

AN INVESTIGATION OF SCHOOL FACTORS RELATED TO ENROLLMENT IN
REMEDIAL WRITING AT POSTSECONDARY INSTITUTIONS IN MONTANA

by

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June 2011

DEDICATION

To my family, Kasia, Milosz, Juliusz, Arlee and Duane. Thanks to all of you for supporting me through this process and teaching me that hard work is worth the reward of accomplishment. Thanks also for believing in my abilities and constantly showing confidence in me, regardless of endeavor. I am forever indebted to you all for the lessons taught and learned.

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ABSTRACT

Remedial postsecondary coursework, while ubiquitous, is a high cost means for students to become prepared to complete the rigors of postsecondary education. Remedial coursework represents a void in time of students' lives when they are neither true college students nor enrolled members of a high school class. The onus of preparing Montana students for successful transitions to postsecondary education is on the shoulders of the school systems from which they graduate. Ultimately, paving the way for successful postsecondary transitions involves a number of different variables. The key facets of student achievement are embodied within school leaders, teachers and students. In this study, enrollment data gathered from the Montana University System was analyzed and a significant relationship was established between the variables of student ethnicity and socioeconomic status with enrollment in remedial writing. 243 English teachers in the state of Montana responded to items on the Support For Professional Development Questionnaire. The responses from this questionnaire revealed a high level of positive perception for administrator support for professional development among Montana English teachers. Lastly, this study highlighted that high school English teachers who participate in the MUS professional development activities express a greater understanding of the expected writing requirements for postsecondary institutions as compared to high school English teachers who do not participate in the MUS professional development activities.

INTRODUCTION

Background

Federal legislation, state standards, local school boards, community members and parents have entrusted schools to provide experiences for students which prepare them for the next level of education or career. When students matriculate from high schools across the country, the opportunity to succeed in college and career must be present. School leaders, teachers and students all play key roles in public school achievement and the degree to which their respective roles are executed successfully influences the outcomes on measurements of student achievement. Student achievement in the 21st century is measured by a number of different assessments. In Montana, student in grades 3-8 and grade 10 are required to take the CRT (Criterion Referenced Test), as a formal means of measuring progress towards meeting achievement standards from year to year; the CRT measures the progress towards meeting the state standards in math and reading formally and currently pilots science achievement in grades 4 and 8 (OPI, 2010). In addition to the state mandated tests, a number of options exist for schools to internally measure and track achievement. Some of the more widespread options for reading and math include, but are not limited to DIBELS (dynamic indicators of basic early literacy skills), MAP (measured academic progress) and AIMSweb. These forms of assessment provide timely feedback for educators and students to track achievement data and inform instruction and programming as per the feedback received. In Montana, the CRT test is the only global test all schools and districts are required to administer. The rigorous accountability demands specified by the No Child Left Behind Legislation (NCLB) (No

Child Left Behind Act of 2001, Public Law Number 107-110) has led schools and districts to fiscally, developmentally, and in some cases, exhaustingly focus on math and reading as the primary content-areas to show improvement and strides towards proficiency for their students in math and reading.

While a measure of writing achievement cannot be found on any of the required assessments in the state of Montana, school districts in Montana have the option of participating in a writing assessment in addition to aforementioned assessments currently being administered. The MUS (Montana University System) provides an assessment and accompanying professional development in the content area of writing to all public and private schools in the state of Montana. The significance of the MUS writing assessment as a measure of student achievement is the determination of whether or not a student is prepared for the writing rigors of postsecondary education. Writing achievement is not currently a content area that schools in Montana or across the United States are being held accountable for to produce results and increase levels of proficiency. Research shows that there are a number of students graduating from high school with less than proficient skills in writing and entering postsecondary education ill-prepared to meet the demands of postsecondary writing expectations (NAEP, 1998; NCW, 2003; MUS, 2010).

The National Commission on Writing (NCW) found that proficient writing skills are necessary for improving access to professional opportunities and serve as a threshold skill for employment and promotion (2003). However, educators seem to be more focused on collecting and reacting to math and reading data because those academic areas receive the most attention due to their emphasis in the NCLB. The National Commission on Writing (2003) found that students could not write well enough to succeed in

completing postsecondary degrees, nor in the emerging work environment they would enter. While basic writing skills are intact, the lack of skilled writing and writing instruction aimed at developing more sophisticated writing skills has been identified as an emerging crisis as high school graduates enter the workforce and postsecondary education institutions (NCW, 2003; NCW 2006).

A History of Writing Achievement

A historical review of formal writing assessment scores reveals an interesting pattern of low achievement by students on the National Assessment of Educational Progress (NAEP). NAEP (1998) conducts a nationwide writing assessment and an analysis of the results from 1998 assessment revealed that 23% of fourth graders, 27% of eighth graders and 22% of twelfth graders are classified in either the proficient or advanced levels of writing. As the results show, approximately 75% of students in grades 4, 8 and 12 are writing below proficiency levels. Further, in 2007, NAEP reported that few (31%) eighth graders were rated as proficient writers and fewer (23%) twelfth graders rated as proficient; proficiency for these students was defined as; “the ability to produce an effectively organized and fully developed response within the allotted time of 50 minutes” (Appleby, 2009, p.19).

Results from NAEP surveys of students’ learning experiences suggest that students are receiving little instruction in writing. According to the NAEP report to the College Board (2003), at the elementary level practically all students report spending three hours or less on writing weekly, while half of twelfth-graders report they are assigned a paper of three or more paragraphs once a month and extended research papers

are rarely required at all. The lack of skill development in writing is not only evident at the high school and primary level; postsecondary education is also struggling with the development of writing skills and with educating students who have few higher level skills in writing. According to the findings of the National Commission on Writing (2003), more than 50% of first-year college students are unable to produce papers free of language errors; additionally, analyzing arguments and synthesizing information are beyond the abilities of these same first-year students.

Nationwide, the apparent lack of secondary students ready to meet the demand of postsecondary writing is evident in the numbers of incoming college freshman enrolling in remedial English. Remedial writing, for the purposes of this study, is defined as placement into a writing course that is designed to teach the skills necessary to meet the writing requirements expected of most college level courses. Postsecondary institutions typically describe remedial writing courses as: “A review of fundamental writing skills, this course focuses on sentences and paragraphs. Students will develop short compositions that demonstrate control of the conventions of standard written English, sentence structure, and sequence of ideas.” (Helena College of Technology, 2008, p. 84)

Non-remedial, college writing courses on the other hand are described as follows: “This course provides experience in written expression of ideas in expository prose with emphasis on the development of ideas, awareness of audience, structure, and clarity.” (HCT, 2008, p. 84). The remedial and non-remedial courses have two very different objectives for the incoming postsecondary education students. The outcome for remedial courses is to acquire the most basic of skills for future success while non-remedial

courses work to expand upon set skills, leading to proficiency in writing at the postsecondary level.

On a national level, remedial policies and practices of postsecondary institutions have remained relatively stable over time. According to the National Center for Educational Statistics (NCES), over 75% of postsecondary institutions find it necessary to offer remedial coursework to address the deficiency in writing skills of high school graduates (2003). The NCES found that in 1995, 40 percent of first year students at a public two year institution enrolled in at least one remedial course and in 2000, 42 percent of enrollees were in at least one remedial course. For public four year institutions, the numbers are similarly consistent, 21 percent of enrollees in one or more remedial classes in 1995 and 20 percent in 2000. The numbers of remedial students nationwide has continued to remain steady and in some cases have increased over the 1995 levels. Vandal (2010) reports that in enrollment year 2008, many states report remedial enrollment rates between 30 and 40 percent, with some as high 50.

The Montana University System (MUS, 2010) reports an average of 16% of students enrolled in remedial writing courses for the years 2003- 2006. This finding is a clear indication that development of proficient writing skills must become a higher priority for those involved with postsecondary education as well as those involved with K-12 education. It is essential that Montana's educational leaders compose strategic plans that include staff professional development around teaching sound writing skills necessary for preparing students for their academic and occupational future. Furthermore, a focus on increasing k-12 student writing skills will ultimately lead to higher performance on standardized tests in other academic disciplines. Reeves (2000) found

that when students write frequently and have higher scores on writing assessments, the number of students scoring proficient in science and social studies also increase on state assessments.

The enrollment of students in remedial writing at the postsecondary level is the result of a K-12 school career that has left them ill prepared to enter postsecondary education and meet the demands of the writing expectations placed upon them at that level. The skills a student has or has not secured are the culmination of many characteristics that school leaders, teachers and students embody to a degree. This study investigated the support for professional development of Montana administrators, teacher professional development participation, and student characteristics impact a student's enrollment in remedial writing at the postsecondary level in the state of Montana.

Educational Leaders' Role in Student Achievement

Schools leaders are expected to be at the forefront of all endeavors in order to increase the achievement scores of students in the United States today. As Marzano and Waters (2006) assert, leadership, and the longevity of that leadership, is a key correlate to student achievement. Additionally, the Interstate School Leaders Licensure Consortium (ISLLC) Standard 2 places the responsibility of building and maintaining a culture of teaching and learning upon the instructional leader of a school system (Hessel & Holloway, 2002). One of the areas of focus for leaders within the realm of ISLLC standard 2 is ensuring professional growth among the stakeholders working with children on a day to day basis. One major component of professional growth is the designing and

implementing professional development that focuses on student achievement and is well planned and rooted in student achievement data.

The principal is the day to day vision leader as well as a key stakeholder in an individual school. He or she has a greater position for sustaining and improving the quality of schools as compared to any other position in the school (Sergiovanni, 2006). At the district level, leadership is just as important for successful schools. Marzano (2001) has identified superintendent tenure as a positive correlation with student achievement. His research further suggests that the positives of superintendent longevity start to manifest themselves as early as two years into superintendent placement. The school leader as professional development leader is a key component for teachers to grow in their knowledge of content area and pedagogical knowledge.

Teachers and Professional Development

The implementation of successful programs and consequential improvement in student achievement through professional development endeavors is well documented. As Marzano and Waters (2006) asserted, leadership, and the longevity of that leadership, is a key correlate to student achievement as is the support of leadership and commitment to professional development. Rethinking and refocusing the professional development for teachers surrounding writing across the curriculum is a key piece to successful implementation of a systematic shift to effecting instruction and achievement (Tongerli & Anderson 2003). As the ISLLC standards assert, improved instructional practices must be initiated, implemented and supported by leadership. The need for a systematic, focused approach to writing professional development and valuing of writing in Montana schools

is obvious from the number of remedial students entering Montana colleges and Universities. The continued neglect of implementing and supporting such programs only decreases the opportunities for students and schools to realize their full opportunistic futures.

As leadership literature shows, school leaders play a significant role in developing teachers who can effectively educate students to meet the expected outcomes for the future (Hessel & Holloway, 2002; Sergiovanni, 2006; Tongeri & Anderson 2003). Ubiquitous research shows that leadership is a key component to high student achievement and evidence addressing teacher effectiveness as a significant contributor to student achievement is also well documented. In their examination of achievement scores of more than 100,000 students across hundreds of school districts, Wright and his colleagues documented that the most important factor affecting student achievement is the teacher (Wright et al., 1997). Their research concluded that the effective teacher is effective with students of all achievement levels while the student who has an ineffective teacher will show inadequate progress academically (Wright et al., 1997). The effective teacher has the skills and abilities for all students to achieve highly. Barrow and Sander (2007) investigated the link between teachers and student achievement over a three year period in which students and teachers were linked and studied as cohorts. Their research identified an effective teacher as the most significant factor in student achievement and growth. The students who had an effective teacher consistently scored higher than they had when instructed by an ineffective teacher. One of the documented characteristic of the effective teacher that has an impact on student achievement is participation in supported professional development (Joyce & Showers, 2002)

Teachers who have opportunities to participate in meaningful professional development and while also experiencing support in their endeavors are likely to produce the highest scores on measures of student achievement. As education in the 21st century unfolds for educational leaders and teachers the need to continually educate themselves and each other with regards to contemporary knowledge about learning, teaching and curriculum is key to higher student achievement (Guskey,2002; REL, 2007).

Student Remedial Characteristics

A third key factor influencing enrollment in postsecondary enrollment in remedial writing is student characteristics. Student characteristics and their subsequent impact on student achievement have been thoroughly researched. The dominant thought of the 60's and was that student characteristics accounted for the majority of the variance in student achievement. Research conducted by Coleman, Campbell, Hobson, McPartland, Mood, Weinfeld and York (1966) concluded that most (90%) of the variance in student achievement was due to factors such as: students' natural ability, socioeconomic status of the student, home environment and ethnicity. Between the research of Coleman and colleagues (1966) and the onset of the 21st century, the research completed narrowing what student characteristics lead to high achievement has been global. In an analysis of over 100,000 student achievement scores, Wright, Horn and Sanders (1997) concluded that the most important student factor impacting student achievement is having an effective teacher. The implication of this research, supported by other studies is that the most effective means of increasing student achievement is to increase the effectiveness of teaching through training and support (Barrow and Sander, 2007; Wright et al., 1997).

Joyce and Showers (2002) researched six different programs aimed at improving student achievement, in which the main tool for improvement focused on professional development to improve the practice of teaching skills and increased teacher content knowledge. Through their case study research they found evidence of noteworthy improvements in student achievement in schools and districts which implemented and supported professional development activities.

Furthermore, Fearn and Farnan (2007) conducted a study focusing on ten objectives for writing instruction and the execution of writing lessons encompassing those objectives. They found that all students who were assigned teachers who engaged in professional development in the area of writing outperformed the students who were instructed by teachers who did not participate in the professional development program.

Statement of the Problem

Current remediation rates point to a high number of high school graduates in the content area of writing across the state of Montana who are not prepared for full enrollment at postsecondary institutions in the state of Montana. According to recent activity by the Montana Board of Public Education (2009), the vision for the future of Montana schools is the promotion of a seamless, p-20 education system that educates students from pre-kindergarten through a bachelor's degree. However, the large number of students enrolling in Montana's university system remedial writing courses suggests that there is a disconnect between the expectations for proficient writing at the end of high school and those required for entering postsecondary freshman. The numbers of high school graduates who have been identified with deficient writing skills and are

required to enroll in remedial writing courses does not support the notion of a p-20 educational system in the state of Montana. Not only do students enter postsecondary education underprepared, also, the chances of them attaining a bachelor's degree are also reduced. Vandal (2010) found that a scant 17% of recent college graduates who require a remedial English course attain a bachelor's degree. Thus in order for there to be significant movement towards success at pre and postsecondary education long term Montana schools must prioritize a solution to increase the numbers of students graduating from high school without the skills and abilities to succeed at higher education.

An examination into administrator support for professional development, teacher and student factors that influence enrollment in remedial will serve as a springboard for policy makers, instructional leaders, faculty members and students to begin a discourse for the future of students' success at postsecondary education and beyond.

Purpose of the Study

The purpose of this study was to investigate English teachers' perceptions of administrative support for professional development; investigate teacher and student factors on incoming Montana high school graduates enrollment in remedial writing courses within the Montana University System. The factors investigated by this study included: teacher's perceptions of administrators' support for teacher professional development in writing instruction, high school English teachers' participation in the MUS professional development activities and individual student characteristics. Specifically, the student attributes investigated in relationship to enrollment in

postsecondary remedial writing courses were gender, socioeconomic status and school size.

Research Questions

The following questions provide the direction for the investigation of the characteristics of student enrollment in remedial writing at the postsecondary level in the state of Montana.

1. What are Montana high school English teachers' perceptions of administrative support for their participation in professional development activities designed to improve writing instruction and achievement?
2. Is there a relationship between a student's gender, socioeconomic status, size of high school, schools' participation in the MUS professional development activities, and enrollment in remedial writing in postsecondary education in the state of Montana?
3. Do high school English teachers who participate in the MUS professional development activities express a greater understanding of the expected writing requirements for postsecondary institutions than high school English teachers who do not participate in the MUS professional development activities?

Overview of Research Design

This study used a descriptive, correlation design to investigate the relationship between high school English teacher's participation in and perceptions of administrative support for professional development activities in the content area of writing and postsecondary enrollment in remedial writing. The influence of gender, school size,

ethnicity and socioeconomic status on enrollment in postsecondary remedial writing courses was also examined. The student data used in this study were Spring 2009 graduates of a Montana secondary school who enrolled in a Montana University System school in the fall of the 2009 academic school year. The criteria for selecting these participants were based on their graduation from a Montana high school and acceptance to and enrollment in a Montana University System school. Postsecondary remedial enrollment of Montana graduates collected by the Office of the Commissioner of Higher Education (OCHE) data warehouse was provided for analysis.

A support for professional development questionnaire (Guskey, 2000) was used to collect data regarding high school English teacher's perceptions of leadership support for professional development in the content area of writing. The questionnaire (Guskey, 2000) consisted of 15 Likert scale questions and 3 questions seeking demographic data. In addition, the survey asked respondent English teachers to identify their perceptions or understanding of the expectations for writing proficiency to enter postsecondary education without having to enroll in a remedial writing course, the questionnaire can be found in appendix A. The demographic data collected was the classification of high school in which the respondent works and their participation in the professional development activities sponsored by the Montana University System. The questionnaire was designed to assess organizational support of professional development activities.

The Support for Professional Development Questionnaire was completed by 246 secondary education English teachers working in the state of Montana. Prior to questionnaire completion, respondents were given an informed consent letter in which it was identified that this study was to gather data regarding writing professional

development from writing teachers in the state of Montana. English teachers' responses from the Support for Professional Development Questionnaire were then analyzed to determine the internal consistency reliability and factor analyzed to ensure that the results are interpreted accurately based in the underlying dimensions assessed by the questionnaire. This analysis served to validate the use of this questionnaire for this study. The results of the questionnaire were then used to determine if there is evidence of a relationship between teachers' participation in professional development for writing instruction, organizational support for professional development and student enrollment in remedial writing courses. To protect the anonymity of participants, no individual student, teacher or school data was available. All data used in this study was analyzed at the group level and aggregate results reported.

Definition of Key Terms:

For the purposes of consistency of terminology used throughout the scope of this study, the following terms are defined and used in the study.

1. Remedial writing course: any writing course that enroll students with an ACT or SAT essay score below a 7 or a MUS writing assessment score below 3.5; not considered college level and cannot be used in an associate of arts, associate of science or baccalaureate degree program.
2. College writing class: Any writing course that enrolls students with an ACT or SAT score above a 7 or an MUS writing assessment score above a 3.5.

3. Professional Development: formal and informal means of helping teachers not only learn new skills but also develop new insights into pedagogy and their own practice, and explore new or advanced understandings of content and resources (Grant, 1996)
4. Socioeconomic status of high school: the ranking of schools in the state of Montana by the percentages of free and reduced lunch.
5. Montana University System's four year institutions of higher education: The Montana University System four year schools include the following 6 schools: Montana State University-Bozeman, Montana State University-Billings, Montana State University-Northern, The University of Montana – Missoula, Montana Tech of The University of Montana, The University of Montana – Western.
6. Classification of Montana high schools: Montana has four classifications of school districts, based on population of students and classified by the Montana High School Association. AA = 1048 – 1966, A = 306-809, B = 95 – 346, C = 11 – 152 (2009).
7. Montana University System writing assessment: an assessment given to juniors in high school to measure their ability to complete writing at the expected level at MUS institutions in the state of Montana.
8. Montana University System professional development: required by the Montana Office of the Commissioner of Higher Education for those high school English teachers administering the MUS writing assessment or those high school English teachers participating in the scoring of writing assessment essays.

Limitations of the Study

One limitation of this study was the variability across the Montana University System for placing postsecondary students in remedial course work. According to the Montana University System, for the incoming freshman class of 2009 there was not a standardized procedure for student placement in remedial classes across the system (MUS, 2010). While the remedial policy had been in place since 2007, in enrollment year 2009, practice had yet to keep pace with policy (Trevor, 2011). A systematic approach to student enrollment in remedial courses is not practiced consistently across the Montana University System. For example, due to varying requirements, some students may have been required to enroll in a remedial class at Montana State University in Bozeman, but may not have been required to enroll in remedial coursework at the University of Montana, Western. Consequently some students lacking the skills to participate in college writing or above may have enrolled in a college writing course regardless. Another limitation of this study is that in Montana there are not clear guidelines for enrollment in postsecondary education. For example if a student graduates from a Montana high school, he or she is eligible to enroll in a Montana University System school. The fact that the guidelines for entrance to postsecondary education lack a minimum standard may impact the number of enrolled remedial writing students at Montana Universities. While there is policy in place to determine what the cut scores are on the MUS writing assessment and ACT writing assessment for enrollment in college level writing, those policies are not followed 100% of the time (Trevor, 2011). In addition, the Board of Regents of Montana

were undergoing a change in practice during 2009 in which remedial courses would only be offered at two year colleges (Trevor, 2011).

Furthermore, the data provided by the Montana University System may not be representative of the demographics of Montana. For example there is an underrepresentation of minority, lower socioeconomic and C and B class high school groups of students and large high schools are over represented. The questionnaire was completed almost equally by teachers who participated in the MUSWA (48%) and those who did not participate (52%).

Delimitations of the Study

The study will examine the data for 3381 first year students enrolling in postsecondary education institutions across the state of Montana that have graduated from a Montana high school in 2009 and enrolled in a Montana University System institution. Additionally, the study asked teachers in the state of Montana to report their participation in MUS professional development in writing as well as their perception of support for professional development activities in writing in their respective schools. The schools and personnel participating in this study are representative of teachers across the state of Montana. However, the predominantly rural demographics of Montana produced a greater proportion of teachers from rural areas responding the questionnaire used to collect teacher perceptions for this study. Only 65 (25%) of respondents reported being teachers in a AA school, the largest schools in Montana, found in the largest cities in Montana.

Significance of the Study

The No Child Left Behind Act (2001) implemented rigorous standards for reading and math. Collecting, sharing and responding to data have become the norms with which schools are meant to operate in Montana. While NCLB has assisted educators to refine practice and to improve results in those core areas, writing is not one of the core areas and this may result in under prepared college students and an ill-prepared workforce.

The preparation of students to matriculate from high school and become immediate contributors to society or succeed at postsecondary education is, and has been, the responsibility of the public school system since inception. When private and public employers place a premium on well-developed writing skills and report that writing is almost always taken into account when hiring and promoting employee (NCW, 2004); a study of this magnitude is significant for the future of the workforce. The fact that approximately 15% of Montana high school students enrolling in postsecondary education are required to enroll in remedial writing courses suggests that writing and the transition to postsecondary education is not a high priority for educators. As both k-12 and the university system are publicly funded, the significance of assigning a higher priority to writing should result in lower remedial enrollment at the college level, while graduating better prepared students. For example, a study conducted by the National Commission on Writing found that the cost to remediate the writing skills of employees appears to cost state governments upwards of a quarter of a million dollars annually (2004). As one of the participants from the study noted, our agency has up to 300

employees each year needing some training in writing at an average cost of 400 dollars per person (NCW, 2004).

Student demographics play an important role in student enrollment in remedial writing at the postsecondary level in the state of Montana. This study examined the presence of an institutional bias in Montana postsecondary institutions. The inherent importance of the awareness of this outcome for teachers, administrators and policy makers lies in the identification, remediation and planning for students of low socioeconomic status and students classified as other than white. The study of student characteristics related to remedial writing provides the data necessary for the programmatic evolution of student writing skills.

As leadership literature teaches, effective leadership is a key correlate to student success and high achievement (Sergiovani, 2001; Marzano & Waters, 2006). Instructional leaders need to constantly examine the knowledge and skills students need to sustain and succeed in their communities and their country (Marzano & Waters, 2006). Results from this study have the potential to motivate the leaders of 21st century education to prioritize writing and provide quality opportunities for teachers to become competent writing instructors capable of developing highly skilled writers through the use of professional development that focuses on content knowledge and individual teacher support. This study provides data necessary for policy makers, schools of teacher education and instructional leaders to examine the current state of writing programs and to make changes to ensure students are able to achieve in the future, in both postsecondary education and the workforce. Additionally, teacher perceptions of administrative support for professional development are imperative for study because the

as Guskey (2000), Marzano & Waters (2006) and Zapea (2008) have demonstrated, professional development efforts supported by district and building administrators more impact student performance more than activities not supported by the administration.

The research and findings of this study informs those in K-12 education and postsecondary education about the factors important for promoting seamless transitions across the p-20 educational system. The time has come for the Montana Board Of Public Education's vision of p-20 education to become a reality. The findings of this study have the potential to move writing instruction away from the traditional practices that are failing to educate all students for the rigors of postsecondary education and employment and morph those practices through decisions based on sustained data collection, supportive leadership and relevant professional development. This study also validates the use of the Support for Professional Development Questionnaire as a means for schools to evaluate their professional development programs; additionally, this instrument provides clear responses in two domains of professional development, knowledge of content and professional development support.

Summary

The k-12 public education system has accepted the mission of educating students for the purposes of promoting and furthering the democracy within which they exist. This mission comes with the responsibility to prepare students to successfully transition to each level of education: from primary school to intermediate school, intermediate to middle school, middle school to high school and high school to postsecondary education. Although federal, state and local influences all have a voice in how students are educated

and the extent to which they should be prepared, school leaders, teachers and students are ultimately responsible for student achievement and the degree to which individual factors influence that achievement. Research would seem to indicate that writing has become the forgotten skill of the 21st century, high accountability environment in which educators currently exist, even though the importance of writing has been well documented for school and for work success (NCW, 2003; NCW, 2004; MUS, 2010). Failure to realize the forces at work in a student enrolling in remedial writing at the postsecondary level is apparent in the numbers of postsecondary institutions offering remedial coursework (NCES, 2003) and the large numbers of students enrolling in remedial coursework on a national level ((Knudson, Zitzer-Comfort, Quirk, & Alexander, 2006; NCW, 2003; NCW, 2004;) in order to succeed at higher education. Students in Montana are not immune to the national trends and data has shown that Montana graduates are experiencing similar levels of remedial placement at the postsecondary level (MUS, 2010).

One remedy for increasing student achievement in all content areas, is a concerted effort to understand and respond to the factors that are impacting a student and their enrollment in remedial education at the postsecondary level. The time has come to research the link between school leader, teacher and student factors that force enrollment in remedial writing at the postsecondary level for students of Montana. This study begins that arduous task and opens the conversation for collaboration between k-12 education and postsecondary education with the main objective being more students prepared for success at postsecondary lives.

LITERATURE REVIEW

The literature most relevant to this study examines factors that influence student enrollment in remedial writing. Four major areas of research which provide a foundation for this study include: postsecondary education enrollment in remedial courses, professional development as an intervention for improving student achievement, professional development designed to improve writing achievement and leadership support for professional development on student achievement.

Postsecondary Student Remediation

Postsecondary remediation of students is not a 21st century phenomena, since remedial education has been present on the campuses of postsecondary institutions since those institutions began accepting students (Behringer, Bustillos, & Parker, 2010). As early as the late 19th century, nearly half of students admitted to Harvard university were admitted as conditional students; those students lacked basic competence in reading, writing and math (Boylan & White, 1999). Since that time, remedial courses for incoming students have become mainstays on college campuses. By the start of the 20th century, 350 (25%) colleges offered remedial education in some form (Behringer, Bustillos & Parker, 2010). The Montana Board of Regents adopted remedial education policy in 2007; however, according to Tyler Trevor, Associate Commissioner for Planning & Analysis in the Montana Office of the Commissioner of Higher Education, remedial courses have been in existence at Montana postsecondary institutions since the early 1950's (personal communication, 2010).

A report by the National Center for Educational Statistics (NCES, 2003), in which 1,186 eligible institutions completed a questionnaire, found that in the fall of 2000, 14% of entering freshman students enrolled in remedial writing at a degree granting institution. Results from their questionnaire found that between 1995 and 2000, the percentage of students enrolling in remedial writing declined from 16% to 14% (NCES, 2003). However, during that same time period, the length of time students spent in remedial courses increased; the proportion of students enrolled in remediation increased from 28 % to 35% and the proportion of students reporting an average enrollment of less than one year of remediation decreased from 67% to 60%. Although the number of students enrolled in remedial courses remained fairly consistent from 1995 to 2000, the time students spent in remedial courses increased (NCES, 2003). Although students spent more time enrolled in remedial coursework, the number of post secondary institutions offering remedial education in reading, math and writing only increased by 1 percent 1995 and 2005. The NCES further reports that individual remediation offerings also varied minimally: reading, 57% in 1995 and 56% in 2005, writing, 71% in 1995 and 68% in 2000, math, 72% in 1995 and 71% in 2000 (2003). The consistency of the numbers of institutions of postsecondary education offering remedial courses would suggest that these providers of higher education have accepted the responsibility of educating students ill prepared for the rigors of postsecondary education.

The fiscal impacts of remedial education at the postsecondary level are well documented. In a report prepared for the Center for Evaluation and Education Policy (CEEP), researchers calculated the costs of remediation at approximately \$601 million in Michigan and \$504 million in Alabama in 2004 (Plucker, Wongsarnpigoon & Houser,

2006). The National Summit on High Schools estimated the economic loss nationally at upwards of \$16 billion per year for businesses in lost productivity and remedial costs because of underprepared workers and students who are not progressing as workers in the nation nor are they participating as traditional students in postsecondary education (Achieve, Inc., 2005). According to Tyler Trevor, Associate commissioner of higher education in the state of Montana, the education of remedial students costs the state of Montana “millions of dollars annually” (personal communication, 2010).

The national trend of students enrolling in remedial coursework, as reported by NCES is also confirmed by state studies of trends in remedial course enrollment of incoming freshman at their degree granting institutions. In a longitudinal study of the North Carolina University System, the Board of Governors reported a 27% decline in the number of students enrolling in remedial course, from 3202 students in 1991 to 2326 students in 2008 (2009). Although there was an aggregate decrease from 1991 to 2008, they also report that the least number of students enrolling in remedial writing was in 2002 and since 2002, the numbers of students enrolling in remedial writing increased to the numbers reported in 2008 (2010). State reports detailing remedial education reveal that students are enrolling in remedial education at high rates. For example the Florida Office of Program Policy Analysis and Governmental Accountability (FPPAG) found that 22% of entering community college students were college ready while 78% of enrollees required remediation, and two-thirds of those needed remediation in more than one area, these numbers include non recent high school graduates (2008). Among recent high school graduates, of enrollment year 2005, 37% of 2004 graduates of Florida public high schools were placed in college level coursework. (FPPAG, 2008). Another study by

the California State Department of Higher Education examined the enrollment trends of the incoming freshman from the class of 2006. They found that 46% of 45,961 freshman needed remediation in English writing before achieving proficiency (Knudson, Zitzer-Comfort, Quirk, & Alexander, 2006). Further, the report found that 21,000 students enrolled in remedial writing took the required college preparatory curriculum and earned at least a B equivalent grade point average while completing high school studies (Knudson, Zitzer-Comfort, Quirk, & Alexander, 2006). A report published by the Colorado Department of Education showed that 4982 (17%) of 2008 Colorado high school graduates enrolled in remedial writing (Colorado Commission on Higher Education, 2010). From enrollment year 2005 to enrollment year 2009, Nevada has experienced a slight decrease in students enrolling in remedial courses from 41% to 33% (Office of Academic and Student Affairs, 2010). Washington, as well, has experienced a slight decrease in graduates enrolling in remedial writing; from enrollment year 2004, 19% through enrollment year 2008 in which 16% of recent high school graduates enrolled in remedial writing (Prince, 2009). Similarly, over a four year period, according to the data from the Montana University System, the percentages of students enrolling in remedial writing in the MUS during the 2003, 2004, 2005 and 2006 were: 16, 15.5, 14.5 and 17 respectively (MUS, 2006).

While data reflecting aggregate numbers of remedial students is widespread as the aforementioned reports articulate, data reflecting individual student characteristics trends in remedial education are not so ubiquitous. The National Center for Educational Statistics (2003) reported trends of students in remedial education on a national level. The NCES reports that of first and second year undergraduates in 1999-2000 white students

were the least likely to have taken any remedial courses at 31.5%; African American students were the most likely to have taken a remedial course at some point in their postsecondary careers at 45.9% while 27.7% of Hispanics were taking a remedial course at the time of the study (2003). When comparing aggregates of remedial White, African American and Hispanic students to the number of Asian students in remedial courses, NCES reports that among the three groups: White, African American and Hispanics, three-quarters of the remedial group took a remedial math class while 58% of Asian students took a remedial math class. The NCES (2003) goes on to report the socioeconomic levels of legally dependent students in their first two years of undergraduate education as follows: 26.1% of students in the bottom income quartile took a remedial course, 18.8% in the middle income quartile took a remedial course and 18.4% of students in the top income quartile took a remedial course. Similar trends emerge for students who are legally independent: 24% bottom quartile students, 20% middle quartile students and 14% top quartile students. Ethnicity and socioeconomic status of students is disproportional with minorities and students of lower income levels enrolling in remedial courses at a higher rate than non-minorities and students of higher income status. More recent data collected by states reveals a similar trend in remedial students. The Nevada System of Higher Education (NSHE) reports that 44% Native Americans, 36% of Black or African American and 36% of Hispanic students and 33% of white students are enrolled in remedial education (2010). Similarly, in Washington, students of color are more likely to enroll in a remedial course than white students. In enrollment year 2007, 65% of Latino and African American students, 58% of Native

American students and 515 of white students enrolled in a remedial education course (Prince, 2009).

The lack of well developed writing skills is not only evident at the high school and primary level, but higher education is also struggling with the development of writing skills and with educating students who have little to no higher level skills in writing. According to the findings of the National Commission on Writing (2003), more than 50% of first-year college students are unable to produce papers free of language errors; additionally, analyzing arguments and synthesizing information are beyond the abilities of these same first-year students.

Students requiring remediation at the postsecondary level face some arduous challenges in finishing their postsecondary education. Clifford Adelman (1998) conducted research for the U.S. Department of Education and found a correlation between the type of remediation a student receives and their success in college. Students needing remediation in reading required more remedial courses than students not requiring remedial reading and of those needing more than one remedial reading course. Furthermore, 9% received bachelor's degrees, whereas 54% of non remedial students received a bachelor's degree (Adelman, 1998). More recently, Vandal (2010) reported that only 17% of students enrolling in one remedial writing course finished with a bachelor's degree. One finding of the California study (Knudson, Zitzer-Comfort, Quirk, & Alexander, 2006) was that students taking the lowest levels of remediation paid nearly 44% more in tuition and fees than students who directly enrolled in college level courses; consequently, these students are at a larger risk of not attaining a bachelor's degree, not only because of skill deficits which are the catalyst for remedial enrollment, but also the

increased economic impact on these students (2006). In Montana, remediation has negative correlation on the number of students remaining for a second year of study at the postsecondary level. In enrollment year 2008, 62% of students who took a remedial course returned for a second year of study while the return rate for non-remedial students was 78% (MUS, 2010).

Remediation also has a negative impact on student achievement once students enter and progress through postsecondary education (Adleman, 1998; Vandal, 2010) and the national trends in remediation have remained relatively consistent over time (NCES, 2003). The time has come for k-12 systems and postsecondary systems to collaborate for the successful transition for students from k-12 to postsecondary education. The number of remedial offerings and the number of students enrolling in those offerings points to a number of students ill prepared for entering the postsecondary world of career and college.

The Importance of Professional Development as an Intervention for Improving Student Achievement

Professional development for teachers is a key factor for improving classroom instruction, and hopefully improving the achievement of students; teacher quality consistently emerges as the factor that has the most impact in addressing high student achievement for all students (Guskey, 2000; NCTAF, 1996; Hawley & Valli, 1999; Darling-Hammond, 1999). Professional development as a means for teachers to continue to learn and grow has not only been found to be an effective intervention, policy makers have also recognized the importance of professional development as evidenced by the

inclusion of professional development criteria in the NCLB Act of 2001. NCLB (2001) has mandated that teachers receive learning opportunities that are: (1) sustained, intensive and content focused to have a long lasting impact on teaching; (2) aligned with and related to state content standards, student standards and assessment; (3) executed to improve and increase teachers' knowledge of the subject they teach; (4) able to advance the teachers knowledge of effective instructional strategies; and (5) regularly evaluated for effects on teacher effectiveness and student achievement. The inclusion of criteria in the area of professional development in NCLB not only succeeds in highlighting the importance of effective professional activities as a means for school reform, but also highlights professional development as a priority for educational leaders to improve student achievement. The importance of professional development for improving teacher quality and the subsequent impact on student achievement suggests including programs aimed at improving student achievement in the areas of: reading, writing and broad reaching faculty support lead to higher student achievement (Gusky & Huberman, 1995).

The Institute of Educational Sciences conducted, a meta analysis of 1300 studies to examine the evidence on how teacher professional development affects student achievement (REL, 2007). They identified three steps in which professional development affects student achievement: professional development enhances teachers knowledge and skills, better knowledge and skills improves classroom teaching, and improved teaching raises student achievement. Furthermore, if one of these links is weak or missing, improved student achievement will not be realized (REL, 2007). The steps needed to implement effective professional development programs are well documented (Gusky, 2000; NCTAF, 1996; Hawley & Valli, 1999; Darling-Hammond, 1999) as are the

expectations of an effective professional development programs (NCLB, 2001; REL, 2007).

Joyce and Showers (2002) researched six different professional development programs aimed at improving student achievement. Their case study research found evidence of noteworthy improvements in student achievement in schools and districts which have implemented sustained professional development activities. They researched the use of the “Just Read” program as a professional development tool for improving student reading achievement. The “Just Read” program is focused on increasing the time that k-12 students spend reading independently away from school; the district put a team in place to take training, collect data, develop action plans and track progress (Joyce & Showers, 2002). A major component of the “Just Read” professional development activities was on-going training in data collection related to number of books read and the progress toward the development and implementation of school to home partnerships that heavily emphasized parental involvement. The results of the “Just Read” initiative indicated that not only did students read more outside of school, but also evidenced increased reading and writing achievement as measured by their increases in scores on the California Test of Basic Skills (CTBS) (Joyce & Showers, 2002). In first grade the mean number of books read independently increased from 27 to 47 while at the 6th grade level, the number of books read independently increased from a mean of 3 to a mean of 18 over the course of 28 weeks. The “Just Read” program was also linked to increases in test scores. For example, 5th grade reading scores increased from the 48th percentile on the CTBS to the 66th percentile on the CTBS during the first year of implementation (Joyce & Showers, 2002). From their study of the “Just Read” program, Joyce and

Showers (2002) concluded that the key to the success of the initiative was embedded staff development, beginning with consultants and evolving to school level coordinators sustaining the initiative; the majority of the staff development to the form of discussions, modeling data collection and analysis and modeling action plan development. While seemingly curricular in nature, the “Just Read” program success was dependent upon human capital in the form of knowledgeable educators willing to learn and execute the initiative as it was intended. The “Just Read” program is one example of how a school can mobilize constituents, train them and improve outcomes for students.

The “Second Chance / Read to Succeed” program (Joyce & Showers, 2002) is a program aimed at remediating the literacy skills of students in upper elementary who have yet to reach the benchmark level in reading. The initiative is not a canned program; rather this is a long term staff development program to increase teachers’ skill set in teaching older students to read. The main focus of the professional development in this case was the successful execution of classroom based strategies for reading improvement. Participant teachers were provided 10-15 days of staff development and the focus for the inaugural year was on teaching strategies and curricular concerns and subsequent years development focused on implementation data and the revision of the program as it evolved. The results of this professional learning yielded similar results to the “Just Read” campaign. Fifth grade students who, for five years, had been averaging .25 years of an expected 1.0 in reading growth, demonstrated 2.1 years of growth over one year when exposed to the teachers who were participating in and executing what they learned in the professional development (Joyce & Showers, 2002). The medium for teacher

change to benefit students in this case was clearly the professional development that was offered teachers and the time they had to consistently monitor implementation.

The “Success For All” program is one of the most wide reaching initiatives of the last two decades in its focus on low achieving urban schools. The program focuses on early intervention of struggling learners and immediate problem solving and intervention strategies for those students identified (Joyce & Showers, 2002). The participating schools’ professional development is focused on using data, changing instruction to fit the learner’s needs, cooperative learning and the development of family support teams. The “Success For All” program was shown to have significant effect on students’ reading achievement. National results show that schools that use the “Success For All” program have fewer students enrolled in special education services, higher than average gains in reading achievement and large decreases in retention rates, as much as 40% in some districts (Joyce & Showers, 2002). The “Success For All” program is an example of how professional development can impact teacher practice by teaching educators to use data, alter instructional delivery based on data and make a commitment to achievement for all students.

The “River City School Improvement Program” (Joyce, Murphy, Showers & Murphy, 1989) was a professional development / school improvement program involving staff at a school in Richmond County, Georgia. Interestingly, program implementation was contingent upon an 80% participation rate by teachers and school staff. The main emphasis of the River City program was the use of consultants to help implement well-tested teaching models to increase the learning capacity of their students. Professional learning groups were formed and councils were appointed from the faculty and leadership

teams to examine the improvement initiative and report back to the group. Although consultant services were withdrawn, students continued to show learning gains. For example, in one middle school, prior to program implementation, 30% of students achieved the standards required for promotion while at the conclusion of the first year with consultants, 70% met the requirements for promotion. Despite the fact that consultants were not used, at the conclusion of the second year of implementation, 95% of students met the requirements for promotion (Joyce, Murphy, Showers & Murphy, 1989). After the third year of the River City program implementation, teachers from the anchor schools traveled the district and trained other teachers in the model, resulting in these schools attaining similar achievement gains. The impact of the River City program indicates that students can respond quickly to curricular and instructional changes. In addition, this initiative also suggests that professional development from the grass roots level can have a significant impact on student achievement.

Bylsma and Shannon (2004) conducted a comprehensive study of school districts which experienced large gains in student achievement by analyzing data from over 80 research reports and articles compiled over a 10-15 year time period. One of the most important findings of their meta analysis was that schools who experienced the greatest gains in student achievement were also involved in coordinated and embedded professional development. They found that these high achieving districts experienced gains in student achievement as a result of their involvement in professional development activities that were: intensive, ongoing and based on the teaching and learning needs of the school and its' students.

Research conducted by the Educational Testing Service (2000), researchers used student achievement data from the 1996 National Assessment of Educational Progress (NAEP) to investigate the relationship between student performance in science and math to teacher classroom practices. From the student achievement data, researchers were able to extrapolate and assign student scores to their highest correlating teacher's instructional practices. Results from their study found that the teacher behavior correlating highest with student achievement was teacher's instructional practices. ETS's analysis of NAEP data and teacher practices further suggested that instructional practice was most influenced by systematic and ongoing professional development (ETS, 2000). Other findings from this study found that students who were taught by teachers who were participants in professional development activities designed to increase higher level thinking in mathematics outperformed their peers by 40 percent on the NAEP assessment. Similar results were found for students' science achievement; students exposed to teachers who had participated in professional development activities designed to enhance laboratory skills instruction outperformed their peers exposed to non participating educators (ETS, 2000). Professional development for teachers to enhance classroom practice and instruction has an impact on the achievement of students in math and science.

There is clear evidence presented in the literature which indicates that professional development is an important catalyst for reforming teacher instruction and the consequential raise in student achievement. For example, research conducted by Peneul, Fishman, Yamaguchi & Gallagher (2007) and Garet, Porter, Desimone, Birman, & Yoon, (2001) focused on instructional reform and its subsequent impact on student

achievement. They concluded that when educational improvement is focused on teacher learning overlapped with curriculum for improving teaching teacher performance and student learning improve. Furthermore, the findings of Peneul, Fishman, Yamaguchi & Gallagher (2007) and Garet, Porter, Desimone, Birman, & Yoon, (2001) suggest that improvement in teacher knowledge and supported practice results in an increase in student learning (1998). Brown, Smith and Stein (1996) found similar results when analyzing teacher learning, practice and student achievement data. They discovered that both teacher and student learning improved when teachers had opportunities to study curriculum designed to improve student outcomes. Garet, Porter, Desimone, Birman, & Yoon, (2001) investigated the impact of teacher learning opportunities on the science performance of students found that when teachers spent extended time learning about math instruction, student achievement was higher.

Professional Development Designed to Improve Writing Achievement

Although the literature has primarily focused on the importance of teacher professional development in literacy, math and science as a key agent for reforming teacher instruction and increasing student achievement (Peneul, Fishman, Yamaguchi & Gallagher, 2007; Garet et al 2001; Cohen & Hill, 1998; Brown, Smith & Stein, 1996; Wiley & Yoon, 1995), little research exists investigating the impact of professional development as a catalyst for transforming writing achievement and instruction. Significant research exists regarding the current state of writing achievement in schools and the subsequent importance of identifying weaknesses and altering writing instructional practices with the intent of improving student writing achievement (e.g.,

NCW, 2003; NCW, 2004; NAEP, 2007; NAEP, 1998). However research investigating professional development for teachers in the area of writing is not nearly as complete as research in other content areas.

The National Commission on Writing (NCW, 2004) conducted a comprehensive survey of business and state leaders and found that writing provides a “ticket” to professional opportunity and that writing is a threshold skill necessary for employment and promotion. However, the NCW also found, through a comprehensive survey of students in the United States, that practically all elementary students reported spending three hours a week or less on writing, while half of twelfth-graders report they are assigned a paper of three or more paragraphs once a month and that extended research papers are rarely required at all.

The National Assessment of Educational Progress (NAEP) writing assessment highlights the weakness found in student writing skills across the United States. Results from the 2007 NAEP assessment found that 31% of eighth graders and 23% of twelfth graders’ writing was considered to be proficient. Furthermore, the 2007 NAEP report found that in 8th and 12th grade students spent more time writing in subjects other than English, indicating that English as a subject did not constitute a substantial part of their writing experiences.

Research indicates that focused and supported professional development is a correlate to improved student achievement (Togneri & Anderson 2003). Professional development for teachers surrounding effective writing instruction is a key requirement for successful student writing experiences. A common theme emerging from the research concerning successful professional development programs is that training needs to be

rooted in teacher training that will address identified deficiencies in current practice and result in higher student achievement (Guskey, 2000; Marzano & Waters, 2006; Zepeda, 2008; Joyce & Showers, 2002). Current practices across the nation in writing instruction have not kept pace with the needs of preparing students for college and career (NCW, 2003; NCW, 2004; NCES, 2009; MUS, 2010; Vandal, 2010). Theorizing that current trends in writing achievement and instruction were insufficient, Applebee conducted an analysis of the evolution of writing instruction over the last 25 years using data collected from the 1988 – 2004 NAEP, the trends in literacy instruction and the level and the appropriateness of teacher professional development (2009). An important finding from his research found that the number of 8th grade students indicating that they wrote at least one essay per week increased from 42% to 62% from 1988 to 2004. Applebee also found that between 1998 and 2004, the percent of 12th grade students indicating that they wrote at least one essay per week increased from 62% to 71%. However subsequent results found that after six years, evidence of writing compositions of more than three or four pages for these same 12th grade students was almost non-existent (Appleby, 2009). These findings suggest that the improvement of writing instruction should be focused on process oriented instruction in which students are taught a process for writing (Applebee, 2009).

Applebee's research suggest that professional development in the area of writing instruction should focus on writing processes and development rather than discrete disconnected writing skills. Writing process skills such as: outlining, pre-writing, multiple drafting, engaging in small and large group editing and careful attention to conventions of language have been identified as key components for proficient

performance in writing. Surprisingly, Applebee's research found that between 1984 and 2004 results from the NAEP surveys that the use of aforementioned instructional strategies for writing declined (2009). He found that most professional development was aimed at linking instruction to standards rather than diagnostic instruction necessary for remediation of skills. Only 78% of teachers surveyed by the NAEP assessment reported that their professional development emphasized the relationship between reading and writing process skills (Applebee, 2009). This result coupled with other findings from Applebee's research suggest that English teachers lack the awareness of the length, frequency and types of writing expected of students in postsecondary education and when employed (2009).

While research citing current achievement in writing is widespread, limited research exists in the realm of professional development and the subsequent impact on student achievement in writing (NCW, 2003; NCW, 2004; NCES, 2009; MUS, 2010). The NCW has identified key areas in which the preparation of teachers for writing instruction needs to be improved. For example, current professional development trends do not offer teachers the opportunities to see themselves as writers and to experience the power and satisfaction of writing as a means of self-expression; the NCW suggests that most teachers have nonexistent or limited access to the latest high quality professional development (National Commission on Writing, 2003, p. 23).

Effective Professional Development Programs for Writing Instruction

Research conducted by Joyce and Calhoun in 1996 found that a professional development program in a high achieving school district consisting of 11 schools garnered gains in

student writing achievement through professional development at the school and district level. The district began the initiative with action research training for staff and the identification and study of model instructional strategies in writing; further, the initiative was supported by teacher leaders, administrators and coordinator teams. From fall to spring, large effect sizes were reported for increases in student writing performance in grammar and mechanics (1.37), focus (2.18) and support (1.53). All of these effect sizes are several times larger than those found in national samples and for the baseline gains determined from the pre and post-professional development analyses (Joyce & Calhoun, 1996).

Although, Joyce and Calhoun's research was conducted in 1996, their results are consistent with more current findings. For example, Fearn and Farnan (2007) found significant increases in student achievement when as a result of their study investigating teacher professional development in writing instruction that focused on the use and implementation of ten specific objectives for writing instruction. Fearn and Farnan (2007) conducted a study focusing on ten objectives for writing instruction and teacher fidelity to these objectives. The participants in this study were randomly assigned to multiple treatment groups where teachers were provided with professional development or multiple control groups where teachers did not receive professional development. Efforts were made to ensure that the two groups were equivalent with respect to: socioeconomic status, gender and race. Results from pretest – post test comparisons found that all students who were assigned to the teacher who engaged in professional development in the area of writing outperformed the students who were instructed by teachers who did not participate in the professional development program Fearn and Farnan (2007).

Students assigned to groups where educators had one year of intense professional development provided by the researchers and had opportunities to implement writing instruction strategies showed more significant growth in writing achievement as compared to student in the control group conditions where teachers had no professional development related to writing instruction. Further conclusions drawn by Fearn and Farnan (2007) point to the need for professional development to be an active process for teachers and require numerous opportunities to be observed and have feedback provided.

Cutler and Graham (2008) surveyed a random sample (N=178) of primary grade teachers from across the United States about their instructional practices in writing. A primary focus of the survey was to query primary grade teachers about professional development participation for writing instruction and preparation for quality writing instruction. Of those who received teacher preparation through a teacher education program, 42% of respondents indicated that their preparation to teach writing was adequate, 28% indicated their preparation was very good or outstanding and 28% indicated their preparation was poor or inadequate. Of those who responded, 65% reported using no standardized writing program or standardized approach to teaching writing; the remaining 35% listed 137 different writing programs. The results of the survey conducted by Cutler and Graham (2008) indicate that the lack of a writing program with a professional development component leaves only 28% of this group with outstanding preparation for the teaching of writing.

Professional development activities for writing teachers was provided by The California Department of Education to address the problem of low writing skills of students graduating from their secondary schools. Their early intervention program was

designed to provide teachers with early intervention training that emphasized writing instruction as a core content area of emphasis. The California early assessment system provides the catalyst for teachers to participate in the professional development program. The foundation of the grant funded program is for English teachers to be trained in the assessment and delivery of instruction of writing to students in their junior year of high school whose skills were identified to be deficient through the California early assessment exam of composition. As seniors, these students enrolled in a class taught by teachers who had received the professional development program, which was created by: college professors, k-12 English faculty and k-12 curriculum coordinators (Knudson, Zitzer-Comfort, Quirk, & Alexander, 2006).

The California early assessment system is an example of a state-wide program offered to provide developmental activities for writing teachers to address the problem of low writing skills in students graduating from secondary schools. A 2006 study commissioned by the California Department of Higher Education (Knudson, Zitzer-Comfort, Quirk, & Alexander, 2006) found significant mean increases in writing scores for students whose teachers participated in the state of California's professional development program for teachers responsible for teaching writing skills. Results further found significant statewide increases from junior to senior years in average composition scores. California's efforts to provide professional development for teachers in the early identification of deficient student writing skills and strategies for remediating identified deficits has been shown to have a positive impact on student writing achievement. Professional development programs targeted at improving student achievement in writing

achievement similar to the one established by the state of California garnered similar results (Kozlow & Bellamy, 2004; Arter, 1994).

Kozlow and Bellamy (2004) conducted a study sponsored by Northwest Regional Educational (NWREL) Laboratory to determine the effects of teacher professional development on student achievement when writing using the 6 + 1 traits model of writing instruction. In their study, Kozlow and Bellamy (2004) used an experimental design to examine the effects of a two day teacher workshop using the 6 +1 trait writing model on changes in teachers' writing instruction geared towards improvements in student writing achievement. The subjects in the study were teachers in grades 3-6 from one school district; 38 teachers were randomly assigned to the control group and 38 teachers to the treatment group. The treatment group received two days of intensive professional development from the researchers focusing on instructional strategies designed to better execute lessons from the 6 +1 trait writing program. Results from Kozlow and Bellamy's research did not find sufficient evidence to determine that the two day workshop had a significant impact on student achievement in writing (2004). However, results from teacher self reports found that teachers who executed lessons with a high degree of fidelity to the professional development model experienced higher gains in student writing (Kozlow & Bellamy, 2004).

Arter's (1994) research investigating the impact of the 6 + 1 professional development also documented positive effects on student writing skills. Arter (1994) selected six 5th grade classrooms and randomly assigned those to be control or treatment; students were from different school districts in various geographic locations throughout the country. Teachers in the treatment group received one day of intense instruction in

using the 6 + 1 trait model of writing as well as 8 follow up visits from researchers to assist with implementation. The control group was monitored and the teaching strategies used in those classrooms were recorded and reported. Results from a pretest, post test experimental design showed students in the treatment groups gained the most on those traits which were given more time in instruction. Results further found that only one trait, Ideas, increased significantly from the pre to post test performance for the treatment group. However, there were no significant increases for any of the traits for the pretest, posttest comparisons for the control group. Arter, through her analysis, concluded that the trait that did increase significantly, ideas, did so because it was introduced as the first trait and a larger bulk of instructional time was dedicated to the teaching of this trait even though that is not how it was presented throughout the course of their professional learning (1994). These results suggest a key variable within research regarding writing professional development and student achievement in writing (Arter, 1994; Kozlow & Bellamy, 2004). Teachers may receive professional development designed to improve student achievement in writing, however unless support and accountability is provided by educational leaders, professional development does not translate to higher student achievement and skill acquisition.

Leadership Support for Professional Development on Student Achievement

As leadership literature shows, school leaders play a significant role in developing teachers who can effectively educate students to meet expected outcomes for the future (Hessel & Holloway, 2002; Marzano, Waters & McNulty, 2005; Sergiovanni, 2006; Tongeri and Anderson 2003). Ubiquitous research shows that leadership is a key

component to high student achievement. Over 20 years ago, Miller and Verduin (1979) asserted the important role that leadership plays in the implementation of effective professional development for increased student achievement. They contended that the sole responsibility of the administrator is to develop the atmosphere, support, guidance, and opportunities needed for effective staff development experiences. The administrator becomes the facilitator who initializes and oversees the long term professional learning needed for improved student achievement. He/she also acts as resource provider for sound instructional professional growth that supports student achievement. In order to accomplish this, the principal must seek improvement opportunities which will foster the improved learning desired and utilize the input of staff and data in that process (Foster, Loving, & Shumate, 2000).

The Interstate School Leaders Licensure Consortium (ISLLC), created 6 standards to guide the behaviors and responsibilities of school leaders in the 21st century with the vision of developing a framework for defining school leadership and implementation of such strategies (Hessel & Holloway, 2002). Standard 2 reads: “A school administrator is an educational leader who promotes the success of all student by advocating, nurturing, and sustaining a school culture and instructional program conducive to student learning and staff professional growth” (Hessel & Holloway, 2002, p.7). Danielson & McGreal (2000) contend that factors which influence a teacher to move toward professional growth are not only found in the teacher’s motivation, responsiveness, and feelings of responsibility toward student learning, but also in the policies and practices of the school in which he/she teaches. Such policies and practices are reflected in the staff development activities provided to teachers and supported by the

organization's leadership. Providing and supporting professional growth is identified as one of 6 major areas in which an educational leader is responsible in order to fulfill the minimum standards of ISLLC. Additionally, research points out the effectiveness of leadership behaviors on student achievement. Marzano, Waters and McNulty (2005), in a meta-analysis of leadership and student achievement, found that one of the areas of focus for leaders within the realm of ISLLC standard 2 is ensuring professional growth among the stakeholders working with children on a day to day basis. One major component of professional growth is the design and implementation of professional development that focuses on student achievement and is well planned and rooted in student achievement data (Guskey, 2000; Joyce & Showers, 2002; Hessel & Holloway, 2002; Marzano & Waters, 2006; Zepeda, 2008). Additionally, strengthening the performance of others requires initial investment that develops the competencies of people and fosters confidence; those investments in training and development produce profits (Kouzes & Posner, 2002). Outside of the field of education, organizations that spend more than the average amount on training have a higher return on investment than those that spend less than average (Kouzes & Posner, 2002). In order to improve the competence of constituents an increase in training and development expenditures must be present; without education and coaching, people in all areas are reluctant to exercise their new knowledge mainly because of lack of confidence and the fear of making mistakes (Kouzes & Posner, 2002). Leadership positions, in educational organizations and non-educational organizations, are the keys to promoting growth in others. They are the financial and spiritual leaders of an organization; consequently, they can provide the financial and spiritual supports for adult learning.

The role the school leadership plays in improving student achievement is well documented (Harkreader & Weathersby, 1998; Marzano & Waters, 2006; McGhee & Jansen, 2005; Sergiovanni, 2001). The principal position has a greater ability for sustaining and improving the quality of schools as compared to any other position in the school (Sergiovanni, 2001). The principal is the day to day vision leader as well as the key stakeholder in an individual school. At the district level, leadership is just as important for successful schools. Marzano and Waters in a meta-analysis of 27 reports and data from 1210 districts found that when district leaders are engaged in effective leadership, student achievement is positively affected across the district (2005). Their research further suggests that significant correlations between district leadership and increases in student achievement begin to manifest during the first two years of superintendent tenure. An average school could see a rise of 10 percentile points in their student achievement scores on a given achievement test due to the presence of an effective leader (Marzano & Waters, 2005).

Professional development designed to promote effective instructional practices must be intentional to have positive impacts on student achievement (Guskey, 2000; Joyce & Hollow, 2002; Zepeda, 2008). Professional growth as represented in ISLLC standard number 2 and promulgated by the National Association of Elementary School Principals (Hessel & Holloway, 2002; NAESP, 2008) articulates the responsibility of professional growth and development as being that of the principal as instructional leader. The first step is to identify the area in which growth needs to occur. Principals and superintendents need to purposefully link professional development to “what needs to be learned and by whom” (Hessel & Holloway, 2002, p. 69). This data is collected through a

number of different venues including: discussions with staff, observations of staff, grade level meetings and close analysis of student achievement data (Zepeda, 2008).

Harkreader and Weathersby (1998) examined the nature of staff development in Georgia's consistently high and low scoring schools. Outcomes from their research found that the principals in high achieving schools provided more direction and support for teacher learning and the faculties reported a sureness that they would get the support needed for reform and refinement in instructional strategies. Furthermore, in a supporting study to Harkreader and Weathersby (1998) examining the extent to which principal leadership for professional development addressed teachers' knowledge and skills, Youngs and King (2002) found that effective principals can sustain high levels of instructional capacity by creating structures that promote teacher learning, and by connecting their faculties to external expertise and helping teachers generate reform internally. In another study, Tongeri and Anderson (2003) investigated how five high poverty and highly achieving districts promoted effective instruction within their schools. A major outcome from their study was that all five school districts based professional development of teachers and administrators on data driven decisions. Additionally, professional development programs in these districts were revised to include coherent, district organized strategies to improve instruction supporting school wide achievement goals. An important finding from research demonstrated through numerous studies is that a key component to the success of professional development activities was the support of district level and building level administrators (Harkreader & Weathersby, 1998; Youngs & King, 2002; Tongeri & Anderson, 2003).

A key study by McGhee and Lew (2007) highlighted the important role of school principals for effective instructional practices in writing. Their study examined the perceptions of teachers regarding support for and understanding of effective instructional practices in writing and the affect on instructional practices. In a survey of writing teachers (N=169), McGhee and Lew found that those principals who had strong knowledge of and belief in effective writing instructional practices execute their roles in ways which help writing teachers do their best work (2007). A key finding in their study was the support a principal shows for professional development had a direct effect on the instructional practices of writing teachers.

Sally Zepeda (2008), education professor at the University of Georgia, emphasized just how large of a responsibility leadership has for supporting professional development activities. She explains that:

“To provide appropriate learning opportunities, the principal understands the career stages of teachers, the principles of adult learning, the vital importance of sustained teacher talk over time and coaching. In addition to professional development conducted outside of school hours, teachers need learning opportunities that are part of their daily work. Fulfilling this requires time during the day. Through job-embedded learning techniques such as peer coaching, study groups, and action research, the principal situates the teacher as the doer in his / her own learning. Planning for professional learning opportunities takes center stage in a school that is a learning community (p. 78).”

The leadership team of a building must key into the aforementioned areas of teacher growth and, in turn, provide the necessary training and authentic support for student achievement results to increase.

The role of leadership in a healthy and high achieving system of education is well documented. Leadership is in a key position to support continued high achievement through professional development, as well as to change ineffective practices through professional development and change outcomes for students. Improved student achievement through staff professional development constitutes more than just offering professional development. Support for the growth of individual teachers as valued members of an organization must also be present and perceived as supportive by those expected to grow.

In his study of sustained learning communities, Kilbane (2009) identified administrative support as a critical factor in learning community longevity. His case study research revealed that in schools that were described as learning communities, administrative support impacted the longevity and sustainability of the schools functioning as a learning community. In each of the four case schools studied, leadership and administrative support played a more critical role than any of the remaining factors influencing a learning community. Namely, the administrators have a centralized perception of power and influence that can support or hinder the key actions and activities associated with a learning community.

Summary

In 21st century education, the ability for students matriculating from high schools to approach and engage with postsecondary education successfully at any stage of life needs to be a priority of the entire educational spectrum, kindergarten through bachelors degree. The current state of remedial education offerings and enrollment indicates that,

currently, that ability is not present for a significant number of students enrolling in colleges and universities nationwide. While school districts across the nation search for innovative ways to remedy their students' transitions to postsecondary education, there is significant support for professional development as a key piece to changing instructional strategies and outcomes for students. In all content areas, teacher improvement and refinement of instructional skills are proven to be effective means of improving student achievement; a key component of teacher improvement, as well as student achievement, is engagement of teachers in comprehensive professional development. Successful professional development tied to student achievement data, like remedial enrollment rates in writing, has the potential to significantly impact student achievement.

Writing is a skill which has been neglected too long. Relevant data (NCW, 2003; Applebee, 2009) suggests that writing needs to become a priority for all educators in the nation today. As educational leaders, the support provided teachers in the evolution of their skills in writing instruction is key to the fulfillment of the current gap students transitioning to postsecondary education are experiencing. For any marked improvement in student achievement to be realized through professional development, leadership of schools needs to play a key role. School leaders have to make the commitment to higher student achievement for all students and subsequently prioritize the development of adults to ensure that students are leaving our schools prepared for career and college alike. The skills the 21st century demands of our students are not being mastered by far too large of population of graduates. School leaders and teachers alike, must make a commitment to professional development in order for the already high remedial trend to stop increasing and begin decreasing to the point all students are prepared.

METHODS

The purpose of this study was to investigate English teachers perceived support of administrative support for professional development and teacher and student factors related incoming Montana high school graduates enrollment in remedial writing courses offered by institutions within the Montana University System. The factors investigated by this study included: perceived administrator support for teacher professional development in writing instruction, high school English teachers' participation in the MUS professional development activities and individual student characteristics. Specifically, the student attributes investigated in relationship to enrollment in postsecondary remedial writing courses were gender, socioeconomic status and school size.

The following questions provide the direction for the investigation of the characteristics of student enrollment in remedial writing at the postsecondary level in the state of Montana.

1. What are Montana high school English teachers' perceptions of administrative support for their participation in professional development activities designed to improve writing instruction and achievement?
2. Is there a relationship between a student's gender, socioeconomic status, size of high school, schools' participation in the MUSWA and enrollment in remedial writing in postsecondary education in the state of Montana?

H0. There will be a relationship between student's gender, socioeconomic status, size of high school, schools' participation in the MUSWA and enrollment in remedial writing at postsecondary institutions in the state of Montana.

- H1. There will not be a relationship between student's gender, socioeconomic status, size of high school, schools' participation in the MUSWA and teachers perceptions of leadership support for professional development activities and enrollment in remedial writing at postsecondary institutions in the state of Montana.
3. Do high school English teachers who participate in the MUS professional development activities express a greater understanding of the expected writing requirements for postsecondary institutions than high school English teachers who do not participate in the MUS professional development activities?
- H0. High school English teachers who participate in the MUS professional development activities will express a greater understanding of the expected writing requirements for postsecondary institutions than high school English teachers who do not participate in the MUS professional development activities.
- H1. High school English teachers who participate in the MUS professional development activities will not express a greater understanding of the expected writing requirements for postsecondary institutions than high school English teachers who do not participate in the MUS professional development activities.

In this study, a pre-existing set of data gathered by the Montana University System was analyzed to provide answers to the aforementioned research questions. In total, 3381 graduates of Montana's public high schools entered one of the institutions of postsecondary education in the state of Montana.

Assumptions

The assumptions inherent from the outset of this study are focused in professional development as a pedagogical and content endeavor; administrative support for professional development is a precursor to effective professional development; professional development is related to student achievement; and Montana University System students come from diverse backgrounds.

Population

The Montana Office of the Commissioner of Higher Education (OCHE) MUS data warehouse provided data from a census group of enrolling freshman in an MUS institution for the year 2009. This data set was disaggregated by: placement in postsecondary remedial writing, placement in remedial mathematics, socioeconomic status, ACT composition score, high school GPA, classification of Montana high school, MUSWA score.

English teachers in the state of Montana were also participants in the study; there are 640 English teachers in the state of Montana (OPI, 2010). They completed the questionnaire and submitted demographic data that concerns their teaching assignment and their participation in the MUSWA.

Student Participants

The participants in this study were 3381 enrolled freshman at one of the six four-year institutions of the Montana University System. All 3381 participants were graduates

of a Montana High school in the class of 2009. The number of participants used in this study represented the actual number of students who graduated from a Montana high school and enrolled in and attended the fall 2009 semester at a MUS institution. The participants in this were examined by the following characteristics: gender, ethnicity, classification of Montana high school, enrollment in remedial writing and score on Montana University Writing Assessment.

Teacher Participants

Responses from a sample of 246 teachers responding to the Organizational Support questionnaire was collected to ensure that there was a 5% confidence level and 5% confidence interval for the results. The 240 required respondents to achieve a 5% confidence interval and 5% confidence level represents an approximately 38% return rate for the questionnaire. Prior to questionnaire completion, respondents were given an informed consent letter in which it was identified that this study was to gather data regarding writing professional development from writing teachers in the state of Montana.

Variables

For each of the 3381 students, a number of variables were analyzed to determine the relationship between student characteristics and remedial writing at the MUS level. The dependent variable in this study was enrollment in remedial writing at an MUS four-year institution. According to the Montana Board of Regents policy and procedure manual (2007) the intent and nature of remedial coursework is to ensure that:

“Coursework is available to students who continue their education in the MUS, but need to develop the foundational skills to succeed in rigorous, college-level classes.” (2007) Remedial coursework, therefore is intended to prepare students who are not ready for college work to complete a course of study leading to a degree from the institution.

Remedial course work is further described in the Montana Board of Regents Policy and Procedure Manual as “any course designed to help students achieve competency at the level required for full admission to a four-year baccalaureate program and/or develop the basic skills needed to successfully complete college-level courses that satisfy the MUS core” (2007). Students graduating from high school and enrolling in the MUS have a number of options when demonstrating writing proficiency and opting out of remedial coursework. According the Montana Board of Regents Policy and Procedure Manual 2010, in order for a student to enroll in a non-remedial course, they must have:

1. *A score of 7 or above in the essay or 18 in the combined English/writing section of the optional writing test of the ACT; or*
2. *A score of 7 or above on the essay of 440 on the writing section of the SAT; or*
3. *A score of 3.5 or above on the MUS writing assessment; or*
4. *A score of 3 or above on the AP English language or English literature examination; or*
5. *A score of 4 or above on the IB language A1 exam. (Regents, 2010)*

Lastly, the Board of Regents Policy and Procedure Manual states that the coursework described in this section of the policy is not considered college level and cannot be used in an associate of arts, associate of science or baccalaureate degree program” (2010). The coursework, as defined by the Montana Board of Regents, is not higher level,

postsecondary work; these courses exist in order to increase skills of students ill-prepared for the rigors of postsecondary education.

A number of independent variables were analyzed to determine their effect on student enrollment in remedial writing. The demographic variables used as independent variables in this study included: gender, ethnicity, socioeconomic status, and size of high school. Gender and ethnicity were determined through the use of enrollment data in which students report their gender and their ethnicity. Gender data will be male or female and in this population of students, ethnicity will be either white or other. White was defined as a student who declared on their enrollment data that they are Caucasian / white, non-Hispanic and other was students who did not declare to be Caucasian / white, non-Hispanic. Socioeconomic status was determined using PELL grant data. The PELL grant is a federal grant which has as its mission to: “provide need-based grants to low-income undergraduate students to promote access to post-secondary education” (USDE, 2009). PELL grant recipients, for the purpose of this study were considered to be of low socioeconomic status. The Pell data was made available through the enrollment data for the enrollment year 2009.

Size of high school was defined using the following classifications of Montana high schools: AA, A, B and C. According the Montana High School Association (MHSA, 2009), in March of 2009, the population range in the classifications of high schools in the state of Montana were as follows: AA, 1048 students to 1966 students; A, 306-809 students; B, 95-346 students; and C, 11-152 students. These numbers are representative of the actual number of students in attendance for the Spring enrollment of 2009.

Montana University System Writing Assessment

The Montana University System Writing Assessment (MUSWA) is a timed composition exam given to all 11th graders at participating high schools in the state of Montana in the spring of their junior year of high school. The MUSWA has been in existence in the state of Montana since 2001 (OCHE, 2010). In the inaugural year, 63 high schools participated in the MUSWA; that number has steadily increased over time and in the test year 2009, 129 high schools tested 7793 students, representing 75% of Montana's high school juniors (OCHE, 2010).

The MUSWA has students read prompts, select a prompt, think about the issue in the prompt, plan the essay and write the essay, all in 40 minutes (OCHE, 2010). The MUSWA provides three modes to choose from when administering the writing assessment: handwritten, word processed and an online version; schools can test over a three day period within the month long testing window, usually in February (OCHE, 2010). The test takers in the MUSWA are able to choose from one of two prompts from a pool of six; the prompts are designed to appeal to the varied interest of students and must (OCHE, 2010):

- 1. Describe hypothetical situations involving a choice between two specific alternatives or a unique situation proposed by the student,*
- 2. Provide criteria used to weigh alternatives such as "improving the school experience".*
- 3. Specify an audience, such as a school board; and*
- 4. Use topics that are accessible to any high school student.*

MUSWA Administration Procedures

For standardized procedures, the OCHE communicates with one teacher or administrator in the participating schools. The OCHE mails the prompts and test booklets to schools with strict directions for testing material security and standardized directions and prompts for the 1st day of testing, second day and a make-up day of testing (OCHE, 2010). The execution of the test is the first step in a series before a student receives scores for their test session.

Scorer Training

To ensure consistency in scoring student essays, high school teachers, pre-service teachers, and college instructors from across Montana meet for the MUSWA scoring workshops. The researcher in this study had participated in the workshop three times: 2002, 2003 and 2010. These workshops encompass two days; the first used to familiarize scorers with the rubric to be used (see Appendix C) and the second to score the essays from that particular region. The mission of these workshops according to OCHE is to introduce scorers to the holistic rubric students will encounter in postsecondary education, the holistic rubric used in the MUSWA follows the set criteria for holistic writing in that they must:

1. Be based on the whole picture of the writing;
2. Provide a general impression of the essay based on anchor papers;
3. Ask raters to weigh and balance various features of the writing;
4. Generate one score;

5. Be used for screening and/or placement;
6. Have the possibility to be used for a variety of genres.

In addition to familiarizing scorers with the rubric to be used for scoring, the scoring workshop also cements the scorers' knowledge in scoring essays according to postsecondary expectations. The scorers are subject to review of numerous compositions that are examples of each of the 6 possible scores the compositions can receive. Prior to dismissal of the first day of the scorers' workshop, participants must score 5 compositions and be within one score point of the validated score the composition has received in an earlier scoring session. The final segment of the scorers workshop is the actual scoring of the essays from the region the scorer is associated. The scoring is done anonymously as student booklets and compositions are coded by number and all compositions are read by at least two scorers. The two scorers read the composition and assign a score using the holistic rubric. The two scores are then examined by a trainer to determine if the scores are: perfect scores in which two scorers had the same score for the same composition, adjacent scores in which two scorers were within one point of each other for the same composition, or discrepant scores in which two scorers were more than one point away from each other on the same composition. Those which are discrepant are read by a third reader and assigned a score only after discussion with the first two readers about the application of the rubric for said composition. Third readers are available at every table and serve as at table trainers who have received further training in the application of the rubric.

Reliability and Validity of the MUSWA

Each year all writing prompts are analyzed based on: distribution of choice by students, inter-rater reliability, average score and ratings by scorers on the prompts' fairness, interest to students and ease of scoring (OCHE, 2010). When new prompts are created or used prompts are discontinued, the criteria to be used for selection to be included in the MUSWA has been set by the writing steering committee for the state of Montana and include prompts that must (OCHE, 2010)

1. Be of interest to student, so they write enough to permit assessment of their skills
2. Elicit original writing rather than simple restatement of the topic
3. Are accesible to all students, regardless of experience, general knowledge, gender or cultural or ethnic background
4. Be free of weighting toward students with certain experiences
5. Encourage students to draw upon their personal experience and their own ways of organizing informaiton

The OCHE conductes inter-rater reliability studies yearly and the results from scoring year 2009 are: perfect scores = 60.88%, adjacent scores = 37.64% and discrepant scores = 1.48%, resulting in a Cronbach's alpha level of 0.868 (2010); this level of Cronbach's signifies that this a valid measure of the intended measurement, in this case, writing skills for postsecondary enrollment.

Within 8 weeks of a student sitting for the MUSWA, the composition has been scored and the reults are sent to the school. The results of the MUSWA are primarily used for students and teachers to determine student enrollment options for writing at the

postsecondary level. In addition to individual student score reports, OCHE provides comprehensive reports articulating for schools what the MUSWA data has revealed, including:

1. Three state reports: one for overall school score, one for handwritten essays and one for word-processed and online essays.
2. A distribution table for the school, showing the percent of students at each score point and the student reported postsecondary plans (college, work, etc, etc).
3. A distribution table for class, by teacher.
4. Individual scores for students whose essays were submitted and scored correctly, including data revealing strengths and weaknesses of the composition.

To that end, in addition to the scoring workshops and student level feedback provided to teachers and administrators, OCHE (2010) also provides: 18 full days of professional development in writing each year through teacher conventions, administrator association conferences and workshops; websites, publications and conference presentations; and detailed data for high schools, colleges and students about writing skills.

Support for Professional Development Questionnaire

Thomas Guskey (2000) developed a Support for Professional Development Questionnaire for use in the evaluation of professional development programs. According to a conversation the researcher had with Guskey, the questionnaire had been used in numerous evaluations of professional development programs, however it had never undergone an analysis to determine validity or reliability. The original instrument

consisted of 12 items which asked for respondents to respond using a scale of 1-6 (1= strongly agree, 2=moderately agree, 3=slightly agree, 4=slightly disagree, 5= moderately disagree and 6=strongly disagree). Three items were added to this instrument for the purposes of this study. The three items related to professional development that were added to this questionnaire were specific to the study being conducted. Item 1 = “My administrator (principal / superintendent) supports my attendance at professional development writing activities sponsored by the Montana University System.” 2= “I know what the expectations will be for my students skills in writing at the postsecondary level at institutions of higher education in the state of Montana.” 3= “I know what ACT writing assessment score students need to enroll in college writing at postsecondary institutions in the state of Montana.” Additionally, the questionnaire asked respondents what classification of high school they were currently teaching in, whether the respondent had participate in the MUS professional development activities and if their school participated in the MUS professional development activities. The entire questionnaire and the accompanying informed consent letter can be found in Appendix A. This representation is exactly the format that the participants encountered when opening the survey. After the addition of these items, the questionnaire was sent out to experts for review to establish content and construct validity. Jan Clinard, Director of Academic Initiatives for Montana OCHE and Justus Randolph, PhD, associate professor of educational research, Mercer College. Comments by these experts were used to guide any revisions and administration procedures recommended for the Professional Development Support Questionnaire prior to pilot study administration.

Support for Professional Development Questionnaire Pilot Study

The pilot study to determine the test retest reliability for the SPDQ questionnaire was conducted using a random sample of 10 high school English teachers in the state of Montana and returned to the researcher. After a period of 10 days the same questionnaire was sent to the same participants and the results were analyzed. Additionally, the participants in the pilot study were asked to provide feedback regarding the content of the questionnaire. Particularly the understandability of the questionnaire and the content of the questions. The resulting Pearson Correlation was .927, indicating that the test – retest reliability of consistency of the questionnaire was high (Field, 2005). The pilot test, as indicated by the .927 Pearson Correlation, consistently assessed teacher perceptions of support for professional development experienced by English teachers in the state of Montana.

SPDQ Administration

The questionnaire was built and administered through the Survey Monkey website. Participants were solicited to take the survey through an email sent to high school principals through the School Administrators of Montana (SAM) list serve. An introductory letter of request to complete accompanied the questionnaire and requested English teachers for their participation in this study. The complete letter for request for participation can be found in Appendix B. Contained within the letter were the statements “you are being asked to complete this survey because you are a writing teacher in the state of Montana.” Additional language in the letter stated: “These results will help streamline effective professional development activities in the content area of writing for

teachers in the state of Montana.” This language served to contextualize the respondents as they completed the questionnaire. The assumed context of the questionnaire was that the professional development activities referred to are for the content area of writing and not the more global content of English, which could include: communication, language, spelling, and / or reading. Additionally, the informed consent, which was the first document participants encountered stated, “You have been selected to participate in the study because you are currently a writing teacher in the state of Montana.” Furthermore, the informed consent stated: “You are being asked to participate in a study designed to gather teachers’ perceptions of administrative support for the content area of writing professional development in their schools.” Survey completion was monitored daily and two requests for completion were resubmitted over a one month period. The second and third requests followed the same procedure as the initial request for completion. Once the minimum of 240 surveys was completed, the researcher provided an additional three day window for additional results to be submitted. English teachers responses from the Support for Professional Development Questionnaire were then analyzed to determine the internal consistency reliability and factor analyzed to ensure that the results were interpreted accurately based on the underlying dimensions assessed by the questionnaire. This analysis also served to validate the interpretation of results from the questionnaire for this study.

Design

The research design used to answer the research questions for this study are both descriptive and correlational. The results of a questionnaire of Montana writing teachers

who have and who have not participated in the MUSWA writing professional development was completed and data analyzed to answer research questions 1 and 3. Demographic and school variables from pre-existing data collected by the MUS was used to determine the relationship between individual student characteristics and enrollment in postsecondary remedial writing courses. Likewise, the results from the Support for Professional Development questionnaire was used to investigate the relationship between High School English teacher participation in the MUSWA professional development writing activities and their understanding of postsecondary writing requirements at the postsecondary level and postsecondary student enrollment in remedial writing courses.

Procedures

In this study, a pre-existing set of data gathered by the Montana University System was analyzed to provide answers to the proposed research questions. In total, 3,381 graduates of Montana's public high schools entered one of the MUS postsecondary institutions in the fall of 2009.

The researcher was granted access to the database prepared by the MUS. At no time, was the researcher able to access any information that would enable any individual student to be identified. For all 3381 students, the following data was made available to the researcher: gender, ethnicity, high school graduated from, MUS enrollment status (remedial English, math or both), participation of school district in MUS writing professional development, classification of high school and socioeconomic status of student based on Pell Grant receipt.

Data Analysis

English teachers responses from the Support for Professional Development Questionnaire were analyzed to determine the internal consistency reliability and factor analyzed to ensure that the results are interpreted accurately based on the underlying dimensions assessed by the questionnaire. Descriptive statistics in the form of percentages gathered from the teacher survey were used to answer research questions 1 and 3. Finally, logistic regression was used to determine the relationship between gender, ethnicity, participation of school in MUS writing professional development, high school size and socioeconomic status of student based on Pell Grant receipt, school participation in the professional development activities sponsored by the MUS, and postsecondary enrollment in remedial writing.

Summary

The purpose of this study was to determine the relationship between the Montana University System professional development in writing instruction for secondary teachers, support for professional development activities and enrollment in remedial writing at Montana schools of higher education. Additionally, this study attempted to identify student characteristics which inform educators practice regarding student's enrollment in remedial writing. A pre-existing set of student data from 3381 graduates of Montana high schools was analyzed as was responses from a questionnaire completed by English teachers in the state of Montana. Utilization of and support for professional development writing activities were the catalysts of this study as educators statewide

work towards decreasing the number of students enrolling in remedial writing classes at postsecondary institutions.

RESULTS

The purpose of this study was to investigate the influence of administrators, teachers and student factors on incoming Montana high school graduates enrollment in remedial writing courses offered by institutions within the Montana University System. The factors investigated by this study included: administrator support for teacher professional development in writing instruction, high school participation in the MUSWA professional development activities and individual student characteristics. Specifically, the student attributes investigated in relationship to enrollment in postsecondary remedial writing courses were gender, socioeconomic status, ethnicity, secondary school participation in the MUSWA and school size.

The following questions provided the direction for the investigation of the characteristics of student enrollment in remedial writing at the postsecondary level in the state of Montana.

1. What are Montana high school English teachers' perceptions of administrative support for their participation in professional development activities designed to improve writing instruction and achievement?
2. Is there a relationship between a student's gender, socioeconomic status, size of high school, schools' participation in the MUSWA and enrollment in remedial writing in postsecondary education in the state of Montana?

H0. There will be a relationship between student's gender, socioeconomic status, size of high school, schools' participation in the MUSWA and enrollment in remedial writing at postsecondary institutions in the state of Montana.

- H1. There will not be a relationship between student's gender, socioeconomic status, size of high school, schools' participation in the MUSWA and enrollment in remedial writing at postsecondary institutions in the state of Montana.
3. Do high school English teachers who participate in the MUS professional development activities express a greater understanding of the expected writing requirements for postsecondary institutions than high school English teachers who do not participate in the MUS professional development activities?
- H0. High school English teachers who participate in the MUS professional development activities will express a greater understanding of the expected writing requirements for postsecondary institutions than high school English teachers who do not participate in the MUS professional development activities.
- H1. High school English teachers who participate in the MUS professional development activities will not express a greater understanding of the expected writing requirements for postsecondary institutions than high school English teachers who do not participate in the MUS professional development activities.

In this study, the Support for Professional Development Questionnaire was sent to all secondary principals in the state of Montana through the School Administrators of Montana list serve; secondary principals were requested to pass this survey on to all English teachers in their district. After a one month period, 260 surveys were started and 246 surveys were answered completely. Of the 260 participants answering the first two items, 124 participated in the MUSWA writing workshops and while 136 had no professional development experience with the MUS writing assessment. The breakdown of English teachers participating in this study can be found in Table 1.

Table 1
Percent of English Teacher by High School Classification and MUSWA Participation

High School Classification	Percentage of Sample (N)	MUSWA participation	
		Yes	No
AA	22 (60)	60	40
A	30 (73)	45	55
B	27 (66)	44	56
C	18 (45)	36	64

Additionally, in this study, student participants were 3,381 enrolled freshman at one of six four- year institutions in the Montana University System. All 3,381 participants were graduates of a Montana High School from the class of 2009. The number of participants used in this study represents the actual number of students who graduated from a Montana high school and enrolled in and attended the fall 2009 semester at a MUS institution. The student participants were disaggregated by the following characteristics: gender, ethnicity, socioeconomic status based on PELL grant receipt, classification of Montana high school, graduating schools' participation in the MUSWA and enrollment in remedial writing. The sample consisted of approximately half females (52%) and half males (48%). Students receiving a PELL grant represented (35%), while those not receiving a PELL grant represented (65%). 2402 (71%) students who enrolled in an MUS institution in fall 2009 participated in the MUSWA while 979 (29%) did not participate. Student scores were used as the determination of whether a school participated in the MUSWA or not. Student scores were available, if the student possessed a score, then participation in MUSWA was coded as affirmative for school participation. Students high school classification in enrollment year 2009 can be found in Table 2. The population range in the classifications of schools in the state of Montana are

as follows: AA, 1048 students to 1966 students; A, 306-809 students; B, 95-346 students; and C, 11-152 students (MHSA, 2010).

Table 2
Frequencies and Percent of Students Enrolled in MUS Fall 2009

H.S. Classification	Number	Percent
AA	1663	49
A	715	21
B	570	17
C	433	13
Total	3381	100

There were seven self reported categories of student ethnicity. The frequencies and percent for ethnicity are found in Table 3.

The majority of students enrolling in an MUS institution in the fall of 2009 were white by their own classification. Ethnicities other than white made up a scant 13% of students who enrolled. Due to the small numbers of ethnicities other than white, other than reported here as a descriptive of the population, ethnicity was categorically defined as white and other for further analysis contained herein.

Table 3
Ethnicity of Students Enrolled in Postsecondary Education During the Fall 2009 Semester

Ethnicity	Number	Percent
Asian	52	1.5
Black	14	.4
Hispanic	60	1.8
Native American	146	4.3
White	2941	87
Other	168	5
Total	3381	100

Research question 1 was answered using the results gathered from the Support for Professional Development Questionnaire (Guskey, 2000). The Support for Professional Development Questionnaire asked a series of 18 questions; three demographic items and 14 items requiring a ranking on a 6 item scale where: Strongly Agree =6, Moderately Agree =5, Slightly Agree =4, Slightly Disagree =3, Moderately Disagree=2 and Strongly Disagree =1.

Prior to conducting exploratory factor analytic procedures the data were subjected to tests of normality and skewedness. Average skewedness for the 15 Support for Professional Development Questionnaire items was found to .724 (SD=.44) while the average kurtosis found to .141 (SD=1.74). According to Fabrigar, Wenger, Maccallum and Strahan (1999) exploratory analytic procedures are not adversely affected when

skewness of the variables is less than 2.00 and kurtosis not greater than 7.00. Only one item, “My administrator (superintendent / principal) supports my attendance at professional development writing activities sponsored by the Montana University System” was found to have a skewness value of 2.16, exceeding the +/- 2.00 recommended by Fabrigar et al. (1999). However it was decided to retain this item for the exploratory analysis because its skewness barely exceeded the +/- 2.00 threshold value while the skewness for all the other items averaged .62 (SD = .20). Descriptive statistics for all teacher responses for each of the 15 Support for Professional Development questionnaire items are reported in Table 4.

Table 4

Descriptive Statistics for Support for Professional Development Questionnaire

	M	SD
Our professional development programs and activities are aligned with our school mission, goals, and objectives.	2.23	1.06
Funding for professional development is a line item in our school budget.	2.30	1.20
The administration, faculty, and other staff members of our school work together to plan professional development activities.	2.87	1.54
Leaders in our school advocate, encourage, and support professional development through incentives and resources	2.80	1.37
The administration and faculty of our school consider what they know about the change process implementing strategies learned from professional development programs and activities.	2.78	1.23
A norm of experimentation exists in our school that permits educators to try new instructional practices without fear of criticism should initial efforts fail.	2.43	1.25
District-level personnel help guide our professional development planning efforts and assist in implementation.	2.84	1.33

Table 4 Continued

Provisions for follow-up support are included in all of our professional development plans.	3.27	1.33
A norm of professional learning exists in our school that recognizes that learning about best practices in our profession is never finished.	2.30	1.18
We have ready access to expertise when implementation problems or difficulties are encountered.	3.13	1.32
The resources required to implement new practices are considered during planning and built into our school budget.	3.17	1.36
District-level professional development programs and activities are thoughtfully planned and complement our school-level efforts.	3.11	1.40
I know what the expectations will be for my students skills in writing at the postsecondary level at institutions of higher education in the state of Montana.	1.82	1.24
I know what ACT writing assessment score students need to enroll in college writing at postsecondary institutions in the state of Montana.	1.99	1.52
My administrator (principal / superintendent) supports my attendance at professional development writing activities sponsored by the Montana University System.	1.52	.87

The dimensionality of the 15 items on the Support for Professional Support Questionnaire was examined using exploratory factor analysis. Guidelines suggested by Field (2005) and Fabrigar et al. (1999) were followed when conducting the analysis. Results from the 260 teacher responses supplied 17 individuals for each of the Support for Professional Development Questionnaire items, exceeding the sample size recommendations suggested by Fabrigar et al. (1999). Data screening procedures were also undertaken to evaluate the factorability of the correlation matrix. Both the Kaiser – Meyer – Olkin Measure of Sampling Adequacy (.9) and the Bartlett’s Test of Sphericity

($\chi^2_{(105)}=1,150, p < .001$) indicated that the data were appropriate for the factor analysis to proceed.

The clearest factor pattern emerged when using Principal Components extraction and Varimax rotation methods. The two identified factors were evaluated against Kaiser's criterion and Cattell's (1964) Scree test and were found to best represent the underlying dimensions for the 15 item scale. A minimum factor loading criterion of .400 recommended by Field (2005) was adopted for including an item in the final interpretation. Item 6, "A norm of experimentation exists in our school that permits educators to try new instructional practices without fear of criticism should initial efforts fail," was removed because of it cross loaded on both factors identified by the analysis. As a result, fourteen items were selected for the final version of the Support for Professional Development scale. With the remaining items, component analysis was conducted. The resulting model suggested two constructs: professional development support (PDS) and knowledge of higher education expectations (KE). Eigenvalue loading for the two factors were greater than the commonly accepted criterion of 1.0 (Field, 2005). An examination of the communalities was conducted to further interpret the results of the factor analysis. The communality of a variable is the portion of the variance of that item that is accounted for by the individual factors. Communalities show for which measured variables the factor analysis is working best and least well as unique measures of attributes assessed by the instrument (Gliner & Morgan, 2000). The communalities for the items in the Support for Professional Development Questionnaire were consistently high, above the recommended .5, which if calculated less than .5, would suggest a larger

sample size is needed (Gliner & Morgan, 2000). One item, number 2, “Funding for professional development is a line item in our school budget,” fell below this threshold with a communality of .2. The communalities of the factors PDS and KE can be found in table 5.

The rotated solution yielded two interpretable factors: professional development support (PDS) and knowledge of expectations for postsecondary writing (KE). These two components accounted for 63% of total item variance. An instrument shows evidence of construct validity if all the measurements which make up the instrument load on the same common factor with a significant loading (Gliner & Morgan, 2000). Component number one contained items associated with overall support for teachers and professional development programs in k-12 schools. Component two contained items which directly asked for perception of support at MUSWA and knowledge of postsecondary expectations for student writing. Factor loadings for PDS and KE are reported in The coefficient Alphas for the Professional Development Support (PDS) and Higher Education Expectations (KE) factors were .92 and .81 respectively.

Table 5

Communalities of the PDS – KE

	Communality
Professional Development Support	
Our professional development programs and activities are aligned with our school mission, goals, and objectives.	.504
Funding for professional development is a line item in our school budget.	.206
The administration, faculty, and other staff members of our school work together to plan professional development activities.	.622
Leaders in our school advocate, encourage, and support professional development through incentives and resources.	.678

Table 5 Continued

The administration and faculty of our school consider what they know about the change process implementing strategies learned from professional development programs and activities.	.680
District-level personnel help guide our professional development planning effects and assist in implementation.	.570
Provisions for follow-up support are included in all of our professional development plans.	.744
A norm of professional learning exists in our school that recognizes that learning about best practices in our profession is never finished.	.527
We have ready access to expertise when implementation problems or difficulties are encountered.	.741
The resources required to implement new practices are considered during planning and built into our school budget.	.598
District-level professional development programs and activities are thoughtfully planned and complement our school-level efforts.	.743
Knowledge of Expectations	
I know what the expectations will be for my students' skills in writing at the postsecondary level at institutions of higher education in the state of Montana.	.806
I know what ACT writing assessment score students need to enroll in college writing at postsecondary institutions in the state of Montana.	.810
My administrator (principal / superintendent) supports my attendance at professional development writing activities sponsored by the Montana University System.	.636

The reliability coefficients are considered to meet the criteria for acceptable levels of internal consistency according to recommendations made by Field (2005) The factor loadings for both the Professional Development Support (PDS) and the Higher Education Expectations (KE) factors can be found in Table 6.

Table 6
Factor structure for the final Support for the final 14 item Professional Development Questionnaire

	PDS	KE
Provisions for follow up support are included in all of our professional development plans.	.86	.09
District-level personnel help guide our professional development planning efforts and assist in implementation.	.86	.10
We have ready access to expertise when implementation problems or difficulties are encountered.	.85	.13
The administration and faculty of our school consider what they know about the change process implementing strategies learned from professional development programs and activities.	.82	-.02
Leaders in our school advocate, encourage, and support professional development through incentives and resources.	.81	.15
The administration, faculty, and other staff members of our school work together to plan professional development activities.	.78	.07
The resources required to implement new practices are considered during planning and built into our school budget.	.76	.15
District-level personnel help guide our professional development planning efforts and assist in implementation.	.73	.20
A norm of professional learning exists in our school that recognizes that learning about best practices in our profession is never finished.	.71	.14
Our professional development programs and activities are aligned with our school mission, goals and objectives.	.68	.19
Funding for professional development is a line item in our school budget.	.41	.21
I know what the expectations will be for my students' skills in writing at the postsecondary level at institutions of higher education in the state of Montana.	.11	.89

Table 6 Continued

I know what ACT writing assessment score students need to enroll in college writing at postsecondary institutions in the state of Montana.	.12	.89
My administrator (principal / superintendent) supports my attendance at professional development writing activities sponsored by the Montana University System.	.15	.78
Coefficient Alpha	.92	.81

Research question 1, “What are Montana high school English teachers’ perceptions of administrative support for their participation in professional development activities designed to improve writing instruction and achievement” was answered by analyzing the percentages of teacher responses to the Support for Professional Development Questionnaire. These results are reported in Table 7. For the purposes of analysis and reporting, the categories of Strongly Agree, Moderately Agree and Slightly Agree were reported as Agree while the categories of Slightly Disagree, Moderately Disagree and Strongly Disagree were reported as Disagree.

Table 7
Percentages of responses, agree and disagree

	A	D
Factor 1 (PDS)		
Our professional development programs and activities are aligned with our school mission, goals, and objectives.	86	14
Funding for professional development is a line item in our school budget.	81	19
The administration, faculty, and other staff members of our school work together to plan professional development activities.	68	32
Leaders in our school advocate, encourage, and support professional development through incentives and resources.	70	30
The administration and faculty of our school consider what they know about the change process implementing strategies learned from professional development programs and activities.	71	29

Table 7 Continued

District-level personnel help guide our professional development planning effects and assist in implementation.	72	28
Provisions for follow-up support are included in all of our professional development plans.	60	40
A norm of professional learning exists in our school that recognizes that learning about best practices in our profession is never finished.	82	18
We have ready access to expertise when implementation problems or difficulties are encountered.	69	31
The resources required to implement new practices are considered during planning and built into our school budget.	59	41
District-level professional development programs and activities are thoughtfully planned and complement our school-level efforts.	66	34
Factor 2 (KE)		
I know what the expectations will be for my students' skills in writing at the postsecondary level at institutions of higher education in the state of Montana.	72	28
I know what ACT writing assessment score students need to enroll in college writing at postsecondary institutions in the state of Montana.	61	39
My administrator (principal / superintendent) supports my attendance at professional development writing activities sponsored by the Montana University System.	96	4

The majority of teachers “Agreed” with the statements for the 11 questions comprising the Support for professional Development (SPD) factor. Almost all overwhelmingly answered positively. The SPD item eliciting the most positive response was item 1 where 86% of teachers indicated that professional development programs and activities are aligned with their school mission, goals and objectives. The SPD item that teachers had the least positive response to was item 10 where only 58% of teachers felt

that “the resources required to implement new practices are considered during planning and built into our school budget.” Of the three items, 12, 13 and 14 defining the KE factor, the most overwhelmingly positive responses were in answer to item 14, 96% of participants agreed that “my administrator (principal / superintendent) supports my attendance at professional development activities sponsored by the Montana University System.” However, only 61% “agreed” that they were familiar with the ACT writing assessment score students need to enroll in college writing at postsecondary institutions in the state of Montana.

Logistic regression was used to answer research question 2 and to test the research hypothesis regarding the relationship between a student’s gender, ethnicity, socioeconomic status, size of high school, high school’s participation in MUSWA and enrollment in remedial writing. Table 8 shows the results of the logistic regression. Because of the small number of minority groups, it was decided to code ethnicity as 1=White and 0=Other than white.

According to the results reported in Table 8, the only variables that have a significant relationship to a students’ enrollment in remedial writing at a MUS institution are ethnicity and socioeconomic status as defined by the student receiving a Pell Grant. The significant relationship which exists among a students’ ethnicity $\beta=.418$, $p<.001$ and a students’ socioeconomic status $\beta=.566$, $p<.001$ supports the relationship among these variables and enrollment in remedial writing.

Table 8
A summary of the Logistic Regression Analysis For Variables Predicting Student Enrollment in Remedial Writing (N=3381)

Variable	β	<i>p</i>	SE	Exp(β)
Gender ^a	-.142	.223	.116	.868
Ethnicity ^b	-.872	.000	.176	.418
MUSWA ^c	.013	.922	.129	1.013
High School A ^d	-.104	.502	.155	.901
High School B	-.138	.410	.168	.871
High School C	.123	.520	.170	1.131
SES ^e	-.570	.000	.119	.566

Note. ^aMale is the reference category for gender. ^bWhite is the reference category for ethnicity. ^cParticipating in the MUSWA is the reference category workshop participation. ^dHigh School AA is the reference category got High School A, B & C. ^eStudents awarded a Pell Grant is the reference category for socioeconomic status (SES).

The odds ratio of $\beta = .418$ for ethnicity and $\beta = .566$ for socioeconomic status indicates that a student of non-white status is 41% more likely to be enrolled in a remedial class than is a student who is white; likewise, a student who received a Pell Grant is 57% more likely to enroll in a remedial class than is a student who did not receive a Pell Grant.

Research question three was answered using items 13 and 14 of the Professional Development Support Questionnaire. These two items asked teachers to answer specific questions regarding their knowledge of writing expectations for students when entering postsecondary education and teacher knowledge of the requisite score needed on the ACT

writing assessment for enrollment in college writing. Table 9 reports a summary of the responses to items 13 and 14 of those teachers participating in MUSWA and not participating in MUSWA. A significantly higher percent of English teachers participating in the MUSWA agreed that they understand the writing expectations required to be admitted to a Montana postsecondary institution, $\chi^2_{(5)} = 105.45, p < .001, v = .64$. Similar results were found when a significantly higher percent of English teachers participating in the MUSWA expressed that they knew the ACT writing score required to be admitted to a Montana postsecondary institution, $\chi^2_{(5)} = 98.50, p < .001, v = .66$.

Table 9
Percentage of Teachers Who participated and didn't participate in MUSWA and responses to survey questions of knowledge of writing expectations and requisite ACT writing score for student enrollment in college writing.

	Expectations		ACT score	
	MUSWA		MUSWA	
	Yes	No	Yes	No
Strongly Agree	76	17	76	17
Moderately Agree	29	25	29	25
Slightly Agree	5	24	5	24
Slightly Disagree	2	8	2	8
Moderately Disagree	0	23	0	23
Strongly Disagree	2	35	2	35

Those teachers in the population completing the survey who participated in the MUSWA writing workshop expressed a greater understanding of the expected writing requirements for postsecondary institutions than high school English teachers who did not participate in the MUS professional development activities.

Summary

The results of the SPDQ were subjected to an exploratory factor analysis and the student data made available by the OCHE was analyzed using logistic regression as well as analyzed using descriptive statistics. The results of an exploratory factor analysis conducted on the Support for Professional Development revealed two distinct factors emerging, Professional Development Support (PDS) and Knowledge of Expectations (KE). The responses from the Professional Development Support Questionnaire also showed that English teachers in the state of Montana overwhelmingly expressed positive perceptions of the support received for professional development endeavors in their respective schools. Logistic regression results established that there is a significant relationship between a student's ethnicity and socioeconomic status and enrollment in remedial writing at the postsecondary level in the state of Montana for the incoming freshman class of 2009. Lastly, Montana English teachers who participated in the MUS professional development activities expressed a greater knowledge of the expectations for postsecondary education than those teachers who did not participate.

CONCLUSIONS

Introduction

Federal legislation, state standards, local school boards, community members and parents have entrusted schools to provide experiences for students which prepare them for the next level of education or career. When students matriculate from high schools across the country, the opportunity to succeed in college and career must be present. School leaders, teachers and students all play key roles in public school achievement and the degree to which their respective roles are executed successfully influences the outcomes on measurements of student achievement. While a measure of writing achievement cannot be found on any of the required assessments in the state of Montana, school districts in Montana have the option of participating in a writing assessment sponsored by the Montana University System (MUS). The MUS provides an assessment and accompanying professional development in the content area of writing to all public and private schools in the state of Montana. The significance of the MUS writing assessment as a measure of student achievement is the determination of whether or not a student is prepared for the writing rigors of postsecondary education. However, writing achievement is not currently a content area that schools in Montana are being held accountable for to produce results and increase levels of proficiency.

Purpose of the Study

The purpose of this study was to investigate English teachers' perceptions of administrative support for professional development and teacher and student factors on incoming Montana high school graduates enrollment in remedial writing courses offered by institutions within the Montana University System. The factors investigated by this study included: administrators support for teacher professional development in writing instruction, high school English teachers' participation in the MUS professional development activities and individual student characteristics. Specifically, the student attributes investigated in relationship to enrollment in postsecondary remedial writing courses were gender, socioeconomic status and school size.

Prior Research Related to Student Writing and Professional Development

Research shows that there are a number of students graduating from high school with less than proficient skills in writing and entering postsecondary education leaving them ill-prepared to meet the demands of postsecondary writing expectations (NAEP, 1998; NCW, 2003; MUS, 2010). The National Commission on Writing (NCW) found that proficient writing skills are necessary for improving access to professional opportunities and is a threshold skill for employment and promotion (NCW, 2003). However, educators seem to be more focused on collecting and reacting to math and reading data because those academic areas receive the most attention due to their emphasis in the NCLB.

Currently, all Montana students in 3rd through 8th grade and 10th graders are assessed once a year in reading and math (OPI, 2010); however there are no mandatory writing assessments currently administered to students at any level in the state of Montana. The lack of a comprehensive writing assessment represents the absence of one key component to improved student achievement in writing – systematic collection of data related to student writing skills. A common theme emerging from the research concerning successful implementation of improved student achievement initiatives is professional development programs rooted in improving student achievement based on student achievement data. Bylsma and Shannon (2004) found that high achieving districts over a 10-15 year period experienced gains in student achievement as a result of their involvement in professional development activities that were initiated based on student needs extrapolated from student achievement data. Educational support of professional development for teachers surrounding effective writing instruction is a key requirement for successful student writing experiences. Additionally, successful professional development programs that result in higher student achievement needs to address identified deficiencies in current practice as identified by student achievement data (Guskey, 2000; Marzano & Waters, 2006; Zepeda, 2008; Joyce & Showers, 2002).

This study investigated the influence of administrators, teachers and student factors on incoming Montana high school graduates enrollment in remedial writing courses offered by institutions within the Montana University System. The factors investigated by this study included: administrator support for professional development, high school English teachers' participation in the MUSWA professional development activities and individual student characteristics. Specifically, the student attributes

investigated in relationship to enrollment in postsecondary remedial writing courses were gender, socioeconomic status, ethnicity, secondary school participation in the MUSWA and school size.

Research Question 1

Research question 1 “What are Montana high school English teachers’ perceptions of administrative support for their participation in professional development activities designed to improve writing instruction and achievement?” was answered using the results from the Support for Professional Development Questionnaire (SPDQ). The SPDQ (Guskey, 2000) was used to measure Montana English teacher perceptions of professional development support. Prior to distribution, the SPDQ was sent out to experts, Jan Clinard, Director of Academic Initiatives for Montana OCHE (Office of the Commissioner of Higher Education) and Justus Randolph, PhD, associate professor of educational research, Mercer College, for review to establish content and construct validity. Comments by these experts were used to guide any revisions and administration procedures recommended for the SPDQ.

Teacher Perceptions of Professional Development Support

Overall, the participating teachers clearly perceive the support shown by their administrators as positive. Questionnaire items that directly asked participants to interpret practice, planning and policy of their school’s professional development program were responded to most positively, while items requesting perceptions of monetary resources and long term support were responded to least positively. In addition, the SPDQ asked

respondent teachers to rate their knowledge of the expectations for writing at postsecondary education. Results clearly show that those teachers participating in the MUS professional development activities expressed a greater understanding of the expectations for postsecondary writing.

SPDQ Analysis

An exploratory factor analysis of the SPDQ teacher responses was conducted to determine the dimensionality of the SPDQ. Two distinct factors emerged from this analysis: Professional Development Support (PDS) and Knowledge of Expectations (KE). In addition to the two questions in the SPDQ which directly asked about knowledge, item 14 regarding administrative support also loaded in the same factor.

An analysis of the items contained within the two factors reveals an interesting semantic pattern. All items contained in the PDS factor, which seems to index global systemic support, asked Montana English teachers to express their level of agreement about general statements of support in their schools. The use of the plural personal pronouns “our”, “we”, and the collective nouns “administration”, “faculty”, “staff” indicate a collective effort at implementing a quality professional development program. On the other hand, the loading of the items in factor two, which seems to index individual knowledge and personal support, contain very personal questions as signified by the use of the personal pronouns “my” and “I”.

Respondent English teachers in Montana positively perceive their administrators support for professional development in their schools. The two constructs identified through factor analysis, PDS and KE, can also be found in professional development

literature. Personal support for professional development is signified, in this study, by all items loading within this factor. Research clearly indicates that effective professional development need be systematic and ongoing over time. Guskey (2000) characterizes effective professional development processes with the terms: intentional, ongoing and systemic. Guskey (2000) and Guskey and Huberman (1995) further define effective professional development as: focusing on subject matter knowledge and increasing the content area knowledge of teachers. In her research, Zapeda (2008) emphasizes the professional development need be both teacher centered and school centered. Effective professional development needs to address school wide initiatives as well as individual teacher initiatives. Through the SPDQ, English teachers in the state of Montana perceived support for their professional development programs positively. Through the factor analysis, clearly the constructs of content knowledge, and support were measured.

The successful aspects of professional development as an intentional, ongoing and systemic process were all measured through the items captured by the PDS factor. In order for a professional development program to meet the Guskey's (2000) characteristics, school administrators must be involved in leading the program. English teachers in the state of Montana indicate, through their responses to the SPDQ, that their respective professional development programs are meeting the criteria as described by Guskey (2000), Guskey and Huberman (1995) and Zapeda (2008) for effective professional development programs. This would indicate that the leaders in their schools are supporting professional development programs as the results of the SPDQ reveal a high degree of positive perceptions. The individual initiative suggested by Zapeda (2008) was measured through factor 2 of the SPDQ; that is, are individual teachers

knowledgeable and being personally supported by their administrator? Clearly, the English teachers who completed the survey are being personally supported and their knowledge of writing content and knowledge of standards for postsecondary writing are clearly positive. The responses within the KE factor would indicate that teacher perceptions of administrative support are very positive with regard to the individual nature of growth for teachers.

The responses to the SPDQ clearly indicate that Montana English teachers expressed positive perceptions of administrative support for professional development in their schools. The SPDQ item that teachers expressed the most agreement on was item 14, which stated, “My administrator (principal / superintendent) supports my attendance at professional development activities sponsored by the Montana University System.” The item with the next highest level of overall teacher agreement was for item 1 from the SPDQ, where 86% of the teachers expressed agreement with the statement, “Our professional development programs and activities are aligned with our school’s mission, goals and objectives.” The item the teachers expressed the least agreement (59%) with was item 10, “The resources required to implement new practices are considered during planning and built into our school budget.” The next lowest percent of agreement was found for item 13 for the KE where only 61% of English teachers surveyed “agreed” with the statement “I know what ACT writing score students need to enroll in college writing at postsecondary institutions in the state of Montana.”

As Danielson and McGreal (2000) found, the factors which influence a teacher to move toward professional growth are not only found in the teacher’s motivation, responsiveness, and feelings of responsibility toward student learning, but also in the

policies, practices and leadership of the school in which he/she teaches. Such policies and practices are reflected in the staff development activities provided to teachers and supported by the organization's leadership. Through professional development research literature, planning, policy and leadership consistently emerge as key aspects of supportive and successful professional development programs (Guskey, 2000; Joyce & Showers, 2002; Hessel & Holloway, 2002; Marzano & Waters, 2006; Zepeda, 2008). The items from the SPDQ which loaded in factor 1, PDS, were those items that addressed professional development policy, planning and leadership.

SPDQ items 1-11 asked teachers to respond to questions of more global, system wide support of professional development. These items consistently used the vocabulary of a group, including "we", "our" and "district". The highest percent (86%) of respondents agreed that "our professional development programs and activities are aligned with our school mission, goals and objectives." The alignment of professional development and mission, goals and objectives is an evidence based best practice of not only school leadership, but also of effective professional development programming (Guskey, 2000; Joyce & Showers, 2002; Harkreader & Weathersby, 1998; Hessel & Holloway, 2002; Marzano & Waters, 2006; Sergiovanni, 2001; Zepeda, 2008). The results of the SPDQ is a clear indication that English teachers in the state of Montana are quite aware of the professional development programs in their school's as well as their schools mission, goals and objectives. A finding of this study indicates that administrators in Montana are focusing their professional development programs in areas that support the schools' mission, goals and objectives.

The second highest percent of agreement by teachers was for item 2 of the PDS factor. A clear majority (81%) of respondents agreed that “professional development is a line item in our schools budget.” The objective nature of this question, would indicate that most teachers are aware that professional development is accounted for in their district budget. Interestingly, the PDS item which received the least (59%) agreement asked for English teachers to respond to “the resources required to implement new practices are considered during planning and built into the school budget.” The indication is that English teachers in the state perceive resources as more than just the dollars that are allocated for professional development through line item assignment in the school budget. According to Guskey (2000) and research conducted by Zapeda (2008) resources for professional development extend beyond just dollars and cents. Their research emphasized the need for common time for teachers to collaborate, time for teachers and administrators to collaborate, time for teachers to reflect on practice in both large and small group settings, peer coaching and study groups (Guskey, 2000; Zapeda, 2008). While the majority of teachers agree that professional development is a line item in the school budget, this study would indicate that there are more resources required for effective programming which English teachers perceive as less agreeable.

The SPDQ item that received the highest percentage of agreement among responding English teachers and loaded in factor 2 was an item that addressed a more personal relationship between the administrator and the teacher. Ninety-six percent of the teachers surveyed agreed overall with the statement in item 14, “My administrator (principal / superintendent) supports my attendance at professional development writing activities sponsored by the Montana University System.” The support, as measured item

14, indicates that support is objective. Support is shown by the fact that the teacher attended the professional development program sponsored by the MUS. This would indicate that when the questionnaire was completed, respondents were more likely to have a higher degree of agreement because of the objective context in which the questions was asked. English teachers in the state of Montana seem to perceive support more strongly when able to more clearly define that support. An important finding resulting from this study is that those teachers attendance at the MUSWA workshop is related to positive perceptions of administrative support for attendance at professional development activities sponsored by the MUS.

Research Question 2

Student data provided by the Montana University System office was analyzed and logistic regression was used to answer research question 2, “Is there a relationship between a student’s gender, socioeconomic status, size of high school, schools’ participation in the MUSWA and enrollment in remedial writing in postsecondary education in the state of Montana?” Results from the regression analysis found that ethnicity and socioeconomic status were the only student factors which had a significant relationship with enrollment in postsecondary remedial writing courses. MUS participation by the high school, size of high school and gender did not have a significant relationship to student enrollment in remedial writing. The student data analyzed comprised 3381 students enrolling in a Montana university System institution who graduated from a high school in the state of Montana in 2009. Student level data analyzed was: school participation in the MUS professional development activities, gender, size of

high school, student ethnicity and enrollment in remedial or college writing. Detailed results from the Support for Professional Development Questionnaire and the analysis of student data can be found in Chapter 4.

Overview of Remedial Student Results

The data provided by the Montana OCHE shows that, in enrollment year 2009, 11% of students enrolling from a Montana high school enrolled in remedial writing. This is consistent with the reports completed by the National Center for Educational Statistics (NCES, 2003) which found that in the fall of 2000, 14% of entering freshman students enrolled in remedial writing at a degree granting institution. Results from their questionnaire found that between 1995 and 2000, the percentage of students enrolling in remedial writing declined from 16% to 14% (NCES, 2003), indicating a decrease in the amount of students enrolling in remedial writing among their population of 1186 postsecondary institutions in the United States. Similarly, Montana postsecondary institutions have also witnessed a decrease in remedial writing enrollment over time. The percentages of students enrolled in remedial writing in the MUS decreased from a high of 17% to a low of 11% for the 2003 through 2009 academic years (MUS, 2010). Comparatively, Montana students enrolling in postsecondary education are enrolling at lower rates than students from some other states. For example, the state education department in Florida reported that in enrollment year 2005, 37.7 percent of 2004 graduates of Florida public high schools were placed in college level coursework. (FPPAG, 2008); similarly, California found that 46 percent of 45,961 freshman needed remediation in English writing before achieving proficiency (Knudson, Zitzer-Comfort,

Quirk, & Alexander, 2006). In the fall of 2008, 4982 (17%) of current Colorado high school graduates enrolled in remedial writing (2010). This quantitative measure of enrollment numbers shows the number of students enrolling in remedial writing has decreased over time, however the fact that 424 (11%) Montana graduates did not have the skills to transition writing remediation free into postsecondary education emphasized the need of educators to explore the instructional practices of secondary writing teachers.

Remedial Student Characteristics

Outcomes from this study identified student ethnicity and socioeconomic status as significant predictors of enrollment in remedial writing courses at the postsecondary level. This outcome suggests that these factors are especially important for teachers and school administrators to consider as they plan professional development activities related to the content area of writing. An interpretation of the odds ratios based on the results of the logistic regression highlight the influence of ethnicity and socioeconomic status on the need for remediation in writing skills. For example, a student classified as other in this study is 41% more likely to be enrolled in a remedial writing class than is a student classified as white. For the students classified as other, Native Americans represented the largest percentage (25%) enrolling in a remedial class. These findings are consistent with a 2003 NCES report in which ethnic groups such as African American students were most likely to take a remedial course, followed by Hispanic students. Likewise, students receiving a PELL grant are 57% more likely to enroll in a remedial writing course than a student who does not receive a PELL grant. NCES (2003) found that 26% of legally

dependent students in the bottom income quartile took a remedial course, as compared to approximately 18% of legally dependent students in the middle and top income quartiles.

Similar trends emerge for students who are legally independent: 23% of bottom quartile students are more likely to enroll in remedial coursework as compared to less than 20% of middle and 14% of top quartile students. Similarly, for the incoming class of 2009 in Montana, approximately 15% of students who received a PELL grant enrolled in a remedial writing course. Educators in the state of Montana, at both the k-12 level and the postsecondary level would be well served knowing that socioeconomic status and ethnicity impact postsecondary enrollment in remedial writing when planning for professional development in the content area of writing. Teachers who work with students of low socioeconomic status and students of status other than white will benefit from focused professional development for teachers of writing. School administrators and teachers should enroll in the MUS professional development program; not only will students of other than white status and low socioeconomic status be impacted by this experience, all students working towards enrollment in postsecondary education will benefit from teachers who are knowledgeable of the writing expectations of postsecondary education and who also have enhanced skills to execute effective writing instruction. As this study indicates, the knowledge of expectations for postsecondary writing increases when teachers attend the MUS professional development activities.

Additional factors studied to determine relationship to student enrollment in remedial writing proved to be non significant; size of high school and school participation in the MUS professional development activities were both of no consequence in relation to a students' enrollment in remedial writing. Of the 3831

students enrolled in a Montana postsecondary institution in the fall of 2009, 107 (11%) of non participating MUSWA students enrolled in remedial writing and equally 256 (11%) of participating MUSWA students enrolled in remedial writing. These findings seem to contradict what research documents regarding participation in professional development to improve student achievement. For example, Cohen and Hill (1998) concluded that when educational improvement is focused on teacher learning overlapped with curriculum for improving teaching; teacher performance and student learning improve. Further, Wiley and Yoon's (1995) investigation of the impact of teacher learning opportunities on the math performance of students found that when teachers spent extended time learning about math instruction, student achievement was higher. Surprising results from this study indicate that a school's participation in the MUS professional development activities does not significantly influence a student's enrollment in remedial writing.

Programmatically, an individual school participating in the MUSWA has little to no impact on the enrollment of students in remedial writing, however at the individual teacher level, those that participated in MUSWA expressed, overwhelmingly, a higher degree of knowledge of expectations for students entering postsecondary education. A finding from this study suggests that teachers who are supported to participate in the MUS professional development activities express a greater understanding of the expectations for writing at postsecondary education. Teacher knowledge of writing skills required to be admitted to Montana's postsecondary institutions in college writing is discussed within the context of research question 3.

Research Question 3

Research question 3, “Do high school English teachers who participate in the MUS professional development activities express a greater understanding of the expected writing requirements for postsecondary institutions than high school English teachers who do not participate in the MUS professional development activities?” was answered using the items forming the Knowledge of Expectations factor when English teacher responses for the entire Support for Professional Development Questionnaire were factor analyzed. These items asked English teachers to indicate their knowledge of the writing expectations at postsecondary education in Montana as well as the requisite ACT composition score a student needs in order to enroll in college level writing at postsecondary institutions in the state of Montana. An examination of the disaggregated responses of teachers who did and did not participate in the MUS professional development activities found that a higher percentage of teachers participating in the MUS workshop indicated that they understood the writing expectations and the ACT writing score required for a student to enter college.

Almost all (96%) of English teachers who participated in the MUS workshops indicated they are familiar with writing expectations required for writing performance at Montana’s postsecondary institutions as compared to only 26% of non participating teachers. This finding would indicate that the MUS professional development workshop increases an English teacher’s knowledge of the student expectations for writing at the postsecondary level. Similar findings emerged when participants were asked about their knowledge of the ACT composition score required for a student to enroll in college

writing. Again, the vast majority (92%) of teachers participating in the MUS writing workshops indicated that they were familiar with the ACT requirements as compared to 34% of non-participating teachers.

The overwhelming majority of Montana English teachers participating in MUS professional development activities who expressed a understanding of the expectations for writing at the postsecondary level indicates that the MUS professional development activities are broadening teachers' understanding of the skills their students will need to be unconditionally admitted to an MUS institution. This outcome accomplishes a major goal of the MUS. A key aspect of the definition of professional development proposed by the No Child Left Behind Act captures the importance of this, stating that professional development must improve a teachers' knowledge base in the content area that they teach (NCLB, 2001). Penuel, Fishman, Yamaguchi, & Gallagher further reinforce that teachers need to have ongoing professional development in the area of standards and expectations. Professional development leads to higher student achievement when it connects to district and state standards, and uses assessment as a measure of their success (2007).

Results from this study indicate that teachers participating in MUS report a greater understanding of postsecondary expectations for writing; this finding creates a compelling case for administrators and teachers to prioritize this professional development opportunity. Exposing teachers to the requirements of postsecondary writing expectations on an ongoing basis is a fundamental requirement for students to enter postsecondary education prepared to meet the rigors of college writing and consequently, reducing the enrollment in remedial writing. As the Institute of Educational Research identified, professional development enhances teacher's knowledge and skills,

which should lead to improved classroom instruction, ultimately leading to higher student achievement (REL, 2007). The findings from this study provide additional evidence that teachers' who participated in the MUS professional development report to possessing greater knowledge of the expected writing skills at the postsecondary level in the state of Montana.

Outcomes similar to findings from this study were found when the California Department of Higher Education evaluated their early assessment program. Not unlike the MUS assessment and professional development activities, the California early assessment is administered in a student's junior year in high school and measures writing skills based on college expectations. Students whose scores indicate that they are ill prepared for postsecondary writing are remediated at the secondary level as high school seniors. The remediation students experience is based on the deficient skills identified through the assessment and based on growth in postsecondary writing expectations. The evaluation of this California program conducted by Knudson et.al (2006) found significant mean increases in writing scores for students whose teachers participated in the state of California's professional development program for teachers responsible for teaching writing skills (Knudson, Zitzer-Comfort, Quirk, & Alexander, 2006). In addition, the California Department of Higher Education further found significant statewide increases from junior to senior years in average composition scores among these. While Knudson et. al (2006) were able to link teacher participation in professional development directly to student achievement, the data available in Montana does not allow that capability at this time. However, one can infer from the California model that an increase in Montana English teachers' knowledge of postsecondary writing

expectations may translate into their students matriculating to higher education without remediation. The knowledge teachers possess in relation to expectations at the next level of education cannot be over stated. In order for any successful transition to happen in a continuum of education, teachers must be aware of the expectations for the next level as well as be well versed in appropriate instructional strategies to execute fulfillment of those expectations.

In the case of the MUS and remedial enrollment in writing, this study clearly shows that teachers who participated in the MUS report a larger knowledge base of expectations for writing at the postsecondary level. For the writing remediation rate in the state of Montana to decline, English teachers need to be exposed to professional development opportunities such as those offered by the MUS.

Implications

SPDQ

The first important implication inherent in this study is the use of the SPDQ (Guskey, 2000) as a means for school administrators to gather feedback. This study suggests the SPDQ could be used by school leaders to gather reliable and valid data regarding perceptions of administrative support for professional development activities in their respective systems of education. According to Guskey (2010), the SPDQ had been used a number of times to gather data for support for professional development; however the SPDQ had never undergone an analysis to establish reliability and validity. This study validates the use of the SPDQ as a means for professional development programs to be evaluated, not only in terms of support shown by school leaders, but also in terms of

content knowledge expressed by teachers in specific content areas, in this case writing. The SPDQ could prove to be a valuable tool for any school system seeking to evaluate and ultimately improve their instructional programs.

Perceptions of Administrator Support for Professional Development

Secondary English teachers in the state of Montana report positive support for professional development activities in writing as measured by the Support for Professional Development Questionnaire. The results of the SPDQ indicate that English teachers responded positively to both the PDS factor and the KE factor, implying that, as Zapeda (2008) would suggest, professional development is composed of group growth and individual teacher growth. The overwhelming agreement regarding perceived support for attendance at MUS sponsored professional development programs is a clear indication that administrators are exhibiting supportive behaviors for professional development activities. Also, the findings of this study indicate that the MUS is a means of gaining additional content and standards based knowledge. Administrators should plan and develop professional development opportunities that accomplish both the needs of the entire school and of individual teachers alike; by focusing on school wide initiatives as well as the individual growth of teachers. This finding strengthens the findings of McGhee and Lew (2007) in which teachers reported their perceptions of support for and understanding of effective instructional practices in writing had an effect on writing instructional practices.. A key finding in their study was the support a principal shows for writing professional development had a direct effect on the instructional practices of writing teacher practices; further, those teachers reported higher writing achievement for

their students. Similarly, the results of this study indicate that teachers positively perceive support for professional development; consequently, for an increase in writing achievement, professional development in writing activities needs to be offered. Professional development activities such as the MUS writing professional development also meets the criteria for successful professional development as outlined in REL (2007).

The MUS professional development activities are a series of workshops consisting of 18 hours over the course of an academic year (MUS, 2009). The culmination of the program is a training in which English teachers score essays from across that state; the results of which will be used to determine the placement of a student in either college writing or remedial writing. Additionally, participating schools are provided detailed reports of their student results. The MUS professional development activities have been in existence since 1996 (MUS, 2009) and are free to any secondary school or teacher in the state of Montana. As professional development literature has shown (Guskey, 2000; Joyce & Showers, 2002; REL, 2007), the keys to successful professional development programs are: based in student data, ongoing and long term and content related. As this study indicates, English teachers participating in MUS express an overwhelming agreement that the MUS increases knowledge of postsecondary writing expectations. Also contained within the MUS professional development system is longitudinal student data at the school level and the consistency of the program indicates that it is long term and ongoing over time.

Administrators in the state of Montana are fulfilling a number of researched facets of effective professional development programs; however, of particular interest to

administrators is the percentage (86%) of English teachers in Montana that agree there is alignment of professional development programs with school mission, goals and objectives. A major implication for school administrators is to seek the data available for writing achievement and integrate writing as a strategic objective in the school wide plan for development and student achievement.

Although 81% of high school English teachers agreed that funding for professional development was a line item in their school budget, only 59% agreed that the resources required to implement new practices were considered when planning their schools budget. The implication inherent in this discrepancy is that there is more to resources than just a line item in the budget. As research (Guskey, 2000; Zapeda, 2008) would suggest, teachers need more than just financial resources to achieve changes in their practice that will equal higher student achievement for students. Time, collaboration, and the development of peer collaboration are all important factors. Administrators in the state of Montana would be well served to visit the research regarding effective professional development programs and allocate resources as needed, knowing that resources amount to more than just dollars and cents.

Institutional Bias and Remedial Writing

While the trend of remedial writing students enrolling in MUS institutions has experienced a decline since 2006, the lack of a consistent yearly decrease in the number of students enrolling in remedial writing indicates the need for professional development in writing to become a priority of secondary educators and postsecondary educators alike. Namely, the 11% enrolled in 2009 cannot be considered a bottom number for remedial

enrollment, rather a starting point to continue improving writing achievement of secondary students and systematically reduce the numbers as more students apply and enroll in postsecondary education. Additionally, the fact that students of low socioeconomic status and students of ethnicities other than “white” by their own classification are enrolling in remedial education in disproportionate numbers would indicate that there is an institutional bias at work in both secondary education and postsecondary education alike. The fact that students of non-white status have a more than 40% chance of enrolling in remedial writing than do their white peers and students of low SES are 56% more likely to enroll in a remedial class constitutes an educational equity issue that secondary and postsecondary administrators, teachers and policy makers must address.

The research literature focusing on remedial student characteristics runs parallel with the results reported in this study. Students of low socioeconomic status and students of ethnicities other than white are at a greater risk to enroll in remedial classes than their higher socioeconomic white peers (Colorado Commission on Higher Education, 2010; NCES, 2002; Office of Academic and Student Affairs, 2010; Prince, 2009). The promulgation of these students enrolling in remedial writing over the course of the last decade would indicate that the current processes and procedures appear to be reinforcing an institutional bias in education. That said, this study has shown that English teachers in the state of Montana clearly perceive their administrators support for professional development as positive. In order for this institutional bias to end, professional development activities need to be more focused on the facets of education identified through the use of student data.

Successful professional development models using student data as a catalyst can contain a number of strategies that not only address content pedagogy but the context within which instruction occurs. Specifically, in the case of students of low socioeconomic and students other than white enrolling in remedial education at such alarming rates, professional development activities need to focus on teaching students of poverty while also keying the cultural context within which instructional or content strategies will be practiced. Poverty and ethnicity are characteristics which have predicted achievement levels of students transitioning to higher education for the last decade. In order for this trend to be reversed, school leaders, teachers and policy makers must carefully examine their current programs and closely monitor indicators of success of students of low socioeconomic status and of other than white ethnicity.

As Knudson et. al (2006), uncovered, remedial students pay as much as 44% more in tuition costs associated with postsecondary education as their non remedial peers. This increase in economic commitment, coupled with the fact that low SES students are more likely to be involved in remedial education certainly is a contributor to Vandal's (2010) finding that only 17% of remedial students attain a bachelor's degree. The barriers inherent in the results of this study, and in fact the results of numerous state and national level reports regarding remedial education, point to a definite disconnect in the transition between secondary and postsecondary education. The barriers are more glaring for students of low socioeconomic status and students of non white status, however, for all students, this barrier must be addressed through professional development, commitment and an unwavering vision to do what is right for all students.

With this in mind, school leaders, K-12 and postsecondary, need to systematically approach writing with the same determination that reading and math have been afforded at their respective institutions. In Montana, the numbers of non-white students enrolling in an MUS institution in the fall of 2009 was 440 (13%) students, while the number of students identified as low socioeconomic status was 1183 (35%). Given that the numbers of students enrolling from these two categories is small, focusing on these students and ensuring exposure the skills and abilities needed to succeed at postsecondary education is critical to reverse the disproportionate numbers ethnic and low SES students enrolled in remedial writing course. If accomplished, socioeconomic status and ethnicity, two characteristics a student has no control over, will no longer predict enrollment in remedial writing.

Professional Development as a Strategy to Increase Content Knowledge

The inferences that can be drawn from the results intended to answer research question 3 suggest that students who are taught by English teachers participating in the MUS professional development activities are more likely to acquire the writing skills necessary to complete postsecondary coursework. While an individual schools participation in the MUSWA was significant to a student enrollment in remedial writing; the results of study suggest that educators in the state of Montana would be well served to participate in MUS professional development activities. Vandal (2010) reported that few (17%) high school graduates who enroll in one remedial course complete a bachelor's degree. Furthermore, as Knudson et. al (2006) found with the professional development program for California teachers, the more high school English teachers know about

effective strategies for remediating writing skills, the more likely students will be prepared to meet the full admission requirements for postsecondary enrollment, hence the more successful students will be in writing at the postsecondary level. All secondary English teachers in the state of Montana should be required to participate in the MUS workshop in order to acquire the knowledge necessary to effectively prepare students for writing at the postsecondary level.

Results from this study suggest that school administrators, especially high school principals, scrutinize the number of graduates from their schools required to enroll in postsecondary remedial writing courses, current instructional practices in the area of writing and English teachers' participation in the MUS professional development activities. As this study suggests, those teachers participating in the MUS express a greater knowledge of the expectations for writing at postsecondary education. Consequently, as the research literature alludes, a major component of professional growth is the design and implementation of professional development that focuses on student achievement and is well planned and rooted in student achievement data (Guskey, 2000; Joyce & Showers, 2002; Hessel & Holloway, 2002; Marzano & Waters, 2006; Zepeda, 2008). Through careful analysis of student remediation rates, school level leaders will have the data necessary to link remedial writing students to individual teachers. Educational leaders can then systematically implement writing professional development programs which will reduce the remediation rate of their respective graduates.

Suggestions for Future Research

The results of the SPDQ provide clear evidence that teachers who participate in the MUSWA express a greater understanding of the expectations for writing at postsecondary education, however, how that knowledge is manifest in student achievement is not known. The design and availability of data in this study made it impossible to control for whether a student was ever taught by a teacher who participated in the MUSWA program. The linking of participating and non participating teacher data with individual students enrolled in remedial writing would provide additional information for school personnel as they work toward decreasing student enrollment in remedial education. Namely, the link between an increase in content knowledge and the impact of that increase in knowledge on student achievement in writing would be worthy of investigation. The consequential results may inform school leaders of the degree to which teachers are implementing practices and knowledge garnered from professional development activities.

The costs of remedial writing are well documented, in some states, that documentation is more comprehensive than the state of Montana. One suggestion for further research is to link remedial writing costs on a per student basis and track their success over time. Vandal (2010) found that only 17% of remedial students ultimately receive a Bachelor's degree, consequently, the costs associated with remediating students in writing could be investments which never provide returns. Analyzing the link between remediation and degree attainment would further the case for more communication between secondary and postsecondary education.

Another suggestion for future research is to approach the problem of remedial education from a qualitative perspective. Conducting interviews with students enrolled in remedial writing and those enrolled in college writing to further understand the instructional practices they may or may not have encountered on their path to enrollment in postsecondary education would provide more data to make the individual link between participation in professional development and enrollment in remedial writing.

Another suggestion for a future researcher is to poll teachers on specific strategies learned at various professional development activities and the degree to which they are implemented in the classroom environment. An alignment of strategies learned and strategies executed during classroom instruction are not clear in this study. Administrators, while perceived positively as supports for professional development could, in future studies, also be questioned as to their perceptions of their own support for professional development activities as well as queried to their perceptions of teacher willingness to participate in professional development activities designed to improve writing instruction.

Summary

Approximately 11% of students who graduated from a Montana high school in the Spring of 2009 and who attended one of Montana's postsecondary institutions were required to enroll in a remedial writing course. While this number is not as high as those reported in other states, it is representative of a disconnect between postsecondary education and K-12 education. This study attempted to identify student characteristics that predict enrollment in remedial writing at the postsecondary level in the state of

Montana. Additionally this study attempted to gather English teacher perceptions of support for professional development in their respective schools and districts as well as calibrate teacher's knowledge of postsecondary writing expectations based on participation in the MUSWA.

An investigation of the data revealed that only student ethnicity and socioeconomic status have a significant relationship to enrollment in remedial writing. This finding is important for school administrators, teachers and education policy makers because these are students who can be focused on early in their education and constantly revisited to ensure student skills are in place to enter college writing rather than remedial writing. Additionally, overwhelmingly, data gathered from the Support for Professional Development Questionnaire indicates that teacher who have participated in the MUSWA workshop express a greater understanding of the expectations for their students at postsecondary education. This finding is key for administrators to fully embrace the professional development offered by the MUS and to require teachers to attend. Lastly, teachers in the state of Montana perceive the support for professional development in their respective education systems as generally positive.

This study can be of value to education policy makers, teachers, administrators and postsecondary educators to enhance the opportunities for students of the state of Montana to attend postsecondary education prepared to succeed. While the major findings of this study inform the research and field about the factors that influence effective professional development, the questions that arise from this research effort are many. The time is now for educators to make writing a priority and for postsecondary education and K-12 education to collaborate for the improvement of student writing in the 21st century. The

vision of the Montana Board of Public education of a p-20 system of educational programming must travel the road of remedial writing. Until higher numbers of Montana students enroll in postsecondary education prepared for the rigors that come with that enrollment, this vision will never be the reality for Montana's students.

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APENDICES

APPENDIX A

PROFESSIONAL DEVELOPMENT QUESTIONNAIRE

Professional Development Questionnaire

You are being asked to participate in a study designed to gather teachers perceptions of administrative support for the content area of writing professional development in their schools. This research is important because it will provide information in the investigation of the relationship between administrator support for professional development in writing and student achievement. In addition, the information that you provide will also assist in the validation of the survey instrument that you will complete should you choose to participate in this study.

You have been selected to participate in the study because you are currently a writing teacher in the state of Montana. If you agree to participate in this study, you will be asked to respond to 14 questions related to your perceptions about administrative support for professional development in your schools. An inconvenience for you may be the time required for responding to the survey questions. However, it is estimated that the approximate time to complete the survey should range anywhere from 10 to 15 minutes. Although, the study is not of direct benefit to you, the information that you provide may be useful for improving future professional development endeavors for higher student achievement.

Your participation in this research project is completely voluntary. You will not be penalized in any way if you decline to respond to the survey questions. It is important for you to know that your responses will be kept confidential. Results from this research will be analyzed at the group level and not be used in any manner that would link responses to individual teachers.

Additional questions about the rights of human subjects can be answered by the Chairman of the Institutional Review Board, Mark Quinn, and (406) 994-5721 or Art Bangert at (406) 994-7424 from the Department of Educational Leadership at Montana State University, or Dustin Shipman, researcher at (406) 422-9888 with any additional questions about this research study and to request a summary of results from this research project.

I have read the above and understand the inconvenience and potential risk of this study. My completion of the survey indicates my consent to participate in this study. I understand that I may later refuse to participate, and that I may withdraw from the study at any time. You may print a copy of this consent form for you own records.

1. What Classification of school do you teach in?

AA

- A
- B
- C

2. Have you participated in the Montana University Systems Writing Assessment scoring workshop?

- Yes
- No

3. Does your school participate in the Montana University Systems Writing Assessment?

- Yes
- No

3.

Directions: Please indicate the degree to which you agree or disagree with each statement below.

Q4

1. My administrator (principal / superintendent) supports my attendance at professional development writing activities sponsored by the Montana University System.

- Strongly Agree
- Moderately Agree
- Slightly Agree
- Slightly Disagree
- Moderately Disagree
- Strongly Disagree

4.

Q5

1. Our professional development programs and activities are aligned with our school mission, goals, and objectives.

- Strongly Agree
- Moderately Agree
- Slightly Agree
- Slightly Disagree
- Moderately Disagree
- Strongly Disagree

Q6

2. Funding for professional development is a line item in our school budget.

- Strongly Agree
- Moderately Agree
- Slightly Agree
- Slightly Disagree
- Moderately Disagree
- Strongly Disagree

Q7

3. The administration, faculty, and other staff members of our school work together to plan professional development activities.

- Strongly Agree
- Moderately Agree
- Slightly Agree
- Slightly Disagree
- Moderately Disagree
- Strongly Disagree

Q8

4. Leaders in our school advocate, encourage, and support professional development

through incentives and resources.

- Strongly Agree
- Moderately Agree
- Slightly Agree
- Slightly Disagree
- Moderately Disagree
- Strongly Disagree

Q9

5. The administration and faculty of our school consider what they know about the change process when implementing strategies learned from professional development programs and activities.

- Strongly Agree
- Moderately Agree
- Slightly Agree
- Slightly Disagree
- Moderately Disagree
- Strongly Disagree

Q10

6. A norm of experimentation exists in our school that permits educators to try new instructional practices without fear of criticism should initial efforts fail.

- Strongly Agree
- Moderately Agree
- Slightly Agree
- Slightly Disagree
- Moderately Disagree
- Strongly Disagree

Q11

7. District-level personnel help guide our professional development planning efforts and assist in implementation.

- Strongly Agree
- Moderately Agree
- Slightly Agree

- Slightly Disagree
- Moderately Disagree
- Strongly Disagree

Q12

8. Provisions for follow-up support are included in all of our professional development plans.

- Strongly Agree
- Moderately Agree
- Slightly Agree
- Slightly Disagree
- Moderately Disagree
- Strongly Disagree

Q13

9. A norm of professional learning exists in our school that recognizes that learning about best practices in our profession is never finished.

- Strongly Agree
- Moderately Agree
- Slightly Agree
- Slightly Disagree
- Moderately Disagree
- Strongly Disagree

Q14

10. We have ready access to expertise when implementation problems or difficulties are encountered.

- Strongly Agree
- Moderately Agree
- Slightly Agree
- Slightly Disagree
- Moderately Disagree
- Strongly Disagree

Q15

11. The resources required to implement new practices are considered during planning and built into our school budget.

- Strongly Agree
- Moderately Agree
- Slightly Agree
- Slightly Disagree
- Moderately Disagree
- Strongly Disagree

Q16

12. District-level professional development programs and activities are thoughtfully planned and complement our school-level efforts.

- Strongly Agree
- Moderately Agree
- Slightly Agree
- Slightly Disagree
- Moderately Disagree
- Strongly Disagree

Q17

13. I know what the expectations will be for my students skills in writing at the postsecondary level at institutions of higher education in the state of Montana.

- Strongly Agree
- Moderately Agree
- Slightly Agree
- Slightly Disagree
- Moderately Disagree
- Strongly Disagree

Q18

14. I know what ACT writing assessment score students need to enroll in college writing at postsecondary institutions in the state of Montana.

- Strongly Agree
- Moderately Agree
- Slightly Agree

- Slightly Disagree
- Moderately Disagree
- Strongly Disagree

APPENDIX B

LETTER TO EDUCATORS

Letter to Educators

Fellow educator

Greetings from Boulder Elementary School and MSU – Bozeman! My name is Dustin Shipman and I am a doctoral candidate in Educational leadership at MSU. You are receiving this request to complete a survey because you teach writing in the state of Montana. The survey should take no longer than 10 -15 minutes and focuses on your perception of support for writing professional development activities in your school and / or district. Please know that your responses will be 100% confidential and you will remain unidentifiable. These results will help streamline effective professional development activities in the content area of writing for teachers in the state of Montana. Please click the following link to complete the survey.

<https://www.surveymonkey.com/s/Y552Z2H>

Thanks for your time.

APPENDIX C

MONTANA UNIVERSITY WRITING ASSESSMENT SCORING RUBRIC

Montana University Writing Assessment Scoring Rubric

Holistic Scoring Rubric

- 6 These papers clarify a position of the issue defined in the prompt, developed with extensive and compelling evidence. Organization is unified and logical, with effective transitions. Language use is fluent with well-controlled sentences, clear and effective expression of ideas, and precise word choice. While there may be a few errors in grammar, usage, and mechanics, an outstanding command of language is apparent. (Advanced)
- 5 These papers clarify a position of the issue defined in the prompt, developed with moderate and relevant evidence. Organization is unified and coherent, and transitions are used. Sentences are almost always well controlled, expression of ideas is usually clear, and word choice is often precise. While there may be few errors in grammar, usage, and mechanics, a good command of language is apparent. (Advanced/Proficient)
- 4 These papers state and support a position on the issue defined in the prompt, developed with some elaboration or relevant explanation. Organization is generally clear. Sentences are usually well controlled, expression of ideas is usually clear, and word choice is appropriate for the topic. A competency with language is apparent, even though there may be some errors in grammar, usage, and mechanics. (Proficient)
- 3 These papers state and support a position on the issue defined in the prompt, developed with a little elaboration or explanation. Organization is clear enough to

follow without difficulty. Sentences are usually well controlled, expression of ideas is at times awkward or unclear, and word choice may at times be inaccurate or inappropriate. A basic control of language is apparent, even though there may be frequent errors in grammar, usage, or mechanics. (Nearing Proficiency)

2 These papers may state a position on the issue defined in the prompt, but development may be minimal or irrelevant. Organization may lack clear movement or focus, making the writer's ideas difficult to follow. Sentences may often be unclear, expression of ideas may often be awkward or unclear, and word choice may be inaccurate or inappropriate. Numerous errors in grammar, usage, or mechanics show poor control of language and may at times impede understanding. (Nearing Proficiency/Novice)

1 These papers may not state a position on the issue defined in the prompt or develop an idea. Problems with organization and lack of focus may make the paper very difficult to follow. Sentences may seldom convey meaning clearly, expression of ideas may be very unclear and confusing, and word choice may often be inaccurate or inappropriate. Severe problems with grammar, usage, or mechanics show very poor control of language and may significantly impede understanding. (Novice)

0 These papers cannot be scored with the rubric (completely off-topic, illegible, or inappropriate) or they may be plagiarized.