13	46.4
	4	9	32.1
	5	6	21.4
Learning 3c	1	0	0.0
	2	0	0.0
	3	5	17.9
	4	17	60.7
	5	6	21.4
Learning 3d	1	0	0.0
	2	0	0.0
	3	1	3.6

Question	Response ^a	Frequency	Percent
	4	18	64.3
	5	9	32.1
Learning 3e	1	0	0.0
	2	1	3.6
	3	2	7.1
	4	17	60.7
	5	8	28.6
Peers 4a	1	7	25.0
	2	7	25.0
	3	7	25.0
	4	6	21.4
	5	1	3.6
Peers 4b	1	7	25.0
	2	5	17.9
	3	7	25.0
	4	6	21.4
	5	3	10.7
Conditions 5a	1	0	0.0
	2	3	10.7
	3	2	7.1
	4	13	46.4
	5	10	35.7

Question	Response ^a	Frequency	Percent
Conditions 5b	1	0	0.0
	2	3	10.7
	3	6	21.4
	4	15	53.6
	5	4	14.3
Conditions 5c	1	0	0.0
	2	1	3.6
	3	2	7.1
	4	10	35.7
	5	15	53.6
Conditions 5d	1	1	3.6
	2	0	0.0
	3	5	17.9
	4	13	46.4
	5	9	32.1
Conditions 5e	1	0	0.0
	2	1	3.6
	3	4	14.3
	4	12	42.9
	5	11	39.3

^a Total responses = 28

Appendix F. Frequencies for Individual Questionnaire Totals

The maturity of a learning community is represented by the total of all question responses chosen on the 17 questions of the learning survey *School Professional Staff as Learning Community Questionnaire* (Hord, 1996). The higher the total on the questionnaire the more mature the learning community is perceived to be. On this table the first column identifies a total attained on the questionnaire by any participant. The second column shows the number of respondents acquiring that total. The third column shows what percentage of the 125 respondents that number of respondents represents. The final column is a running total of the percentages of the respondents.

Questionnaire Totals

Totals ^a	Frequency	Percent	Cumulative %
24	1	0.8	0.8
34	1	0.8	1.6
36	1	0.8	2.4
40	2	1.6	4.0
42	2	1.6	5.6
43	1	0.8	6.4
44	3	2.4	8.8
45	1	0.8	9.6
46	4	3.2	12.8
47	4	3.2	16.0
48	2	1.6	17.6
49	2	1.6	19.2

Totals ^a	Frequency	Percent	Cumulative %
51	2	1.6	20.8
52	5	4.0	24.8
53	8	6.4	31.2
54	4	3.2	34.4
55	4	3.2	37.6
56	3	2.4	40.0
57	4	3.2	43.2
58	1	0.8	44.0
59	3	2.4	46.4
60	6	4.8	51.2
61	4	3.2	54.4
62	1	0.8	55.2
63	2	1.6	56.8
64	5	4.0	60.8
65	2	1.6	62.4
66	4	3.2	65.6
67	6	4.8	70.4
68	7	5.6	76.0
69	1	0.8	76.8
70	2	1.6	78.4
71	6	4.8	83.2
72	4	3.2	86.4

Totals ^a	Frequency	Percent	Cumulative %
73	5	4.0	90.4
74	4	3.2	93.6
75	2	1.6	95.2
77	2	1.6	96.8
78	1	0.8	97.6
83	2	1.6	99.2
84	1	0.8	100.0
Total	125	100.0	

^a The total of the responses in all 5 dimensions provides the perceived maturity of the learning community. Only actual totals from respondents are listed. The maximum score attainable is 85. The higher the total the more mature the learning community is perceived to be.

Appendix G. Mann-Whitney U Test on Gender Results

SPSLCQ ^a	Mann-Whitney U	Z	Asymp. Sig (2-tailed)
1a	1501.0	-2.212	.027
1b	1608.0	-1.659	.097
2a	1574.0	-1.826	.068
2b	1907.5	-0.093	.926
2c	1582.5	-1.801	.072
3a	1542.5	-1.991	.046
3b	1669.0	-1.346	.178
3c	1550.0	-1.981	.048
3d	1870.0	-0.301	.763
3e	1919.0	-0.032	.974
4a	1321.0	-3.160	.002
4b	1320.0	-3.101	.002
5a	1565.0	-1.849	.064
5b	1445.0	-2.508	.012
5c	1745.0	-0.936	.349
5d	1363.0	-2.968	.003
5e	1581.5	-1.816	.069
Total of all questions	1353.5	-2.844	.004

^a *School Professional Staff as Learning Community Questionnaire* question numbers.

Appendix H. Kruskal-Wallis Test Results on Years of Experience

Years of Experience SPSLCQ ^a	Chi-Square	df	Asymp. Sig
1a	4.198	4	.380
1b	5.203	4	.267
2a	7.163	4	.128
2b	1.929	4	.749
2c	6.673	4	.154
3a	10.554	4	.032
3b	6.181	4	.186
3c	5.936	4	.204
3d	3.175	4	.529
3e	1.367	4	.850
4a	7.655	4	.105
4b	6.953	4	.138
5a	12.652	4	.013
5b	19.733	4	.001
5c	4.853	4	.303
5d	6.844	4	.144
5e	4.196	4	.380
Total of all questions	8.109	4	.088

^a School Professional Staff as Learning Community Questionnaire question numbers.

Appendix I. Kendall's Tau B Correlations

Variable		N	Correlation Coefficient	Sig. (1-tailed)
Diplomas				
Subject/Year	Standard			
Eng. 30-1/04	Excellence	13	0.503	0.009
	Acceptable	13	-0.040	0.426
Eng. 30-1/05	Excellence	13	0.234	0.135
	Acceptable	13	0.121	0.288
Eng. 30-1/06	Excellence	13	0.271	0.100
	Acceptable	13	0.052	0.404
Eng. 30-2/04	Excellence	13	0.416	0.025
	Acceptable	13	0.468	0.014
Eng. 30-2/05	Excellence	13	0.144	0.250
	Acceptable	13	-0.263	0.109
Eng. 30-2/06	Excellence	13	-0.065	0.380
	Acceptable	13	-0.079	0.356

Variable		N	Correlation Coefficient	Sig. (1-tailed)
Diplomas				
Subject/Year	Standard			
Social 30/02	Excellence	13	0.052	0.404
	Acceptable	13	0.013	0.476
Social 30/03	Excellence	13	0.142	0.251
	Acceptable	13	0.078	0.357
Social 30/04	Excellence	13	0.348	0.050
	Acceptable	13	0.297	0.080
Social 30/05	Excellence	13	0.142	0.251
	Acceptable	13	0.026	0.451
Social 30/06	Excellence	13	0.426	0.022
	Acceptable	13	-0.081	0.355
Social 33/02	Excellence	13	0.327	0.063
	Acceptable	13	0.219	0.150
Social 33/03	Excellence	13	0.374	0.038
	Acceptable	13	0.065	0.380
Social 33/04	Excellence	13	0.348	0.050
	Acceptable	13	0.168	0.214
Social 33/05	Excellence	13	0.090	0.335
	Acceptable	13	-0.194	0.180
Social 33/06	Excellence	13	0.116	0.291
	Acceptable	13	-0.105	0.312

Variable	N	Correlation Coefficient	Sig. (1-tailed)
Rutherford Scholarship			
Eligibility			
2002	13	-0.194	0.180
2003	13	-0.156	0.231
2004	13	0.078	0.357
2005	13	0.182	0.200
2006	13	0.116	0.291
Participation			
(4 or more exams)			
2002	13	-0.194	0.180
2003	13	-0.116	0.291
2004	13	0.260	0.111
2005	13	0.065	0.380
2006	13	-0.090	0.335
High School Completion			
2002	12	-0.137	0.268
2003	12	-0.062	0.392
2004	12	-0.137	0.268
2005	12	0.015	0.473
2006	12	-0.168	0.225