



Success factors and factors that made completion difficult for 12 American Indian elementary education graduates in the Distance Education Program at Rocky Mountain College
by Joyce Plaza Folgert

A dissertation submitted in partial fulfillment of the requirements for the degree of Doctor of Education in Education
Montana State University
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Abstract:

There is a growing need for American Indian graduates to educate our younger generation. The responsibilities of being an educator are substantial and often require a college degree. Although many American Indians pursue a college degree, this goal is shattered because of the many barriers they encounter. The purpose of this study was to identify key factors that had a positive impact on successful completion and factors that made completion difficult for American Indian students in the Elementary Education Distance Education Program at Rocky Mountain College.

The qualitative research methodology was used in obtaining data for this study.

The emergent nature of qualitative design allowed the researcher to discover, explore and learn about the distance education experiences. Interviews and the Kolb Learning Style Inventory provided evidence of distance education experiences of 12 American Indian students who graduated from Rocky Mountain College's Elementary Education Program between 1996 and 2000.

Results showed that the graduates who experienced success had self-determination to become a teacher. They had support from their families and other related support systems. The insightful, perceptive and caring instructors who responded to their learning needs impacted success. An awareness of their learning style preferences was also helpful to the graduates. However, technical problems related to delivery of the courses caused difficulty. Some negative experiences with less than supportive faculty also caused problems as did instances of racial prejudice on the part of non-Indian students.

The impact of this study is on distance educators, who may need to find ways to vary their instructional techniques, methods and media when using interactive distance education to teach American Indian students. From the interviews and the Kolb Learning Style Inventory, the researcher made recommendations to enhance advising, teaching, learning and design in the distance education curriculum. To meet its mission statement, the college needs to be more focused on the needs of a culturally diverse student population. The focus of these recommendations is not only to educate, but also to empower American Indian students.

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A dissertation submitted in partial fulfillment
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MONTANA STATE UNIVERSITY
Bozeman, Montana

December, 2002

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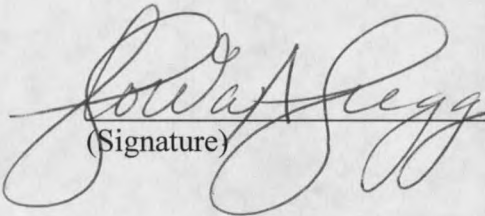
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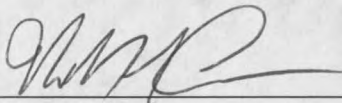
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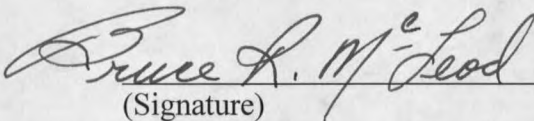
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ACKNOWLEDGMENTS

I wish to express my appreciation to all the members of my committee who helped me with the completion of this thesis. I thank Dr. Gloria Gregg, chairperson, Dr. Priscilla Lund, Dr. Marilyn Lockhart, Dr. Larry Baker and Dr. Paul Roper for their encouragement, guidance and expert advice. I wish to thank the 12 American Indian elementary education graduates who shared their wisdom and experiences with me. Their responses were essential to this study. I also extend gratitude to Paula Dressler who prepared this manuscript for publication. Finally, I wish to thank my family for their patience, understanding and kindness over the many months it took to complete this work. Without their help I would not have had the courage to begin this process and to see it to its completion.

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Abstract

There is a growing need for American Indian graduates to educate our younger generation. The responsibilities of being an educator are substantial and often require a college degree. Although many American Indians pursue a college degree, this goal is shattered because of the many barriers they encounter. The purpose of this study was to identify key factors that had a positive impact on successful completion and factors that made completion difficult for American Indian students in the Elementary Education Distance Education Program at Rocky Mountain College.

The qualitative research methodology was used in obtaining data for this study. The emergent nature of qualitative design allowed the researcher to discover, explore and learn about the distance education experiences. Interviews and the Kolb Learning Style Inventory provided evidence of distance education experiences of 12 American Indian students who graduated from Rocky Mountain College's Elementary Education Program between 1996 and 2000.

Results showed that the graduates who experienced success had self-determination to become a teacher. They had support from their families and other related support systems. The insightful, perceptive and caring instructors who responded to their learning needs impacted success. An awareness of their learning style preferences was also helpful to the graduates. However, technical problems related to delivery of the courses caused difficulty. Some negative experiences with less than supportive faculty also caused problems as did instances of racial prejudice on the part of non-Indian students.

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CHAPTER 1

INTRODUCTION

Background

Mary Doyle lived on the reservation. This third generation Assiniboiné mother in her mid-20's worked two jobs in order to provide for her children. Grandma and other elders cared for her children while she was at work. Mary was unhappy with her life. The 24-year old single mom had a strong desire to become a teacher in the elementary school on the reservation and continue the traditions of the American Indian culture. Mary wanted to complete her education and finally get the degree she started five years ago. She hoped to take courses that would be flexible enough for her to work and care for her children. Mary would need guidance, advice and support. Distance education was the only option for her at the time.

Florence Pretty Flower was almost 50 years old. She married at an early age and raised seven children. She loved children and spent much of her time volunteering at the Head Start School. Recently, she and her husband divorced after 34 years of marriage. Florence decided to pursue her dream of becoming a teacher. She planned to enroll in her first distance learning class the following semester and earn a degree.

Steve Running-Fast lived in a remote rural community in northeastern Montana. He was a senior in high school and was in the upper tenth percentile of his class. His

time was occupied by helping his father on the family ranch. Highly motivated to learn, this young man always wanted to become a science teacher. He made plans to attend Fort Peck Community College after graduating from high school in the spring. His advisor told him to complete two years at the local community college and then earn his teaching degree while taking distance education classes offered by Rocky Mountain College.

Ben Morris was enrolled in the distance education program at Fort Peck Community College. Because of a childhood injury, Ben had limited vision in his right eye and was restricted to a wheel chair. His disability had not stopped him from taking classes to earn a degree. He had a wonderful dog, Cassidy, that accompanied him to class. Ben hoped to earn his degree in elementary education the following year.

Tricia Limberhand met her American Indian husband while serving in the U.S. Army at Fort Gordon, Georgia. Her husband, Shane, earned an associate degree at Fort Peck Community College in Poplar, Montana, before leaving for the army. Shane planned to return to his hometown of Poplar and live on the reservation with Tricia and their expected baby. Although Tricia was not an American Indian, she planned to get a four-year degree in K-12 Music Education by taking two years of course work at the Fort Peck Community College and then completing her degree with distance learning classes from Rocky Mountain College in Billings, Montana.

These five examples illustrate real circumstances that are part of a growing number of situations in which distance education is being used to help provide opportunities for American Indian students who want to enroll in college courses. Fort Peck Community College in Poplar, Montana is one of seven tribal colleges in Montana

where students who succeed are encouraged to continue their education at a four-year institution of higher learning. Not unique to Montana, these cases reflect the changing educational needs of adult learners on a regional and national scale (Bruder, 1991).

This changing face of education ranks as one of five trends that will have a major impact on the shaping of our society (American Association of Retired Persons, 1997). The American Association of Retired Persons projects that this new view of education will alter our ideas of learning and our learning sites.

It has been over 40 years since telecommunications first began to meet the needs of learners; however, colleges using telecommunications are now approaching the "threshold of significance" (Grossman, 1994). According to Perry (1989), this interest in distance education is changing the way education is viewed. Keegan (1991) states that, "It is now no longer possible to think of education solely in the traditional sense of face-to-face contact."

New and more individual ways of learning are emerging, and innovative locations and settings for learning are being initiated. Traditional classrooms are increasingly incorporating media formats into their curricula and education programs, and mentor relationships are forming across age groupings. In these changed learning environments, the most crucial challenges are in the areas of program development in higher education settings along with the design of the curriculum and selection of effective teachers.

The response of many colleges and universities to these changes is the development of distance learning courses and programs. Distance education has played a major role in extending traditional classrooms to virtual environments. The main

objective of distance education has been to extend resources available to learners beyond local or regional settings. Moore (1991) reported that distance education is not merely traditional learning and teaching using new technology, but a transaction between teachers and learners involving interplay among the environment, the individuals, and their patterns of behavior. He states that "Distance teaching may be defined as the family of instructional methods in which the teaching behaviors are executed apart from the learning behaviors, including those which, in a contiguous situation would be performed in the learner's presence so that communication between teacher and the learner must be facilitated by print, electronic, mechanical or other devices" (p. 18). He goes on to say that learner responsibility is a main feature of distance education.

The Montana Consortium, a Science and Technology Alliance at Rocky Mountain College, defines distance education as "Education that takes place when a teacher and student(s) are separated by physical distance, and technology (computers, radio, television and correspondence) are often in concert with face-to-face communication used to bridge the gap" (Gottschalk, 1996, p. 7). The terms distance education or distance learning have been applied interchangeably to a variety of programs (Jonassen, 1992).

Rocky Mountain College, the oldest four-year college in Montana, has felt the impact of tremendous change—particularly in the field of technology, and the rate of change will no doubt increase in the future. With the rising need to compete in today's high-tech economy, administrators at Rocky Mountain College looked at the role distance education would play in the future of the college. Not long ago, many higher education institutions, including Rocky Mountain College, paid scant attention to distance learning.

Distance learning efforts were usually limited and detached from traditional academic classroom activity, and courses classified as distance learning opportunities revolved around a few correspondence courses and telecourses.

Rocky Mountain College (RMC), a four-year private college, developed a teacher training distance education program for educating future elementary teachers in 1990. Students enrolled in the two-year community college on the Fort Peck Indian Reservation in northeastern Montana were the first to be connected to RMC's distance education program. As a result, this distance education program has given American Indian students the opportunity to earn a baccalaureate degree in teacher education from RMC.

According to the college's mission statement, RMC needs to reflect sensitivity to the needs of the American Indian student as part of the diverse community of learners. By providing access to courses for adults living in rural or remote areas of Montana, the college's distance education program has the opportunity to value diversity. RMC's mission statement states, "As a college in the Mountain West, Rocky is recognized as a diverse community of learners who seek to understand the history and environment of the region and to also understand the history and environment of the larger world. Rocky Mountain College values diversity and the interrelatedness of knowledge" (RMC Catalog, 1997-99, p. 2).

The first distance education interactive television courses were offered to the American Indian students by using a PictureTel unit that provided compressed video telecommunication. It was designed for small group interactive television activities and operated over a standard integrated service digital network (ISDN) phone line. The

PictureTel unit consisted of a 27-inch television monitor, a movable camera mounted on top of the monitor, and a control pad that also controlled the dial-up procedures. This compressed video technology that was state of the art in the 1990's has since been replaced with VisionNet, which is faster and contains less jerkiness and audio delay. The new VisionNet Classroom, located in the campus library, is a modern facility that involves a high degree of interactivity between teacher and student who are separated by hundreds of miles.

Programs such as this one provide access to higher education for many people who are unable to obtain a college education by traditional means. Yet a large number of students who begin distance education programs do not complete them. In fact, some students do not even complete the first class. A high dropout rate is typical in distance education programs (Moore, 1991). Since one would assume that students must be fairly motivated in order to register and pay for their courses, the question of a high dropout rate is perplexing. Boshier (1988) states in the review of literature on distance learning that the major reasons for withdrawal were lack of time, change of plans, unsatisfactory courses, and illness. Success factors according to Boshier's research included high motivation, planned objectives, self-discipline, perseverance, habitual study, promptness in submitting assignments, and using a variety of approaches.

According to a 1998 American Council Study on Educational Research, the percentage of American Indians nationally completing four years of college has increased from 8% in 1990 to only 9% in 1998. The problem of low enrollment and high attrition rates both contribute to low college graduation rates nationally and at Rocky Mountain

College. Although no reliable studies have yet been done about graduation rates from tribal colleges, some tribal college presidents estimate that between 25% and 33% of students who enroll eventually receive a degree (Boyer, 1997).

Clark (1996) stated that "the comparatively low educational attainment among American Indians is a complex, multi-variant problem which affects Indian participation and performance at all points along the educational pipeline" (p. 19). According to Clark, individual faculty members can make a critical difference in the life of the American Indian student. If a faculty member is sensitive to the student's cultural diversity and makes the Indian culture equal to one's own and offers learning experiences within the student's cultural framework, the student would have a greater opportunity for success.

Problem Statement

Distance education has often been plagued by high dropout rates (Boyer, 1997), and this is unfortunate, as a degree acquired by distance methods may be the only realistic alternative available to American Indian adult students. To many American Indians, completing a college education seems an impossible dream. Educational theorists and researchers have provided various explanations for this high failure rate, each with its own set of prescriptions.

An assumption has been made by the faculty and administrators of Rocky Mountain College that American Indian students who have completed their two-year program at their tribal school, Fort Peck Community College, and have enrolled in the Rocky Mountain College Teacher Training distance education program would be

successful in completing the course work necessary to earn a four-year degree in elementary education. The administration at RMC has an opportunity to look to the tribal colleges and explore which factors foster success of American Indian students and which ones are barriers to the completion of a program in elementary education.

According to the RMC American Indian Director of Student Services, Carolyn Pease-Lopez, 34 American Indian students from Fort Peck Community College enrolled in the elementary distance education program between the fall 1996 semester and the spring 2000 semester. The dropout rate was 16 students—49%—at the end of the spring 2000 semester. A total of 18 students who completed the distance education program between the fall 1996 and spring 2000 semesters received a degree in elementary education from RMC (Registrar, 2000). Although the number of students who enroll and complete the RMC distance education program is available, little is known about the factors that foster and hinder success in completing this program.

Because of limited contact with the instructors, the distance education students need to manage their own learning in the absence of traditional classroom support and therefore have more responsibility in deciding how and what to learn and the depth of learning efforts. As Morrison (1986) emphasized, removing barriers to successful learning and improving the quality of the outcomes begins with the question of “What and how are people learning and what affects that process” (p. 22)?

The U.S. Department of Education has identified barriers believed to prevent American Indian students from completing a college degree. These barriers are inadequate academic preparation, insufficient financial support, a perceived unsupportive

institutional climate, and problems adjusting emotionally and socially to the college culture. In addition, other issues that can create hardships for these students are unplanned pregnancies, substance abuse within the family system, physical, psychological and sexual abuse, negative involvement with the law, low self-esteem, and a limited number of successful role models. Many of the students are single parents who may have experienced growing up in a single-parent home. Educators have recommended educational programs that would reduce or eliminate these barriers for the American Indian students in higher education with hopes that the student would experience success and complete college (U.S. Department of Education, 1995).

The main focus of the studies to date has been on barriers American Indians experience while attending college. Although the studies provide recommendations on how to eliminate or reduce the barriers, problems remain for many American Indian students.

Purpose Statement

From 1996 to 2000 only 51% of the American Indian students who enrolled in the distance education program at Rocky Mountain College successfully completed the program and earned a degree (Registrar, 2000). If the completion rate is to be increased, RMC must determine how this can be accomplished. The purpose of this grounded theory study was to identify key factors that had a positive impact on successful completion and factors that made completion difficult for American Indian students in the Elementary Education Distance Education Program at RMC.

Research Questions

To accomplish the purpose of this study, the following questions were developed. The questions evolved from the review of literature and findings from classroom activities with American Indian students enrolled in the distance education courses in elementary education from 1996-2000.

Primary Questions

1. What factors had an impact on successful completion for the American Indian student in the elementary distance education courses at RMC?
2. What were the factors that made completion difficult?

Secondary Question

3. What recommendations do American Indian students in the distance elementary education program at RMC have for higher education administrators and teachers?

Significance of the Research

Distance education is a means of providing educational access and equity. Since higher education administrators and faculty are interested in improving the completion rate of the American Indian population in the distance education program at RMC, a better understanding of the factors that foster completion and those that make completion difficult for the American Indian student needs to be researched. The current lack of

understanding is one of the key issues related to low Indian student retention (Tierney, 1992).

Davis (1992) states that very little research has been done or published about graduation rates from tribal colleges and few research studies even include American Indians in general comparisons with other racial/ethnic groups. Davis also addressed the lack of significant data concerning American Indian enrollment, matriculation, or graduation rates in higher education. With the significant data of this study and a better understanding of the difficulties concerning American Indians in higher education, these students may become more successful in completing a college education.

The findings of this research can be significant if RMC uses the results to enhance the advising, teaching, learning and curriculum design of distance education. This study contributes information that allows faculty to better understand how to work with American Indian students who enroll in distance education.

This study has significance in the broader field of distance education as well, because little research exists that looks at the factors that foster completion and those that make completion difficult for the American Indian student enrolled in distance courses.

In 1996, Childs expressed a need for further research in distance learning when he stated:

...we need to know a great deal more than we now do about the people we enroll. We need to know better than we now do why they enroll and why they discontinue. We need to know that differences exist between those who complete and those who do not. We need to know what motivation is effective and how we can contribute to this motivation. We need to know what attitudes enrollees bring to distance learning and how these attitudes change as the student progresses through the course (p. 41).

Definition of Terms

The following terms were used throughout the study:

American Indian: A person who claims blood lineage to a recognized Indian tribe which is urban- or reservation-based. The tribe does not need to be recognized by the Federal Government. The American Indian may be full-blood or mixed-blood.

Distance Education: An organized instructional program in which teacher and learners are physically separated. For the purpose of this study, distance education at Rocky Mountain College was defined as an interactive system. An interactive system utilizes monitors at each of the participating locations for exchanging compressed video images and voices of the participants (Turgeon, 1998).

Traditional Education: Instruction usually occurring in a classroom and using face-to-face communication between the instructor and students.

Learning Styles: An approach to learning that emphasizes the fact that individuals perceive and process information in different ways. The learning styles theory implies that how much individuals learn has more to do with whether the educational experience is geared toward their particular style of learning than whether or not they are smart. It is suggested that educators should not ask, "Is this student smart?" but rather "How is this student smart?"

Barrier: Any impediment that hampers the completion of a degree.

Completion: Finishing all requirements for a degree.

Non-Completion: Failure to meet requirements for a degree.

Academically Successful Student: A student enrolled in college who has maintained at least an accumulated 2.0 grade point average on a 4.0 scale or has completed a degree program (for the purpose of this study).

College: An institution of higher learning with educational programs leading to a bachelor's degree.

Higher Education: Learning activities pursued at accredited institutions that offer programs leading to a bachelor's degree.

Private College: An institution of higher education established and supported by independent benefactors without financial assistance from state or local governments.

Tribal College: An institution of higher education established on an Indian Reservation designed by the Indian community to preserve Indian culture and to provide academic programs leading to an associate or bachelor's degree.

Grounded Theory: Theory developed through inductive analysis of data; the theory emerges from many pieces of evidence that have been collected and interconnected (Bogdan & Biklen, 1992).

Methodology

This study of key factors that had a positive impact on successful completion and those that made completion difficult for American Indian students in the distance education program at RMC utilized a grounded theory approach. A grounded theory approach was chosen because it is a qualitative research methodology that allowed the researcher to discover, explore, and learn about the participants' world and the interacting influences of personal, social, and cultural characteristics (Chenitz & Swanson, 1986; Strauss & Corbin, 1990).

In his book, Qualitative Inquiry and Research Design, Creswell (1998) states:

The intent of a grounded theory study is to generate or discover a theory, an abstract analytical schema of a phenomenon that relates to a particular situation. This situation is one in which individuals interact, take actions, or engage in a process in response to phenomenon. To study how people act and react to this phenomenon, the researcher collects primarily interview data, makes multiple visits to the field, develops and interrelates categories of information, and writes theoretical propositions or hypotheses or presents a visual picture of the theory.

This method provided the researcher with the process needed for defining the success factors and the difficulties that affected completion of the distance education program in elementary education by American Indian students. For this study, a grounded theory approach provided a means to learn about the participants' world and inductively discovered and explored the variables that emerged.

Acknowledgment of multiple realities allowed the researcher to identify similarities, themes, and patterns. The researcher developed interrelated categories of

information from the numerous sources of evidence that were gathered, analyzed and presented in a model using the grounded theory approach.

CHAPTER 2

LITERATURE REVIEW

Introduction

The need to develop lifelong learners is becoming increasingly more urgent as we move to a global society that demands continuous adaptation and change for educators as they strive to update skills and acquire new knowledge in the use of technology. In creating an online campus, administrators and faculty members can often become focused only on the technology for distance course delivery. Alexander (1995) argued that while implementing a new technology, educators should evaluate how students learn via the new technology to help with curriculum and instructional designs. He added that it is important to understand how the new technology can affect learning when it is used by different types of learners. This chapter guided by the research questions focuses on three areas of literature that exert a major influence on the key factors that support the completion of distance education courses by the adult American Indian student enrolled at Rocky Mountain College. The three areas of literature are: (1) distance education, (2) American Indians and higher education, and (3) learning styles.

Distance Education

Distance education can extend education, but it also aids in equalizing educational opportunities and thereby helps a varied and dispersed student population. A basic advantage of distance education is that through technology, education is taken to where the people are, rather than the other way around (Bruder, 1993).

Defining distance education is a complicated process. There has been significant discussion in the literature in an attempt to define distance education. The following three definitions are a sampling of some found on the Distance Education Clearinghouse home page at <http://www.uwex.edu/ddisted/definition.html>. The University of Wisconsin-Extension, Continuing Education Extension, Distance Education subgroup definition states: "Distance Education is defined as a planned teaching/learning experience that uses a wide spectrum of technologies to reach learners at a distance and is designed to encourage learner interaction and certification of learning." Virginia Steiner of the Distance Learning Resource Network states, "Distance Education is instructional delivery that does not constrain the student to be physically present in the same location as the instructor. Historically, distance education meant correspondence study. Today audio, video, and computer technologies are more common delivery modes."

The Engineering Outreach staff at the University of Idaho defines distance education in the Rocky Mountain College Faculty Distance Learning Handbook as: "At its most basic level, distance education takes place when a teacher and student(s) are separated by physical distance and technology (i.e., voice, video, data, and print), often in

concert with face-to-face communication, is used to bridge the instrumental gap”

(Gottschalk, 1996 - University of Idaho <http://www.idaho.edu/evo/dis1.html>). Garrison and Shale (1997) offered three criteria that describe distance education practices rather than attempting to define distance education with precision. These criteria were:

1. Distance education implies that the majority of educational communication between (among) teacher and student(s) occurs noncontiguously.
2. Distance education must involve two-way communication between (among) teacher and student(s) for the purpose of facilitating and supporting the educational process.
3. Distance education uses technology to mediate the necessary two-way communication.

The review of literature provides many similarities and distinctions in the definition of distance education. Moore (1989) described and summarized the definition of distance education and the situation by simply stating, “In distance education by definition, the person or institutions that provide instruction are separate, either in place or time, or both from their learners” (p. 8). It is clear that a separation between teacher and learner in the educational transaction is a hallmark of distance education.”

Historical Precedents

Wedemeyer (1981) of the University of Wisconsin-Madison was one of the earliest proponents of the potential for interactive theory in distance education. He was able to look beyond the linear methods of education that existed in the industrial era to

recall more natural ways of learning from the earlier times. Wedemeyer's concept of education with media was a contextual one. He considered the learner to be the center of the learning experience and was also aware of the environments both within and outside of the learner. "The learner takes with him or her the essential environment for learning" (p. 31). He saw an urgency in thinking in new ways about distance education, and encouraged opening up ways to help learners become less dependent on the educator and more directed toward self-direction and interdependence. He was a man ahead of his time. Others are only now beginning to follow his footsteps.

The traditional form of distance education, the correspondence course, has been a part of higher education for many years. In the early 1890's, the University of Wisconsin was utilizing correspondence study and by the 1920's the University of Wisconsin "was firmly entrenched as the nation's leader in extension and correspondence study" (Watkins, 1991). The earliest applications of telephone teaching occurred in the 1930's and as television technology became a reality, educators began to look into applying it to correspondence study (Wedemeyer, 1981). "In the mid-1950's, the National University Extension Association used television in their instructional programs in the correspondence study departments" (Wright, 1991). Teleconferencing took root in the 1960s when the Educational Telephone Network (ETN) was established in 1965. The Division of Correspondence Study was established in 1969 with a range of multi-media teaching and learning aids that included filmstrips, slides, videotape and television telephone conferences (Watkins, 1991). In the 1980's, many colleges and universities provided college credit and continuing professional education by audio teleconferencing.

Cable television also came into use in the late 1970's and early 1980's for delivery of course material and by 1991, 18 institutions used the Mind Extension University to deliver video course material via cable television and satellite (Wright, 1991).

In the early 1990's, many institutions observed the phenomenal growth and demand for electronic mail and World Wide Web access from faculty and students. Colleges and universities will become involved with distance education as the technology improves. Many educators predict that distance learning will reform teaching methods and increase access to quality education (Gilbert, 1983).

The American Federation of Teachers (2000) reports that distance education courses for academic credit have been expanding dramatically at colleges and universities. The report states that in just three years, from 1995 to 1998, the use of internet-based distance education courses at universities grew from 22% to 60%.

The National Center for Education Statistics (NCES, 2000) estimated that more than 1.6 million students were enrolled in distance education courses in 1997 and 1998. They report that increasing numbers of institutions have begun offering distance learning courses. In public four-year institutions, the distance learning grew from 62% in 1995 to 79% in 1997-98. In public two-year institutions, the distance learning grew from 58% to 72%. Private four-year institutions were much less likely to offer distance learning courses in 1997-98. According to NCES, total enrollment in distance education courses across postsecondary degree-granting institutions has approximately doubled from 1995-98, from 754,000 to 1.6 million students.

Ostendorf (1997) reported that "live video instruction is the fastest-growing distance learning delivery mode in the United States" (p. 51). This phenomenal growth in distance education is being fueled by the growing demand for job retention, the need to work while attending school, and re-educating individuals for changing careers (Wagner, 1996).

Distance Education Design

Political and public interest in distance education is especially high in areas where the student population is widely distributed. Many colleges and universities, both public and private, "are leaping at distance education as a near-term solution for financial and other problems—without taking the necessary time to understand the requirements and to prepare faculty for effective participation" (Gilbert, 1983). What results is:

An investment in technology without a parallel investment of time and money in support of educators, learners, and the technology will quickly yield a disillusioned team of educators, disappointed learners, and a large monument to the waste of institutional dollars (Gibson, 1992, pp. 83-84).

There is a phrase commonly heard by some administrators which says, "Just go in there and teach distance courses the way you have always taught. There is no difference between traditional classroom teaching and teaching at a distance" (Cyrs, 1997, p.15). This myth causes the problem of passive classroom lectures being delivered in teleclassrooms with the talking head syndrome (Cyrs, 1997).

Although technology is an integral part of distance education, any successful program must be designed to focus on the instructional needs of the students rather than the technology itself. It is essential to consider their ages, cultural and socioeconomic backgrounds, interests and experiences, educational levels, and familiarity with distance education methods and delivery systems (Schuemer, 1993).

A Washington D.C. based consortium of leading colleges and universities maintains a web site called Educom, which publishes news about information technology and education on the Internet. In the January 21, 1997 issue the following summary appeared:

The new Florida Gulf Coast University, which is scheduled to open its doors next August, has as part of its charter a mandate to incorporate distance learning practices into each of its 17 undergraduate and nine graduate degree programs. The new school will use videotaped classes with interactive two-way video as well as the Internet to reach out to working adults, homemakers and shut-ins who otherwise would not avail themselves to the opportunity for higher education.

(<http://webserv.educom.edu/edupage/97/edupage0121.html#anchor77>)

Some distance education programs have been designed from a broader perspective. This broader perspective views the learner as central and the learning experience as both contextual and interactive. It takes into account learner characteristics, learning styles, needs, and experiences. The educator is no longer seen as an expert disseminating information to the learner, but rather an author/editor acting in a facilitative/guiding and interactive capacity (Moore, 1991).

The theoretical basis on which instructional methods are based effects not only the way in which information is communicated to the student, but also the way in which the

student makes sense and constructs new knowledge from the information presented.

Schlosser and Anderson (1994) refer to Desmond Keegan's theory of distance education, in which the distance learning system must artificially recreate the teaching-learning interaction and reintegrate it back into the instructional process.

The more familiar teachers are with the instructional design and delivery process, the more effective their presentations will be. Distance Education teachers need training in instructional message design, strategies for delivering instruction on camera, methods of diversifying types of presentation, selecting various mixes of student-teacher activities and interactions, choosing situations and examples relevant to their students and their learning styles, and assessing the level of learning by distance students. There is also a need for guided, hands-on practice developing and delivering coursework using audio, full-motion video, graphics, and text, in front of a live audience, yet still in a non-threatening situation (Willis, 1993). Administrators cannot expect teachers to feel comfortable with the distance education technology, to use it effectively, and to maintain it as well without giving them extra resources and time.

At Rocky Mountain College, the distance education program requires a team approach as the courses are transmitted to the American Indian students at Fort Peck Community College enrolled in the Elementary Education Program. This team approach can involve numerous people (media specialists, site coordinators, classroom facilitators, tutors, technicians, curriculum specialists, designers, producers, editors, and so forth) depending upon resources and expectations. Communicating and teaching through technology at RMC requires collaboration with the need for planning and coordinating as

essential ingredients.

The literature suggests that a requirement for successful distance education is a carefully designed and maintained learner support system. In such a system, teachers who are highly qualified and experienced in the understanding of learners and learning support students by providing skilled diagnostic counseling and orientation programs, by assisting students to organize their time and develop their study skills, by providing active tutorial assistance during the course, face-to-face if needed and feasible, and by giving assistance when illness, financial, family or work difficulties threaten to overpower the motivation to study (Moore, 1991).

Distance Education Learners

In the literature review, little information about qualities and characteristics of American Indian distance education students or learners was found. Successful distance education students possessed similar characteristics such as self-discipline, motivation, trustworthiness, positive behavior and assertiveness according to Charp (1994). She notes that with greater autonomy, student characteristics such as active listening and the ability to work independently in the absence of a live instructor became crucial for success. Teachers tend to blame the high dropout rate among distance learners on poor time management and procrastination. However, in a study of effectiveness of university-level audio conference courses in Alaska, Sponder (1990) found that climate, the university support system, the efficiency of the postal problems, and other factors come into play. Miscommunication between students and teachers and lack of relevance to

students may also have negative repercussions. Like Charp and Godfry, Porter (1994) found that teacher mediation increases the completion rate for distance education courses.

For many adults, including American Indian adult students, it is just not possible to leave their families, jobs and other obligations where they live to return to campus to participate in residential learning. "The changing demographics of higher education's clientele--the growing population of non-residential, part-time, older students--will continue to make distance education an attractive option" (Green & Gilbert, 1995, p. 36). Information from the September 2, 1996 edition of "The Almanac" from the Chronicle of Higher Education states that the traditional college-aged 18-24 year olds represent only 9.4% of the United States population, whereas 25-44 year olds and 45-64 year olds represent 31.7% and 19.9%, respectively. Statistics for the American Indian adult student were not available.

A visit to the World Wide Web (May, 2000) of The American Federation of Teachers yielded numerous case studies showing comparable student performance in distance education courses. The site also stated that many educators remain skeptical about positive student performance in distance education courses. They believe that teaching and learning are inherently social processes, and these educators consider interaction central to a successful educational experience.

Distance Education Teachers

The literature agreed that the distance education teacher was another vital element affecting the implementation of distance education programs. The Distant Education

Clearinghouse (2002) (uwex.edu/disted), managed by the University of Wisconsin, reported that many of the techniques and skills used in a classroom teaching situation do not translate directly into a distance education approach. Teacher training programs are important to acquaint the teachers with successful approaches for integrating the use of technology into the teaching/learning process.

While training for distance education teachers was found to be absolutely necessary, other personal characteristics of the teacher were also important. Bradshaw, author of The Promise of Distance Learning (1989), stated, "Just as every person in the world is not born to be a teacher, every teacher is not born to be a teleteacher" (p.22). Bradshaw emphasized that being an effective teacher required all the understanding, experience and skills of a successful face-to-face classroom teacher, and even more including a good voice, pleasing appearance, stage presence, plenty of self-confidence, a flair for the dramatic, artistic and creative, and a willingness to exert extra effort to become comfortable with the technology and to be able to use its strengths to enhance teaching and learning.

The U.S. Department of Education (1995) reported the following in Linking for Learning: A New Course for Education:

The key to success in distance learning is the teacher. If the teacher on the system is good, the technology itself can become transparent. Conversely, no technology itself can overcome poor teaching; poor teaching is actually exacerbated in distance education applications. But when skilled teachers are involved, enthusiasm, expertise, and creative use of the media can enrich students beyond the four walls of their home classroom. Outstanding teachers can also serve as 'electronic mentors' to other teachers (p. 87).

It was further stated that four important training elements were imperative in order for distance education teachers to be successful: 1) training in the technical aspects of the system; 2) training in the educational aspects of the system; 3) understanding how to design a course; and 4) understanding appropriate and effective communication skills for teaching at a distance (p. 95).

In his book, Distance Education: A Practical Guide, Barry Willis (1993) discussed the challenges posed by distance teaching. He stated that the challenges to reach a wider audience, to meet the needs of students who are unable to attend on-campus classes, and to link students from different cultural, economic and experiential backgrounds are opportunities for the distance teacher. He stressed the importance of sensitivity, caring, and understanding for effective communication and learning to value diversity.

As early as 1981, Charles Wedemeyer noted, "What is different about learning via technology today is the scope of learning facilitated by technology, the altered role of teachers and learners, the changed environment for learning necessitated by technology, and the sophistication of the process used in developing instruction that will be communicated by technology" (p. 67).

American Indians and Higher Education

The history of American Indian higher education over the last several hundred years is one of compulsory Western methods of learning, recurring attempts to eradicate tribal culture, and high dropout rates by American Indian students at mainstream schools and institutions. The Tribal College Research and Database Initiative, a collaborative

effort between the American Indian Higher Education Consortium (AIHEC) and the American Indian College Fund, states that in reaction to the history of American Indian higher education, the Indian leaders build on the success of the self-determination movement of the 1960's to rethink tribal higher education. These leaders recognized the growing importance of postsecondary education, and became convinced that it could strengthen reservations and tribal culture without assimilation (Boyer, 1997).

The American Indian Higher Education Consortium is a uniquely American Indian organization. It was founded in 1972 by the presidents of the nation's first six Tribal Colleges as an informal collaboration among member colleges. Today, AIHEC has grown to represent 32 colleges in the United States and one Canadian institution. Unlike most professional associations, it is governed jointly by each member institution. AIHEC's mission is to support the work of these colleges and the national movement for tribal self-determination.

The Meriam Report in 1928 was the first study to report that the educational, social and economic problems of the American Indians probably resulted from trying to conform them to an alien culture. In 1934, legislation in the U.S. Congress was passed that allowed American Indians to participate in the development of educational planning. The Civil Rights Movement and the Higher Education Act of 1965 provided an environment where American Indians could finally be heard (National Advisory Council on Indian Education, 1992).

In an effort to boost the number of American Indian teachers, the U.S. Department of Education awarded the University of Wisconsin-Eau Claire and four partners a two-

year \$742,000 federal grant in August 2000 to provide American Indian students the opportunity to earn a college degree and teaching licensure. This is an exciting concept that could serve as an example for future American Indian teacher development programs throughout the United States. There are more than 12,000 American Indian students attending public and tribal schools in Wisconsin, but only 142 American Indian teachers are licensed as classroom teachers (Wolf Green, 2000).

According to Alan Cadwell, Director of the Menominee Culture Institute at the College of Menominee Nation, the partnership has identified more than 80 American Indian students who will be eligible to participate in the program at the University of Wisconsin-Eau Claire. The program design will take into account the fact that many of the prospective students are predominantly place-bound and will take many of their classes at the College of Menominee Nation and Lac du Flambeau School District using distance education and Web-based learning provided by the University of Wisconsin-Eau Claire faculty (Wolf Green, 2000).

In Montana, the Montana Committee for American Indian Higher Education (MCAIHE) sponsored the statewide Opening the Montana Pipeline Conference in 1999. The conference was designed "to develop an action plan that would provide the blueprint to increase American Indians' access to, and success in, the higher education system." The research presented at the conference and the resulting recommendations are viable resources for higher education officials, institutions, and students.

The Montana GEAR UP Program helps American Indian students prepare for college. Created from the Higher Education Act of 1998, GEAR UP, or Gaining Early

Awareness and Readiness for Undergraduate Programs, is predicated upon the belief that all students can achieve at high academic levels and go on to succeed in college if they receive early college awareness information, rigorous academic instruction and sustained support. Montana was one of 21 states to be awarded a five-year, competitive matching state grant through the U.S. Department of Education to implement a statewide GEAR-UP Program. Local school-community coordinators, tutors and mentors all work together to provide Montana students with the skills, support and encouragement they need to enroll and succeed in college (pazure@state.mt.us; 406- 444-7490).

The 1999 Montana State Legislature approved HB528, which directs Montana's education community to comply with Montana's constitutional commitment to Indian education. However, according to Denise Juneau, OPI Indian Education Specialist (2000), it became apparent at follow-up sessions that while many efforts and positive actions were made toward improving the achievement and success of Indian students in Montana's schools, many of the key issues remained unchanged because those efforts were not institutionalized. In August 2000, the OPI and the Office of the Commissioner of Higher Education submitted their action plans for HB528, fulfilling the Board of Public Education's recommendations. Many American Indian educators gathered together to develop a curriculum guide that aligns American Indian content to Montana's academic standards and a professional development plan for implementing HB528 (Juneau, 2000).

Evolution of American Indian Education: Tribal Colleges

In 1968, the Navajo Nation created the first tribally controlled college, and other tribal colleges quickly followed in Arizona, California, North Dakota, South Dakota, Montana, New Mexico, Washington, Nebraska, Minnesota, Wisconsin and Michigan. Today there are 28 tribally chartered colleges and three federally chartered Indian Colleges in a total of 12 states. These higher education institutions serve nearly 14,000 American Indian students (Boyer, 1997). Fort Peck Community College is one of the seven tribal colleges in Montana. With seven tribal colleges, Montana boasts the greatest number.

Tribal colleges have become an integral part of higher education for American Indians. Succeeding at a tribal college also appears to encourage students to continue their education. American Indian students attend tribal colleges for many of the same reasons that non-Indians attend non-tribal colleges. They want to improve their chances of securing meaningful and rewarding employment, to provide a better standard of living for their families, to better themselves intellectually, and to strengthen their abilities to manage their futures. Many of the American Indian students attending tribal colleges are older with family responsibilities and are individuals who may have failed at non-Indian higher education institutions. Many of them are the first in their families to enroll in higher education (Stein, 1992).

Tribal colleges are somewhat similar to mainstream community colleges. However, the trait that distinguishes them from other community colleges is their dual mission to rebuild, reinforce and explore traditional tribal cultures. They do this by using

uniquely designed curricula and institutional settings and to address Western models of learning by providing traditional disciplinary courses that are transferable to four-year institutions. An important asset of tribal colleges is their ability to provide personalized attention to the American Indian students in order to overcome the economic and social barriers to postsecondary success that they face (Tierney, 1992).

According to Boyer (1997), tribal colleges are in varying stages of development and differ in their structures, sizes, and other characteristics; however, they share many of the following commonalities:

- most are less than 25 years old;
- most have relatively small student bodies that are predominantly American Indian;
- most are located on remote reservations with limited access to other colleges;
- most were chartered by one or more tribes but maintain their distance from tribal governments;
- all have open admission policies; and
- all began as two-year institutions.

Fort Peck Community College. Fort Peck Community College is located on the Fort Peck Reservation which is the home to two separate Indian nations, each composed of numerous bands and divisions. The Sioux, the Yanktonais, and the Teton Hunkpapa are all represented. The Assiniboine bands of Canoe Paddler and Red Bottom are also represented. The reservation is located in the extreme northeast corner of Montana, on the north side of the Missouri River. The reservation is 110 miles long and 40 miles wide, encompassing 2,093,310 acres. Of this, approximately 378,000 acres are tribally owned

and 548,000 acres are individually allotted Indian lands. There are an estimated 10,000 enrolled tribal members. The Fort Peck tribes are constantly building for a better future in the 21st century.

Education is a high priority for the Montana Fort Peck tribes with a tribally operated Headstart Program, a tribal scholarship program, and Fort Peck Community College. Fort Peck Community College offers course work in areas leading to an Associate of Arts and Technical degrees, which could lead to a baccalaureate degree.

Cultural Discontinuity

The words "Indian education" often call to mind a painful part of the lives of this country's American Indian people. For decades education meant assimilation, government boarding schools and classrooms where teachers forbade the use of Indian languages. It has helped give Indians the nation's highest school dropout rates and lowest income levels (Williams, 2000).

Cultural discontinuity is one of the obstacles American Indian students face in completing a college education. According to students of cultural discontinuity theory, minority children having been raised in a distinctive culture of their own are often thrust into a school system that promotes the values of the majority culture—not those of their own. If the resulting clash of cultures continues, the minority student may feel forced to choose one culture at the expense of the other. A tragic paradox emerges: success (in school) becomes failure (in the community), and failure becomes success. Moreover, it has been argued that failure is not simply the passive act of neglecting to complete

required tasks, but that it may be a status that is actively pursued by ethnic minority students in order to preserve their culture of origin (Tierney, 1992).

The decade of the 90's produced significant events related to the education of American Indians. According to the website that was last updated on April 9, 2000, a report entitled "Nations at Risk" documented continual failure of the current education system to adequately meet the needs of the Indian learner. The report also documented the historic tribal leaders meeting at the White House in Washington, D.C. and the development by Indian Country of a Comprehensive Federal Indian Education Policy Statement which led to the eventful introduction of a Presidential Executive Order on Indian Education in 1998 (<http://www.niea.org/blueprint.html>).

According to the Nations at Risk report, "Isolated by distance and culture, many American Indian students have come to accept that they cannot complete school. College seems to many American Indians an impossible dream. Tribal Colleges offer hope in the climate of despair...without sacrificing academic rigor, courses are often tailored to reflect the unique learning styles of American Indian students" (Boyer, 1989, p. 4).

According to Tierney, statistics of the American Indian are difficult to assess for three reasons (1992, p.11):

1. American Indians are a relatively small group, so a researcher cannot generate a reliable sample from which to generalize.
2. Nearly half of the American Indian population is difficult to survey because they live in some of the most rural and isolated areas of the United States.
3. The diversity of tribal people and variety of educational programs defy simple

categorization.

Austin (1999) reported that American Indians remain among the least educated ethnic groups. He reported that only 6% of the American Indian population had a college degree, compared to 23% of whites, 12% of African Americans, and 7% of Hispanic Americans. Austin suggests that higher education institutions look to the tribal colleges as successful models as they implement the curriculum for distance education programs.

Research funded by the Alfred P. Sloan Foundation examined the experience of American Indians majoring in math, science, engineering, or business (McAfee, 1977). The phenomenon of stepping into, out of, and back into higher education emerged as a typical mode of college attendance. Strength of cultural identity had a significant impact on persistence and outcome of undergraduate education. McAfee's findings about the relationship between cultural identity and persistence to degree attainment reinforce the importance of tribal colleges for American Indians in higher education.

McAfee's study suggests that the problem of stepping out is a norm that needs to be better researched and understood by colleges, universities and other institutions of higher learning. The total number of American Indian participants in McAfee's study was 65, of whom 60 were undergraduates, and five of those were students with disabilities majoring in areas other than science, math and engineering. The students participated in interviews and focus groups. The study was ethnographic in nature as McAfee examined the experiences of 43 American Indians enrolled in nine undergraduate institutions in eight western states. This research indicates that 23 of those left school. Of that number, 22% were perceived to have a strong identity with traditional cultures. By comparison,

50% of the 16 who had completed baccalaureate degrees were thought to have strong ties to their American Indian heritage.

Students in every form of education face problems that may prevent them from completing their courses and their programs. This is certainly the case with distance education students, as they have job and family responsibilities which may hinder completion. In addition, many have been away from formal education for several years, and self-confidence may be a problem, particularly if the student was not successful in the past. The distance education student must also cope with studying at a distance in relative isolation. Dropout factors are difficult to categorize. Boshier (1988) states reasons given for withdrawal were lack of time, change of plans, unsatisfactory courses, and illness. Again, high motivation, planned objectives, self-discipline, perseverance, habitual study, promptness in submitting assignments, and using a variety of approaches were success factors according to Boshier's research.

Rocky Mountain College. Rocky Mountain College is the oldest college in Montana. Adversity has led to strength through joining of liberal arts tradition and practical training for specific careers. The union of three distinct religious traditions (United Church of Christ, United Methodist Church, and the Synod of the Rocky Mountains of the Presbyterian Church) has resulted in a church-related college that considers all questions in an open and non-sectarian manner. All the strains of Rocky Mountain College's history are valued as students are prepared to be leaders in the 21st century (RMC 1997-99 Catalog).

With the rising need to compete in today's high-tech economy, administrators at RMC looked at the role that distance education would play in the future of the college. It was the lack of access to advanced level courses and the need to incorporate technology into the classroom that prompted RMC to pursue distance education options for the college.

As a college in the Mountain West, RMC is recognized as a diverse community of learners who seek to understand the history and environment of the region and to also understand the history and environment of the larger world. Rocky Mountain College values diversity and the interrelatedness of knowledge. With a mission statement that could be highly supportive of American Indian students, there is an expectation that RMC might become a model institution for building a better future for the educational needs of American Indian students enrolled in the Distance Education Program.

Learning Styles

Learning styles and their effect on student performance and attitudes have intrigued educators for a long time. Currently, teachers are studying learning styles along with brain research in order to better understand differences in students.

The term "learning styles" is often used to describe the individual's unique approach to learning. It is common knowledge among educators that students differ in how they learn. For example, some students learn best when they have the opportunity to manipulate objects. For other students, hands-on experiences are uninteresting and not necessary because they prefer to learn in a more abstract way. Some students prefer to

learn alone, while others are happier and learn more effectively when they can discuss a subject with fellow classmates. Some students are completely distracted by noise, while others have difficulty learning without some noise in the background. Some learners need a multitude of details in order to understand a subject, but others can learn the subject matter by knowing the broad outlines.

The different approaches to learning have been labeled and categorized in many variations. One term that describes approaches to learning is cognitive styles. The study and identification of cognitive styles grew out of experimental research in psychology. According to Keefe (1979), cognitive styles are information processing habits representing the learner's typical mode of perceiving, thinking, problem solving, and remembering.

Learning styles usually include aspects of cognitive style, elements of the affective domain, and environmental preferences for learning. According to Keefe (1979), learning styles include cognitive, affective and physiological styles. He believes there are stable indicators of how learners perceive, interact with, and respond to their learning environments. Keefe explains that the affective learning styles are motivational processes in which the learner arouses, directs and sustains behavior. The physiological styles are the biologically-based modes of response related to gender differences, health, and reactions to the environment.

Cognitive and learning styles are somewhat similar. However, cognitive styles usually refer to deeper psychological differences in perceiving and organizing information, while learning styles relate to more superficial levels of affective and

environmental preferences. They both account for some of the differences in learning behavior, and both are relatively stable features of an individual's personality.

Many instruments have been developed to assess the various levels of learning styles. The Meyer-Briggs Personality Type Indicator is used to assess the underlying cognitive style. The instrument determines an individual's preference for extroversion/introversion, sensing/intuition, thinking/feeling, and judging/perceiving. Sixteen types are generated from the four interacting references. Extroversion refers to an interest in the outer world, and introversion indicates an interest in the inner world of ideas and reflection. Sensing relates to a preference for looking at the real facts of an experience, while intuition is a preference for seeing the possibilities and relationships with the experience. Thinking and feeling are rational processes of decision making, but thinking types prefer to make decisions objectively and logically. Feeling types are more apt to make decisions based on their values. Judging relates to a preference for living a planned and controlled life, while perception refers to a preference for living in a flexible and spontaneous way (Rechinger, 1991).

In a study done by Lee (1984), adults were found to have greater satisfaction with instruction when there was at least a partial match between learning styles and teaching styles. Some researchers have also found that achievement is greater and attitudes toward a course are more positive when students and instructors were cognitively similar (Padgett & Wolosin, 1980).

Using a somewhat different approach, Rechinger (1991) supports the need to match learning style with environment. She found that 70-80% of the youth in juvenile

detention facilities were auditory learners. Rechinger suggests that the school environment is based largely on reading, and consequently these auditory learners are turned into failures.

Gregorc (1979) describes a learning style as "distinctive behaviors which serve as indicators of how a person learns from and adapts to his environment. It also gives clues as to how a person's mind operates" (p. 234). Gregorc believes that styles originate from experience, inheritance, culture, and the subjective patterns within ourselves that are used for self-actualization.

There are several controversies associated with learning styles. Researchers have explored the controversy between learning styles and cultural backgrounds. Carl Ulrich and Pat Guild, coordinators of learning styles in Seattle Pacific University, argue understanding the relationship between culture and style is a valuable tool for teachers. It is also valuable for teachers to be able to modify their teaching styles or curriculum when they understand that students with different cultural backgrounds may have unique learning styles. Some teachers, however, are concerned that modification of teaching methods may result in discrimination or even student failures (Ulrich & Guild, 1986).

A sense of optimism suggests that an understanding of learning styles is one of the keys to understanding the school experience for American Indian students (Browne, 1990; Kleinfeld & Nelson, 1991). Ramirez and Castaneda (1997) and Cox and Ramirez (1981) describe the relationship between cultural values and learning styles. They suggest that cultural values influence socialization practices which in turn influence the way children prefer to learn. "Insofar as these teaching styles reflect a certain set of values

held by parents and family, values that in many cases are clearly culturally determined and cultural differences in learning style preferences develop through children's early learning experiences" (Cox & Ramirez, 1981).

The American Indian Education Handbook published in 1994 by the California State Department of Education includes a list of 27 cultural values presented with attitudes, behaviors, and educational considerations. This source guided the development of an American Indian Learning Style Instrument. Statistical differences between American Indians and non-Indians were apparent in response to selection of nine cultural values that affect approach to learning, demonstration of learning, or both. American Indian respondents tended to indicate that discipline, holistic approach to health, spirituality and group harmony had an effect upon American Indian student's approach to learning, more so than demonstration of learning.

The implications of the survey results indicate that teachers need a balanced presentation of theory and practice in their teaching. The study was exploratory; it is a beginning point for discovering what teachers know about American Indian learning styles. Frameworks or paradigms such as the one set forth by Ramirez and Castaneda (1997) provide a window through which to view the topic of learning styles. "Native cultures differ so fundamentally from European cultures that they will hold certain things in common—concept of time, spatial relationships, a unified awareness of what we call the spirituality and physical realms" (Lopez, 1988).

Two instruments that attempt to measure learning style elements related to affective, physiological, and environmental preferences are the Dunn, Dunn and Price

Productivity Environmental Preference Survey (PEPS) and Canfield's Learning Style Inventory (LSI). The PEPS is an instrument for the identification of how adults prefer to function, learn, concentrate, and perform in their learning. It assesses noise, light, temperature, motivation, persistence, responsibility, structure, affiliation needs, authority, flexibility, mode preferences, requirements for mobility and food, and the best time of day for concentration (Dunn & Dunn, 1978).

The Canfield Learning Style Inventory (Canfield, 1980) is similar to PEPS in that it assesses students' preferences for learning conditions, content, mode, and expectations. The conditions include affiliation, eminence, structure and achievement. Content includes a preference for working with numbers, words, inanimate objects, or people. It also determines which mode is preferred: auditory, reading, iconic, or direct experiences.

An instrument that assesses the information-processing dimensions of cognitive style is Kolb's Learning Style Inventory (Kolb, 1985). For the purpose of this study, the learning style inventory developed by David Kolb was investigated. Kolb described two major differences in how people learn: how they perceive and how they process.

According to Kolb (1985), people perceive reality differently. In new situations, some people respond primarily by sensing and feeling their way, while others think their way through new situations. However, people hover near different places in their reactions on a continuum, and that hovering place is their most comfortable place.

Students who perceive in a sensing/feeling way project themselves into the reality of the now, and they usually attend to the actual experience itself. They perceive through their senses and immerse themselves directly. On the other hand, according to Kolb,

those students who think through experiences attend more to the abstract dimensions of reality as they analyze what is happening. Their intellect makes the first appraisal as they reason and approach the experiences logically. These two kinds of perceptions are different, yet they complement rather than exclude each other. Both have strengths and weaknesses and every learner can benefit from both perceptions.

Perception alone does not equal learning, according to Kolb. The processing dimension is a continuum that ranges from the need to internalize to the need to act. Some learners are watchers first, while others are doers first. Both ways of processing information and experience are equally valuable. The components of the Kolb Learning Style Inventory are:

1. Active Experimentation. These persons learn best when they can engage in such activities as projects, small group discussions, experimentation, and homework. They dislike passive learning situations such as lectures.
2. Concrete Experience. These persons are people-oriented individuals who rely heavily on feeling-based judgments. They learn best from specific examples in which they can be involved. They seem to benefit most from feedback and discussion with other concrete experience-type learners.
3. Reflective Observation. These persons indicate a tentative, impartial and reflective approach to learning. They seem to prefer lectures where they can take the role of objective observers.
4. Abstract Conceptualization. These persons rely heavily on logical thinking and rational evaluation. They tend to be oriented to things and symbols more than

people. They learn best in authority-directed, impersonal learning situations that emphasize theory and systematic analysis. They become frustrated with unstructured discovery-learning approaches.

Kolb's Learning Style Inventory has been used in both academic and professional settings to identify the learning style preferences of different groupings. It has been used to help learners understand the learning process and their preferences for kinds of educational experiences, and to help teachers explore their preferences in designing them. It has been especially useful when used by teachers and learners to develop a shared understanding of the educational environment. In work settings, the Kolb Learning Style Inventory has been used to help people gain insight into the functions of their team in a non-evaluative, non-judgmental way (Kolb, 1984).

Virginia Hartman (1995), assistant professor in the office systems technology at Lord Fairfax Community College, comments that after using the Kolb Learning Style Inventory with her students, they are better able to identify individual learning style preferences. She states that through discussions, students' preferred learning styles are more than just auditory, visual, kinesthetic and tactile. The preferred style also includes the perception of the learning event through concrete experience (sensing and feeling) or abstract conceptualization (thinking and analyzing). Hartman states that it is important to foster student appreciation for and awareness of learning style preferences and the learning cycle.

Teachers and learners should know their own styles, as this knowledge could eliminate both instructional and interpersonal roadblocks. Smith (1982) believes that

instructors should help learners gain insight into their own styles so the learners can make adjustments in their styles when necessary. He thinks that people need to learn how to learn, and style flexibility is a part of the learning how to learn concept.

There are several reasons for identifying learning styles in this study. The importance for program planning, learning environments, appropriate counseling, and administration strategies are some of the reasons for identification of learning styles. In order to offer a way to accommodate as well as challenge all types of learners, it is important to consider the learning styles of the American Indian students in this study.

In a review of literature, Hunter (1979) found support for matching environments to learners. He found especially strong support for the idea of matching in affective and behavioral outcomes and some support in achievement outcomes as well. In fact, some researchers believe that the affective elements of the learning situation may account for the largest variance in achievement.

To summarize, learning style information has three purposes: to match the learner with appropriate teaching methods and environments; to provide information for counseling, and to help learners better understand themselves so that they can select or create learning situations that will be the most effective for them.

CHAPTER 3

METHODS AND PROCEDURES

Introduction

This chapter presents the research design, the population that was considered, the instruments used in this study, the data collection techniques, and the way the data were analyzed. This study explored distance education research by focusing on factors that had a positive impact on successful completion and factors that made completion difficult for American Indian graduates in a distance education program. Few studies have investigated the completion rate of American Indian students in a distance education program that involves the use of technology to cover the geographic distance between students and instructors.

This qualitative study of factors contributing to the academic success and factors that made completion difficult for 12 American Indian graduates at Rocky Mountain College utilized a grounded theory approach. A grounded theory approach was chosen because it provided a means to learn about the participants' world and the interacting influences of personal, social and cultural characteristics without imposing the cultural biases of the interviewer (Chenitz & Swanson, 1986). According to Strauss and Cobin (1990), grounded theory provides a procedure for developing categories of information, interconnecting the categories, building a story that connects the categories and finally

ending with a discursive set of theoretical propositions. Chenitz and Swanson (1986) state that data collection in a grounded theory study is guided by a sampling approach called theoretical sampling. This strategy is based on the need to collect “more data to examine categories and their relationships.” Thus, data collection and analysis must occur simultaneously.

Research Design

A qualitative approach was appropriate for this study because of the nature of the research questions. The questions relate to how learners perceive and interpret the learning situation and the meaning the distance learning experience had for them. Qualitative research is concerned with the process of a phenomenon rather than the product. Bogdan and Biklen (1992) described the characteristics of qualitative research as follows: “Qualitative research has a natural setting as the source of data, with the researcher as the key instrument, and qualitative research is descriptive.” Qualitative research is concerned with the process of a phenomenon rather than the product.

The five characteristics of qualitative research listed in Qualitative Research For Education by Bogdan and Biklen (1992) further indicate the appropriateness of the research method for this study.

1. The natural setting is a direct source of data and the researcher is the key instrument.
2. Qualitative research is descriptive.

3. Process or actions are often the subject of qualitative research rather than the final outcomes.
4. Qualitative data are usually analyzed inductively.
5. The ways different people make sense out of their lives is a concern of the qualitative approach.

The five characteristics stated above indicate the appropriateness of the research method for this study. The qualitative research was concerned with the process of a phenomenon rather than the product in the following ways:

1. Much of the data was collected by the researcher in the distance education classroom at RMC and FPCC.
2. This study used descriptions and quotations from transcripts of interviews, field notes, and transcripts of audiotapes.
3. This study looked at the interaction between teachers and students in distance learning situations.
4. Rather than starting from a hypothesized pattern and trying to prove or disprove it, this study drew from transcripts of interviews and the Kolb Learning Style Inventory.
5. Qualitative research was helpful in this study as the researcher observed the American Indian students as they tried to make their own sense out of a new technology and how distance education assisted them in getting a college degree.

Tierney (1992) recommended the use of qualitative research approaches that provide sensitive studies going beyond statistical surveys and charts. A qualitative study

supports discovery of reality as it exists in the minds of the informants. Grounded theory appears from the bottom up, rather than from the top down, and from numerous bits of interconnected evidence that are gathered, analyzed, and presented in a coherent manner.

According to Guba (1978), those who seek knowledge through qualitative research are concerned with discovery of the patterns from a holistic stance by taking into consideration all of the multiple realities of a phenomenon. It is important that the researcher maintain an open mind throughout the data-gathering period about what will be discovered (Guba, 1978). A useful form of data-gathering is the interview. The interview format is used widely in qualitative research in the social sciences and has been chosen for this study. The interview method assumes a rich context of information exists that is important and available for gathering and analysis.

The findings of a qualitative study do not necessarily apply to a general population, but instead describe a distinct population. In this particular study, 12 American Indian graduates who majored in elementary education at Rocky Mountain College were the distinct population. This study did not attempt to determine why other students who started the program left prior to graduation.

Population

The participants of this study consisted of American Indian students who completed courses using distance education technology and earned a baccalaureate degree in Elementary Education at Rocky Mountain College. Carolyn Pease-Lopez, the Director of American Indian Student Studies at Rocky Mountain College, provided a list of 18

American Indian students who graduated from RMC between May, 1996 and May, 2000 to all faculty who taught distance education courses during that timespan. These 18 students identified by Pease-Lopez as graduates of the distance education program and identified by the Registrar's Office were eligible for this study.

The researcher contacted the students to explain the purpose of this study and to request their participation in the study. When the student agreed to participate, a meeting time was arranged by the researcher for an audiotaped interview. A total of 12 American Indian students agreed to participate in the study. The agreement form signed by the students is in Appendix A.

Interviews

The interview format is used widely in qualitative research and is the methodology through which the researcher can probe more deeply for opinions and feelings (Borg & Gall, 1983). In this study, a total of 12 American Indian students were interviewed. The interviews required approximately one hour each and were tape recorded. The interview began with demographic questions. It is important to note that in the interview process, the researcher becomes the research instrument. One of the most complete and accurate methods of recording an interview is with an audio tape recorder. A notebook to record observations was also used. This method provided not only a complete verbal record on audiotape of the interviews with the American Indian students, but also allowed the researcher to take notes while observing aspects of the environment, gestures, expressions, and other non-verbal cues that would be important to

this study. The researcher transcribed the audiotape, which provided an invaluable record for analysis and for quotes.

As suggested by Borg and Gall (1983), the researcher initially pre-tested eight interview questions for clarity while teaching a distance education course entitled "Teaching Reading and Language Arts." First, five distance education students enrolled in the course were interviewed on the Fort Peck Indian Reservation during the fall 1999 semester. Next, based on the pre-test feedback, the interview questions were refined as words were changed and the interview questions were rewritten. This resulted in six questions which were pre-tested with eight additional distance education students. Borg and Gall (1983) state that planning and small-scale tryouts are essential for developing procedures that produce cooperation and accurate responses. The interview questions for this study were developed and checked for vocabulary, language level, and the students' understanding of the questions. It needs to be noted here that the pre-tested questions were used with students who had indicated a willingness to be interviewed after class. A copy of the interview questions can be found in appendix B.

The interview is a valuable tool for obtaining information from the students. Well-formed questions kept firmly in mind add to the rigor of the interview process. Observation and negotiation for clarification are integral to the interview process also. For this reason, conducting the interview in the study participants' environment was helpful. Not only did this add depth and dimension to the interview by allowing for the processes of clarification and negotiation, but it also served to respect the time constraints of the students being interviewed.

Learning Style Instrument

The four basic learning style types in the Kolb Learning Style Inventory are based on both research and clinical observation. The instructions on the learning style inventory state that there are nine sets of four words. The words must be ranked in each set. The word that best characterizes a person's learning style in the set of four words will be assigned a "4," a "3" to the word that next best characterizes a person's learning style, a "2" to the next most characteristic word, and a "1" to the word that is least characteristic of the learner. The instructions emphasize that there are no right or wrong answers. All the choices on the Kolb Learning Style Inventory are acceptable. The aim of the inventory is to describe a style of learning.

To compute and score the inventory, it is necessary to write the rank numbers in the space provided. The four columns of words correspond to the four learning style components: Concrete Experience (CE), Reflective Observation (RO), Abstract Conceptualization (AC), and Active Experimentation (AE). The scale scores are computed by totaling the rank numbers in each set. To compute the two combination scores, CE must be subtracted from AC, and RO must be subtracted from AE.

The grid provided on the inventory has the raw scores for the two scales (AC - CE on the vertical lines) and (AE - RO on the horizontal lines). By marking the raw scores on the two lines and plotting their point of intersection, the learner finds in which of the four learning style quadrants they fall. These four quadrants, labeled Accommodator, Diverger, Converger and Assimilator, represent the four dominant learning styles. The

closer the data point is to the point where the lines cross, the more balanced the learning style. If the data point is close to any one of the four corners, this indicates that the learner relies heavily on one particular learning style.

Since it was first developed in 1976, the Kolb Learning Style Inventory has been used extensively in both academic and professional settings to identify learning style preferences. According to Kolb's (1984) theory of experiential learning, his learning style inventory provided a relatively simple means of investigating learning style preferences but was open to question on the basis of its validity and reliability.

Only a few studies investigating its reliability have been done, despite the fact that the Kolb Learning Style Inventory is widely used by teachers and trainers. The validity and reliability of the Kolb Learning Style Inventory were investigated with 187 Arts and Science students in an Australian university. Results obtained from this study indicated a high degree of reliability, with Coefficient Alpha reliabilities ranging from .81 to .87. The findings were consistent with Kolb's (1984) findings of four factors forming two bipolar dimensions. This provides evidence for the validity of the Learning Style Inventory.

Data Collection

The main body of research involved conducting one interview of approximately 45-60 minutes with each of the 12 American Indian students who graduated from RMC. The interviews were recorded on tape. After the interview was audiotaped, the information that pertained to the study was transcribed from the tape recording. The

researcher also took notes during the interview, in case the tape recorder failed to produce a clear recording. The open-ended interview questions were used to stimulate free responses on the educational experiences in the distance education program at Rocky Mountain College. The responses provided information on what helped or made completion difficult in finishing courses that allowed the American Indian students to earn an elementary education degree. The Kolb Learning Style Inventory was administered during the first semester to all American Indian students enrolled in the RMC distance education courses. Each student computed the scores by totaling the rank numbers on the inventory. The information from the inventory was recorded by the researcher for analysis.

Data Analysis

In a grounded theory approach, data collection and data analysis must occur simultaneously. As a result of the prolonged nature of this research project, multiple activities have been occurring simultaneously since this study was conceived in the summer of 1997. Field notes referencing trends, unique features, similarities, and concepts that might be pertinent to learning at a distance have been created and organized in a file dating from 1997 to 2002. A notebook chronicling the methodology has been maintained to facilitate recall of events and decisions during the five-year timeframe. The researcher also kept a journal of ideas and general thoughts while reading the literature pertaining to this study. The field notes, journal and notebook served to stimulate and recall particular data and relationships.

The tape recorded interviews with the American Indian students were compared to find consistencies and differences. Indicators of events or behaviors were coded and compared to find relationships. The codes were grouped into categories. Categories were developed based on the research questions in the study. The categories needed to be revised many times as the researcher continued analysis of the interviews. Patterns began to emerge as the recorded data from the interviews were analyzed. The interviews provided information about learning styles, key factors that contributed to the completion, and key factors that made completion difficult for the American Indian students who graduated from the distance education program.

At the beginning of each semester, the Kolb Learning Style Inventory was used with all students taking courses in the elementary teacher education program. This included the 12 American Indian students taking courses from the researcher. The students scored their own inventory during class and the results described their style of learning. The researcher collected the Kolb Learning Style Inventory from each student, checked for accuracy and began looking at the profiles.

The demographic information about the graduates who participated in the study included their age distribution, gender, geographic locations and marital status. This information was collected on a demographic form given to the students prior to the scheduled interview. The specific demographic questions are in Appendix C.

CHAPTER 4

RESULTS

Introduction

The purpose of this study, using a grounded theory approach, was to identify key factors that had a positive impact on successful completion and factors that made completion difficult for 12 American Indian graduates in the Elementary Education Distance Education Program at Rocky Mountain College. To accomplish this purpose, data for this study were obtained from interviews and David Kolb's Learning Style Inventory. Six open-ended questions were asked of 12 American Indian graduates in order to stimulate responses on their distance learning experience at Rocky Mountain College. Demographic questions were discussed at the beginning of the interview, followed by general questions which led to specific questions at the end of the interview. After the semi-structured interview, the information that specifically pertained to the study was transcribed. The demographic data collected was used to develop a profile of the interviewees.

A data analysis was conducted to find similarities in the responses from the interview questions. Categories were developed that showed patterns within each interview and among the 12 interviews conducted. The researcher compared and verified the data by journaling, note-taking and continually reviewing the audio tape recordings of

the interviews. The learning style inventory results provided additional insight into the key factors that had a positive impact on successful completion and factors that made completion difficult for the students in the distance education program.

General Information about the Graduates

The 12 graduates in this study identified themselves as American Indian students on application forms for admission to Rocky Mountain College. Ten graduates held a tribal affiliation to the Fort Peck Indian Reservation and were born on the reservation. Two graduates were born off the reservation. Nine graduates who consider themselves traditional American Indians live on the Fort Peck Indian Reservation, and three graduates live nearby and stay in close contact with their families on the reservation. All traditional American Indian graduates in this study spoke of the need to keep their language alive and teach it to the American Indian children. They attend ceremonies and pow wows together and maintain contact with their family members.

Of the 12 graduates in this study who successfully completed the distance education program, eight were female and four were male; five were married with children; five were single with children, and two were divorced. Ages ranged from 24 to 62 years of age.

All of the graduates attended high school on an Indian Reservation and earned their two-year associate degree at Fort Peck Community College. Four of the graduates took three years to finish their associate degree at Fort Peck Community College. Two of them experienced a loss of funding due to low grades, one had to deal with family problems, and one needed an extra year to recover from surgery.

Ten of the graduates had full- or part-time jobs related to caring and working with children while they were attending college. Two graduates were unemployed. They all had to coordinate the different areas of their lives—families, jobs, spare time and academic studies.

Results of the Interview Questions

Interview Question 1

1. What motivated you to get a degree in elementary education to become a teacher?

Analysis of the data collected in response to this question resulted in three categories. The first category was self-determination. Self-determination can be defined as the act of an individual coming to a decision. Students stated, “There were positive learning experiences in my grade school years that made me want to become a teacher and a role model to help children learn,” and “I remain excited about my teaching degree and the fact that I have my own classroom on the reservation. Being responsible for myself and others motivated me.” Two graduates described self-determination.

Graduate 4: I worked as a teacher’s aide at HeadStart on the reservation and I loved being with the children. I knew I made a difference (good things) when I taught them and encouraged them everyday. I had a lot of responsibilities at Headstart. I often dreamed of getting my degree in elementary education and teaching in an elementary school. I guess you can say it was a quiet personal dream that really did come true. I look back and sometimes can’t believe it.

Graduate 2: My Mom was a teacher. She had a tough time because she was the only Indian teacher in the school, but that did not stop her. She worked hard and taught me to be dependable and to recognize my strengths. She motivated me. I always told her that I would go to college and become a teacher too. She taught me how to be persistent. She died last year and could not make it to my college graduation. I feel that she is always with me when I am teaching my second grade classroom.

Another graduate talked about being the first family member to earn a college degree. It was a personal struggle to graduate for this particular student from Rocky Mountain College.

Graduate 3: When I was in third grade, the teacher had me tested and told my parents that I had a learning problem. I was put in special classes because it was hard for me to understand what I read in reading class. The teachers after that all thought I wasn't very smart. My parents always said that I was smart. One teacher in high school told me to quit school and find a job. He made me determined to finish high school. When I graduated from high school, my Dad told me get an associate degree at the Tribal College because he knew I could make it. I did make it and got a two year degree—then I enrolled in the distance program at Rocky and worked really hard to finish and earn a degree in elementary education. My Dad was proud of me and told he always wanted a college degree but never had a chance to go to college. I am now a teacher at Headstart and help the many children who have learning problems and fetal alcohol syndrome. The Headstart Director said I had a special gift for special children. I'm determined to make learning easier for them.

The second category to emerge was job security. Ten of the graduates stated the need to earn an income to provide for their own children. The teaching profession was seen as a secure career. The following comments by two of the graduates agree with the importance of job security.

Graduate 7: I wanted a job that was stable. Employment in the schools on the reservation is good. I am single and support three kids. I knew going back to college would be tough, but I was exhausted from jumping around doing jobs that did not pay very well or the job ended for some silly reason. I like my teaching job and I make good money.

Graduate 4: I am married and we have children. I wanted to help support our family. I had a two-year associate degree from Fort Peck College and when I heard about the distance program at Rocky, I enrolled and it took me over three years to get my degree. Having a secure teaching position on the reservation is a wonderful opportunity. Our kids go to the same school where I teach. There are too many jobs around here that are not secure. I feel lucky to have a teaching degree.

The third and last category to emerge from the data was the need to provide appropriate education for the American Indian elementary students on the reservation. Several of the graduates in this study indicated that Indian students are denied teachers with special training in Indian education. They are also denied a curriculum that teaches them about their heritage and parents are denied a voice in their children's education.

Two of the graduates commented in the following way.

Graduate 12: I developed a computer program that taught my fifth graders words of our language. They caught on real fast. Some of them wrote stories and took them home. A grandparent came to school with his grandson and read the story. He stayed most of the day and told stories to the fifth graders. There seems to be more parent (grandparent) involvement now. My students want to learn more about our language and that keeps me on my toes.

Graduate 7: Doesn't it make sense to have us (American Indian teachers) teach the children on the reservation? Now that Rocky offers the distance program to get a teaching degree, I am seeing more of our people become teachers and teach the children in our schools. Before there were hardly any Indian teachers. It was like the old boarding schools around here.

After analyzing all the data for this question, it was clear that every graduate desired a degree in elementary education. Self-determination to reach their personal goals, ability to obtain a secure profession while also incorporating Indian culture into the classrooms on the reservation, motivated the American Indian students to graduate and become elementary education teachers.

Interview Question 2

2. Describe your educational experience in the distance education program at Rocky Mountain College.

One graduate described the experience in the following way.

Graduate 8: It was really difficult to listen to the instructor lecture for over an hour for two evenings a week and not even give any attention to the distance class. He could have made a video and asked us to watch it at home since there was no interaction between him and our class. If students fell asleep at our end (tribal college), I am sure he wouldn't even notice. He lectured all semester and didn't even know our names when final exams rolled around. I will never teach like that.

This student lacked the support from the faculty member teaching the first semester distance course. This graduate went on to say, "The next semester I liked my instructor. She made me feel comfortable even though I was living in a different geographic location. She only taught our class--no Rocky class."

As the American Indian graduates shared their stories about educational experiences, two categories emerged from analysis of the data: faculty-student interactions in the distance program and distance education versus traditional education. A graduate recalled interaction with a faculty member.

Graduate 4: I was disconnected from the professor. She would not return my phone calls or e-mails messages. When I tried to ask a question in class, she would tell me to wait until the break. When the break time arrived, she left the room. I was not the only student to feel alone and disconnected. I think that professor needs to get training in how to communicate with students.

Negative faculty-student interactions were experienced by eight of the graduates in the program. They chose a variety of approaches to help them adjust to the

experiences. Three of the graduates reflected on their educational experience in the following ways.

Graduate 1: I was ready to quit so many times. My family listened to my troubles and saw my tears. I knew if I quit, I would never take classes again and would never be a teacher. I wanted to quit mostly because of the kind of teaching that came from Rocky with our distance classes. One faculty person made discriminatory comments to our class and that made me feel bad. Probably it was because I was picked on during my early school years and that instructor reminded me of those days and brought back those memories. He probably didn't even realize that he was saying things about our culture that were sensitive to me. It was hard to keep my mouth shut and take it all in again and feel that hurt. I did not feel like an adult learner. I thought Rocky hired professors who understood our situation. My family was right when they told me to be strong and just get through his class. My parents always told me to stay proud as an Assiniboine when I was younger. I sometimes wonder if that Rocky instructor didn't like us and would rather be teaching students somewhere else. I saw him once at Rocky after I graduated. He was at a week-end Pow Wow in the Fortin Center on campus. He didn't even remember me when I greeted him. I will always remember him. I do not want to treat my students like that....I did learn something from him.

Graduate 5: The worst time for me was right before graduation in May. It was a real crisis for me when the distance instructor forgot to hand in my grade. She went on vacation. I could not get in touch with her. I finished all my work one week late because of attending my Grandpa's funeral and she said she would give me a B for the class. She

never carried through with her promise. Finally, the Dean found my work on her desk and somehow got a hold of her and got the B grade into the registrar's office just in time for me to graduate. I was worried with the incomplete on my transcripts. Why would a teacher forget to hand in a grade?

Graduate 3: I went in for surgery and had to be hospitalized for several weeks. When I got home I was so far behind in my distance learning classes that I planned to drop out of college. The professor in the education program at Rocky was concerned and willing to work with me so I did not have to drop. She used fax, phone and e-mail to help me get my assignments completed. I really liked her class and was learning about lesson planning and how to teach science using a hands-on method. I tried to get caught up, but couldn't do it. I ended up dropping all my classes that semester and had to wait an extra year to finish up my degree. It was a difficult year.

The second category that emerged in interview question two described educational experiences which related to distance learning education versus traditional education. Students often learned more effectively when they had the opportunity to interact with other students and faculty. This graduate had a negative experience and was quick to comment with the following answer to the interview question.

Graduate 11: I don't feel like I got a good education in the distance courses from Rocky. I learned more on the Tribal College campus with all the other students in the classroom. I know I would have never graduated and got a degree from Rocky if I had to travel and be on campus for two years, but the distance classes were a disappointment. Technology is a good thing and I probably did not give it a chance and was too quick to

comment. Maybe I expected too much from a four-year college. I don't know. We were never encouraged to be proactive learners. I really hope this study will help to make some changes. I just do not have good memories of the educational experience at Rocky.

Six other graduates were eager to recount their distance education experiences.

Graduate 9: It was a waste of time to sit in class when there were technical difficulties that caused our class to wait for a long period of time or we had to cancel. I would sit there and wish I was in a real classroom instead of a distant one. The camera at Rocky did not work and the same problems happened almost every week. When the picture came on after a long wait—the sound didn't work or the other way around. I would write letters sometimes while we were waiting to connect up. I heard from a Fort Peck instructor that Rocky installed a new system in their new library that works better now and has less problems.

Graduate 12: Handouts for class were sent through the mail from Rocky to Fort Peck Community College. Sometimes we didn't get the things we needed for class in time. It was frustrating. Rocky students had the handouts and we didn't. I tried to organize, but it was hard. In a regular classroom, the teacher would have materials and handouts on the desk for all of us. Distance education has advantages, but I think there are more disadvantages compared to a class where we would get the handouts we needed for that day. I suggested sending a fax to us, but the instructor said it cost too much.

Graduate 10: I missed having a real connection with my teachers. I missed being in the classroom with a teacher. You can learn so much more when a teacher is in the room instead of on a TV screen. One Rocky instructor, however, contacted us every

week—especially when the class started in the semester to listen to our concerns and answer our questions. He was one of the few who did that. He would even fly or drive his old truck to visit with us during the semester. He had a great sense of humor and made classes interesting. He made us understand that Special Education is extremely important. He must have known it was important to connect with us too, because he only taught our class. He never taught an interactive class, so it was almost like having a teacher in the classroom. I learned so much about how to deal with special education kids and their problems from him. He expected a lot from us, but I worked hard for him because I knew he cared.

Graduate 4: Rocky had a good idea to set up distance education classes for us. It saved travel time, but I didn't learn how to teach from the classes. I learned to teach when I finally got accepted to do my student teaching in the third grade. I think back how I learned subject matter in my distance classes and I now realize that every student learns differently and the teacher needs to know how to teach in different ways. Being a student teacher in a regular classroom was a delight compared to sitting in the distance learning room. I hope kids don't ever have to sit in a distance classroom and learn science or reading with only lectures and tests. Sitting at a table and talking into a microphone on the table just does not seem right. I really appreciated the classes because I now have a degree and can teach on the reservation. Distance classrooms do not allow students to get up and demonstrate very much in the methods classes in elementary education. As far as an educational experience is concerned, it could have been so much

better. The instructors could have used better teaching strategies. I have some good ideas, if you want to hear them.

Graduate 8: I felt isolated. My experiences in distance education were not good. I guess I needed the support of a teacher. I have to be motivated. I was persistent about finishing college and earning my degree and have a job for next year. I am happy for that. I will recommend taking classes to get a Rocky degree to my friends if they think they can be alone most of the time. I needed more group interaction.

Graduate 7: Our tables and chairs were all set up in rows in front of the television set in our classroom. We all sat there so organized and in our own spot. In my opinion, that is not the way to learn anything. I would sit way in the back of the room when I brought my baby to class. No one even noticed that I would breast feed my baby during class. Sometimes my classmates would bring their kids to class when they couldn't find a babysitter. We had a pretty good sized class. It was not easy for the Rocky professors to get to know us. They had to look at the screen to see what was going on in our class and at the same time teach the class at Rocky. I never really felt part of either class.

It was obvious after careful review of all the comments received from the 12 American Indian graduates that there was a common thread woven into the fabric of their distance education experiences. The graduates had a strong desire to complete their education, but they experienced numerous problems with both technology and the distance educator's ability to teach effectively with the tools provided by Rocky Mountain College. Looking at the graduates as a group, it was evident that they had both positive and negative experiences. Some students believed that they were inhibited by

the attitude of the professors; more specifically it was their indifference towards this remote technology. Positive comments from the graduates included the extra efforts made by considerate professors that benefitted them in ways to successfully complete their distance education courses.

Interview Question 3

3. What factors helped you to succeed in the distance education program at Rocky Mountain College?

All the graduates had a strong desire to earn a degree and become successful in the teaching profession. Self-determination, persistence and personal achievement were motivating factors to finish the distance education program. One graduate stated, "I could not give up even though it was difficult." Another said, "It was the hardest struggle I had in life.... I am 56 years old!"

Analysis of the data collected in response to this question created three categories which related to success factors. The key category that enabled success was the support of their immediate families. Ten of the graduates received support from their immediate families. The second category was friends and faculty members. The third category that emerged from the data relating to key success factors was the importance of funding sources.

The following four graduates shared comments related to support and encouragement they received from their families. Ten of the graduates had similar success stories to tell about how their families believed in them and supported them as children and as adults.

Graduate 6: Success? A lot of stuff. My mom is a nurse and she was a good role model for me. I had time to study, I had classmates to study with....the work study job was great, my boyfriend was understanding and sympathetic, but I have to admit that I think the main thing was I just had to get that Rocky Mountain College teacher degree. It was real important. If I wanted to be professional at something, I had to make up my mind and get a degree. I can be bull-headed about what I want to do. My Mom taught me about professionalism and getting things done. I know she is proud of me for getting a degree.

Graduate 11: I was so disappointed in my life choices. I married when I was only 17 years old and got divorced. My husband was a drunk. I was abused. I got married again and that marriage failed. I left the reservation for five years and lived with my boyfriend. When my boyfriend left me and my little girl, I came back to Poplar, MT. Grandma said I should go to the Fort Peck Tribal College and get an associate degree. I enrolled and she helped me with babysitting and extra money. I made good grades and even got on the honor roll. My friends were enrolling in Rocky Mountain College's program. I could stay on the reservation with Grandma and my daughter and take classes without driving to Billings. I was bound and determined to get a degree and earn a bachelor's degree. Now that I have it, I told my grandmother that I am stubborn enough and ready enough for a master's degree to become a school principal on the reservation. She said I am finally making good choices for my life.

Graduate 10: My parents and grandparents were there for me. I do not think I could have been successful without them to give me that extra push. It was an energy

boost that kept me in the distance program. I would have tons of homework to do and Grandpa wanted to know about everything I was learning. He always wanted to be a high school Biology teacher. He would even read my textbooks on Teaching Science and Social Studies to children. My dad made sure I had quiet time to study for my exams. He would babysit my kids and tell them that their mommy was going to be a teacher someday and we had to give her time to study. My dad is so good to me. He even came to my classroom and helped carve pumpkins at Halloween with my students. I will support my children when they want to go to college in the same way. My daughter wants to be a teacher now. She pretends with her dolls. It's so cute.

Graduate 1: My brother's wife was a teacher in Billings. She always talked about her high school students when we would get together. She liked teaching and said if students got to know American Indian teachers, they would understand our heritage better. She said so many students in high school only knew what they have seen in movies about Indians. She would always tell me that the world needs more Indian teachers. I guess talking to my sister-in-law helped me make the right decision to become a teacher. She was so helpful when I was enrolled in the distance program at Rocky. I know for sure that I would never have been successful without her encouragement.

There were other support-related categories that included their friends and faculty members. The graduates described different and varied ways that support helped them to succeed in the distance program at Rocky Mountain College. The additional support that came from their friends and college faculty were reflected in the following comments.

Graduate 2: I would like to speak about the classes that made for success for me. They were the ones where we could make some suggestions to the instructor about our needs. Also, when we could write an informal paragraph or so about what we wanted to learn at the beginning of the course or what we did learn at the end of the course was very helpful. It was good to have input—especially when the instructor would use our suggestions for the course syllabus. My wife believes in me and thinks my suggestions are well thought out. When the college instructor asks for input, and uses those suggestions, that makes me think she believes in me too.

Graduate 12: Study groups with my classmate friends was the success factor for me! We got together and studied every semester. Talking and discussing our assignments and brainstorming about our lesson plan materials really helped me get through the classes. It was fun to get together too. Not all of us graduated, but those of us who are teachers still get together and talk about what we are doing with our students. A lot of the stuff we planned in the education classes with Rocky are still being used. We trade units and plans whenever we can. Study groups should be required for distance learners. It would have been nice to get together with students from Billings, but we never seemed to arrange that.

Faculty members at Fort Peck Community College were supportive of the American Indian graduates. One graduate who earned a two-year associate degree at Fort Peck Community College made the following comment about a faculty members who observed the distance courses being sent to Fort Peck Community College.

Graduate 8: They (faculty) would see us in the building when we were getting ready for our distance class from Rocky and would tell us how proud they were of us. One of the instructors told us that she would not have the stamina to take all those classes from a television set in the classroom. She made us laugh and said we were all tougher and smarter than she was. Just knowing that they were in the building when we were in our distance classes was so helpful. They would joke with us that we were television stars.

The Rocky professors who made an effort to drive or fly to the Fort Peck campus and spend one or two days teaching from the distant site back to Rocky were described as "very helpful and supportive." The following comment comes from a graduate who appreciated the extra effort.

Graduate 4: I remember when a faculty person from Rocky brought a couple of students with her.

They were so surprised at our set-up on the reservation. They were great. I wish more professors would bring students from the Rocky campus to our campus so we could talk to them face-to-face. Those students seemed to connect with us better in class when they returned to the Rocky campus. That same professor invited all of our class to Rocky to actually be part of the class at that site. We drove down and stayed overnight in the dorms. We invited that class to visit with us, but it did not work out. It took some planning on the part of the faculty to make us feel welcome at Rocky. I felt like there was support and understanding of our needs.

Graduate 11: I was told that the distance program would be interactive television and I could participate in discussions. I used to be afraid to talk in class, but I learned that it is important to get my views out. I know I learned more when we could interact with Rocky's distance class. It did not happen very often, but when we could discuss issues with other students it was very educational. I think those kind of discussions helped me to succeed in the program. I know they helped me not to be afraid to talk up in classes. We would continue some of the discussions from class into our study group.

Two graduates described the Director of American Indian Services on Rocky's campus as being like a family member. They both were attending the required summer session on the Rocky Mountain College campus.

Graduate 5: The Director of American Indian Services was a saint while I was on Rocky's campus during the summer session. I would visit with her every day after class. She understood how difficult it was to be away from family and to live in Billings for the summer. I would drive back to the reservation every weekend. She would even have get-togethers at her house for all of us from Fort Peck during the summer. She was like a family member away from home. She came to my graduation and brought me a present. I often wished she would teach some of the classes. That is something I would highly recommend to them.

Graduate 1: I found out I was pregnant the summer I was taking six credits on Rocky's campus. I was scared and afraid to be a single mom. The Director of American Indian Services was like a counselor for me. She listened to me and told me that I would make it through the summer session. I wanted to go home and quit the program and get

ready for my baby. She said I could finish my classes and be a mom too. She was a mentor in every way. I could not let her down. Sometimes she was like having a mom who cared about me. I look back at that summer and know if she was not there as the Indian Student Director, I would have quit and never graduated. It is really important to have someone who I could trust and tell my troubles to while I was pregnant.

Funding sources was the second category that emerged from the data. Three graduates who were appreciative of funding sources said:

Graduate 1: It was expensive to take classes in the distance program. I can't imagine how I would pay for the years of college without financial help. I was successful partly because there was scholarship money to pay for my tuition at Rocky.

Graduate 8: I had a tribal scholarship. That helped me to succeed. It takes money to get a college degree. I earn a decent salary at Headstart, but could never have afforded to go to college without financial support.

Graduate 3: Work study provided some funds to assist me in college. I was lucky to get a scholarship and also tap into other funding for Indian Education. Textbooks were a huge expense and I was really fortunate to have money to pay for books and tuition. I do have some student loans to pay up, but not so bad that I will be in the poor house. Getting extra dollars was one factor to my success. I would never even have considered a college education without funding.

After analyzing all the data for this question, it was obvious that every graduate desired a degree in elementary education. Support and encouragement from immediate families was the key factor to their success in the distance education program. Other

support-related categories included their friends and faculty members from Rocky Mountain College and Fort Peck Community College. Funding sources emerged in the analysis of data as another success factor for eight of the American Indian graduates.

Interview Question 4

4. What factors made it difficult for you to succeed in the Rocky Mountain College Distance Education Program?

Many of the difficulties experienced by the graduates have been discussed in responses to previous interview questions. However, when discrimination is an issue, the ability of a student to learn is more complex. A category of discrimination emerged in the data analysis as the American Indian graduates responded to factors that made it difficult for them to succeed in the Rocky Mountain College Distance Education Program. The graduates also made it clear that the difficulties they experienced were primarily related to poor communication with faculty and advisors in the distance education courses. One graduate's response describes how communication was inhibited as she reluctantly shared her story.

Graduate 5: What made distance education difficult? I am still trying to answer that question. I graduated last year. I could not understand racial prejudice in some of the Rocky students in my senior year. I belong to the Assiniboiné Tribe. Last year it was difficult for me to give a presentation about Indian Education and Culture. Rocky students would make comments during my presentation that really hurt. I found it difficult on one occasion when a Rocky student thought his microphone was turned off and he said some profane words about our culture and our beliefs. It was painful. The

professor did not hear what he said, but we all did at the Fort Peck site. It was brought to the attention of Rocky Mountain College and the Academic Dean called a meeting to discuss the situation. We did get an apology, but it strained the relationship of that particular class that semester. I would answer your question by saying it was difficult going to class and seeing that student and knowing he felt that way about us. I have often wondered what kind of teacher he was now that he graduated from teacher training at Rocky. Did he learn anything or do you think he still is prejudiced against Indians in his classroom? All it takes is body language and no words for a child to feel discriminated against because of something. It does not even have to be about their culture....it can be even the way they look. I learned all about that in Educational Psychology.

Three other graduates revealed similar factors that made it difficult for them to succeed in the distance education program.

Graduate 9: I have had so many failures. I brought that attitude into class with me every day. I was one of the oldest students in the class and it was scary for me to take classes. I belong to the Sioux Tribe on the Fort Peck Reservation. I heard stories of how people in Billings are prejudiced against our tribe. I did not know what to expect. All my kids thought I was so brave, but they never knew how scared I was to take tests and give oral presentations in class. I would take walks in the woods or go fishing or hunting to get my mind off of being so scared. I read an article about an 80-year old African American guy who graduated from college somewhere in the east. I thought to myself, "If he could do it, I can too." Race and color should not be what makes a person. Fear of failure is a stressful thing. I don't worry about what they think of me (American Indian)

in Billings anymore. Getting my teaching degree has helped. I still don't have a teaching job, but that is okay.

Graduate 3: Many of us get help from the U.S. government. That really upsets some non-Indian folks. I got an e-mail once from someone at Rocky that said they had to pay for their education and I was a free-loader because I was getting my education paid for by the government. I did not even know the student. That put a damper on my feelings. I know others think that way but don't say (or write) anything.

Graduate 12: I never in a million years expected a professor to be discriminatory. Three of my friends quit and enrolled somewhere else because of his comments in class. It would have been a good story for the program "60 Minutes" on TV. Everyone on campus heard about it. It was a problem for a while when Fort Peck and other students were quitting. I didn't quit because my family told me to put my head up and believe in myself and my heritage. The students who did quit made a statement, but I think it was soon forgotten.

The primary role of the student is to learn. Under the best circumstances, this challenging task requires motivation, planning, and the ability to analyze and apply the information being taught. In a distance education setting, the process of student learning is more complex (Schuemer, 1993). Two graduates stated the challenge experienced with poor communication.

Graduate 10: It was difficult for me to get confusing assignments from the instructors who couldn't seem to communicate with us very well. The assignments and work I had to do for the classes was difficult when the professors were not clear with the

directions. Many times it was explained how to do an assignment in the last few minutes of class and there was no time to ask a question before the camera was shut off. One time I worked the weekend on an assignment according to the directions and was told on Monday by the instructor that I did the work all wrong. I left three messages the week before hoping for a call back because the assignment was not clear. I was not the only one who did it wrong. It was difficult to have to do it all over again. Another difficulty in that class was never getting any feedback from the professor on our completed assignments. It was mainly a lecture class without any input from our end. No interaction. I would have liked some group discussion instead of only lectures. It would have been nice to have better communication in writing—like in our syllabus or handouts.

Graduate 9 stated: I learned to get everything down in writing. One instructor would tell me one thing in the program and another instructor would tell me to do something different. I was so confused by that. The lack of communication was seriously bad. One day I drove to Billings and talked to the Academic Dean at Rocky because I did not know what was going on. I was so stressed out. I figured out that the professors didn't know what was going on and they all had different ideas on what to do. The Dean wasn't very helpful and did not seem to understand why I was upset. Finally, the registrar straightened everything out for me. I was advised to take classes that would not give me the credits I needed for graduation. The registrar changed my classes, but I would have taken a semester of the wrong classes. It was a mess. I learned later that the advisor had so many students to advise that it was difficult to keep things straight.

The graduates identified what they needed in the distance education learning environment and what they experienced. They needed a more open, flexible and compassionate environment. The graduates experienced anger in response to the discriminatory practices of the faculty and RMC students. Some of the graduates experienced these behaviors as children or teenagers and carried this anger into their higher education experience in the distance program. Fear and anxiety were emotional responses discussed by the graduates. Fear was directed towards math, tests and failure.

Interview Question 5

5. How did you deal with the difficulties and problems?

Self-determination and persistence helped the American Indian graduates to succeed in higher education and overcome difficulties. The coping strategies that helped the graduates succeed were also used to deal with their difficult situations in distance education courses. All of the graduates set a goal for themselves to become elementary education teachers. Communication with family members was a strategy utilized to deal with the difficulties. One graduate said, "I would need to talk to my Mom almost every week. She listened to my problems and gave me good advice. I could deal with the course load and the instructors so much better after our talks." Communication with family was a strategy that helped nine graduates deal with difficult situations.

Community social events allowed the graduates to express their feelings and emotions while interacting with each other. A graduate said, "Participating and dancing in pow wows revitalized me and somehow took my troubles away." Another graduate said, "I join my family on the res for many of the ceremonies. The spiritual feeling

always helps me work out a problem. I would ask for strength to get through the semester.” One graduate shared this comment about how a community service was helpful.

Graduate 12: I belong to the group called Adult Children of Alcoholics. The people in that group helped me deal with the problems. My Dad and Grandpa were alcoholics. They would drink to solve their problems. I was always afraid that I would inherit that characteristic. I hated to see my Dad drunk. I always knew it was the wrong way to deal with problems. There were times I was so upset and frustrated too.

Faculty members who supported the graduates in and out of the distance classes provided an environment where the graduates could adapt their learning styles to the course material. However, some faculty were not as supportive. The graduates who experienced faculty discrimination dealt with the discriminatory behavior by “being strong” and “just getting through it” by avoiding the situation. Whenever racial or prejudice situations were an issue for other students in class, they were aggressive and would face up to the discrimination and try to make a statement to support their culture and beliefs. Assertiveness helped this graduate in a methods class.

Graduate 10: It was a great class. The professor seemed to understand our needs. One class she had a guest speaker. I knew the speaker—she was the American Indian Director of Student Services at Rocky. After the talk, the professor opened it up for discussion. One of the Rocky students asked why we had to always listen to speakers talk about Native Americans. I listened to that student go on and on about already knowing everything about the Indian culture. I was getting more upset by the minute. I

did have some assertive training when I was on the school board and it kicked in that day. I just had to speak up. The professor let me talk about the importance of learning about other cultures—especially the Native American culture. I dealt with that situation in a pretty assertive way.

Technology plays a key role in the delivery of distance education. A strategy for dealing with the difficulties encountered by many of the graduates was expressed in the following statement. “I couldn’t do a thing about it. There were so many technical difficulties that I sorta gave up and just blew the problems off.”

In summarizing the ways the graduates dealt with difficulties and problems, their self-determination, a focused goal and family support clearly helped them complete the course work and finally complete the program. One graduate revealed that the problems actually made her “stronger.” As a group, the graduates did not allow the problems to control their ability to succeed.

Interview Question 6

6. What recommendations or suggestions for administrators and teachers do you have to improve the distance education program at Rocky Mountain College?

Graduates of the program focused on the need for administrators to implement a learning environment that was more responsive to American Indian students. Their recommendations were ideas and hopes for future changes in the distance education program at Rocky Mountain College for other American Indian students.

The graduates recommended that registration for courses be less complicated. One graduate asked, “Could they [administrators] set up a class schedule for all the

required courses that are needed to register in the program?" Another graduate suggested hiring more advisors to meet with students with questions about their class schedules.

Graduate 11: It was a hassle to get registered and make sure I had all the right classes I needed for graduation. A student last year could not graduate because he was three credits short. No one advised him. That was terrible. He lost a teaching job. Maybe Rocky needs to hire an advisor for the distance class.

Graduate 6: If I had a counselor to discuss my learning needs in the distance program, I know I would have enjoyed the classes a lot more. No one at Rocky knows us. I recommend hiring a special counselor to hear our concerns and also be there when we need to discuss our learning situations.

Several of the graduates recommended a state conference on diversity. The conference would be organized by the distance education graduates and the administrators of Rocky Mountain College. American Indian educators were recommended as the keynote speakers. Hands-on workshops would be open to faculty, students and college administrators.

The appointment of an American Indian faculty person to teach a portion of the distance education courses and provide help to students with special needs was recommended by ten of the American Indian graduates. The basis behind this recommendation was to create harmony, minimize stress and to create a more conducive learning environment that would support success in the distance education program.

The graduates learned about the principles of andragogy in their elementary education courses. Andragogy is defined as the art and science of helping adults learn.

Eight graduates recommended the use of listening, observing and doing more hands-on activities in the planning of distance elementary education courses. One graduate commented about putting theory into practice.

Graduate 9: If there is only one thing I could change for the students who are planning to enroll in the distance program is to change the way the classes are taught. Too many lectures. I get writer's cramp just taking so many notes. I know they would enjoy the distance classes more if they were involved and interacted with other students. We learn all about John Dewey, Jean Piaget and Maslow and their ideas about learning and education. It is so surprising that the professors can't put theory into practice. They just don't seem to be able to get away from an entire class of lecture. I recommend changes in teaching—less lecture and more group discussion and group projects.

Ten graduates recommended that the college faculty become more familiar with adult education and the trends on teaching empowerment instead of controlling the classroom environment. Eight graduates recommended that teachers encourage students to exert control over their learning process. They agreed that this type of behavior from a teacher trainer would prepare future teachers to face the challenges of working with children in the elementary grades.

Graduate 9: I really think the Rocky teachers need to be role models to future teachers of children. If they would help us realize the challenges of teaching by letting us do more experimenting in class to try out teaching techniques, then we wouldn't be so surprised when we get our own classrooms. Even if we goofed up and made mistakes, it

would be better for us to learn that way instead of the Rocky teachers just telling us what to do.

Graduate 2: Sometimes I felt like a little kid instead of an adult in the distance classes. It was weird. I had to remind myself that I was an adult going to college. It is so frustrating when professors talk down to students.

In summary, the recommendations related to the problems that the graduates experienced in the distance education program focused on their need to develop an atmosphere that was responsive to their learning and cultural needs. Connecting the classroom theory to clinical and real life situations would help the graduates understand and retain material better. The goal of these recommendations was to create a culturally relevant learning environment that retains high standards and supports successful completion of the distance education program by the American Indians.

The Kolb Learning Style Inventory Results

The American Indian graduates in this study scored high on concrete experience and active experimentation in their learning preferences on the Kolb Learning Style Inventory. By using the two combinations scales on the inventory, AC-CE and AE-RO, the scores were recorded. These scores indicated the degree to which the students emphasized abstractness over concreteness and action over reflection. The scoring procedures from the two sections are used to determine the student's learning model. The different ways are classified as:

(AE) = Active experimentation (doing)

(CE) = Concrete experience (feeling or sensing)

(AC) = Abstract conceptualization (thinking)

(RO) = Reflective observation (watching)

On the scoring section of the Kolb Learning Style Inventory, two lines intersect each other and form four quadrants. These quadrants form the four personal learning styles. This approach to learning emphasizes that individuals perceive and process information in different ways. The learning styles theory is based on research demonstrating that different individuals have a tendency to both perceive and process information differently. These quadrants form the following personal learning style preferences: Diverger, Assimilator, Converger and Accommodator.

The accommodator was indicated by four American Indian graduates as their learning style preference. Accommodators (activists) like to learn using concrete experience and active experience such as simulations, case study and homework. They tell themselves, "I'm game for anything." These are the graduates who liked the distance education courses that had a strong emphasis on practical applications. They were less interested in the course that had an emphasis on theory. Their strengths included being open to new experiences as discussed in the interviews.

The converger was indicated by four American Indian graduates as their preferred learning style. Convergers (pragmatists) like to learn using abstract conceptualization and active experimentation such as field work, clinical work, and observations. They ask, "How can I apply this in practice?" These are the graduates who preferred distance education courses with a strong emphasis on practical applications and problem solving.

The diverger was indicated by three of the American Indian graduates as their preferred learning style. Divergers (reflectors) like to learn using reflective observation and concrete experience such as logs, journals, and brainstorming. They like to think about the subject. Divergers find verbal explanation useful. The graduates who responded to this learning style like being with people.

The assimilator was indicated by one American Indian graduate as their preferred learning style. Assimilators (theorists) like to learn using abstract conceptualization and reflective observation such as lectures, papers, and analogies. They ask such questions as, "How does this relate to that?" This student preferred lectures and distance coursework that had a strong emphasis on theory (see Appendix D).

The following table presents the inventory results.

Results of the Kolb Learning Style Inventory

Students	Learning Model	Learning Style Dimension
1	CE AE	Accommodator
2	CE RO	Diverger
3	CE AE	Accommodator
4	CE RO	Diverger
5	AC AE	Converger
6	AC AE	Converger
7	AC RO	Assimilator
8	CE AE	Accommodator
9	CE AE	Accommodator
10	AC AE	Converger
11	CE RO	Diverger
12	AC AE	Converger

The results are based on the way the American Indian students rated themselves. The learning style dimension gives information on the relative strengths within the individual learner, not in relation to others. Understanding one's preferred learning style has two benefits. It helps the American Indian student understand areas of weakness and helps them realize their strengths.

Results

The American Indian graduates who took part in this study answered six open-ended interview questions and indicated their learning style preference on the Kolb Learning Style Inventory. The interview responses and the inventory results yielded findings for the three key research questions in this study. Strauss and Corbin (1990) stated that ideally the research report will be a rich, tightly woven account that closely approximates the reality it represents. The following answers to the three research questions are the results from the data analysis of the interviews and the Kolb Learning Style Inventory.

Research Question 1

1. What are the factors that had an impact on successful completion for the American Indian student in the elementary distance education courses at Rocky Mountain College?

Key motivating factors contributed to the success of 12 American Indian students who graduated from the distance education program. Motivating factors that had an impact on successful completion were self-determination to reach their goal of becoming

a teacher in a secure profession and a strong desire to teach at the elementary level.

While motivating factors impacted successful completion, perceptive and insightful faculty who responded to their learning needs was also considered significant to the graduates' success. From the interview responses, the researcher found that even though some faculty may not have been as supportive, those who were had considerable impact on the American Indian student.

Data from the interviews revealed that the support, love and understanding from their immediate families and other related support systems had an enormous impact on successful completion. The funding sources that helped cover the distance education costs of tuition and required textbooks also impacted their success.

Data from the Kolb Learning Style Inventory has been used to help learners and teachers understand the learning process and preference for different kinds of education experiences. After taking the Kolb Learning Style Inventory in the researcher's class, some of the students made a connection with American Indian traditions and their educational learning process. They spoke of their American Indian culture and the characteristic process of learning within their family structure. Their common practice of learning outside the classroom consisted of listening, observing and doing with a hands-on approach. The model of Cox and Ramirez (1981) suggests that cultural values influence socialization practices which in turn influence the way students prefer to learn. These authors believe that the general teaching style of family, along with the task, situation, and materials, is of basic importance in determining a student's approach to learning or learning preference. David Kolb (1985) described two major differences in

how people learn: how they perceive and how they process information.

Conti and Fellenz (1988) conducted a study at seven tribal colleges in Montana of the learning styles of American Indian students and teaching styles of faculty. This study found that there was no single distinct learning style among the American Indians in the study. However, when teaching style was analyzed in the same study, it was found that consistency in instructional delivery produced the best results.

Kramer-Schroeder (1996) points out that the typical student learning style profile is changing on campuses today. There is a variation in the range of learning style preferences to be considered. McCarthy (1991) thinks that students feel good about themselves when taught in their styles, but she still believes it is necessary for students to learn how to use the nondominant forms as well. Through mismatching, educators can help students to increase their repertoire of learning strategies according to McCarthy. She believes that most schools teach in the abstract mode, but students would learn more effectively if they had the opportunity to learn in all of the four ways described by Kolb.

According to Cummins and Sayers (1995), the key is the availability of distance education that is culturally sensitive and understands the individual as part of the cultural community, recognizing that distance can be both cultural and geographic. In part, Evans (1994) and James and Gardner (1995) believe this is because different students have different learning styles, different home lives, and different reasons for choosing distance learning to further their education.

The graduates openly shared perceptions of their educational experiences in the distance education program at RMC. They recognized that the educational process

creates a need for interaction not only in the use of technology, but between students, faculty and Rocky Mountain College.

Research Question 2

2. What are the factors that made completion difficult?

Unfortunately, the graduates recalled more negative experiences than positive experiences. Distance students and their instructors often had little in common in terms of background and experiences. Without face-to-face contact, these distance students often felt ill at ease with the instructor and with the learning situation. The distance courses with supportive faculty members were described as positive influences by only four of the American Indian graduates, whereas eight students described unsupportive faculty as a negative influence.

To succeed in the distance education program, the American Indian graduates had to bridge the gap between their culture and the dominant Euro-Anglo culture of Rocky Mountain College. Several of them had difficulty bridging that gap and adjusting to the lack of faculty awareness, acceptance and respect of their culture. The American Indian graduates had higher expectations of being treated like adult learners.

Some faculty and students lacked understanding of the Indian culture. Because of their lack of knowledge and sensitivity, uncomfortable and discriminating situations were part of the distance learning environment. This finding was a key factor making completion difficult for the American Indian graduates. They dealt with the difficult situations by focusing on their goals. Self-determination and the encouragement from their support systems helped them complete the distance program.

During the interview process, several of the American Indian graduates commented on the difficulty they experienced with lectures being the teaching strategy most used in the distance program at Rocky Mountain College. Research strongly supports the need for interaction in distance education programs. Programs need to include methods for receiving feedback, providing help, and creating a sense of belonging. Kolb (1985) states that the closer a learning situation resembles a preferred learning style, the more students achieve. He stresses the benefits of matching the student to an appropriate learning environment. Eight graduates in this study realized the need for the distance faculty to adapt teaching styles taking into consideration the needs and expectations of a diverse group of students.

Nine of the American Indian graduates noted in the interviews that it was a huge task to rely on the technical linkages to bridge the gap separating class participants. They enjoyed personally meeting the students at the Rocky Mountain College distant site. However, they had few opportunities to arrange visits with them or with the faculty. Ten graduates experienced difficulty dealing with the delivery system of the courses when the equipment would not function properly. Technical support staff and facilitators are necessary in distance programs when problems occur and technology fails. Frustration was felt by eight of the American Indian graduates when materials necessary for the course did not arrive at the Fort Peck Community College distance site.

Without exception, an effective distance program incorporates careful planning with a focused understanding of distance course requirements and student needs. A successful distance education program depends on the consistent efforts of faculty,

students, facilitators, support staff, and administrators. The American Indian graduates in this study indicated that many of the teaching techniques used in traditional classroom settings did not translate into the distance education environment making completion of the distance program difficult.

Adams (1992) stated, "All roads to multiculture classrooms lead back to the college teacher" (p16). She believes that some faculty who teach in traditional college environments are unaware of the discord it creates for other social groups. That lack of awareness, Adams noted, creates discomfort and struggles for minority groups. She stated:

First, a variable flexible repertoire of teaching strategies enables college teachers to match the cultural styles of students from targeted social groups in their college classes. Second, because such teaching is effective teaching, it can match individual learning differences among traditional students as well. Third, a college teacher's repertoire of flexible and variable teaching strategies exemplifies for all of his or her students the multi-cultural value of reciprocity rather than the mono-cultural expectation of acculturation.....A mixed repertoire enables all students in a college classroom to experience an environment that equalizes cultural styles rather than requires minority cultural styles to give way and acculturate or adapt to the dominant mode, maintaining thereby the cultural edge of students from the dominant culture. An environment of cultural equality teaches from strength to strength and facilitates the development of several cultural styles and skills not in the repertoire of any one learner...Finally, active engagement in collaborative learning enterprises fosters student-to-student and student-to-teacher experiences across cultural differences, establishing a better basis for mutual understanding and trust (p. 14-15).

Research Question 3

3. What recommendations do American Indian graduates in the distance elementary education program at Rocky Mountain College have for higher education administrators and teachers?

Ten of the American Indian graduates recommended that the teachers at Rocky Mountain College develop an awareness of cultural diversity in the distance education program. A conference on cultural diversity organized by the Rocky Mountain College administrators and graduates of the distance education program was recommended. The state-wide conference would welcome faculty, students and administrators to a unique hands-on experience in Billings, Montana. It was recommended that from this conference, a networking system with American Indian educators and other graduates who successfully completed a distance education program would become a reality. The new program would provide additional cultural diversity training for distance educators.

It was recommended that the faculty at Rocky Mountain College teach using the principles of andragogy in the distance education program. Andragogy was defined in this study as the art and science of helping adults learn. An andragogic model would (1) let learners know why something is important to learn, (2) show learners how to direct themselves through information, and (3) relate topics to the learner's experiences. A learner-focused education would motivate future distance learners. If the andragogy model was adopted for the distance education program, the instructors who only used a lecture format in the distance learning courses would also use a variety of teaching strategies that would fit the learning styles of their distance students. It has been shown that adjusting teaching materials to meet the needs of a variety of learning styles benefits all students (Agogino I Hsi 1995). The instructors' role of a facilitator or resource person rather than lecturer would focus more on the process of what is being taught.

A key to getting (and keeping) students actively involved in learning lies in understanding learning style preferences, which can positively influence a student's performance (Birkey & Rodman 1995; Hartman 1995). In the andragogic model, students could become aware of their learning style preferences. It has also been shown that adjusting teaching materials to meet the needs of a variety of learning styles benefits all students (Agogino I Hsi 1995). Kearsley (1996) noted that distance teachers could challenge the students to meet their own educational goals and expectations. Strategies such as case studies, role playing, simulations and self-evaluations are the most useful according to Kearsley. The Kolb Learning Style Inventory (Kolb, D. A 1984) is based on John Dewey's emphasis on the need for learning to be grounded in experience and Jean Piaget's theory on intelligence as the result of the interaction of the person and the environment.

It was recommended that Rocky Mountain College needs to create a welcoming learning environment for all students. A recommendation by the American Indian students for the administration to hire an American Indian faculty person to teach a portion of the distance education courses was made by the American Indian graduates of this program. The new faculty person would establish a support network that would provide services and programs that would assist American Indian students and support success in the distance education program.

Summary

The findings from this study reinforce the importance of investigating the key factors that enabled American Indian graduates to be successful in the distance education program at Rocky Mountain College. It was equally important to investigate the key factors that interfered with their success and made completion difficult in the program.

The researcher discovered, explored and learned through semi-structured interviews. Graduates who experienced success had self-determination to become an elementary education teacher. They had support from immediate family and other related support systems. Funding sources helped the graduates to obtain success. Insightful, perceptive and caring instructors made a positive impact on the American Indian graduates. The researcher learned that the graduates became aware of their learning style preferences after being introduced to the Kolb Learning Style Inventory. The graduates with teaching positions felt they were employed in a secure profession.

The researcher also learned about the factors that caused difficulty for the American Indian graduates. Technical problems related to the delivery of the distance courses was frustrating and difficult. Examples of RMC instructors who lacked understanding of teaching and learning styles caused difficulty for the graduates. Discrimination was evident as the graduates shared their stories with the researcher. Dealing with the discrimination was difficult for the American Indian graduates. Graduates who experienced success dealt with the problems and stated the importance of just getting through the program.

CHAPTER 5

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

Introduction

The American education system is challenged with providing additional educational opportunities for students in higher education. Colleges and universities are answering the challenge by developing distance education programs. Distance education is becoming a more vital part of higher education. These programs can provide adults with a college education. According to Fitzpatrick (2001), distance education reaches a broader student audience, better addresses student needs, saves money, and more importantly, uses the principles of modern learning pedagogy. Public and political interest in distance education is especially high in geographic regions where the student population is widely distributed. Educators often ask if distance students learn as much as students attending traditional classrooms when the student is separated from the teacher by physical distance as technology (voice, video, data, print). Effective distance education begins with a focused understanding of course requirements and student needs. Research comparing distance education to traditional education indicates that teaching at a distance can be as effective as traditional teaching when the technologies are used appropriately (Moore, 1991).

The American Indian students in this study completed a two-year degree at their home campus, Fort Peck Community College, and then enrolled in higher level education courses from Rocky Mountain College through the distance education program using a two-way audio/video interactive VisionNet system. The education courses were taught by professors on the RMC campus. RMC required one semester or two summers of

classes (12 credits) on the RMC campus in Billings, Montana to graduate from the program. With the completion of all required distance education course work, the American Indian students graduated with a baccalaureate degree in elementary education from RMC.

Data for this research study was obtained from interviews and David Kolb's Learning Style Inventory. Six open-ended questions were asked of 12 American Indian graduates using a grounded theory approach. To measure learning style preferences, the Kolb Learning Style Inventory, a 12-item instrument, was introduced, administered, and scored in the researcher's elementary education classes.

Bridging the gap between their culture and the dominant Euro-American culture at RMC was difficult for the American Indian graduates. They had higher expectations of being treated like adult learners. The graduates recalled more negative than positive experiences with an unsupportive faculty in the distance program. Discrimination was an issue they had to deal with in and out of the distance classroom. The teaching styles of several faculty members did not take into consideration the needs and expectations of a diverse group of students. Frustration was felt by the American Indian graduates when technical difficulties with the VisionNet delivery system would not function properly. The problems with the interactive audio/visual delivery system was a concern to several of the graduates as they compared the traditional classroom setting with the distance learning setting. Some preferred the traditional classroom with the instructor present in the room. By overcoming obstacles and difficulties, the 12 American Indian graduates in this study were successful in completing the distance education program in elementary education. They all earned a baccalaureate degree from Rocky Mountain College.

The key components of success were self-determination to reach their personal goals, the ability to obtain a secure profession, family and other related support systems, and their own strong desire to teach a culturally relevant elementary curriculum. Funding

sources such as scholarships and tribal grants helped to cover tuition expenses and contributed to their success. The graduates became aware of their learning style preferences which in turn helped them create learning situations that would be effective to achieve success in the distance learning environment. Perceptive faculty and administrators who responded to their cultural and learning needs enabled success that resulted in their completion of the distance education program.

Conclusion

No set of characteristics in the demographic profile could identify special attributes that contributed to the success of the American Indian graduates. However, the researcher concluded from the findings of this study that there were key factors that supported successful completion by the graduates in the distance education program at RMC. One factor that was discovered was self-determination to reach a goal and become an elementary education teacher. It is clear from this study that the students who experienced success had family support and other related support systems in place during the time they were enrolled in college at their home campus, FPCC, and at RMC. Without a doubt, a key factor to success was the energy and empowerment from their immediate family members. Support from funding sources was a factor that helped the students who used the dollars for tuition, books and other college expenses. A key factor for their success in the program was the insightful, perceptive and caring distance instructors. The supportive instructors did not ignore human factors in favor of technology.

The American Indian graduates who experienced success were aware of their learning style preference and were able, at times, to adapt to the distance learning environment as adult learners. As adult learners, the American Indian graduates expected to be treated as adult learners by the administration and faculty at RMC. The researcher

learned that when this did not occur, the successful students were able to cope in assertive and passive ways with the difficult situations in order to complete the program and obtain their baccalaureate degree in elementary education.

A key factor that caused difficulty for several of the students was the technical problems connected with the delivery of the courses. Again, it was concluded that the successful students who completed the program dealt with the unpredictable situations created by the new technology by staying focused on their personal goals. Several of the American Indian students revealed in their interviews with the researcher that discrimination in the distance program was difficult for them and created frustration and thoughts of quitting the program. It was concluded by the researcher that the successful students who completed the distance program were able to deal with discrimination by utilizing coping skills or getting reinforcement from their immediate family.

Recommendations for Action

The following recommendations are made for administration and faculty at Rocky Mountain College.

Recommendations to the Administration

1. It is recommended that the President of RMC revisit the written mission statement that speaks of the value of diversity and the interrelatedness of knowledge. The faculty needs to be engaged in a discussion about the mission statement and how to fulfill this mission.

2. The administration should consider a budget for diversity conferences, multicultural inservice activities, and other institutional programs on cultural awareness that could be available for all departments on campus. A model institution for building a better future for a diverse group of students could become a reality when staff, faculty, division chairs and Deans become more culturally aware.

3. It is recommended that the RMC administration investigate the most appropriate delivery system that would motivate and meet the needs of the American Indian students in terms of technology, teaching, and learning.

4. It is a recommendation that a budget for workshops and courses that would introduce faculty to adult learning principles and practices be adapted.

5. It is recommended that RMC investigate the feasibility of establishing an American Indian Advisory Committee. The advisory members could include American Indian students and graduates, RMC and FPCC faculty, the Director of Indian Services, staff counselors, advisors, and Indian community people.

Recommendations to the RMC Faculty

Teaching at a distance is demanding. The challenges to meet the needs of American Indian students who are unable to attend on-campus classes, to link them with other students from different social, cultural, and economic backgrounds, and to understand their learning style preferences can be overwhelming for the RMC distance educators.

1. It is recommended that faculty at RMC engage in a discussion on the principles and practices of working with adult learners. The discussion should consider how these principles and practices might be utilized when teaching distance education.

2. The distance education faculty should consider modifying their teaching styles to take into consideration the needs and expectations of a diverse group of learners.

3. Faculty working with students at a distance site might consider alternate ways to communicate with the American Indian students.

4. It is recommended that while keeping the needs of a diverse group of learners in mind, distance faculty continue to support high expectations of the students.

Recommendations for Additional Research

This study adds to the growing body of research regarding distance education in higher education. However, additional research on distance education still needs to be done to fully understand the situation.

1. Additional research is recommended to examine ways that may reduce some of the barriers of stereotyping and racism and create a more culturally sensitive distance education environment.
2. The researcher recommends additional research on how American Indian students learn via technology.
3. Further research on the relationship of learning styles and distance education needs to be done.
4. Research using other learning style instruments might be done to further the understanding of how this information impacts teaching and learning in distance education.
5. Additional research that focuses on those participants who leave a distance education program needs to be done.
6. This study or a similar study needs to be replicated using a larger number of American Indian students.

Creating a Model

The purpose of this study was to identify key factors that had a positive impact on successful completion and those that made completion difficult for American Indian graduates in the Elementary Education Distance Education Program at RMC. Identification of these key factors allowed the researcher to make recommendations to RMC that support the completion rate of American Indian students enrolled in the program. The researcher discovered, explored, and learned about the participants' world

and the interacting influences of personal, social and cultural characteristics without imposing cultural biases.

A model emerged from the data analysis utilizing the grounded theory approach. The model represents the enablers the American Indian graduates discussed during their interviews. The model was created from their perceptions. It gives direction to the recommendations made to the distance education program and to the administrators at RMC. The American Indian student is central to this model based on the data collected about their educational experiences as a student in the distance education program.

The model focuses on holistic learning needs and learning style preferences that support the successful completion of American Indian students enrolled in the distance education program. In the model, the distance educator interacts with the American Indian students in the distance classroom as a teacher and as an advisor. The American Indian student interacts with the distance educator as an adult learner to accomplish successful completion of the distance education program.

In the model, based on the understanding of andragogy, distance educators need to adjust their teaching styles to meet the needs of the students. The distance educators may need to find new ways to vary their instructional techniques, methods and media when using interactive distance education to teach American Indian students. The 12 American Indian graduates in this study identified the importance of being involved in curriculum planning. They wanted the distance educators to listen to them and treat them with respect. Application of theory to real world situations support their learning style preferences. Distance educators need to treat the learning/teaching transaction as the mutual responsibility of learners and teachers.

The American Indian adult learners prefer application of their learning to the real world. Teaching strategies need to incorporate more experimental situations that demonstrate theory application and require group discussions and problem solving. The

model that emerged from this study fits with the principles of andragogy. The distance educators who used only lecture and textbook readings made learning difficult for some of the American Indian students. Cooperative groups, small discussion groups, and study groups are strategies that can be encouraged by the distance educator. In the elementary education courses, the distance educator can present general principles underlying a skill using a discovery mode of teaching, and then have the American Indian students problem solve on how to perform the skill. The distance educator can then demonstrate approaches while the students critique the process and the outcome of each performance.

Can Rocky Mountain College be a model institution for building a better future for the American Indian elementary education students enrolled in the distance education program? The College claims a mission statement that values diversity and the interrelatedness of knowledge. The mission statement speaks of understanding the history and environment of the region and also the history and environment of the larger world. Rocky Mountain College must then, as an institution, provide well organized programs to implement that goal. The mission statement needs to be highly supportive of American Indian students. To become responsive to American Indian student needs in the classroom, the distance educator must first become aware of different cultures. Lack of understanding of these differences puts the students in uncomfortable situations. In the advising role, as in the teaching role, learning about a student's culture requires talking with the student. With respect for the American Indian student, advising needs to produce accurate information on class schedules and graduation requirements. Advising an American Indian student cannot be a one-way conversation dominated by the distance educator telling the student what to do. Distance educators need to encourage American Indian students to communicate their intuitions and feelings.

The key to effective distance education is focusing on the learners, the requirements of the content, and the constraints faced by the distance educator. Without

exception, effective distance education programs begin with careful planning and a focused understanding of course requirements and student needs as described in the model created from this study. Appropriate technology can only be selected once these elements are understood in detail. Successful distance education programs rely on the consistent and integrated efforts of students, faculty, facilitators, support staff, and administrators. Educators must remain focused on institutional outcomes. The findings from this study reinforce the perception that the issues of completion of a college degree by the American Indian students in a distance education program are complex. There is not a guarantee that this model will generate success for American Indian students in the distance education program at RMC. This study can merely serve as a foundation and guide for additional research on American Indians enrolled in distance education programs.

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APPENDICES

APPENDIX A.

INTERVIEW AGREEMENT FORM TO STUDENTS

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I am a distance education professor at Rocky Mountain College in the elementary education program. I am also a doctoral student at Montana State University –Bozeman in the Department of Education. I am researching factors that have positive impacts on completion of the distance education program, and factors that hindered American Indian students in their distance education experiences at Rocky Mountain College. This research is my dissertation.

I would like to invite you to participate in my research. Your responses will be valuable to my study. If you agree to participate, I will ask you six questions in an interview about your experiences in the distance education program at Rocky Mountain College. I will also ask you some general information questions at the beginning of the interview. The entire interview will take about 45 minutes to 1 hour. I will take notes during the interview and tape record our conversation.

The information from the interview will be coded and remain confidential. Your name will not be identified at any time in this study. The tape recordings will be erased after they are transcribed. If you agree to participate in this study, your signature indicates that you have read the information provided on this form.

If you have any questions, you can contact me at:

Joyce Folgert

2805 Sunnyview Lane

Billings, Montana 54501

Telephone (406) 652-6820

I understand that my participation in this study is voluntary and I can end the interview at any time without a reason.

Signature of the Participant _____ Date _____

APPENDIX B
INTERVIEW QUESTIONS

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INTERVIEW QUESTIONS

Date _____ Location _____

1. What motivated you to get a degree in elementary education to become a teacher?
2. Describe your educational experience in the Distance Education Program at Rocky Mountain College.
3. What factors helped you to succeed in the Distance Education Program at Rocky Mountain College?
4. What factors made it difficult for you to succeed in the Rocky Mountain Distance Education Program?
5. How did you deal with the difficulties and problems?
6. What recommendations or suggestions for administrators and teachers do you have to improve the Distance Education Program at Rocky Mountain College?

APPENDIX C
DEMOGRAPHIC QUESTIONS

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DEMOGRAPHIC QUESTIONS

Birthplace _____

Gender F _____ M _____

Married _____ Single _____ Divorced _____

Dependents 1 2 3 4 5 6 7 8 What are their ages? _____

Age _____

High school attended _____

Colleges attended _____

Number of years in college _____

Your age when you started the distance education program _____

Did you stop out of the educational process yes _____ no _____

If you did – for what reason?

If employed, what type of work do you do?

Do you consider yourself a traditional or a non-traditional American Indian?

Explain.

Any other information pertinent to this study?

APPENDIX D
KOLB LEARNING STYLE INVENTORY

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The following descriptions of the four learning styles are extracted from Kolb et al (1983).

The *convergent* learning style relies primarily on the dominant learning abilities of abstract conceptualization and active experimentation. The greatest strength of this approach lies in problem solving, decision making, and the practical application of ideas. We have called this learning style the 'converger' because a person with this style seems to do best in such situations as conventional intelligence tests where there is a single correct answer or solution to a question or problem. In this learning style, knowledge is organized in such a way that, through hypothetical-deductive reasoning, it can be focused on specific problems. Liam Hudson's research on individuals with this style of learning shows that convergent persons are controlled in their expression of emotion. They prefer dealing with technical tasks and problems rather than with social and interpersonal issues. Convergers often have specialized in the physical sciences. This learning style is characteristic of many engineers and technical specialists.

The *divergent* learning style has the opposite strengths of the convergent style, emphasizing concrete experience and reflective observation. The greatest strength of this orientation lies in imaginative ability and awareness of meaning and values. The primary adaptive ability in this style is to view concrete situations from many perspectives and to organize many relationships into a meaningful 'Gestalt'. The emphasis in this orientation is on adaptation by observation rather than by action. This style is called 'diverger' because a person of this type performs better in situations that call for generation of alternative ideas and implications such as a 'brainstorming' idea session. Persons oriented toward divergence are interested in people and tend to be imaginative and feeling oriented. Divergers have broad cultural interests and tend to specialize in the arts. This style is characteristic of individuals from humanities and liberal arts backgrounds. Counsellors, organization development specialists, and personnel managers tend to be characterized by this learning style.

In *assimilation*, the dominant learning abilities are abstract conceptualization and reflective observation. The greatest strength of this orientation lies in inductive reasoning, in the ability to create theoretical models, and in assimilating disparate observations into an integrated explanation. As in convergence, this orientation is less focused on people and more concerned with ideas and abstract concepts. Ideas, however, are judged less in this orientation by their practical value. Here it is more important that the theory be logically sound and precise. This learning style is more characteristic of individuals in the basic sciences and mathematics rather than the applied sciences. In organizations, persons with this learning style are found most often in the research and planning departments.

The *accommodative* learning style has the opposite strengths of assimilation, emphasizing concrete experience and active experimentation. The greatest strength of this orientation lies in doing things, in carrying out plans and tasks, and in getting involved in new experiences. The adaptive emphasis of this orientation is on opportunity seeking, risk taking, and action. This style is called 'accommodation' because it is best suited for those situations in which one must adapt oneself to changing immediate circumstances. In situations where the theory or plans do not fit the facts, those with an accommodative style will most likely discard the plan or theory. (With the opposite learning style, assimilation, one would be more likely to disregard or re-examine the facts.) People with an accommodative orientation tend to solve problems in an intuitive trial and error manner, relying on other people for information rather than on their own analytic ability. Individuals with accommodative learning styles are at ease with people but are sometimes seen as impatient and 'pushy'. This person's educational background is often in technical or practical fields such as business. In organizations, people with this learning style are found in 'action-oriented' jobs, often in marketing or sales.

Kolb's LEARNING STYLES INVENTORY

This questionnaire is designed to identify how you learn, according to Kolb's Learning Styles Inventory.

Instructions:

There are nine sets of four descriptions listed in the inventory. Rank the words in each row (across the page) from '4' (most like you) to '1' (least like you). Do not spend too much time agonising over the answers. Each word must be ranked, and each must be given one only of the numbers 1, 2, 3, 4. Do not have ties.

eg. 2 happy 4 fast 3 angry 1 careful

NOW, RANK THESE ACROSS → →

COLUMN 1	COLUMN 2	COLUMN 3	COLUMN 4
Row 1. ☐ discriminating	☐ tentative	☐ involved	☐ practical
Row 2. ☐ receptive	☐ relevant	☐ analytical	☐ impartial
Row 3. ☐ feeling	☐ watching	☐ thinking	☐ doing
Row 4. ☐ accepting	☐ risk taker	☐ evaluative	☐ aware
Row 5. ☐ intuitive	☐ productive	☐ logical	☐ questioning
Row 6. ☐ abstract	☐ observing	☐ concrete	☐ active
Row 7. ☐ present-oriented	☐ reflecting	☐ future-oriented	☐ pragmatic
Row 8. ☐ experience	☐ observation	☐ conceptualisation	☐ experimentation
Row 9. ☐ intense	☐ reserved	☐ rational	☐ responsible

To compute your results, first circle the scores as indicated below:

In	column 1	column 2	column 3	column 4
	Circle scores only in			
Rows:	2, 3, 4, 5, 7, 8	1, 3, 6, 7, 8, 9	2, 3, 4, 5, 8, 9	1, 3, 6, 7, 8, 9
Now add down the columns, only the scores circled.				
	+ + + + +	+ + + + +	+ + + + +	+ + + + +
CE =		RO =	AC =	AE =

The four columns represent four **learning modes**:

CONCRETE EXPERIENCE
REFLECTIVE OBSERVATION
ABSTRACT CONCEPTUALISATION
ACTIVE EXPERIMENTATION

EXAMPLE:

From question rows: 2, 3, 4, 5, 7, 8 add the mark you gave the word in column 1:

$$\underline{\hspace{1cm}} \quad (\text{row 2} \Rightarrow) 4 + (\text{row 3} \Rightarrow) 3 + (\text{row 4} \Rightarrow) 4 + (\text{row 5} \Rightarrow) 2 + (\text{row 7} \Rightarrow) 4 + (\text{row 8} \Rightarrow) 4$$

$$\text{CE} = 21$$

Now, subtract the totals for CE from AC and subtract the totals for RO from AE.
 You may get negative results. Use those to plot a position as shown below.

$$\text{AC } \underline{15} - \text{CE } \underline{21} = \underline{-6}$$

$$\text{AE } \underline{20} - \text{RO } \underline{9} = \underline{11}$$

Plot the results on the lines as shown, then join the dots together, as demonstrated:

Plot the result from column AC-CE on this line ↓

ACCOMODATOR

DIVERGER

- 12
- 10
- 8
- 6
- 4
- 2
- 1
zero
+ 1

plot the result from AE-RO along this line → + 3

+17 +15 +10 +9 +8 +7 +6 +5 +4 +3 +2 +1 zero -1 -2 -3 -4 -5 -6 -7 -11

X-----○ + 4

+ 5

+ 6

CONVERGER

+ 8

ASSIMILATOR

+10

+16

+18

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