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Students' Perceptions of Faculty Involvement at a New Mexico Community College: An Exploratory Study

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DISSERTATION
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DEDICATION

This dissertation is dedicated to Dr. Miquela C. Rivera (my wife) and Larissa M. Lozano (my daughter). They have been my inspiration, my strength, and so much more as I began, persisted, and succeeded in completing this academic journey.

Miquela, an accomplished professional, is a recognized clinical psychologist, writer, wife, and mother. She exhibits the best qualities of her profession, of her commitment as a wife, and her goodness and loving nature as a mother. She is respected by her colleagues and sought out as a speaker and consultant, yet she is always clear on the importance of God, family, and work in her life. She always made time for me to share ideas with her, help me clarify my writing, and persist during the many early mornings and long weekends when I, coffee cup in hand, wrote many papers and completed this major study.

Larissa, the apple of my eye, is on her way to becoming a professional. I am so proud of her! She is a bright, young, woman who is clear on who she is, what kind of work she wants to do in life, and is working to make her dream a reality. She never takes the easy way out, does not compromise her values, and has compassion for those less fortunate than herself. I love you, hija!

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ABSTRACT

This exploratory study examines students' perceptions of faculty involvement at a New Mexico community college and contributes to the existing literature and professional practice in post-secondary education. A web-based questionnaire was sent to 1,762 students resulting in a final analytic dataset of 136 respondents. The study provides evidence of the usefulness of Barnett's (2007, 2011) college experience questionnaire with a sample of students from a community college in New Mexico.

Findings do not reflect a statistically significant relationship between students' demographic characteristics (age, gender, race/ethnicity, or socio-economic status) and their perceptions of faculty involvement. Findings, however, do reflect that there are statistically significant relationships between students' perceptions of their relationships with the instructor and feeling valued in class, their sense of belonging to the college community, and self-confidence. Students' perceptions of the instructor's actions towards them are related to their sense of belonging and self-confidence. Feeling valued in class is positively associated with a sense of belonging to the college community.

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Chapter I

Introduction

There are many contributors to post-secondary student persistence, retention, and success in New Mexico including high school completion, K-12 course taking, K-12 student achievement, and teacher quality. According to a 2008 national report card on higher education (Winograd, 2009), when compared with the other forty-five states, New Mexico, Arizona, Louisiana, Mississippi, and Alabama received a state grade of "D." Only Alaska and Nevada received a lower grade than New Mexico's state grade of "D" (See Figure 1).

Figure 1

State Grades Based on Higher Education Persistence and Completion
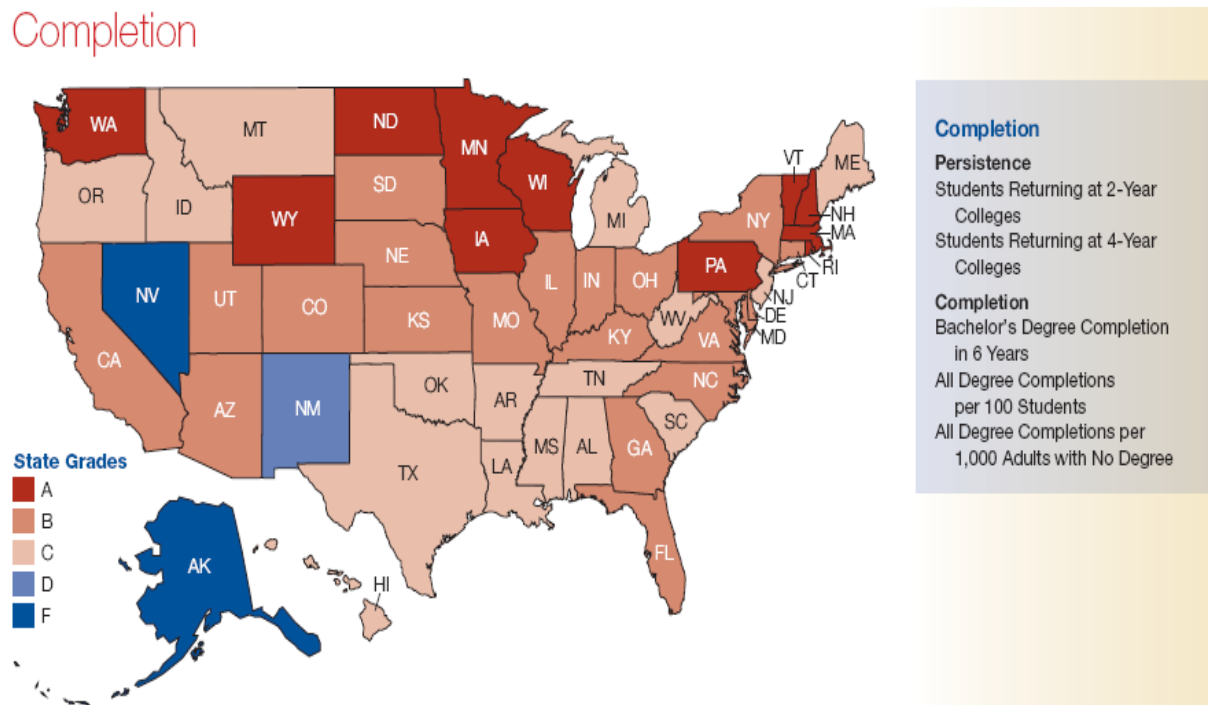
Source: Measuring Up 2008: The National Report Card on Higher Education

New Mexico Community Colleges

New Mexico is fifth in the nation in terms of state and local public higher education spending. The national average is $7,059, and New Mexico averages $9,598 per full-time student, yet the state lags in producing successful students who complete their degrees. In a recent article (Nikolewski, 2010), some lawmakers argued that the state has too many community college branches, and several have threatened to shut down some community colleges across the state to save money. It has been acknowledged that there is a duplication of programs and also an alarming number of high school students needing to take remedial classes in order to perform college-level work. About 47 percent of New Mexico high school graduates who attend the state's public colleges and universities took remedial courses in math and/or reading in 2009 (NMDFA, 2010).

The state's higher education master plan recommendations (Nikolewski, 2010) include:

- Focusing funding more on student performance and success instead of student enrollment;

- Calling for a council that looks at education in the state all the way from pre-school to college graduation (p. 20);

- Completing a "common course numbering system" for statewide class articulation; and

- Consider increasing the GPA requirements for incoming freshman, especially at UNM and NMSU (p. 1).

With the election of a new governor in 2011, there may be changes in some of these recommendations to the state's higher education plan.

According to the Annual Accountability Report from the New Mexico Independent Community Colleges (2010), "Success" on persistence, a key performance indicator, is assessed twice each year. Each Fall the colleges report the percentage of their full-time, first-time students who enrolled the previous Fall and were retained in the Spring semester (Fall-to-Spring persistence). Similarly, each Spring the colleges report Fall-to-Fall persistence. As indicated in Table 1, average Fall-to-Spring persistence for FY 2009-10 in New Mexico declined slightly but remained at about the same average level as in the five previous years (NMICC, 2010).

Table 1

Persistence at New Mexico Independent Community Colleges

Institution	FY 10 Actual (Fall '09 to Spring '10)	FY 12 Target	Fall '05 to Spring '06	Fall '06 to Spring '07	Fall '07 to Spring '08	Fall '08 to Spring '09
Central NM Community College	81.2%	82.0%	78.5%	75.8%	77.7%	79.6%
Clovis Community College	67.4%	74.0%	80.6%	76.0%	74.7%	72.2%
Luna Community College	66.7%	80.0%	77.3%	79.6%	64.9%	66.2%
Mesalands Community College	66.4%	66.5%	58.5%	55.0%	66.1%	70.5%

NM Junior College	67.6%	72.5%	71.0%	69.0%	50.9%	67.8%
Northern NM Community College	78.5%	80.0%	80.4%	78.9%	74.6%	77.6%
San Juan College	81.3%	76.3%	72.6%	75.9%	71.2%	76.3%
Santa Fe Community College	76.8%	79.0%	75.0%	75.1%	81.1%	81.5%

Source: NMICC Annual Report 2010

Notice in Table 1 that the two New Mexico independent community colleges reporting the highest persistence rates were San Juan College (81.3 percent) and Central New Mexico Community College (81.2 percent) for FY 10 Actual (from Fall 2009 to Spring 2010). FY 12 Target for San Juan College is 76.3 percent, a decrease of 5 percent, as compared to Central New Mexico College at 82 percent, an increase of .8 percent. Luna Community College reports a FY 12 Target of 80 percent, a 13.3 percent increase from FY 10 Actual.

History of Central New Mexico Community College

In its 40-year history, Central New Mexico Community College (CNM) has transitioned from a trade school to a community college to become the largest post-secondary educational institution in New Mexico. More than 29,000 students currently attend classes at six sites in the Albuquerque metropolitan area and a Workforce Training Center (CNM, 2011). Established in 1965 as Albuquerque Technical Vocational Institute (TVI), the college's mission was to provide adults with marketable skills and the related

education needed to succeed in an occupation. The mission today also includes transfer of students to four-year institutions.

CNM boundaries encompass Bernalillo County, Corrales, and part of Rio Rancho in Sandoval County with the Main Site covering about 60 acres and located at Buena Vista SE, Albuquerque, New Mexico. A second site, the Joseph M. Montoya campus, is located in the far Northeast Heights in Albuquerque covering 42 acres and serving more than 6,600 students. A third site in the South Valley serves about 1,000 students and is home to a number of educational collaboratives specific to the South Valley. A fourth site, CNM Westside, opened in 2003 with a first-term enrollment exceeding 3,000 students. A fifth site is being developed in Rio Rancho, New Mexico. Located near the CNM Workforce Training Center, a sixth site, the Advanced Technology Center, is used to train students in applied technologies, which provides short-term, customized training programs to meet the needs of individual small and large businesses in Albuquerque and the surrounding communities. The college's budget has increased from an initial allotment of $11,975 in 1965 to $1.5 million in 1965-66 to over $100 million in current fiscal year 2010.

CNM offers certificate and degree programs in 100 areas, including Applied Technologies; Business and Information Technology; Communication, Humanities, and Social Sciences; Health, Wellness, and Public Safety; Educational and Career Advancement; and Mathematics, Science, and Engineering. Courses are taught in the classroom and via Distance Learning to allow students the most flexibility possible in their education. CNM also reaches non-traditional populations through its Concurrent

Enrollment and College and Career Bound programs for high school-age students and the

Emeritus Academy for learners age 50 and older (CNM, 2011).

Central New Mexico Community College (CNM) Student Demographics

In Fall 2010, 29,948 students were enrolled at CNM. Students from CNM in-

district (Bernalillo County and part of Sandoval County) represented 88.3 percent of the

student population. Students from New Mexico but outside CNM's district represented

7.8 percent of the student population, and full-time students were 32.8 percent of the

student population.

Women were a majority of the student population at CNM accounting for 55.8

percent of enrollment, while minority students represented 57.5 percent of the college's

enrollment. The average age for the CNM student population was 29 years (CNM Office

of Planning, Budget, & Institutional Research, 2011).

Central New Mexico Community College (CNM) Student Retention

There have been over "50 different retention initiatives that have resulted in

pockets of excellence but not the college-wide improvements it seeks" at CNM

(Achieving the Dream, 2011, para. 2). CNM's Achieving the Dream goals focus on:

> First-term students enrolled in more than one developmental course who are
>
> considered at risk and are the priority of Central New Mexico Community
>
> College's Achieving the Dream initiative, CNM revising its New Student
>
> Orientation program, developing College Success Experience courses, developing
>
> a new advisement process, training faculty and staff to utilize student success
>
> strategies, and new learning communities linking introductory courses with

developmental classes. The research office will be restructured to support a community of engagement. (Achieving the Dream, 2011, para. 4)

CNM examined student retention and success by administering the Noel-Levitz Student Satisfaction Inventory (SSI) in 2007, participating in the Survey of Entering Student Engagement (SENSE) in 2009, and by forming an Academic Quality Improvement Program (AQIP) team of CNM employees to address the issue of non-retained students. As a consequence of this work, CNM contracted with Research & Polling, Inc. in 2010 to further study issues of persistence, retention, and completion.

The Noel-Levitz Student Satisfaction Inventory (SSI) was administered by email during the Fall 2007 term to all students enrolled at CNM. A total of 1,829 students completed the survey. Students rated statements about the institution by importance and satisfaction on a scale from 1 to 7, where 1 was "least important/unsatisfied" and 7 was "most important/satisfied." Instructional effectiveness was a category used to assess students' academic experiences, the curriculum, and the campuses' overriding commitment to academic excellence. This category included areas such as the variety of courses offered and the effectiveness of faculty in and out of the classroom. Results reflected a performance gap between importance (students completed the survey with each student rating statements 1, least important/satisfied, to 7, most important/satisfied) and level of student satisfaction (CNM Office of Planning, Budget, and Institutional Research, 2007).

The Survey of Entering Student Engagement (SENSE) in 2009 compared CNM data to national community college data on engaged learning in the first three weeks of

college. SENSE benchmarks (SENSE, 2009) of effective practice with entering students include:

- Early connections,

- High expectations and aspirations,

- Clear academic plan and pathway,

- Effective track to college readiness,

- Engaged learning, and

- Academic and social support network.

The survey benchmark for CNM with respect to engaged learning reflected that a majority of full-time students indicated "never to once" when asked if they had prepared at least two drafts of a paper or assignment before turning it in (287 or 51.8 percent). A majority of part-time students (158 or 69 percent) and a majority of full-time students (410 or 74.2 percent) indicated that they had worked with other students on a project or assignment "two or more times" during class. A majority of full-time students indicated they used an electronic tool to communicate with an instructor "never to once" (301 or 54.4 percent), part-time students indicated they sought help from an instructor "never to once" (108 or 47.1 percent), and a majority of part-time students used a computer lab "never to once" (130 or 58.8 percent) (SENSE, 2009).

In the Spring 2010 semester, a CNM Academic Quality Improvement Program (AQIP) non-retained student team contracted with the Research & Polling, Inc. in Albuquerque to survey students on reasons why students drop a course (or courses) and remained enrolled in others, and why students drop all their courses. The results showed that one in four students surveyed said their classroom experience played a role in their

decision to drop a course. Specifically, 13 percent said the poor quality of the instructor was a factor in their decision (Research & Polling, Inc., 2010). The demographic dimensions most strongly associated with a student's likelihood of dropping all classes between first day of the term and census and not returning to CNM are age, gender, ethnicity, and admit date (NRST, 2010).

Central New Mexico Community College continues to address student retention and success. The CNM Strategic Planning Team has identified student first year college experience as a primary initiative in the 2010-2011 Strategic Plan, and a team of administrators, faculty, and staff are actively working on this initiative.

Definition of Student Retention

Student retention is "the ability of an institution to retain a student from admission through graduation" (Berger & Lyon, 2005, p. 7). Retention can also be defined as "a measure of student behaviors that result in the student continuing enrollment in the institution" (Hagedorn, 2004, p. 14). Retention may also be measured by course completion, "the smallest unit of analysis" (Hagedorn, 2005, p. 16). The effects of classroom practice upon student learning and persistence are ripe for exploration (Tinto, 2006). Although some research has looked into the impact of classroom practice on student retention, there is much more to be done in this area (Braxton, Bray, & Berger, 2000; Braxton, Milem, & Sullivan, 2000; Umbach & Wawrzynski, 2005). Tinto (2006) explained:

> It is increasingly clear that faculty actions, especially in the classroom, are critical to institutional efforts to increase student retention. It is also clear that the faculty of our universities and colleges are, as a matter of practice, the only faculty from kindergarten through universities who are literally not trained to teach students (p. 7).

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Conceptual Framework

      Student needs, student demographics, faculty involvement, and faculty development all contribute to student retention and success at CNM.

Student Needs

      Understanding the needs of students in order to motivate them to stay in class and school is a challenge for faculty at Central New Mexico Community College. Figure 2 presents Maslow's Hierarchy of Needs (1954), a framework for identifying and understanding human needs.

Figure 2

Maslow's Hierarchy of Needs
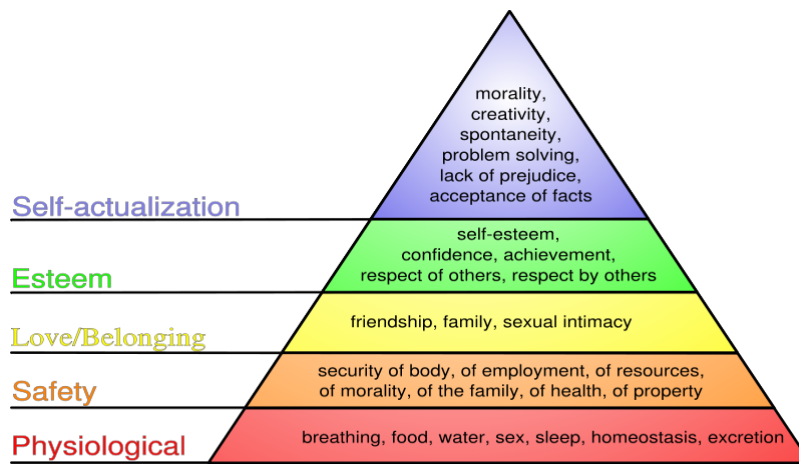
Source: Maslow, 1954

Every CNM faculty member unofficially ends up assuming multiple roles including teacher, social worker, mentor, and shoulder-to-lean-on. Faculty must understand the student needs at each of the five levels identified by Maslow and be skilled in applying Maslow's framework to motivate and retain students. Students in the classroom may be nervous, for example, due to a lack of food or sleep. Most students are low income, receiving some form of financial aid, and working either part-time or full-time while attending school (CNM Office of Planning, Budget, & Institutional Research, 2009). Occasionally an employer allows the student time off to attend class, supporting a safety need for the student by strengthening their employment.

The average age for a student at CNM is 29 (CNM Office of Planning, Budget, & Institutional Research, 2011). The dividing line between traditional and non-traditional students is often set at age 25 (Lynch & Bishop-Clark, 1998), which suggests that many CNM students are non-traditional, providing for their own children's physiological, safety, love/belonging, and esteem needs while attending school. Maslow's

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love/belonging need is strong within these students, because they often have infant, teenage, or adult children of their own. Students often skip class to tend to an ill child. Self-esteem, confidence, achievement, respect for and by others may be low in non-traditional students (Lynch & Bishop-Clark, 1998). Lacking basic skills in reading, writing, and math, many students enter community college unprepared - not having been taught or having learned these skills in K-12 classrooms (Bailey, 2009).

CNM students are:

- White, non-Hispanic (35.4 percent);

- Black, non-Hispanic (3.1 percent);

- Hispanic (40.1 percent);

- Native-American (7.5 percent);

- Pacific-Islander (2.2 percent); and

- Other (11.4 percent) (CNM Office of Planning, Budget & Institutional Research, 2009).

Maslow's lower level needs are likely to be strongest with CNM students because of their life circumstances. To be facilitators of student retention and success, faculty must be skilled in identifying which need is motivating which student on any given day. By helping meet the most urgent need, faculty can support student retention and success.

Members of different ethnic groups appear to identify the same types of needs on Maslow's hierarchy. In addition, CNM students identify the same needs based on their working class backgrounds. Middle class students sometimes come to CNM from the University of New Mexico (UNM) to take one or two classes and transfer the credit back to UNM.

Student Demographics in Community Colleges

Students from first-generation and low-income backgrounds are less likely to enroll in post-secondary education and less likely to persist through graduation (Thayer, 2000). Interaction with faculty outside of class and increasing interaction and engagement in the classroom are interventions that can increase the chances that first-generation students will gain access to and be successful in college (Engle, 2007).

Cultural capital - informal interpersonal skills, habits, manners, linguistics, educational credentials, and lifestyle preferences (Bourdieu, 1971, 1973) that stem from life experiences typically related to social class - is important for the success of all CNM students. Some types of cultural capital (Gándara & Contreras, 2009) may be a particular challenge for the 57.5 percent ethnic minority students (over 40 percent are Hispanic) enrolled at CNM during the Fall 2010 (CNM Office of Planning, Budget, & Institutional Research, 2011). Lacking some forms of cultural capital, some students may depend on social capital networks with friends to acquire information about college. In a study on college aspirations of mostly low income Whites, Southeast Asians, Blacks, and Latinos from an inner-city and a rural high school, Latinos may not have been getting consistent and early encouragement from school personnel and others to go to college, so students learned to depend on friends (a social capital network) to acquire information about college (Gándara & Contreras, 2009). Some students at CNM have assimilated into White culture, some are assimilating, and some never will. The students that have assimilated appear to be more self-confident and comfortable in an academic setting, those that are assimilating require more faculty attention and institutional support, and those that never will struggle in the classroom and tend to either stop coming to class or

fail academically. In terms of curriculum, the faculty focus is to help students learn the skills needed to succeed in the workplace. In a global environment, they ideally need skills that begin with an understanding of their own backgrounds, as well as an understanding of White corporate culture.

Recommendations on secondary school preparation, post-secondary institutional climate, financial aid and tuition, and access to information for Mexican Americans and other Latinos in post-secondary education can be found in the literature (Nevarez, 2001). One solution for improving the educational achievement of Latinos is culturally competent faculty (Nevarez & Rico, 2007):

> Latino faculty members benefit Latino students in that they serve as cultural brokers by aiding the students' adjustment to the college environment, providing academic advice, serving as role models, and preparing all students to live in a global and pluralistic society (p. 10).

Critical issues confronting American Indians and Alaska Natives in accessing and completing post-secondary education include obtaining adequate financial aid, general sources of aid for Native students, and the ways in which communities and parents can support these students through the financial aid process (Almeida, 1999).

The six most frequently mentioned attributes adult learners expected of effective instructors were:

- To be knowledgeable,
- To show concern for student learning,
- To present material clearly,
- To motivate students,

- To emphasize relevant class material, and

- To be enthusiastic (Donaldson, Flannery, & Ross-Gordon, 1993).

In addition to these attributes, educators should be sensitive to the interactions they encourage from differently aged students. Faculty should organize class activities so that traditional and adult students are required to participate, and community colleges should attempt to use in-class discussions to alleviate stress (Lynch & Bishop-Clark, 1994).

Faculty Involvement

Student-faculty interactions, both in and outside of class, have shown significant positive correlations with academic attainment (Astin, 1993). Students are more likely to persist when faculty members interact with them and help them remain engaged (Tinto, 1989). Faculty actively involving students in discussions fosters retention of information, application of knowledge to new situations, and development of higher order thinking skills (McKeachie, 1994). Involvement in and outside of the classroom, or what is increasingly being referred to as student engagement, matters especially during the critical first year of college (Tinto, 2001; Upcraft, Gardner, & Barefoot, 2005). Educators at all levels suggest that frequent, meaningful interactions between students and their teachers are important to learning and personal development. "The classroom is, for many students, the one place, perhaps the only place, where they meet each other and the faculty. If involvement does not occur there, it is unlikely to occur elsewhere" (Tinto, 2006, p. 4). Eight specific types of student-faculty interactions include:

- Career guidance,

- Off-campus interactions,

- Approachability,

- Accessibility,

- Negative experiences,

- Respectful interactions,

- Caring attitude, and

- Connectedness.

These interactions, as well as academic achievement, make a difference in student involvement and engagement (Komarruju, Musulkin, & Bhattacharya, 2010). In a study on validation experiences and persistence among urban community college students, faculty validation of students was found to modestly predict their intent to persist (Barnett, 2007, 2011).

Faculty Development

Faculty may impact student retention and success more than other group (Stevenson, Buchanan, & Sharpe, 2006). One approach or strategy to address retention is to hire the right staff and faculty (McClenney & Waiwaiole, 2005). This means hiring instructors that can demonstrate

- Evidence of effective teaching,

- Ability to relate to students,

- Interpersonal skills,

- Communication skills,

- Proficiency in the use of technology, and

- A degree in the discipline one is teaching (Higgins, Hawthorne, Cape, & Bell, 1994; Law, 1994).

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Therefore, recruitment and socialization of new faculty should include their understanding of departmental and institutional performance expectations by the institution's leaders (Schuh & Kuh, 2005). In addition, new and existing staff and faculty should be helping students understand how the student's background complements the curriculum.

Statement of the Problem

Student perception of faculty involvement relates to student retention and success. If the United States is "to remain competitive in the global economy, more Americans must complete a degree in a timely fashion. We must enable a greater percentage of our college-age population to enroll in post-secondary education while enhancing retention rates so that more of our students are prepared for the challenges of a dynamic and ever-expanding workplace" (Lotkowski, Robbins, & Noeth, 2004, p. vi).

Since the end of World War II, we have seen a decline in trade and investment barriers among countries and an increase in technological innovations. This has helped create a global economy where interconnected and interdependent countries compete but also rely on one another in the marketing and production of goods and services. There are important global business trends in the world we live in today:

- A growing role for developing nations of world output and world exports,
- A rise in foreign nations investing much of their money in companies in the United States,
- A rise in multi-national enterprises that manufacture and market products in two or more countries, and

- A movement toward democratization with the adoption of free-market

    economies around the world (Poatsy & Martin, 2010).

The American Association for Community Colleges (AACC) reported an increase of 16.9 percent from Fall 2007 to Fall 2009 in the number of students enrolled in the nation's community colleges (Mullin & Phillippe, 2009), and virtually every state is reporting an increase in students (Hagedorn, 2010). Yet, according to Mortenson (2003), poor student performances on national, state, and local assessments continue to predict a dismal future.

Need for the Study

We live in a global economy, in a democratic nation, where there are many contributors to New Mexico students' struggle to persist in school and learn the skills necessary to compete in the workplace. As responsible educators, we must address the many potential contributors to student success including high school completion, K-12 course taking, K-12 student achievement, and teacher quality (Winograd, 2009). Nearly 50 different retention initiatives at CNM have resulted in pockets of excellence but not the college-wide improvements the institution seeks (Achieving the Dream, 2005). This study provides a different perspective regarding student success at CNM by investigating how students perceive faculty involvement as it relates to student retention and success. Faculty actions in the classroom are critical to institutional efforts to increase student retention, yet the literature on faculty involvement in post-secondary education is more limited than it should be. The effects of classroom practices on student learning and persistence in post-secondary education are ripe for exploration (Tinto, 2006).

Definition of Terms

The following are terms in this study:

Student Perception – Student observation of faculty involvement.

Faculty Involvement – Faculty interacting with, involving, engaging, and validating students.

Retention – Fall to Spring retention, i.e., students who re-enrolled during the Spring 2011 term at CNM after being enrolled a minimum of six credit hours during the Fall 2010 term at CNM.

Success – Remaining in a course until completion and earning the grade of "A", "B", or "C" or credit (cr).

Community College – A post-secondary institution, usually public, with a mission to serve the community through academic and other programs. Community colleges are authorized to confer the associate degrees (AA and AS) as well as certificates. Generally, community colleges offer both transfer and vocational/occupational programs.

Main Site – Designates the academic unit of the institution in the Central New Mexico Community College system of seven instructional sites. Main Site is located at 525 Buena Vista Dr. SE, Albuquerque, New Mexico 87106.

Instructional Site – A two-year community college site offering courses to prepare students for vocational certificates and a two-year degree or to prepare students for transfer to four-year institutions through offerings of developmental and general education courses or classes. The instructional site is located in the same state and situated in close proximity to the two-year Main Site.

First-Generation Student – Defined as someone whose parents had no college experience.

High School Graduate – A person who obtained a diploma after successfully completing specific units of instruction determined by the State Public Education Department and passing the required exit examinations.

Persistence – A student enrolled continuously from academic semester to academic semester that completes the class, program, or degree she/he is seeking.

Summary

On a national level, college academic success has traditionally been predicted using demographic and academic variables (Pritchard & Wilson, 2003). The use of faculty involvement as a predictor of student outcomes is still more limited than it should be (Tinto, 2006). Even though the classroom actions of post-secondary faculty members are critical to institutions' efforts to increase student retention, college faculty are the only instructors – from kindergarten through universities – that are generally not trained to teach their students. The effects of classroom practice upon student learning and persistence are ripe for exploration (Tinto, 2006).

The research questions that guided this study were:

- How do students with selected demographics perceive faculty involvement?

- How does Barnett's (2007, 2011) college experience questionnaire perform based on a sample of students from a community college in New Mexico?

Chapter II

Literature Review

Introduction

The number of public community colleges has increased over the past 100 years from 20 institutions in 1901 (Phelan, 2000) to 1,069 in 1999 (McClenney, 2004a) to 1,202 in 2007 (AACC, 2007). There are many different factors that affect retention, and many researchers, among them Astin (1993), suggest that each institution conduct targeted research to determine the important factors for that institution and its students with regard to promoting retention (Craig & Ward, 2008).

This study provides an overview of the current state of student retention in post-secondary education by presenting information from the National Center for Education Statistics. Studies highlighted relate to students' experience in post-secondary education from two different perspectives: 1) demographic characteristics and student retention and 2) faculty involvement (faculty-student interaction and validation) and student retention. This analysis also focused on faculty development literature as it relates to faculty improvement of involvement. Finally, for the purposes of this report, the literature linked demographic characteristics, faculty involvement, student motivation, self-regulated learning, resilience, personality development, motivation, and faculty development to student retention and success.

Overview of Trends in Post-Secondary Education Persistence

A longitudinal study by the National Center for Education Statistics (2010) followed the attainment and persistence rates of a nationally representative sample of 19,000 American students. The report looked at the behavior of students who enrolled in

an institution of higher education for the first time in the 2003-2004 school year and recounted data collected over six years. The report included these statistics on attainment and persistence at any institution within the six years 2004-2009:

- About 9 percent of beginning students had received a certificate, 9 percent had received an associate's degree, and 31 percent had received a bachelor's degree. Fifteen percent had not yet received a degree but were currently enrolled at some institution, while an additional 35 percent had not received a degree and were not enrolled at any institution.

- About 8 percent of beginning students who first enrolled in a public two-year institution had received a certificate, 14 percent had received an associate's degree, and 12 percent had received a bachelor's degree. Twenty percent had not yet received a degree but were enrolled somewhere, and an additional 46 percent had not received a degree and were not enrolled at any institution.

- About 58 percent of beginning students who first enrolled in a four-year institution had received a bachelor's degree, 5 percent had received an associate's degree, and 2 percent had received a certificate. Twelve percent had not yet received a degree but were enrolled somewhere. An additional 24 percent had not received a degree and were not enrolled at any institution (p. 5).

Student Demographics

There are six characteristics developed from literature that can be used as indicators of students who are "at risk." They are not ranked in order of importance or order of impact. The list includes:

1) Low socio-economic status (SES),

2) Level of cultural, social and emotional capital,

3) Minority identification and first generation enrollment in higher education,

4) Gender,

5) Non-traditional status, and

6) Academically underprepared due to inadequate high school preparation, graduation from a home schooling program, or completion of General Education Degree (Astin, 1975; Bean, 1980; Braxton, 2000; Choy, 2002; Cook, 2009; Elkin, Braxton, & James, 2000; Pascarella & Terenzini, 1991; Tinto, 1993).

Socio-Economic Status (SES)

Socio-economic status can present a financial barrier that students must consider when deciding whether or not to pursue a certificate or degree. Costs of post-secondary education consistently rise and outpace the rate of inflation as reflected, for example, by two and four-year institutions raising tuition costs by 9 percent and 11 percent respectively in 2004-2005 (National Center for Education Statistics, 2006).

For students of low SES, paying for their post-secondary education is difficult, since their expected family contribution can only finance a fraction of full tuition depending on the institution (National Center for Education Statistics, 2006). In a study on community college students, retention rates from one term to the next were 20 percent higher for those receiving financial aid compared to students not receiving financial aid (Padilla, 2007).

In an article on the role of higher education in social mobility, Haveman and

Smeeding (2006) provide findings by Ellwood and Kane (2000) on levels and trends in

economic inequality in higher education:

> For students who graduated from high school during 1980-82, the overall
>
> rate of college-going is 80 percent for youth from the top income quartile
>
> of families, as against 57 percent for the youth from the bottom quartile.
>
> Youth from the poorest families were concentrated in vocational and
>
> technical institutions, while those from the richest families tended to enroll
>
> in four-year colleges. (p. 130)

These patterns were found consistent with the work of Carnevale and Rose (2004) "who

analyzed detailed data from the High School and Beyond study from the NELS of 1988"

(p. 130).

In the 146 top-tier colleges and universities (accounting for about 10 percent of all

college students), 74 percent of the entering class is from the highest socio-economic

quartile and only 3 percent from the lowest quartile. In the 253 colleges in the second tier

(accounting for about 18 percent of all college students), the shares are 46 and 7 percent

respectively. Only in community colleges is the composition of entering students by

family socio-economic status similar to the composition of all youth of college age

(Carnevale & Rose, 2004, pp. 130-131).

Data from a nationally representative National Education Longitudinal Study

(NELS) shows a strong relationship between socio-economic status and bachelor's

degree attainment (National Center for Education Statistics, 2000). "Compared to

students from families in the bottom income quartile, top-income students have college

graduation rates that are 32 points higher" (Bowen, Chingos, & McPherson, 2009, p.22).

When including parental education distributions (no college, some college, college

degree, and graduate degree), students from the top of the family income distributions

were nearly five times more likely to earn a bachelor's degree than students from the

bottom of the income quartile (Bowen et al., 2009).

Level of Cultural, Social, and Emotional Capital

There is a link between social class and culture. Educational institutions value

verbal competency - a middle class job skill - over manual labor, a working class job

skill. Further, the attitudes, aspirations, and worldviews of the working class keep them

from accessing the middle class cultural system rewarded in schools (Bourdieu, 1973).

Bourdieu's Theory of Social Class Reproduction (1973, 1977) presented several

concepts that could be used to explain student attrition at institutions of higher learning.

He identified two main types of capital: economic capital that includes money and

material objects and cultural capital that includes informal interpersonal skills, habits,

manners, linguistics, educational credentials, and lifestyle preferences. According to

Bourdieu (1971, 1973), "Habitus," a "system of lasting, transposable dispositions, which,

integrating past experiences, functions at every moment as a matrix of perceptions,

appreciations, and actions" (p. 83), is a key factor in the formation of social and cultural

capital.

Examination of the impact of cultural and social capital is "a relatively new

direction for higher education retention research" (Cook, 2009, p. 41). There is a

possibility that students who enter higher education with higher levels of cultural capital,

a symbolic resource valued by the upper class not taught in schools (McDonough, 1997),

are better able to understand the culture of higher education, thus helping them persist and succeed (Berger, 2000; Tierney & Hagedorn, 2002). Cultural capital also affects their level of social capital (Garrison, 2003; Putnam, 2000; Thomas, 2000), which contributes to their ability to communicate and connect with staff, faculty, and peers. The accumulation of social and cultural capital leads to the creation of emotional capital, which provides a sense of trust, safety, and well-being for the student. This, in turn, contributes to a student's greater involvement and commitment in her/his community (Shaw, Valadez, & Rhoads, 1999).

Minority Identification

Among the factors that affect the success of Mexican-Americans and other Latinos in post-secondary education is the role that culturally competent faculty play in increasing student retention (Nevarez, 2001). In secondary school preparation, the school success of Latinos has been influenced by institutional commitment of teachers, administrators, staff, and parents (Lucas, Henze, & Donato, 1990; Richardson & de los Santos, 1989) and the presence of faculty role models, mentors, and peer support groups (Abi-nader, 1990; Achor & Morales, 1990; Gándara, 1994; Halcon, 1989). Institutions have provided special programs, services, and dedicated physical facilities to help students retain their sense of cultural identity (Nevarez, 2001).

The type of financial aid available to students is crucial to retention and completion for under-represented students. In addition, tuition increases hinder access for Mexican American and other Latino students. Finally, access to information about admissions, financial aid, and preparation for entrance exams, employment opportunities,

services, and available resources can increase participation and graduation outcomes for

Latinos (Nevarez, 2001).

A synthesis of recurring recommendations and proposed solutions for improving

the current status of Latinos is provided by Nevarez and Rico (2007, p. 10):

1) Post-secondary institutions should partner with public schools,

2) Post-secondary institutions should disseminate information packets to
   workshops for parents and families,

3) Post-secondary institutions should increase the amount and number of
   state/federal grants awarded to Latinos,

4) Post-secondary institutions need to continue efforts in establishing a positive
   racial climate, and

5) Post-secondary institutions need to develop culturally proficient faculty
   members.

Critical issues confronting the post-secondary education of American Indians and

Alaskan Natives include obtaining adequate financial aid, general sources of aid for

Native students, and the ways communities and parents can support these students

through the financial aid process (Almeida, 1999).

First Generation Identification

Recent findings using data from the National Center for Education Statistics

(2010) indicate that across all institution types low-income, first-generation students

experience less success than their peers right from the start:

- Low-income, first-generation students were nearly four times more likely to leave higher education after the first year than students who had neither of these risk factors.

- Six years later, nearly half (43 percent) of low-income, first-generation students had left college without earning their degrees. Among those who left, nearly two-thirds (60 percent) did so after the first year.

- After six years, only 11 percent of low-income, first-generation students had earned bachelor's degrees compared to 55 percent of their more advantaged peers.

- In public four-year institutions, only 34 percent of low-income, first-generation students earned bachelor's degrees in six years compared to 66 percent of their peers.

- In private not-for-profit four-year institutions, there was an even larger gap between low-income, first-generation students and their peers, 43 to 80 percent respectively (Engle & Tinto, 2008, p. 2).

Demographically, first-generation students are more likely to be female, older, Black or Hispanic, have dependent children, and come from low-income families (Berkner & Chavez, 1997; Bui, 2002; Chen, 2005; Choy, 2001; Horn & Nunez, 2000; Inman & Mayes, 1999; Lohfink & Paulsen, 2005; Nunez & Cuccaro-Alamin, 1998; Somers, Woodhouse, & Cofer, 2004; Terenzini, Springer, Yaeger, Pascarella, & Nora, 1996; Volle & Federico, 1997).

Gender

Education statistics indicate that women became the majority of the U.S. undergraduate population between 1970 and 2001, increasing from 42 percent to 56 percent. This increase may be related to an increase in undergraduate non-traditional students who are low income with families and age 40 or older (National Center for Education Statistics, 2005).

Non-Traditional and Traditional Status

The six most frequently mentioned attributes adult learners over 25 years in age expected of effective instructors were

- To be knowledgeable,

- To show concern for student learning,

- To present material clearly,

- To motivate,

- To emphasize relevant class material, and

- To be enthusiastic (Donaldson, Flannery, & Ross-Gordon, 1993).

Educators should be sensitized to consider the interactions they encourage from differently aged students (Lynch & Bishop-Clark, 1994). Instructors need to remember that the combination of both traditional and older students makes the classroom unique, because younger and older students' perspectives make contributions to the mixed-age classroom (Lynch & Bishop-Clark, 1998).

High School Preparation

On the National Report Card on Education 2008, New Mexico received a "D" for high school completion, K-12 course taking, K-12 student achievement, and teacher

quality (Winograd, 2009). These data echoed the Achieving the Dream Community

College Count (2005) data that reported CNM students face inadequate academic

preparation with more than 65 percent of entering students requiring developmental

instruction.

Faculty Involvement

Five of the seven engagement indicators predicted to directly influence the quality

of students' learning and their educational experiences are:

- Encouraging cooperation among students,

- Encouraging active learning,

- Communicating high expectations,

- Encouraging contact between students and faculty, and

- Using active learning techniques (Chickering & Gamson, 1987).

There is a strong association of both formal and informal faculty-student contact with

enhanced student learning (Astin, 1993; Ewell & Jones, 1996; Pascarella & Terenzini,

1991; Tinto, 1993, 2000).

Student-Faculty Interactions

The central premise of Tinto's 1993 model was that students' decisions to persist

or withdraw from college depend on their successful academic and social integration

within the college. Part of this successful integration was dependent upon the favorable

daily interactions between faculty and students. This study proposed to examine the

relationships shown in the darkened boxes in Tinto's Longitudinal Model of Institutional

Departure in Figure 3.

Figure 3

Tinto's Longitudinal Model of Institutional Departure
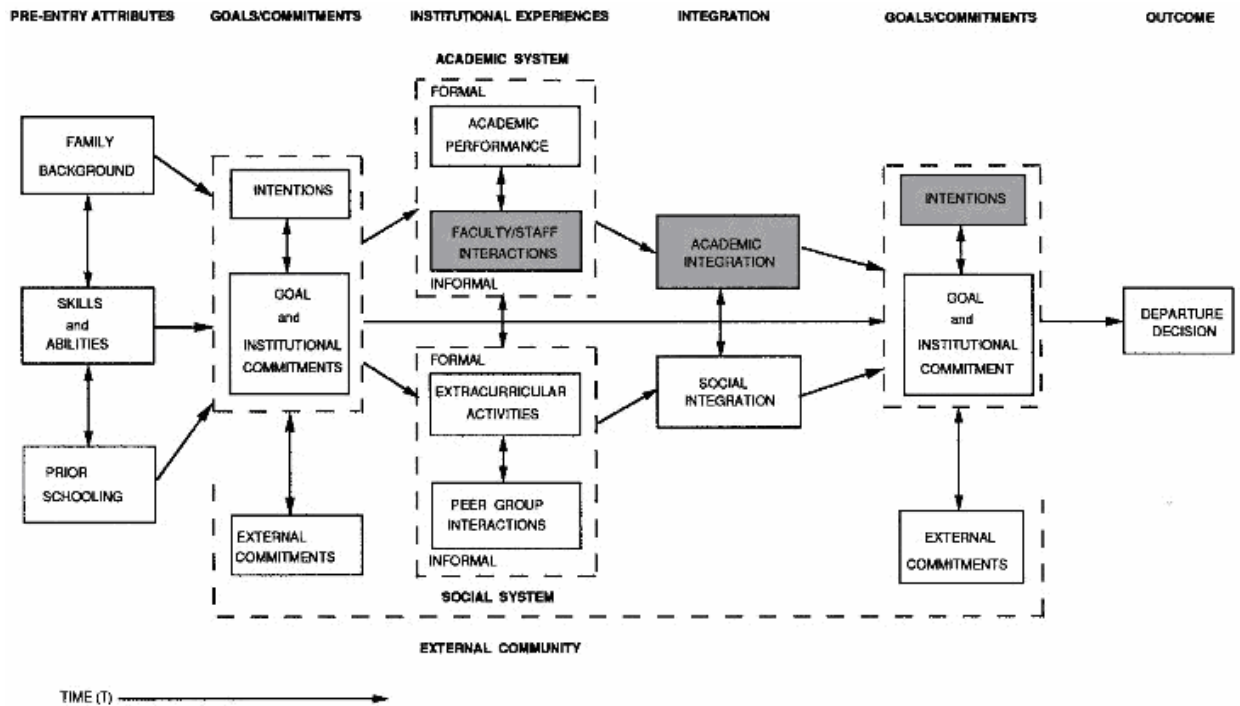
Source Tinto, 1993

Faculty/staff interactions are defined as formal classroom experiences and informal interactions outside of class between students and faculty in Figure 3 (Tinto, 1993). In this study, faculty interactions were measured using a college experience survey (Barnett, 2007, 2011) with a scale that asked students about instructor involvement, student's college involvement, and student's engagement with the instructor. Academic Integration was defined as a sense of "competent membership" (Tinto, 1993, p. 208) as a result of student interactions with faculty. In this study, academic integration was measured as a student returning to CNM for the Spring 2011 term as a result of student interactions with faculty during the Fall 2010 term. Intentions are defined as a student leaving college on terms the student considers to be successful

(Tinto, 1993). In this study, intentions were measured as a student returning to CNM for the Spring 2011 term and enrolling in at least one course in the School of Business & Information Technology.

Tinto's work (1989, 1993, 2001, 2006) in particular relates to this research. Astin (1993), McKeachie (1994), Kuh and Hu (2001), Upcraft, Gardner, and Barefoot (2005) and, most recently, Komarruju, Musulkin, and Bhattacharya (2010) have provided support for the importance of faculty interacting with students. Students tend to stay in college when faculty members interact with them (Tinto, 1989). The classroom is the one place, perhaps even the only place, where students and faculty meet, and if faculty involvement does not occur there, it is unlikely to occur elsewhere (Tinto, 2006). Student involvement with student peer groups and involvement with faculty enhanced learning and academic performance (Astin, 1993). Frequent student-faculty interaction, both in and outside of class, had significant positive correlations with every academic attainment outcome studied.

Actively involving students in discussion fosters retention of information, application of knowledge to new situations, and development of higher-order thinking skills (McKeachie, 1994). Educators at all levels believe that frequent, meaningful interactions between students and their teachers are important to learning and personal development (Kuh & Hu, 2001). Involvement, or what is increasingly being referred to as engagement, matters, and it matters most during the critical first year of college (Upcraft, Gardner, & Barefoot, 2005). Student-faculty interactions can be crucial in developing students' academic self-concept and enhancing their motivation and achievement (Komarruju, Musulkin, & Bhattacharya, 2010).

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Eight specific types of student-faculty interactions (career guidance, off-campus interactions, approachability, accessibility, negative experiences, respectful interactions, caring attitude, and connectedness) serve as predictors of academic self-concept and three types of academic motivation (intrinsic, extrinsic, and motivation), as well as academic achievement (Komarruju, Musulkin, & Bhattacharya, 2010). This study on student perceptions of faculty involvement and interactions will contribute to our understanding of the role that faculty can play in student learning in higher education.

Validation

According to Barnett (2007, 2011), many scholars have attempted to explain student retention as integration and involvement in college flowing naturally from living in residence halls, participation in college courses, and engagement in campus activities in college (Astin, 1993; Pascarella & Terenzini, 2005; Terenzini, Rendon, Upcraft, Millar, Allison, Gregg, & Jalomo, 1996; Tinto, 1993, 1998, 2004). Instead, Rendon (1994, 2002) posited that validation may be a more important influence for non-traditional students, such as returning adults, low-income students, first-generation students, and many women and minority students from working class backgrounds. "Validation is an enabling, confirming and supportive process initiated by in and out of class agents that fosters academic and interpersonal development" (Rendon, 1994, p. 44). Through interviews with 132 first-year students, Rendon (1994) found:

- Traditional students expressed few if any concerns about succeeding in college, while non-traditional students in a community college had some doubts about their ability to succeed.

- Non-traditional students need active intervention from significant others to negotiate institutional life.

- Success during the first year depends on whether students can get involved in institutional life on their own or whether external agents can validate students academically or personally.

- The most vulnerable non-traditional students can become powerful learners through in and out of class academic and/or personal validation.

- Validation may be the missing link to involvement (p. 37).

One key finding was that validation helps students gain confidence in their academic ability and know that their newly acquired skills can transfer to other classes. Faculty/student interaction involving validation influenced students' intent to persist (Barnett, 2007, 2011).

Student Motivation, Self-Regulated Learning, and Resilience

Two different conceptions of achievement motivation emerged in the last fifty years: motivation viewed as a physiological drive or need that pushes individuals toward action and learned drives such as the needs for social approval, power, and achievement (Covington, 2000). The earlier theories of motivation emphasized the satisfaction of hunger and thirst (Woodworth, 1918). Due to the limitations of these physiological approaches to understanding human behavior, researchers broadened their focus to learned drives or psychological motives (Maslow, 1954; McClelland, 1961). An alternative view, motives-as-goals, assumes that actions are given meaning, direction, and purpose by the goals that individuals seek out and that the quality and intensity of

behavior will change as these goals change. The drive/goal views are complementary, and each adds to our understanding of achievement motivation (Covington, 2000).

Findings indicate that goals play an important role in self-regulated learning (Ridley, Schutz, Glanz, & Weinstein, 1992). Self-regulated learning is the self-directive process by which learners transform their mental abilities into academic skills, including setting specific goals, adopting strategies for attaining goals, using time management skills, monitoring performance, and managing social and physical contexts (Zimmerman, 2010). Students who have specific goals will more than likely reach their goals, because they have effective study strategies, persistence, and the ability to determine what strategies are needed to meet these goals (Schunk, 2005; Wolters, 1998).

The concept of resilience has been used to describe three major categories in the psychological literature: studies of individual differences in recovery from trauma, studies of high-risk groups that obtain better outcomes than would typically be expected of these individuals, and the ability to adapt despite stressful experiences (Masten, Best, & Gamsey, 1990). One widely used definition of educational resilience is "the heightened likelihood of success in school and other life accomplishments despite environmental adversities brought about by early traits, conditions, and experiences" (Wang, Haertel, & Walberg, 1994, p.46). In examining a cohort of tenth-grade Mexican-American students, Alva (1991) found resilient students (those who maintained a high grade point average in the tenth grade and were from a low socio-economic background) reported higher levels of support from their teachers and friends. In Gonzales and Padilla (1997), academic grades were used as criteria for resiliency. The researchers found that the students' sense of belonging to school was the only significant predictor of academic resilience.

Personality Development and Motivation

Personality development theory is explained with the epigenetic principle, which states that "Anything that grows has a ground plan, and that out of this ground plan the parts arise, each part having its time of special ascendancy, until all parts have arisen to form a functioning whole"(Erickson, 1968, p. 92). The epigenetic principle suggests personality development in eight stages, with each stage including a crisis. The first stage is a crisis of developing a balance between trust and mistrust: an individual must learn who to trust and who not to trust. In the second stage, autonomy versus shame and doubt, "the overall contribution to an eventual identity formation is the very courage to be an independent individual who can choose and guide his own future" (p. 114). The third stage, initiative versus guilt, contributes to identity development by "freeing the child's initiative and sense of purpose for adult tasks which promise a fulfillment of one's range of capacities" (p. 122). In the fourth stage, industry versus inferiority, the child learns to win recognition by producing things, developing perseverance, and adjusting at the risk of estrangement. In the adolescent fifth stage, during a time of physical and social changes, the individual is introduced to a larger society to form his/her own identity. In the sixth stage, the crisis is intimacy versus isolation. If an individual's identity is on the right path, he/she will experience true intimacy, as opposed to a life of isolation and distance. In the seventh stage, generatively versus stagnation, the crisis is establishing and guiding the next generation versus boredom and interpersonal poverty. In the eighth stage, integrity results when "the fruit of the seven stages ripens" (p. 139). If this does not occur, the outcome is despair.

People are motivated to fulfill basic needs before moving on to other needs (Maslow, 1954). In Maslow's hierarchy of needs, often displayed as a pyramid, the basic needs for food, water, sleep, and warmth are lower-level needs. Once these needs are met, people move up to the next level of needs, which are safety and security. Once these are met, needs become psychological and social. The need for love, friendship, and intimacy become important. Then the needs for personal esteem and accomplishment take priority. Finally, self-actualization, a process of growing and developing as a person to achieve individual potential, becomes the driving need.

Faculty Development

Efforts to address retention should be a college-wide responsibility (Williams, 2003). Strategies to improve retention include student success courses, learning communities, effective advising, and hiring the right staff and faculty (McClenney & Waiwaiole, 2005). Department chairs should be attentive to the processes of recruitment and socialization of new faculty and ensure that they understand departmental and institutional performance expectations (Schuh & Kuh, 2005). The potential impact of one group – faculty – on student success far outweighs all others (Stevenson, Buchanan, & Sharpe, 2006):

> Because student success is ultimately determined by their persistence to graduation, and student mastery of academic content determines their persistence and graduation, and faculty determine the extent to which mastery of course has occurred, faculty is vital to student success. (p. 141)

Summary

During the past 100 years, there has been an upward trend in the number of community colleges. There are many different factors affecting student retention and success at these institutions. Each institution should conduct targeted research to determine the important student retention factors for that institution (Astin, 1993; Craig & Ward, 2008). This chapter provided an overview of the current state of student retention in post-secondary education highlighting studies related to students' experience in post-secondary education from two different perspectives: 1) demographic characteristics and student retention and 2) faculty involvement (faculty-student interaction and validation) and student retention. Faculty development literature was also highlighted as it relates to faculty improvement of behavior. Finally, for the purposes of this study the literature on demographic characteristics, faculty involvement, student motivation, self-regulated learning, resilience, personality development, motivation and faculty development was linked to student retention and success.

Research Questions

After reviewing 30 years of retention research, Metz (2004-2005) urged colleges to develop an understanding of the predictors of retention that operate within their institutions. The purpose of this study was to contribute to the existing literature and professional practice in post-secondary education by examining selected predictors at CNM by answering two research questions:

1. How do students with selected demographics perceive faculty involvement?

2. How does Barnett's (2007, 2011) college experience questionnaire perform based on a sample of students from a community college in New Mexico?

Figure 4 presents the model for student retention and success examined in this

study.

Figure 4

A Model of Student Retention and Success

Student Demographics	Faculty Involvement
-Socioeconomic Status (SES)	-Student/Faculty Interactions
-Level of Cultural, Social and Emotional Capital	-Validation
-Race/Ethnicity (Minority Identification)	
- Generational Status (Generational Identification)	Student Retention → Success
-Gender	
-Age (Nontraditional/Traditional)	Faculty Development
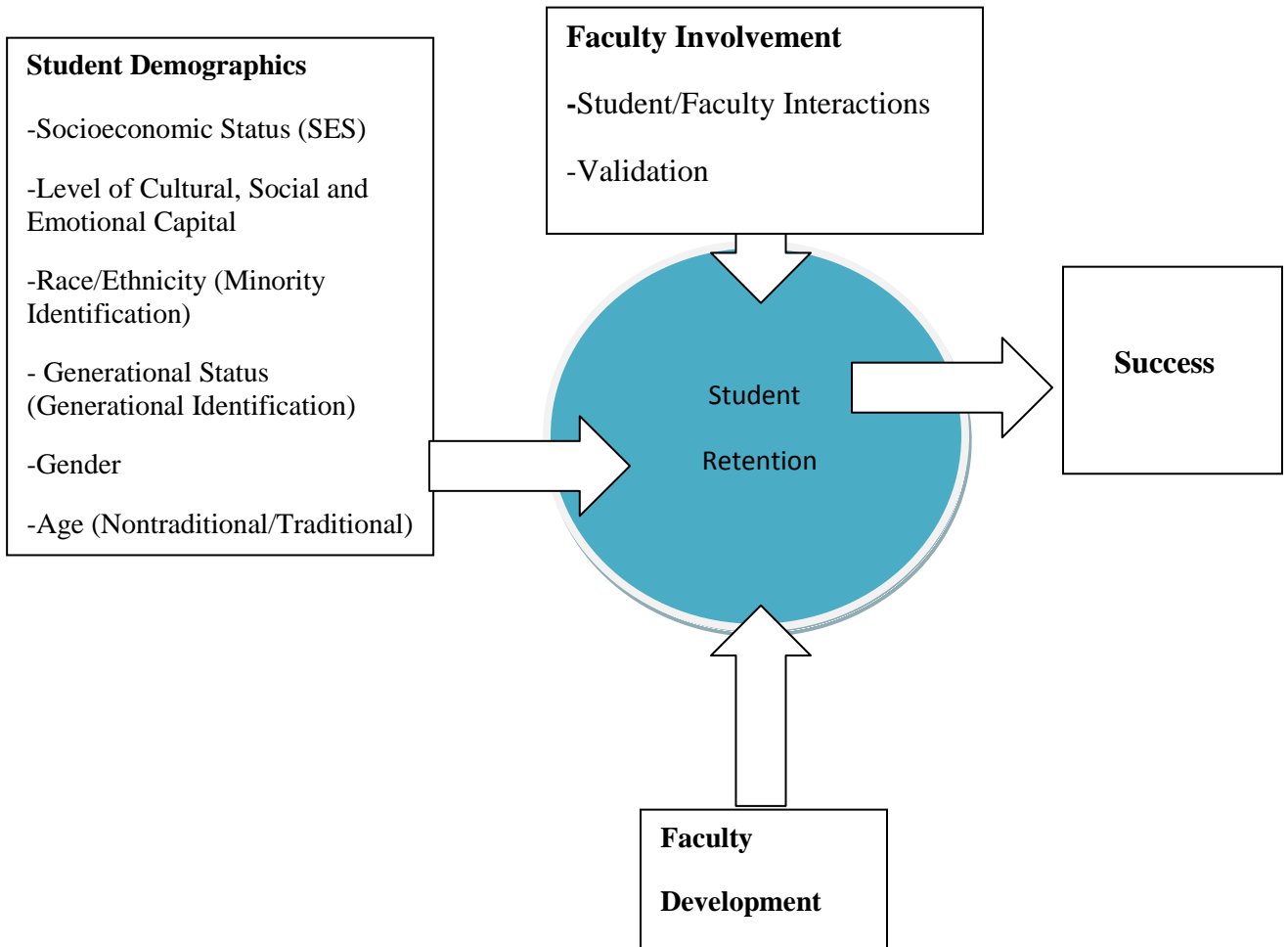
Chapter III

Research Design

Introduction

This study of student perception of faculty involvement relates to student retention and success at Central New Mexico (CNM). There is limited research that includes faculty involvement as a variable in predicting student retention and success. The effects of classroom practice upon student learning and persistence are ripe for exploration (Tinto, 2006).

Instrumentation

A college experience survey developed and tested by Barnett (2007, 2011) was chosen, because the responses to the items best captured the kind of information needed to answer the research questions.

Barnett (2007, 2011) used rigorous methods to develop the instrument (Dawis, 1987; Devellis, 2003; Dillman, 2000; Ebel & Frisbie, 1991; Kuh, 2001; Messick, 1995; Pope & Mueller, 2000) to insure its validity and reliability, with particular focus on the creation of a scale to measure faculty validation. Scale development involved:

1. The creation of items based on the literature,

2. A review of the items by 10 national experts on student development and student persistence in post-secondary education,

3. The selection of items, and

4. The use of a number of statistical and procedural measures to assess their performance (Barnett, 2007, 2011).

The dependability of the instrument was evaluated by estimating Cronbach's Alpha

reliability coefficient – a widely reported statistic, because it largely determines the

possible accuracy of the measurements (Vogt, 2007).

The 25 questions in the first section, "When I think about the classes I have taken

at this college, I would say that…" gather information about instructor involvement from

community college students. The 14 items in the second section, "When I think about this

college in general, I would say…" gather information about the student's college

involvement. The nine questions in the third section, "In your experiences at this college,

how often have you done each of the following…" ask about student engagement with

the instructor. The final demographic section is composed of seven items.

Instrument Modification

Barnett's (2007, 2011) instrument (see Appendix A) was modified to include

additional questions based on the literature regarding faculty involvement and how it

relates to student retention and success. The researcher used his experience as a faculty

member to create these additional items.

Response categories were changed from "Very strongly disagree, Strongly

disagree, Disagree, Neutral, Agree, Strongly agree, Very strongly agree" to "Completely

agree, Agree, Undecided, Disagree, Completely disagree." The background/demographic

information items were also modified. Table 2 presents the item as originally stated in

Barnett's (2007, 2011) instrument and the modified item.

Table 2

Modifications to the College Experience Instrument Developed by Barnett (2007, 2011)

Original Background/Demographic Item	Modified Item
What is your racial/ethnic background: White, Black or African American, Hispanic/Latino, Asian or Pacific Islander, American Indian or Alaskan Native, Other	How do you identify your race/ethnicity? Hispanic/Latino, White, American-Indian, Black or African American, Asian or Pacific Islander, Other
I last attended high school in _____ and my high school GPA was _____.	Removed
What is your overall college GPA?	What is the total household income where you live? _____ $0-$15,000 _____ $16,000-$20,000 _____ $21,000-$25,000 _____ $26,000-$30,000 _____ $31,000-$35,000 _____ $36,000-$40,000 _____ $41,000 or more
How many college credit hours are you taking this semester?	Are you the first person in your family to attend college? Yes or No
Over the entire time you have been enrolled in college (here and elsewhere), how many college credit hours have you earned?	Did you enroll in at least one course at CNM in the Spring 2011 semester? Yes or No If yes, did you complete the course (s)?

 The modified item Hispanic/Latino, White, Other, Native-American, Black or African American, Asian or Pacific Islander is due to New Mexico demographics.

Prior to disseminating the instrument, an expert volunteer was asked about changes to the survey and cognitive interviews were conducted with five students to receive their input on the survey instrument. The students completed the questionnaire

and then discussed how the items were understood. No additional modifications were made.

Creation of Faculty Involvement and Student Demographic Variables

The constructed variables based on the items in the modified questionnaire are presented in Table 3.

Table 3

Faculty Involvement and Student Demographic Variable Names, Descriptions, and Metrics Based on the Items in the Modified Questionnaire

	Variable Name	Variable Description	Variable Metric/Labels
1	College ID	College ID	
2	S1 through S25	25 items that ask community college students about instructor involvement	5 = Completely Agree 4 = Agree 3 = Undecided 2 = Disagree 1 = Completely Disagree
3	S26 through S39	14 items that ask about the student's college involvement	5 = Completely Agree 4 = Agree 3 = Undecided 2 = Disagree 1 = Completely Disagree
4	S40 through S48	9 items that ask about the student's engagement with the instructor	4 = Daily 3 = Once a week 2 = Once a month 1 = Once a semester 0 = Never
5	Gender	Student's gender	0 = female 1 = male
6	Race/Ethnicity	Student's racial/ethnic background	1 = Hispanic/Latino 2 = White 3 = American Indian 4 = Black/African American 5 = Asian/Pacific Islander 6 = Other
7	Age	Student's age	Age in years

Table 3 (continued)

Faculty Involvement and Student Demographic Variable Names, Descriptions, and

Metrics Based on the Items in the Modified Questionnaire

	Variable Name	Variable Description	Variable Metric/Labels
8	First Generation	Are you the first person in your family to attend college?	0 = no 1 = yes
9	SES	What is the total household income where you live?	$0-$15,000 $16,000-$20,000 $21,000-$25,000 $26,000-$30,000 $31,000-$35,000 $36,000-$40,000 $41,000 or more
10	Persist	Did you enroll in at least one course at CNM in the Spring 2011 semester?	0 = No 1 = Yes
11	Class Completion	Did you complete the course(s)?	0 = No 1 = Yes

Sample

Barnett (2007, 2011) used Midwest College, an urban community college, for her

study. The student population consisted of all students attending credit-bearing classes.

Introductory college-level English (101, 102) classes offered during Spring 2006 were

selected for the study, because students in these required classes were representative of

degree-seeking students at the college. In addition, these students would have already

demonstrated their readiness to undertake college level work by passing placement tests

or completing remedial coursework. A total of 333 students from 22 English classes at

Midwest College were surveyed.

This study's sample came from the total population of students enrolled in classes in the School of Business & Information Technology (BIT) at CNM during Fall 2010. Students were in classes at all CNM instructional sites and enrolled in CNM's online Distance Learning Program. Students were enrolled in a minimum of six credit hours in Fall 2010 (three credits in one BIT class and three credits in another CNM school, such as Communication, Humanities & Social Sciences, or the School of Adult & General Education). Also, after conducting an interview with an expert in CNM student enrollment administration who volunteered information, it was decided to survey students enrolled in classes where the faculty had five or more years teaching experience at CNM giving evidence of effective teaching, the ability to relate to students, interpersonal skills, communication skills, proficiency in the use of technology, and a degree in the discipline being taught (Higgins, Hawthorne, Cape, & Bell 1994; Law, 1994). Additional conditions for inclusion in the sample included:

1. Enrollment in a School of Business & Information Technology (BIT) class at the 1000 level or above,

2. Enrollment at census date in a BIT class that was a full term course,

3. The student was 18 years of age or older,

4. The student had earned fewer than 50 credit hours, and

5. The student was not enrolled in one of the researcher's CNM business classes in Fall 2010 or Spring 2011.

Administration of the Questionnaire

An electronic version of the questionnaire was created and hosted by Survey Monkey. Approval was received to administer the questionnaire from CNM's

Institutional Review Board (IRB) during the Summer 2011 term and from The University

of New Mexico's (UNM's) Institutional Review Board (IRB) during the Fall 2011

semester. A request was made and email names and addresses from the CNM Office of

Planning, Budget, & Institutional Research were received for the survey during the Fall

2011 term. A series of three emails were sent to 1,762 CNM students over a three-month

period (October – December, 2011). All students eligible for the study were invited to

participate. The invitation included a link to the electronic questionnaire with a required

consent form appearing on the first page of the questionnaire. If a student elected not to

provide consent, s/he was not able to proceed into the questionnaire itself.

Data Set Construction

One hundred sixty-two responses were downloaded from Survey Monkey. The

final analytic dataset of 136 cases was created: 1) eighteen cases were eliminated because

they were blank reducing the dataset to 144 cases, and 2) eight cases were eliminated

because no answers were given to Question 10 or 11 or both reducing the dataset to 136

cases.

Data Analysis

Descriptive statistics were calculated, Cronbach's Alpha reliability coefficient

was estimated, a series of sub-scores were created, and correlation analyses were

conducted.

Validity in this study is supported by a relevant design for the question being

investigated (Vogt, 2007). This research design tells us what we want to know about

student perceptions of faculty involvement in the classroom. To assess content validity of

the instrument, an expert volunteer (Dr. Barnett) provided her opinion regarding the

survey questions. She agreed that the design in this study was relevant for the questions being investigated. In addition, five students completed the questionnaire and discussed the survey questions. They, too, agreed that the design of this study was relevant for the questions being investigated.

Reliability in this study is supported by consistency in measurement. Cronbach's Alpha was estimated in order to examine the reliability of the survey instrument. The scale for the 10 items in Question 2 has a Cronbach's Alpha of .915, the scale for the ten items in Question 3 has a Cronbach's Alpha of .931, and the scale for the 14 items in Question 10 has a Cronbach's Alpha of .882. Since Cronbach's Alpha ranges from zero when the measures are totally inconsistent to 1.0 when the items correlate with one another perfectly, and an alpha of .70 or higher is often considered satisfactory, the items in the scales for Question 2, 3, and 10 appear to be measuring the same thing and are highly correlated (Vogt, 2007).

Chapter IV

Findings

Sample

A total of 1,762 students at CNM received the email invitation to take part in the study resulting in 162 original responses. After eighteen responses were eliminated due to missing information, the data set was reduced to 144 participants. Then eight responses were eliminated due to missing information for Question 10 or 11 or both bringing the sample in this analytic set to 136 participants (see Appendix D).

More women than men (82 vs. 52) completed the questionnaire, which is consistent with the CNM Office of Planning, Budget & Institutional Research Fact book for 2010-2011 that reported more women 16,706 (55.8 percent) than men 13,242 (44.2 percent) enrolled. Fifty-four White participants, 43 Hispanic participants, 14 Black/African American participants, 8 American Indians, 6 Asian/Pacific Islander, and 7 that identified as "Other" completed the questionnaire. This reflects the statistics from the CNM Office of Planning, Budget & Institutional Research Fact book for 2010-2011, which reported 11,125 (37.1 percent) White students; 12, 774 (42.7 percent) Hispanic students; 1,114 (3.7 percent) Black/African American; 2,103 (7.0 percent) American Indians; 679 (2.3 percent) Asian/Pacific Islander; and 1,623 (5.4 percent) Other enrolled during the Fall 2010 term at CNM. There were more than twice as many participants (92 vs. 44) that were not first-generation college students as there were first-generation students. Twenty-five percent of the participants (34) were from very low income households (0 –$15,000), 17 percent of the participants (23) were from low income households ($16,000 –$20,000), 4 percent of the participants (6) were from moderate

income households ($21,000 - $25,000), 9 percent of the participants (12) were from households with incomes in the $26,000-$30,000 range, 7 percent of the participants (10) were from households in the $31,000-$35,000 range, 11 percent of the participants (15) were from households in the $36,000-$40,000 range, and 22 percent of the participants (30) were from households with incomes of at least $41,000 or more. During the Fall 2010 term, the ages of the 29,948 students enrolled at CNM ranged from 18 and under to over 50, with an average age of 29 (CNM, 2011). Participants in the analytic sample ranged in age from 19 to 65, with an average age of 37.

Almost all the participants (127 vs. 9) enrolled in the Spring, and almost all (116 vs. 8) completed the course(s) in the Spring. The participants were a self-selecting sample that persisted. They appeared to have been more sophisticated at navigating higher education based on their success in persisting at this stage of their educational journey.

Table 4 presents a summary table of the descriptive statistics for the demographic variables.

Table 4

Descriptive Statistics for Demographic Variables

Variable Name	Frequency	Percent
Gender		
Female = 0	82	60.3%
Male = 1	52	38.2%
Race/Ethnicity		
Hispanic/Latino = 1	43	31.6%
White = 2	54	39.7%
Native American = 3	8	5.9%
Black/African American = 4	14	10.3%
Asian/Pacific Islander = 5	6	4.4%
Other = 6	7	5.1%
First Generation		
Yes = 1	44	32.4%
No = 0	92	67.5%
SES (Household Income)		
$0 - $15,000	34	25%
$16,000 - $20,000	23	16.9%
$21,000 - $25,000	6	4.4%
$26,000 - $30,000	12	8.8%
$31,000 - $35,000	10	7.4%
$36,000 - $40,000	15	11.0%
$41,000 or more	30	22.1%
Age		
Mean	37.34	
Std. Dev.	11.84	
Minimum	19	
Maximum	65	

Table 5 presents a cross tabulation of females household income, first-generation to attend college, and race/ethnicity.

Table 5

Cross Tabulation of Females HH Income, First Generation to Attend College, and

Ethnicity

HH Income	First Generation	Hispanic	White	American Indian	Black/African American	Asian/Pacific Islander	Other	Selected more than one category	Total
$0 to $15,000	No	3	5	0	1	1	1		11
	First to attend college	4	3	2	0	0	0		9
	Total	7	8	2	1	1	1		20
$16,000 to $20,000	No	3	3	2		1	2		11
	First to attend college	0	1	0		0	1		2
	Total	3	4	2		1	3		13
$21,000 to $25,000	No		2						2
	First to attend college		1						1
	Total		3						3
$26,000 to $30,000	No	0	3	1	2				6
	First to attend college	2	1	0	0				3
	Total	2	4	1	2				9
$31,000 to $35,000	No	2	2	0	0				4
	First to attend college	1	0	1	1				3
	Total	3	2	1	1				7
$36,000 to $40,000	No	5	2	0			1		8
	First to attend college	0	0	1			0		1
	Total	5	2	1			1		9
$41,000 or more	No	2	6		1	1	1	1	12
	First to attend college	2	1		0	1	0	0	14
	Total	4	7		1	2	1	1	16

Table 6 presents a cross tabulation of males household income, first-generation to attend college, and race/ethnicity.

Table 6

Cross Tabulation of Males HH Income, First Generation to Attend College, and Ethnicity

HH Income	First Generation	Hispanic	White	American Indian	Black/African American	Asian/Pacific Islander	Other	Selected more than one category	Total
$0 to $15,000	No	1	4		1	1			7
	First to attend college	3	0		2	0			5
	Total	4	4		3	1			12
$16,000 to $20,000	No	2	3		1		1		7
	First to attend college	3	0		0		0		3
	Total	5	3		1		1		10
$21,000 to $25,000	No	0		1					1
	First to attend college	2		0					2
	Total	2		1					3
$26,000 to $30,000	No		2		1				3
	First to attend college		0		0				0
	Total		2		1				3
$31,000 to $35,000	No		2		0				2
	First to attend college		0		1				1
	Total		2		1				3
$36,000 to $40,000	No	0	3		1				4
	First to attend college	1	1		0				2
	Total	1	4		1				6
$41,000 or more	No	5	3			0		1	9
	First to attend college	6	3			1		0	10
	Total	11	6			1		1	19

Females in the $0 to $15,000 HH Income category outnumbered men 20 to 12. For females, 11 were not the first generation in their families to attend college, as compared to 9 that were the first generation in their family to attend college. For males, seven were not the first generation to attend college, as compared to five that were in the first generation to attend college. Students from first generation and low-income backgrounds are less likely to enroll in post-secondary education and less likely to persist through graduation (Thayer, 2000).

There were fewer females in the $41,000 or more HH income category than men, 16 vs. 19. In this income bracket, 12 females were not the first generation to attend college, as compared to 14 that were the first generation to attend college. Nine males in this income bracket were not the first generation to attend college, as compared to 10 that were the first generation to attend college.

Responses to the Questionnaire

This section includes a discussion of the responses to the 10 items that make up Question 2 (see Table 7), the 15 items that make up Question 3 (see Table 8), the 14 items that make up Question 10 (see Table 9), and the 9 items that make up Question 11 (see Table 10).

Table 7 presents the percentage of responses by item for Question 2.

Table 7

Question 2 Instructors' Involvement with Community College Students (n = 136)

Question Item	Completely Agree (5)	Agree (4)	Undecided (3)	Disagree (2)	Completely Disagree (1)
(Q2a) At least one instructor helped me.	49%	37%	8%	5%	1%
(Q2b) My instructors accept me.	33%	52%	10%	5%	
(Q2c) At least one instructor has talked with me about my personal goals.	35%	29%	12%	16%	8%
(Q2d) My instructors care how I am doing.	25%	49%	15%	11%	1%
(Q2e) My instructors understand students come from different backgrounds.	40%	38%	11%	9%	2%
(Q2f) Most instructors are interested in what I have to offer.	26%	43%	18%	12%	1%
(Q2g) Instructors encourage me to openly share my views in	35%	46%	14%	4%	1%

class.					
(Q2h) Instructors believe in my ability to do the class work.	32%	48%	12%	7%	1%
(Q2i) My instructors know who I am.	33%	38%	15%	10%	4%
(Q2j) My instructors take as long as needed to help me understand the class material.	25%	35%	22%	14%	4%

Individual Responses for Question 2

Over three-quarters of the participants (117) agreed with Q2a that "At least one instructor helped me." This aids students to feel that their psychological and social needs are being met (Maslow, 1954). Over three-quarters of the participants (116) agreed with Q2b that "My instructors accept me," suggesting that their need for social approval was being met (Covington, 2000).

Nearly three-quarters of the participants (87) agreed with Q2c that "At least one instructor has talked with me about my personal goals." However, 24 percent of the participants (33) disagreed that "At least one instructor has talked with me about my personal goals." Students that have specific goals will more than likely reach their goals, because they have effective study strategies, persistence, and the ability to determine what strategies are needed to meet these goals (Schunk, 2005; Wolters, 1998).

Nearly three-quarters of the participants (101) agreed with Q2d that "My instructors care how I am doing." "Caring attitude" is one of eight specific types of student-faculty interactions that serve as a predictor of academic self-concept and three types of academic motivation (intrinsic, extrinsic, and motivation), as well as academic achievement (Komarruju, Musulkin, & Bhattacharya, 2010).

Over three-quarters of the participants (106) agreed with Q2e that "My instructors understand that students come from different backgrounds." Instructors need to remember that the combination of both traditional and older students makes the classroom unique because of the mixed-age classroom (Lynch & Bishop-Clark, 1998).

Nearly three-quarters of the participants (94) agreed with Q2f that "Most instructors are interested in what I have to offer," and yet 13 percent of the participants (18) disagreed that "Most instructors are interested in what I have to offer." The most vulnerable non-traditional students can become powerful learners through in and out of class, academic, and/or personal validation (Rendon, 1994, 2002). Over three-quarters of the participants (110) agreed that "Instructors encourage me to openly share my views in class." Actively involving students in discussion fosters retention of information, application of knowledge to new situations, and development of higher-order thinking skills (McKeachie, 1994).

Over three-quarters of the participants (109) in response to Q2h agreed that "Instructors believe in my ability to do the class work." The potential impact of one group – faculty – on student success far outweighs all others (Stevenson, Buchanan, & Sharpe, 2006).

Nearly three-quarters of the participants (97) agreed with Q2i that "My instructors know who I am." Still, 14 percent of the participants (19) disagreed that "My instructors know who I am." "Caring attitude" serves as a predictor of academic self-concept and three types of academic motivation (intrinsic, extrinsic, and motivation), as well as academic achievement (Komarruju, Musulkin, & Bhattacharya, 2010).

Finally, over half of the participants (82) were in agreement with the idea that "My instructors take as long as needed to help me understand the class material," yet 18 percent of the participants (24) disagreed with this notion. In believing that they can take as long as needed to understand the material, students may be more likely to be successful and as a result experience higher levels of personal esteem and accomplishment (Maslow, 1954).

Level of Agreement with Instructor Involvement

When the responses for Q2a through Q2j were combined and analyzed, it was determined that the level of agreement reflected very high instructor involvement with these community college students. Nearly three-quarters of the participants (102) agreed that their instructors cared how they were doing. "Caring attitude" is one of eight specific types of student-faculty interactions that serve as a predictor of academic self-concept and three types of academic motivation (intrinsic, extrinsic, and motivation), as well as academic achievement (Komarruju, Musulkin, & Bhattacharya, 2010).

Findings for Q2 were consistent with key findings on high expectations and aspiration in the SENSE (2011) survey where more than three-quarters of respondents (87 percent) agreed that the instructors at their colleges want them to succeed. In another study, CNM administered the Noel-Levitz Student Satisfaction Inventory (SSI) during

Fall 2010 to all enrolled students (CNM Office of Planning, Budget & Institutional

Research, 2010). A total of 2,266 students completed the survey with each student rating

statements 1 (least important/satisfied) to 7 (most important/satisfied). Findings for the

statement "Faculty care about me as an individual" were importance (6.25) and

satisfaction (5.50). The gap (.75) was the difference between the two. Table 8 presents

the percentage of responses by item for Question 3.

Table 8

Question 3 Instructors' Involvement with Community College Students (n=136)

Question Item	Completely Agree (5)	Agree (4)	Undecided (3)	Disagree (2)	Completely Disagree (1)
(Q3a) I feel accepted as capable by my instructors.	28%	59%	12%		1%
(Q3b) My instructors make me feel I bring valuable ideas to class.	23%	49%	27%		1%
(Q3c) I interact with my instructors outside of class.	14%	24%	46%		16%
(Q3d) My instructors give me individual help.	27%	48%	23%		2%
(Q3e) Even if my classes are hard I can learn.	37%	53%	9%		1%
(Q3f) My instructors really care whether I am learning.	25%	42%	20%	11%	2%
(Q3g) Different ethnicities are encouraged to contribute to the discussion.	33%	48%	15%	2%	2%
(Q3h) With enough time, I can do a good job on my coursework.	50%	43%	4%	2%	1%
(Q3i) I am encouraged to share life experiences related to the course material.	29%	50%	13%	7%	1%
(Q3j) I can express my opinions in class.	30%	54%	9%	5%	2%
(Q3k) My instructors provide lots of written	21%	40%	17%	18%	4%

feedback on my assignments.					
(Q3l) I feel my personal and family history is valued in class.	17%	25%	40%	15%	3%
(Q3m) Women are encouraged to contribute to the class discussion.	32%	52%	13%	2%	1%
(Q3n) I am treated equally to other students.	32%	52%	10%	4%	2%
(Q3o) My instructors make their class interesting.	31%	49%	12%	5%	3%
(Q3o) My instructors make their class interesting.	31%	49%	12%	5%	3%

Individual Responses for Question Three

Over three-quarters of the participants (118) agreed with Q3a that "I feel accepted as capable by my instructors." Encouraging contact between students and faculty directly influences the quality of students' learning and education experiences (Chickering & Gamson, 1987). Nearly three-quarters of the participants (98) in response to Q3b agreed that "My instructors make me feel I bring valuable ideas to class." Enabling, confirming, and a supportive process initiated by in and out of class agents foster academic and interpersonal development (Rendon, 1994).

Less than half of the participants (52) agreed with Q3c that "I interact with my instructors outside of class," with 46 percent (63) of the participants undecided and 16 percent (22) in disagreement. Since frequent student-faculty interaction, both in and outside of class, had significant positive correlations with every academic attainment

outcome studied in Astin (1993), this is an important area that may need to be addressed with faculty through training, since outside of class opportunities to interact with faculty exist during faculty office and other hours.

Three-quarters of the participants (102) in response to Q3d agreed that "My instructors give me individual help." Frequent, meaningful interactions between students and their teachers are important to learning and personal development (Kuh & Hu, 2001).

Close to 100% of the participants (122) agreed with Q3e that "Even if my classes are hard, I can learn," with 9 percent (12) of the participants undecided and 1 percent (1) in disagreement. The concept of resilience may apply here, since many of the CNM participants were at-risk students, and studies of high-risk groups suggest better outcomes than would typically be expected of these individuals and their ability to adapt despite stressful experiences (Masten, Best, & Gamsey, 1990).

In response to Q3f, nearly three-quarters of the participants (91) agreed that "My instructors really care whether I am learning." As with Q2d, "caring attitude" is one of eight specific types of student-faculty interactions that serve as a predictor of academic self-concept and three types of academic motivation (intrinsic, extrinsic, and motivation), as well as academic achievement (Komarruju, Musulkin, & Bhattacharya, 2010).

When responding to Q3g, over three-quarters of the participants (110) found that "Different ethnicities are encouraged to contribute to the discussion." Validation may be a more important student retention influence for non-traditional students, such as returning adults, low-income students, first-generation students, and many women and minority students from working-class backgrounds, than living in residence halls,

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participation in college courses, and engagement in campus activities in college (Rendon, 1994, 2002).

Close to 100% of the participants (126) agreed with item Q3h that "With enough time, I can do a good job on my coursework." Experiencing success in this fashion may contribute to a positive sense of self-esteem and accomplishment (Maslow, 1954).

Over three-quarters of the participants (107) agreed with Q3i that "I am encouraged to share life experiences related to the course material." The participants' cultural, social, and/or emotional capital may be a factor here in providing a sense of trust, safety, and well-being for the student (Garrison, 2003; Putnam, 2000; Thomas, 2000). Over three-quarters of the participants (114) also agreed with Q3j that "I can express my opinions in class." This may reflect faculty actively involving students in discussion, which fosters retention of information, application of knowledge to new situations, and development of higher-order thinking skills (McKeachie, 1994).

Over half of the participants (83) in response to Q3k agreed that "My instructors provide lots of written feedback on my assignments," but 17 percent (23) were undecided and 22 percent (30) disagreed. There appears to be a need to improve effectiveness of instructors in this area. One of the six most frequently mentioned attributes adult learners over 25 years of age expected of effective instructors was to emphasize relevant class material (Donaldson, Flannery, & Ross-Gordon, 1993). Providing targeted, constructive feedback on student work is one way to emphasize what is relevant.

Fewer than half of the participants (57) agreed with item Q3l that "I feel my personal and family history is valued in class." At the same time, 40 percent (54) of participants were undecided, and 18 percent (24) disagreed in response to this item. This

is an area where faculty may need training, since culturally competent faculty play a role in student retention (Nevarez, 2001). Over three-quarters of the participants (114) in response to Q3m agreed that "Women are encouraged to contribute to the class discussion." Actively involving students in discussion fosters retention of information, application of knowledge to new situations, and development of higher-order thinking skills (McKeachie, 1994). The fact, however, that there was some disagreement with this statement suggests a direction for future research.

When responding to Q3n, over three-quarters of the participants (114) believed that "I am treated equally to other students." Since communicating high expectations directly influences the quality of students' learning and their education experiences, faculty would do well to communicate high expectations equally, if they are not already doing so (Chickering & Gamson, 1987).

In answering Q3o, over three-quarters of the participants (109) agreed that "My instructors make their class interesting." The six attributes of an effective instructor to adult learners (be knowledgeable, show concern for student learning, present material clearly, motivate, emphasize relevant class material, and be enthusiastic) can be applied here (Donaldson, Flannery, & Ross-Gordon, 1993).

Level of Agreement with Instructor Involvement

Combining the levels of agreement to the items in Q3a through Q3o revealed that these community college students believed they experienced very high levels of involvement with their instructors. As was the case with Question 2, nearly three-quarters of the participants (102) agreed that they felt valued in class. Validation may be a more important student retention influence for non-traditional students, such as returning

adults, low-income students, first-generation students, and many women and minority students from working-class backgrounds, than living in residence halls, participation in college courses, and engagement in campus activities in college (Rendon, 1994, 2002). Again, nearly three-quarters of the participants (102) agreed that their instructors care how they are doing. "Caring attitude" is one of eight specific types of student-faculty interactions that serve as a predictor of academic self-concept and three types of academic motivation (intrinsic, extrinsic, and motivation), as well as academic achievement (Komarruju, Musulkin, & Bhattacharya, 2010).

In the CNM-administered Noel-Levitz Student Satisfaction Inventory (SSI) during Fall 2010, findings for the statement "Faculty are fair and unbiased in their treatment of individual students" were importance (6.58), satisfaction (5.66), gap (.92) (CNM Office of Planning, Budget & Institutional Research, 2010).

Table 9 presents the percentage of responses by item for Question 10.

Table 9

Students' Perceptions of their Involvement in the College (n=136)

Question Item	Completely Agree (5)	Agree (4)	Undecided (3)	Disagree (2)	Completely Disagree (1)
(Q10a) I see myself as part of the campus community.	20%	41%	16%	17%	6%
(Q10b) I'm certain I can do almost all the college work if I don't give up.	54%	1%	40%	3%	2%
(Q10c) My instructors encourage student involvement on campus.	16%	33%	27%	21%	3%

(Q10d) I can master the skills taught at this college.	48%	44%	7%	1%	
(Q10e) I am planning on returning for Fall, 2011.	54%	37%	5%	2%	2%
(Q10f) I can do almost all the work.	52%	46%	2%	2%	
(Q10g) I feel I am a member of the campus community.	27%	29%	23%	14%	7%
(Q10h) I expect to complete a degree or certificate.	60%	34%	3%	2%	1%
(Q10i) I feel I belong to the campus community.	26%	27%	23%	18%	6%
(Q10j) My instructors are accessible outside classroom/office.	20%	43%	22%	13%	2%
(Q10k) I can do the hardest coursework.	51%	39%	9%	1%	
(Q10l) I've had one or more instructors as a mentor.	32%	34%	21%	11%	2%
(Q10m) My instructors remember my name.	37%	48%	5%	7%	3%
(Q10n) I'm certain I can do the most difficult coursework.	41%	49%	8%	2%	

Individual Responses for Question 10

Over half of the participants (83) agreed with Q10a that "I see myself as part of the campus community." It may be that the participants that agreed had experienced successful academic and social integration within the college and the others had not (Tinto, 1993).

In response to Q10b, better than 50 percent of the participants (75) found that "I'm certain I can do almost all the college work if I don't give up." This points to the importance of the role of psychological and social needs (Maslow, 1954) in student success. Forty percent (54) of participants were undecided about this, and 5 percent (7) disagreed. These participants may have been struggling with "the very courage to be an independent individual who can choose and guide his own future" (Erikson, 1968, p. 114).

Fewer than half of the participants (67) agreed with Q10c that "My instructors encourage student involvement on campus," but 27 percent (37) of participants were undecided and 24 percent (33) disagreed. Many scholars have attempted to explain student retention as integration and involvement in college flowing naturally from living in residence halls, participation in college courses, and engagement in campus activities in college (Astin, 1993; Pascarella & Terenzini,2005; Terenzini, Rendon, Upcraft, Millar, Allison, Gregg & Jalomo, 1996; Tinto, 1993, 1998, 2004).

Over 90 percent of the participants (125) agreed with Q10d that "I can master the skills taught at this college," potentially reflecting high self-esteem (Maslow, 1954).

In response to Q 10e, over 90 percent of the participants (124) in Q10e agreed that "I am planning on returning for Fall 2011." This question is supportive of the importance

of involvement, or engagement, and that it matters most during the critical first year of college (Upcraft, Gardner, & Barefoot, 2005).

Almost 100 percent of the participants (133) agreed with Q10f that "I can do almost all the work." The responses to this question reflected high self-esteem (Maslow, 1954). Over half of the participants (76) agreed that "I feel I am a member of the campus community" (Q10g). As with Q10a, it may be that these participants experienced successful academic and social integration within the college (Tinto, 1993). Nevertheless, 23 percent (31) of the participants were undecided about their integration within the college, and 21 percent (29) disagreed with this statement, suggesting that they did not experience academic and socially integration (Tinto, 1993).

Self-regulated learning may have contributed to the fact that over 90 percent of the participants (128) agreed with Q10h that "I expect to complete a degree or certificate." Learners may have been setting specific goals, adopting strategies for attaining goals, using time management skills, monitoring performance, and managing social and physical contexts (Zimmerman, 2010).

Over one-half of the participants (72) agreed that "I feel I belong to the campus community" (Q10i). It may be that these participants experienced successful academic and social integration within the college (Tinto, 1993). On the other hand, 23 percent (31) of participants were undecided, and 24 percent (33) disagreed, thereby suggesting additional steps may need to be taken to ensure that they experience higher levels of academic and social integration.

Better than half of the participants (86) found that "My instructors are accessible outside classroom/office" (Q10j), but 22 percent (30) of participants were undecided and

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15 percent (20) disagreed. Frequent student-faculty interaction, both in and outside of class, had significant positive correlations with every academic attainment outcome studied (Astin, 1993).

With 90 percent of participants (122) agreeing that "I can do the hardest coursework" (Q10k) and over three-quarters of the participants agreeing that "I'm certain I can do the most difficult coursework" (Q10n), it appeared that these participants had high levels of self-esteem and felt supported in their psychological and even social needs (Maslow, 1954). Nearly three-quarters of the participants (90) agreed with Q10l that "I've had one or more instructors as a mentor." On the other hand, 21 percent (29) of participants were undecided and 13 percent (18) disagreed. The participants that answered this question with "Agree" may have viewed instructors as mentors if they exhibited a "caring attitude." "Caring attitude" is one of eight specific types of student-faculty interactions that serve as a predictor of academic self-concept and three types of academic motivation (intrinsic, extrinsic, and motiviation), as well as academic achievement (Komarruju, Musulkin, & Bhattacharya, 2010). Further confirmation of the sense of caring (Maslow, 1954) was evident in the agreement by over three-quarters of the participants (116) with item Q10m "My instructors remember my name."

Level of Agreement with Students' Perceptions of College Involvement

The level of agreement, when combining the responses to Q10a through Q10n, reflected very high student self-confidence that they could do the work. Over three-quarters of the participants (102) consistently agreed that they could do the work. The responses to this question reflected high self-esteem (Maslow, 1954). In addition, the majority of the participants (69 or more) agreed that the student felt s/he belonged to the

college community. Students that experience successful academic and social integration within the college tend to do better; however, a large number of the participants (50 or more) were undecided or disagreed, suggesting that their levels of academic and social integration may have been lower (Tinto, 1993).

Findings for Q10 were consistent with key findings on early connections in the SENSE (2011) survey where nearly three-quarters of respondents (72 percent) *agreed* that they felt welcome the first time they came to their colleges, and key findings in high expectations and aspirations where nine of ten students (90 percent) *agreed* that they had the motivation to do what it takes to succeed in college. In the CNM-administered Noel-Levitz Student Satisfaction Inventory (SSI) during Fall 2010, findings for the statement "Faculty are usually available after class and during office hours" were importance (6.48), satisfaction (5.93), gap (.55) (CNM Office of Planning, Budget & Institutional Research, 2010).

Table 10 presents the percentage of responses to items Q11a through Q11i.

Table 10

Students' Engagement with the Instructor (n=136)

Question Item	Daily (4)	Once a Week (3)	Once a Month (2)	Once a Semester (1)	Never
(Q11a) Used email with instructor	6%	52%	19%	21%	2%
(Q11b) Used texting with instructor	1%	4%	7%	7%	81%
(Q11c) Discussed grades with instructor	3%	15%	35%	36%	11%
(Q11d) Discussed assignments with instructor	13%	47%	26%	11%	3%
(Q11e) Talked about career plans with advisor	2%	8%	11%	35%	44%
(Q11f) Talked about career plans with instructor	4%	4%	8%	55%	29%
(Q11g) Discussed ideas from classes with instructors outside class	3%	7%	10%	21%	59%
(Q11h) Received prompt performance feedback from instructors	7%	41%	26%	18%	8%
(Q11i) Worked with instructors on college-related activities other than coursework	4%	5%	4%	13%	74%

A majority of participants, 71 or 52 percent, "Used email to communicate with an instructor" once a week (Q11a). Frequent student-faculty interaction, in and outside the class, has been found to have significant positive correlations with every academic attainment outcome studied (Astin, 1993). Responses to Q11b indicate that 110 participants (81 percent) never "used texting to communicate with an instructor." This

may have been a lost opportunity to involve students in discussion by using a very popular form of communication technology. Actively involving students in discussion fosters retention of information, application of knowledge to new situations, and development of higher-order thinking skills (McKeachie, 1994).

Nearly equal numbers of students indicated that they "Discussed grades with an instructor" at least once a month (48) or once a semester (49) (Q11c). It appears, based on this sample, discussion with the instructor about grades should be improved (Kuh & Hu, 2001; McKeachie, 1994). In contrast, a much larger number of participants (82) "Discussed assignments with an instructor" daily to once a week (Q11d), but the majority of these participants "Talked about career plans with an advisor" (Q11e) either once a semester or not at all (108). This may also have been a lost opportunity to connect with students. Similarly, a majority of participants (114) "Talked about career plans with an instructor" once a semester or not at all (Q11f). Since career guidance is one of the eight specific types of student-faculty interactions that serves as a predictor of academic self-concept (Komarruju, Musulkin, & Bhattacharya, 2010), its frequency should be improved. A majority of participants, 80 or 59 percent, never "Discussed ideas from your classes with instructors outside of class" (Q11g). This is similar to the responses to Question Q3c where only 38 percent of participants agreed that "I interact with my instructors outside of class." In that question, 46 percent of participants were undecided, which suggests the participants were not sure or did not want to comment. Since frequent student-faculty interaction, both in and outside of class, had significant positive correlations with every academic attainment outcome studied in Astin (1993), this is an important area to be addressed through faculty training.

Participants indicated that they "Received prompt performance feedback from instructors" daily (7 percent), once a week (41 percent), once a month (26 percent), once a semester (18 percent), and never (8 percent). This is not favorable, given Tinto's 1993 model that students' decisions to persist or withdraw from college depend on their successful academic and social integration within the college, and part of this successful integration is dependent upon daily interactions between faculty and students. A majority of participants (52 percent) reported receiving prompt performance feedback from instructors once a month to never. Nearly three-quarters (74 percent) of the participants (74 percent) never "Worked with instructors on college-related activities other than coursework" (Q11i). Many scholars have noted that student retention as integration and involvement in college comes from living in residence halls, participation in college courses, and engagement in campus activities in college (Astin, 1993; Pascarella & Terenzini, 2005; Terenzini, Rendon, Upcraft, Millar, Allison, Gregg, & Jalomo, 1996; Tinto, 1993, 1998, 2004). More recently, one of eight specific types of student-faculty interactions is "off-campus interactions," which serve as a predictor of academic self-concept and three types of academic motivation (intrinsic, extrinsic, and motivation), as well as academic achievement (Komarruju, Musulkin, & Bhattacharya, 2010).

The Performance of the Instrument

Barnett (2007, 2011) used rigorous methods to develop the instrument (Dawis, 1987; Devellis, 2003; Dillman, 2000; Ebel & Frisbie, 1991; Kuh, 2001; Messick, 1995; Pope & Mueller, 2000) to insure its validity and reliability, with particular focus on the creation of a scale to measure faculty validation. Scale development involved:

a. The creation of items based on the literature,

b. A review of the items by ten national experts on student development and

   student persistence in post-secondary education,

c. The selection of items, and

d. The use of a number of statistical and procedural measures to assess their

   performance (Barnett, 2007, 2011).

With the approval of Dr. Barnett, the instrument was modified to best capture the

kind of information needed to answer the research questions. Responses from this sample

were used to estimate Cronbach's Alpha reliability coefficient – a widely reported

statistic - because it largely determines the accuracy of this study's measurements (Vogt,

2007).

Researchers use Cronbach's Alpha, a correlational measure of the reliability or

consistency of the items in a scale, when they want to see whether several items that they

think measure the same thing are correlated (Vogt, 2007). For example, this instrument

has 10 items in Question 2 regarding students' perception of instructors' involvement

with community college students. Each of the items measures a different aspect of one

central concept involvement, and together the ten items combine for a useful overall

index of a student's perception of the concept. The items are scored 5 for completely

agree to 1 for completely disagree. Although the responses to each of the items were

studied separately, they were considered together to get an overall measure of students'

perception of instructors' involvement with community college students. In order to

measure the same general construct of involvement, Cronbach's Alpha reliability

coefficient was estimated. In addition, a composite variable for Question 2, two

composite variables for Question 3, and two composite variables for Question 10 were created. The results of the Cronbach's Alpha analyses for each of the composite variables are presented in the following section.

Composite Variables

Composite variables were created by grouping similar items from Question 2, Question 3, and Question 10 to create sub-scores or sub-scales. Items that seemed to be working together were combined to measure or tap into a common concept. The following sub-sections describe five composite variables:

1. Student's Relationship with Instructor (based on items from Q2),

2. Instructor Actions that Contribute to Learning (based on items from Q3),

3. Student Feels Valued by the Instructor (based on items from Q3),

4. Student Feels Sense of Belonging to the College Community (based on items from Q10), and

5. Student's Self-Confidence (based on items from Q10).

Composite Variable for Question 2: Students' Relationship with Instructor

The composite variable for Question 2 provides a total score across 10 items that assess the students' interactions with the instructor at the individual level. Students assessed instructors' interactions with them by thinking about such ideas as feeling accepted and having an instructor who cares. There were 136 responses with a mean of 39.4 and a standard deviation of 7.6; the minimum is 16 and the maximum is 50. The estimate of Cronbach's Alpha reliability coefficient is .915 for these ten items.

A low score of 10 was based on a participant answering every item Q2a through Q2j with "completely disagree." Since a value of 1 was assigned to a response of

"completely disagree," the lowest possible score across the 10 items would be a 10, complete disagreement with all items. A student with a score of 10 did not feel accepted by the instructor, did not feel the instructor cared how s/he was doing, did not feel the instructor was interested in what s/he had to offer, did not feel the instructor knew who the student was, nor did the instructor take as long as needed to help the student understand the class material.

A high score of 50 was based on a participant answering every item Q2a through Q2j with "completely agree." Since a value of 5 was assigned to a response of "completely agree," the highest possible score across the 10 items would be a 50, complete agreement with all items. A student with a score of 50 felt accepted by the instructor, felt the instructor cared how s/he was doing, felt the instructor was interested in what s/he had to offer, felt the instructor knew who the student was, and felt the instructor took as long as needed to help the student understand the class material.

Understanding of Low Scores on the Composite Variable for Question 2 –

Students' Relationship with Instructor

Fourteen people expressed disagreement as measured by the composite variable for Question 2; their scores ranged from 16 to 29. More than twice as many females (10) as males (4) had low scores on this composite. Six of the 14 that expressed disagreement were Hispanic, one was American Indian, one was Black/African American, and one was Asian/Pacific Islander (9 of the 14 were people of color). Eight of the 14 that disagreed lived in households with income below $ 20,000, yet 13 of the 14 enrolled in the Spring 2011 term.

The 14 people may basically have "disagreed" due to their experiences and how they perceived their instructors. They are part of the increase of women in undergraduate education that are non-traditional students with low incomes and families (National Center for Education Statistics, 2005). For these students, effective instructors need to be knowledgeable, show concern for student learning, present material clearly, motivate, emphasize relevant class material, and be enthusiastic (Donaldson, Flannery, & Ross-Gordon, 1993). For students of low socio-economic status, paying for their post-secondary education is difficult, since their expected family contribution can only finance a fraction of tuition depending on the institution (National Center for Education Statistics, 2006). For students of color, their instructors need to be culturally competent, since this plays an increasing role in student retention (Nevarez, 2001). A synthesis of recurring recommendations and proposed solutions for improving the current status of Latinos provided by Nevarez and Rico (2007, p. 10) includes the suggestion that post-secondary institutions need to develop culturally proficient faculty members.

Understanding of High Scores on the Composite Variable for Question 2 – Students' Relationship with Instructor

Sixty-six or 97.1 percent of the people had higher agreement scores on the composite variable for Question 2. Forty or 58.8 percent of females and 26 or 38.2 percent of males agreed. Eighteen Hispanics or 26.5 percent, 28 or 41.2 percent Whites, 7 or 10.3 percent Black/African Americans, 5 or 7.4 percent American Indian, 5 or 7.4 percent Asian/Pacific Islander, and 4 or 5.9 percent Other agreed (35 of 66 were people of color). Age of the participants that had higher levels of agreement varied from 19 years to 65 years with no concentrations at any particular age. Twenty-nine or 42.6 percent that

had higher levels of agreement lived in households with income below $ 20,000. Sixty-three of the 68 responding enrolled in the Spring 2011 term, and 60 of the 62 responding completed the course.

For the 40 females that agreed, it is likely they are part of the increase of women in undergraduate education who are non-traditional and low income with families (National Center for Education Statistics, 2005). Their favorable experiences and perception of instructors may have been because they had effective instructors who were knowledgeable, showed concern for student learning, presented material clearly, motivated, emphasized relevant class material, and were enthusiastic (Donaldson, Flannery, & Ross-Gordon, 1993). It may be that these students of color viewed their instructors favorably because the instructors were perceived to be culturally competent (Nevarez, 2001). In addition, although these female students may have had difficulty paying for their secondary education (due to their low socio-economic status and family responsibilities), 63 of the 68 responding enrolled in the Spring 2011 term, and 60 of the 62 responding completed the course.

Composite Variable for Question 3: Instructor Actions that Contribute to

Learning

The composite variable for Question 3 provided a total score across three items (Q3d, Q3k, and Q3o) that assessed the instructors' caring about the student's learning by actively contributing to the student's learning. Students' assessed the instructors' caring by thinking about such ideas as instructors giving individual help, providing lots of written feedback on assignments, and making their class interesting. There were 136 responses with a mean of 11.5 and a standard deviation of 2.5. The median is 12 and the

mode is 12'; the minimum is 3 and the maximum is 15. The estimate of Cronbach's Alpha reliability coefficient is .789 for these three question items.

A "low" score of 3 is based on a participant responding to items Q3d, Q3k, and Q3o with "completely disagree." Since "completely disagree" was assigned a value of 1, the total possible score for 3 items equaled 3. A student who assessed their instructors' caring as a 3 does not get individual help, does not get much feedback on assignments, and does not find their instructors' class interesting.

A "high" score of 15 was based on a participant responding to items Q3d, Q3k, and Q3o with "completely agree." Since "completely agree" was assigned a value of 5, the total possible score for 3 items equaled 15. A student who assesses their instructors' caring as a 15 gets individual help, gets much written feedback on assignments, and finds his/her instructors' class interesting.

Composite Variable for Question 3: Feelings

This composite variable for Question 3 provided a total score across six items (Q3b, Q3f, Q3i, Q3j, Q3l, and Q3n) that assessed whether the student felt that s/he was valued in class by the instructor. Students' assessed feeling valued in class by thinking about such ideas as instructors' making them feel they bring valuable ideas to class, instructors really caring whether they were learning, being encouraged to share life experiences related to course material, expressing opinions in class, feeling that personal and family history was valued in class, and being treated equally to other students. There were 136 responses with a mean of 23.2 and a standard deviation of 4.3; the median was 23 and the mode was 24. The minimum was 6 and the maximum was 30. The estimate of Cronbach's Alpha reliability coefficient was .882 for these six question items.

A "low" score of 6 was based on a participant responding to items Q3b, Q3f, Q3i, Q3j, Q3l, and Q3n with "completely disagree." Since "completely disagree" was assigned a value of 1, the total possible low score for 6 items equaled 6. A student who assesses feeling valued in class by the instructor as a 6 does not feel they bring valuable ideas to class, does not feel their instructors really care whether they are learning, is not encouraged to share life experiences related to course material, cannot express opinions in class, feels their personal and family history is not valued in class, and does not feel treated equally to other students.

A "high" score of 30 was based on a participant responding to items Q3b, Q3f, Q3i, Q3j, Q3l, and Q3n with "completely agree." Since "completely agree" was assigned a value of 5, the total possible score for 6 items equaled 30. Students who assess their feeling valued in class by the instructor as a 30 feel they bring valuable ideas to class, feel their instructors really care whether they are learning, are encouraged to share life experiences related to course material, express opinions in class, feel their personal and family history is valued in class, and feel treated equally to other students.

Composite Variable for Question 10: Community

The composite variable for Question 10 provides a total score across five items (Q10a, Q10 e, Q10g, Q10i, and Q10l) that assessed that the student felt s/he belonged to the college community. Students' assessed feeling that they belonged to the college community by thinking about such ideas as seeing themselves part of the campus community, planning on returning for the 2011 Spring semester, feeling they were a member of the campus community, feeling they belonged to the campus community, and having had one or more instructors as a mentor. There were 136 responses with a mean of

18.8 and a standard deviation of 4.3; the median was 19 and the mode was 20. The minimum was 7 and the maximum was 25. The estimate of Cronbach's Alpha reliability coefficient was .834 for these five question items.

A "low" score of 5 is based on a participant responding to items Q10a, Q10e, Q10g, Q10i, and Q10l with "completely disagree." Since "completely disagree" was assigned a value of 1, the total possible score for 5 items equaled 5. Students who assessed feeling that they belonged to the college community as a 5 did not see themselves as part of the campus community, did not plan to return for Spring 2011, did not feel they were a member of the campus community, did not feel they belonged to the campus community, and did not have one or more instructors as a mentor.

A "high" score of 25 was based on a participant responding to items Q10a, Q10e, Q10g, Q10i, and Q10l with "completely agree." Since "completely agree" was assigned a value of 5, the total possible score for 5 items equaled 25. Students who assessed feeling that they belonged returned for Spring 2011, felt they were a member of the campus community, felt they belonged to the campus community, and had one or more instructors as a mentor.

Composite Variable for Question 10: Self-Confidence

The composite variable for Question 10 provided a total score across six items (Q10b, Q10d, Q10f, Q10h, Q10k and Q10n) that assessed that the student had a sense of self-confidence that they could do the work. Students' assessed having a sense of self-confidence that they could do the work thinking about such ideas as "I'm certain I can do almost all the college work if I don't give up, I can master the skills taught at this college, I can do almost all the work, I expect to complete a degree or certificate, I can do the

hardest coursework, and I'm certain I can do the most difficult coursework." There were 136 responses with a mean of 26.5 and a standard deviation of 3.1; the median was 27 and the mode was 30. The minimum was 18 and the maximum was 30. The estimate of Cronbach's Alpha reliability coefficient was .846 for these six items.

A "low" score of 6 was based on a participant responding to Q10b, Q10d, Q10f, Q10h, Q10k and Q10n with "completely disagree." Since "completely disagree" was assigned a value of 1, the total possible score for 6 items equaled 6. Students who assessed having a sense of self-confidence that they could do the work a 6 were not certain s/he could do almost all the college work if s/he did not give up, was not confident s/he could master the skills taught at this college, was not confident s/he could do almost all the work, was not confident s/he would complete a degree or certificate, was not confident s/he could do the hardest coursework, and was not confident that s/he could do the most difficult course work.

A "high" score of 30 was based on a participant responding to Q10b, Q10d, Q10f, Q10h, Q10k and Q10n with "completely agree." Since "completely agree" was assigned a value of 5, the total possible score for 6 items equaled 30. A student who assessed having a sense of confidence that s/he could do the work a 30 was certain s/he could do almost all the college work if s/he did not give up, was confident s/he could master the skills taught at this college, was confident s/he could do all the work, was confident s/he would complete a degree or certificate, was confident s/he could do the hardest coursework, and was confident that s/he could do the most difficult coursework.

Correlations

   Table 11 presents an examination of the relationships between the participants'

characteristics and their scores on the four composite variables. The four composite

variables included:

   1. Instructor Actions that Contributed to Learning (from Question 3),

   2. Student Feelings that s/he was valued in class by the instructor (from Question

   3),

   3. Student Feelings that s/he belonged to the College Community (from Question

   10), and

   4. Student Sense of Self-Confidence that s/he could do the work (from Question

   10).

Table 11

Partial Estimated Correlation Matrix to Examine the Relationship between the

Participants' Characteristics and Their Scores on Five Composite Variables (n = 136)

	Relationship with the Instructor	Instructor's Actions	Feeling Valued	Community	Self-Confidence
Gender	.082	.012	.083	.034	.004
First Generation	-.022	.068	-.007	.083	-.032
HH less than 20K	.042	.106	.043	.160	-.043
Age	-.009	-.029	-.031	.091	-.004

Notice in Table 11 that none of the estimated bivariate correlations between Relationship with the Instructor and the participant's characteristics are statistically significant. This tells us that, for these 136 participants, there was no relationship between how the participant perceived the relationship with the instructor toward her/him and her/his characteristics such as gender, SES, and age.

In addition, in Table 11 none of the estimated bivariate correlations between Instructor's Actions and the participants' characteristics were statistically significant. This tells us that, for these 136 participants, there was no relationship between how the participant perceived the instructor's actions towards her/him and her/his characteristics such as gender, SES, and age. This was a favorable result, because statistically significant relationships here could indicate possible discrimination on the part of the instructor in response to such student characteristics as gender, age, socio-economic status.

We can also see in Table 11 that none of the estimated bivariate correlations between Feeling Valued and the students' characteristics were statistically significant. Again, this was a favorable finding, because it suggested that, for these 136 participants at least, their perception of feeling valued by the instructor was not related to their personal characteristics.

Table 11 also observes the similar lack of statistical significance between perceptions of belonging to the college community and students' self-confidence and students' characteristics. For these 136 participants, their gender, their race/ethnicity, their socio-economic status, and their status as first generation college students (or not) did not seem to have a relationship with their experiences as community college students as measured by this instrument.

Table 12 presents an estimated correlation matrix for the relationships between the composite variables:

1. Relationship with the instructor,

2. Feeling valued in class,

3. Instructor's actions towards students,

4. Sense of belonging to the college community, and

5. Student's self-confidence.

Table 12

Estimated Correlation Matrix of Five Composite Variables (n = 136)

	Relationship with the Instructor	Feeling valued in class	Instructor's actions towards students	Sense of belonging to the college community	Student's self confidence
Relationship with the instructor	1				
Feeling valued in class	.852**	1			
Instructor's actions towards students	.740**	.815**	1		
Sense of belonging to the college community	.668**	.683**	.709**	1	
Student's self confidence	.435**	.464**	.436**	.454**	1

There was a strong, positive, statistically significant relationship between the student's relationship with the instructor and feeling valued in class ($r = .854$, $p < .01$).

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This suggests that higher levels of feeling valued in class are associated with more positive relationships with the instructor and vice versa. This is noteworthy, since "caring attitude" is one of eight specific types of student-faculty interactions that serve as a predictor of academic self-concept and three types of academic motivation (intrinsic, extrinsic, and motivation), as well as academic achievement (Komarruju, Musulkin, & Bhattacharya, 2010).

There was a strong, positive, statistically significant relationship between students: relationship with the instructor and instructor's actions towards students (r = .740, p < .01). This suggests that higher levels of instructor's actions toward students are associated with more positive relationships with the instructor and vice versa. Validation may be a more important student retention influence for non-traditional students, such as returning adults, low-income students, first-generation students, and many women and minority students from working-class backgrounds, than living in residence halls, participation in college courses, and engagement in campus activities in college (Rendon, 1994, 2002).

There was a moderate, positive, statistically significant relationship between the student's relationship with the instructor and sense of belonging to the college community (r = .668, p < .01). This suggests that moderate levels of sense of belonging to the college community are associated with positive relationships with the instructor and vice versa. Educators at all levels suggest that frequent, meaningful interactions between students and their teachers are important to learning and personal development. "The classroom is, for many students, the one place, perhaps the only place, where they

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meet each other and the faculty. "If involvement does not occur there, it is unlikely to occur elsewhere" (Tinto, 2006, p. 4).

There was a moderate, positive, statistically significant relationship between the student's relationship with the instructor and student's self-confidence (r = .435, p < .01). This suggests that moderate levels of student's self-confidence are associated with positive relationships with the instructor and vice versa. Here again, "caring attitude" matters. It is one of eight specific types of student-faculty interactions that serve as a predictor of academic self-concept and three types of academic motivation (intrinsic, extrinsic, and motivation), as well as academic achievement (Komarruju, Musulkin, & Bhattacharya, 2010).

There was a strong, positive, statistically significant relationship between feeling valued in class and instructor's actions towards students (r = .815, p < .01). This suggests that higher levels of instructor's actions towards students are associated with more positive relationships with feeling valued in class and vice versa. Involvement in and outside of the classroom, or what is increasingly being referred to as student engagement, matters especially during the critical first year of college (Tinto, 2001; Upcraft, Gardner, & Barefoot, 2005).

There was a moderate, positive, statistically significant relationship between feeling valued in class and a sense of belonging to the college community (r = .683, p < .01). This suggests that moderate levels of sense of belonging to the college community are associated with positive relationships with feeling valued in class and vice versa. In a study on validation experiences and persistence among urban community college

students, faculty validation of students was found to modestly predict their intent to persist (Barnett, 2007, 2011).

There was a moderate, positive, statistically significant relationship between feeling valued in class and student's self-confidence (r = .464, p < .01). This suggests that moderate levels of student's self-confidence are associated with positive relationships with feeling valued in class and vice versa. "Caring attitude" is one of eight specific types of student-faculty interactions that serve as a predictor of academic self-concept and three types of academic motivation (intrinsic, extrinsic, and motivation), as well as academic achievement (Komarruju, Musulkin, & Bhattacharya, 2010).

There was a strong, positive, statistically significant relationship between instructor's actions towards students and sense of belonging to the college community (r = .709, p < .01). This suggests that higher levels of sense of belonging to the college community are associated with more positive relationships with instructor's actions towards students and vice versa. Student-faculty interactions, both in and outside of class, have shown significant positive correlations with academic attainment (Astin, 1993).

There was a moderate, positive, statistically significant relationship between instructor's actions towards students and student's self-confidence (r = .436, p < .01). This suggests that moderate levels of student's self-confidence are associated with positive relationships with instructor's actions towards students and vice versa. Faculty actively involving students in discussions fosters retention of information, application of knowledge to new situations, and development of higher order thinking skills (McKeachie, 1994).

There was a moderate, positive, statistically significant relationship between sense of belonging to the college community and student's self-confidence (r = .454, p < .01). This suggests that moderate levels of student's self-confidence are associated with a positive sense of belonging to the college community and vice versa. Again, "caring attitude" matters (Komarruju, Musulkin, & Bhattacharya, 2010).

Summary

In this chapter, the responses to a questionnaire from a sample of 136 students were analyzed. Descriptive statistics for a set of demographic variables and the participants' responses to the items on the instrument were calculated.

A high level of agreement was found across the responses to items Q2a through Q2j, reflecting perceptions of very high instructor involvement by the 136 participants in this study. Nearly three-quarters of the participants (102) agreed that their instructors cared how they were doing. "Caring attitude" is one of eight specific types of student-faculty interactions that serve as a predictor of academic self-concept and three types of academic motivation (intrinsic, extrinsic, and motivation), as well as academic achievement (Komarruju, Musulkin, & Bhattacharya, 2010).

Based on the responses to Question 3, it is clear that the level of agreement, when combining the responses for items Q3a through Q3o, reflects very high instructor involvement with these community college students. As was the case for Question 2, nearly three-quarters of the participants (102) agreed that they felt valued in class. Validation may be a more important student retention influence for non-traditional students, such as returning adults, low-income students, first-generation students, and many women and minority students from working-class backgrounds, than living in

residence halls, participation in college courses, and engagement in campus activities in college (Rendon, 1994, 2002). Again, nearly three-quarters of the participants (102) agreed that their instructors cared how they were doing. "Caring attitude" is one of eight specific types of student-faculty interactions that serve as a predictor of academic self-concept and three types of academic motivation (intrinsic, extrinsic, and motivation), as well as academic achievement (Komarruju, Musulkin, & Bhattacharya, 2010).

The responses to Question 10 showed that the level of agreement, when combining the responses for Q10a through Q10n, reflects very high student self-confidence that they can do the work. Over three-quarters of the participants (102) consistently agreed that they could do the work. The responses to this question reflected high self-esteem (Maslow, 1954). In addition, the majority of the participants (69 or more) agreed that the student felt s/he belonged to the college community. Participants that agreed have experienced successful academic and social integration within the college (Tinto, 1993). However, a large number of the participants (50 or more) were undecided and disagree. This suggests they had not experienced academic and social integration (Tinto, 1993).

Analysis of the responses to items in Question 11 indicate that a majority of participants (71 or 52 percent) "Used email to communicate with an instructor" once a week, while (110 or 81 percent) never "Used texting to communicate with an instructor." This may have been a lost opportunity to involve students in discussion using a very popular form of communication technology. Actively involving students in discussion fosters retention of information, application of knowledge to new situations, and development of higher-order thinking skills (McKeachie, 1994).

Given the finding that 64 participants (47 percent) "Discussed grades with an instructor" once a semester to never, the frequency of discussion of grades should be improved (Kuh & Hu, 2001, McKeachie, 1994); in contrast, 82 participants "Discussed assignments with an instructor" daily to once a week. The study showed that 107 of the participants "Talked about career plans with an advisor" once a semester to never, while 114 participants "Talked about career plans with an instructor" once a semester to never. This may have been a lost opportunity to connect with students, since career guidance is one of the eight specific types of student-faculty interactions that serves as a predictor of academic self-concept, according to Komarruju, Musulkin, & Bhattacharya (2010). A majority of participants (80 or 59 percent) never "Discussed ideas from classes with instructors outside of class." Since frequent student-faculty interaction, both in and outside of class, had significant, positive correlations with every academic attainment outcome studied in Astin (1993), this is an important area that could to be addressed through faculty development. Participants "Received prompt performance feedback from instructors" daily (7 percent), once a week (41 percent), once a month (26 percent), once a semester (18 percent), and never (8 percent). This is important to reflect on this, given Tinto's 1993 model that students' decisions to persist or withdraw from college depend on their successful academic and social integration within the college, and part of this successful integration is dependent upon daily interactions between faculty and students.

It is noteworthy that 74 percent of the participants never "Worked with instructors on college-related activities other than coursework." Many scholars have noted that student retention as integration and involvement in college comes from living in residence halls, participation in college courses, and engagement in campus activities in

college (Astin, 1993; Pascarella & Terenzini, 2005; Terenzini, Rendon, Upcraft, Millar, Allison, Gregg, & Jalomo, 1996; Tinto, 1993, 1998, 2004).

Barnett's instrument was reliable based on the responses of these 136 participants. Composite variables were created and their relationships between the students' demographic characteristics and their relationships with each other were examined. Five composite variables were created:

1. Relationship with Instructor (using items from Q2),

2. Instructor Actions that Contribute to Learning (using items from Q3),

3. Feelings Composite (using items from Q3),

4. Community Composite (using items from Q10), and

5. Self Confidence (using items from Q10).

Based on estimated bivariate correlation coefficients, it was determined that there are strong to moderate, statistically significant relationships among the composite variables that are supported by the literature. Faculty's "caring attitude" matters to students (Komarruju, Musulkin, & Bhattacharya, 2010). Students who feel valued in class have positive relationships with faculty. Students who experience instructor actions such as "validation" have positive relationships with faculty (Rendon, 1994, 2002). Students who have a sense of belonging to the college community have positive relationships with faculty and are likely to experience more "frequent meaningful interactions between their teachers" contributing to student learning and personal development (Tinto, 2006). Students who have self-confidence have positive relationships with faculty. Here, again, faculty's "caring attitude" contributes to student self–confidence (Komarruju, Musulkin, & Bhattacharya, 2010).

Chapter V

Discussion

Introduction

There are many different factors that affect retention, and many researchers, among them Astin (1993), suggest that each institution conduct targeted research to determine the important issues for that institution and its students with regard to promoting retention (Craig & Ward, 2008). This study conducted targeted research by investigating two questions:

1. How do students with selected demographics perceive faculty involvement?

2. How does Barnett's (2007, 2011) college experience questionnaire perform

based on a sample of students from a community college in New Mexico?

The central premise of Tinto's 1993 model was that students' decisions to persist or withdraw from college depend on their successful academic and social integration within the college. Part of this successful integration is dependent upon the favorable daily interactions between faculty and students. This study examined the relationships shown in the darkened boxes in Tinto's Longitudinal Model of Institutional Departure (Tinto, 1993).

In Tinto's 1993 model, faculty/staff interactions were defined as formal classroom experiences and informal interactions outside of class between students and faculty. In this study, faculty interactions were measured using a college experience survey (Barnett, 2007, 2011) with scales that ask students about instructor involvement, student college involvement, and student engagement with the instructor.

Barnett's (2007, 2011) instrument was modified to include additional questions based on literature on how faculty involvement relates to student retention and success. The researcher relied on personal experience as a faculty member to help create these additional items. The modified instrument is in Appendix A.

Academic Integration is defined as a sense of "competent membership" (Tinto, 1993, p. 208) as a result of student interactions with faculty. In this study, academic integration was measured as a student returning to CNM for the Spring 2011 term as a result of student interactions with faculty during the Fall 2010 term. Intentions were defined as a student leaving college on terms the student considers to be successful (Tinto, 1993). In this study, intentions were measured as a student returning to CNM for the Spring 2011 term and enrolling in at least one course in the School of Business & Information Technology.

Research Questions

Selected student demographics and their perceptions of faculty involvement are related in this study. For example, in understanding low scores on Question 2 – Student's Relationship with Instructor, 14 people disagreed. Their scores varied from 16 – 29. More than twice as many females (10) as males (4) disagreed. Six of the 14 that disagreed were Hispanic, 1 was American Indian, 1 was Black/African American, and 1 was Asian/Pacific Islander (9 of the 14 were people of color). Eight of the 14 that disagreed lived in households with income below $ 20,000, yet 13 of the 14 enrolled in the Spring 2011 term.

The 14 people may basically "disagree" due to their experiences and how they perceived their instructors. They are part of the increase of women in undergraduate

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education who are non-traditional students with low incomes and families (National Center for Education Statistics, 2005). For these students, effective instructors need to be knowledgeable, to show concern for student learning, to present material clearly, to motivate, to emphasize relevant class material, and to be enthusiastic (Donaldson, Flannery, & Ross-Gordon, 1993). For students of low socio-economic status, paying for their post-secondary education is difficult, since their expected family contribution can only finance a fraction of tuition depending on the institution (National Center for Education Statistics, 2006). For students of color, their instructors need to be culturally competent, since this plays an increasing role in student retention (Nevarez, 2001). A synthesis of recurring recommendations and proposed solutions for improving the current status of Latinos provided by Nevarez and Rico (2007, p. 10) includes the suggestion that post-secondary institutions need to develop culturally proficient faculty members.

In understanding high scores on Question 2 – Student's Relationship with Instructor - 66 or 97.1 percent of the people agreed on Question 2. Forty or 58.8 percent of females and 26 or 38.2 percent of males agreed, 18 Hispanics or 26.5 percent, 28 or 41.2 percent Whites, 7 or 10.3 percent Black/African Americans, 5 or 7.4 percent American Indian, 5 or 7.4 percent Asian/Pacific Islander, and 4 or 5.9 percent Other agreed (35 of 66 were people of color). Age of the participants that agreed varied from 19 to 65 years with no concentrations. Twenty-nine or 42.6 percent that agreed lived in households with income below $20,000. Sixty-three of the 68 responding enrolled in the Spring 2011 term, and 60 of the 62 responding completed the course.

For these 40 females that agreed, it is likely they are part of the increase of women in undergraduate education who are non-traditional and low income with families

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(National Center for Education Statistics, 2005). Their favorable experiences and perception of instructors may be because they had effective instructors who were knowledgeable, showed concern for student learning, presented material clearly, motivated, emphasized relevant class material, and were enthusiastic (Donaldson, Flannery, & Ross-Gordon, 1993). It may be that these students of color viewed their instructors favorably because the instructors were perceived to be culturally competent (Nevarez, 2001). In addition, although these female students may have difficulty paying for their secondary education (due to their low socio-economic status and family responsibilities), 63 of the 68 responding enrolled in the Spring 2011 term, and 60 of the 62 responding completed the course.

Another example, in Table 11 Examining the Relationships Between the Participants' Characteristics and Five Composite Variables (Relationship with the Instructor, Instructor's Actions, Feeling Valued, Community, and Self Confidence), none of the estimated bivariate correlations are statistically significant. This tells us that, for these 136 participants, there was no relationship between how the participant perceived a relationship with the instructor, the instructor's actions, feeling valued, community, or self-confidence towards her/him and her/his characteristics such as gender, SES, and/or age. This is a very favorable finding, because statistical significance would have indicated possible discrimination by faculty in relationship with the instructor, the instructor's actions towards the student, student feeling valued in the classroom, student's sense of belonging to the college community, and/or student's self-confidence in being able to do the work.

Barnett's college experience questionnaire performed very well based on a sample of students from a community college in New Mexico. The questionnaire was modified with the approval of Dr. Barnett and used the participants' responses to the items on her questionnaire to estimate Cronbach's Alpha reliability coefficient – a widely reported statistic because it largely determines the accuracy of the measurements (Vogt, 2007). The scale for the 10 items in Question 2 has an estimated Cronbach's Alpha of .915, the scale for the ten items in Question 3 has an estimated Cronbach's Alpha of .931, and the scale for the 14 items in Question 10 has an estimated Cronbach's Alpha of .882. Since estimates of Cronbach's Alpha reliability coefficient range from zero when the measures are totally inconsistent to 1.0 when the items correlate with one another perfectly and an alpha of .70 or higher is often considered satisfactory, the items in the scales for Question 2, 3, and 10 measure the same thing and are highly correlated (Vogt, 2007).

Next, composite variables were created to further analyze the student responses collected by the questionnaire. A composite variable is a grouping of similar question items from Question 2, Question 3, and Question 10 where students assessed their college experience. The five composite variables follow:

1. Student's Relationship with Instructor from Question 2 has a Cronbach's Alpha of .915 for 10 question items,

2. Instructor Actions that Contributed to Learning from Question 3 has a Cronbach's Alpha of .789 for 3 question items,

3. Student Feelings that s/he was valued in class by the instructor from Question 3 has a Cronbach's Alpha of .882 for 6 question items,

4. Student Feelings that s/he belonged to the college community from Question 10 has a Cronbach's Alpha of .834 for 5 question items, and

5. Student's Self-Confidence that s/he can do the work from Question 10 has a Cronbach's Alpha of .846 for these 6 question items.

Limitations of the Research

A total of 1,762 students at CNM originally received the email invitation to participate in the study resulting in 162 original responses. After 18 responses were eliminated due to missing information, the data set was reduced to 144 participants. Eight additional responses were eliminated due to missing information for Question 10 or 11 or both bringing the sample in this analytic set to 136 participants.

One reason so few responded could be due to the fact that the invitation was emailed with the link to the survey instrument. The first email invitation and two follow-up emails were sent in an effort to increase the response rate. Regardless of the thought and writing that went into preparing the invitation to complete the survey, evaluating the questions, and allowing a reasonable amount of time to complete the survey, the email recipient may not have wanted to make the time to complete the survey.

As an incentive to complete the survey, consideration was given to offer the potential respondents to participate in a random drawing for a gift card. However, based on UNM's IRB response that it would be best to offer every participant a modest financial incentive, that was not an economically feasible option.

Another reason for the low response rate may have been the dissemination method. Barnett's (2007) approach in her study was to have students complete the survey in class. Her approach allowed for a higher response, since it is convenient for the

students to make time either before, during, or shortly before class ends to complete the survey. The size of the sample prevented logistic regression analysis as originally proposed. Instead, descriptive statistics were calculated, Cronbach's Alpha reliability coefficient was estimated, a series of sub-scores were created, and correlation analyses were conducted.

Another limitation concerns accessing and collecting data from students that attended CNM during the Fall 2010 semester but did not return for the Spring 2011 semester. These former students may hold very specific answers to the issue of student retention and success and could provide important insight to the issue. Unfortunately, we were unable to survey them, since many no longer had email addresses at CNM.

The students surveyed were enrolled in classes where the faculty had five or more years teaching experience at CNM. An instructor with this amount of teaching experience at a community college has evidence of effective teaching, ability to relate to students, interpersonal skills, communication skills, proficiency in the use of technology, and a degree in the discipline one is teaching (Higgins, Hawthorne, Cape, & Bell 1994; Law 1994). Students with less experienced faculty may have responded differently to the survey questions.

Finally, we need to learn more about how student perception of faculty involvement relates to completion of certificates and degrees in community colleges. There is limited research that includes faculty involvement as a variable in predicting student retention and success.

Implications of the Research

This exploratory study provides evidence of students' perceptions of faculty's high involvement with students and insight into the role faculty could potentially play in CNM's future funding. CNM's faculty hiring and professional development of new and veteran part-time and full-time faculty, to include skill in student engagement strategies, may contribute to student retention and success and, therefore, may increase in level of state funding.

Recognizing we live in a global economy in a democratic nation where there are many contributors to New Mexico students' struggle to persist in school and learn the skills necessary to compete in the workplace, the legislature has begun focusing funding more on student performance instead of student enrollment in the state's community colleges. In October 2011, the New Mexico Higher Education Department adopted the Watson-Hadwiger formula to calculate the total funding for each institution of higher education in New Mexico. The new formula includes three equation terms specific to students' retention and success:

1. Completed student credit hours,

2. Total number of certificates and degrees awarded 2009-2010, and

3. Total awards to at-risk students in 2009-2010 measured by socio-economics (Garcia, 2012).

Other equation terms related to this issue of persisting in school and learning the skills necessary to compete in the workplace are total workforce awards in 2009-2010 and weight (45 percent of completed SCH, 2 percent total awards, 3 percent workforce, and 3 percent at-risk).

Other community colleges in New Mexico may benefit from this study due to similar challenges with student retention and success. According to New Mexico Higher Education Secretary José Garcia, two out of every three students in New Mexico are at-risk students, and the funding formula will apply to all colleges and universities in New Mexico (Garcia, 2012).

Finally, other community colleges across the United States may benefit from this study, as post-secondary institutions continue to be challenged with student retention and success issues and funding of post-secondary institutions.

Directions for Future Research

The next study should identify the academically underprepared students and how many students were college ready. In addition, an instrument with fewer questions could be created using the sub-scores in this study. Further, future research should investigate the role of lack of faculty involvement and how faculty attitudes affect student perceptions of faculty involvement in student success.

We must begin in the classroom. We must hire and develop faculty that make expectations clear, consistent, and accurate. We must provide consistency of words and actions and offer academic and social support. These are necessary if we are to improve what the higher education research refers to as dismal student retention and success rates. Academic support services include supplemental instruction, accelerated learning, contextualization, embedded academic support, and basic skills learning communities. We must have assessment and feedback in the classroom, which includes institutional monitoring of progress and classroom evaluation of performance faculty providing frequent comment to students. Engagement means valued contact with students, faculty

and staff. Active engagement is learning in class with other students, including intensity and amount of time spent studying. Involvement includes pedagogies of engagement, such as cooperative learning (students working together on essays), problem-based/project based learning, learning communities, and service learning (Tinto, 2012).

Recommendations

CNM and UNM can do more to support student success and persistence. The following are recommended to address this problem:

- Educational reform for CNM students wishing to transfer to UNM must move beyond total reliance on the student's individual motivation. It must focus on institutional and social change that include understanding the needs of students, in particular socio-economic disparities between students at CNM and students that began and continue their journey to degree completion at UNM (Aronson, 2008).

- Create a loaned administrator/staff/faculty program between CNM and UNM wherein each institution exchanges selected employees at each level of the institution for 6 to 12 months to facilitate institutional and social change by better understanding and creating a network of relationships between the two institutions.

- Faculty professional development at both institutions should address a better understanding of the needs of community college students and their "at risk" factors identified in the post-secondary and higher education literature.

- Faculty professional development at CNM should tie training to the findings in this study. There are statistically significant relationships between students' perceptions of their relationships with the instructor and feeling valued in class,

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their sense of belonging to the college community, and their self-confidence. Instructor's actions towards them is related to their sense of belonging and self-confidence, and the finding that feeling valued in class is positively associated with a sense of belonging to the college community and a student's sense of self-confidence.

Conclusion

This exploratory study on students' perceptions of faculty involvement at a New Mexico community college contributed to the existing literature and professional practice in post-secondary education. The study provides evidence of the usefulness of Barnett's (2007, 2011) college experience questionnaire with a sample of students from a community college in New Mexico.

It was very positive that the survey did not find a statistically significant relationship between students' demographic characteristics and their perceptions of faculty involvement indicating, for these students at least, that their interactions with faculty were not affected by their age, their gender, their race/ethnicity or socio-economic status.

However, there are statistically significant relationships between students' perceptions of their relationships with the instructor and feeling valued in class, their sense of belonging to the college community, and their self-confidence. Students' perceptions of the instructor's actions towards them are related to their sense of belonging and self-confidence. Feeling valued in class was positively associated with a sense of belonging to the college community and a student's sense of self-confidence. All

of these findings are promising and provide evidence that faculty involvement can make

a difference in student success.

There is still much to be done!
Vincent Tinto (2012)

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Appendix A

College Experience Survey

When I think about the classes I have taken at this college, I would say that . . .

	Completely Agree	Agree	Undecided	Disagree	Completely Disagree
l. I have had at least one instructor at this college who helped me believe in myself.	5	4	3	2	1
2. I feel accepted by my instructors.	5	4	3	2	1
3. At least one instructor has talked with me about my personal goals at this college.	5	4	3	2	1
4. My instructors seem to genuinely care how I am doing.	5	4	3	2	1
5. My instructors understand that students come from different backgrounds.	5	4	3	2	1
6. Most instructors are interested in what I have to offer in class.	5	4	3	2	1

	Completely Agree	Agree	Undecided	Disagree	Completely Disagree
7. I am encouraged by my instructors to openly share my views in class.	5	4	3	2	1
8. My instructors show that they believe in my ability to do the class work.	5	4	3	2	1
9. My instructors know who I am.	5	4	3	2	1
10. My instructors are willingly to take as long as needed to help me understand the class material.	5	4	3	2	1
11. I feel accepted as a capable student by my instructors.	5	4	3	2	1
12. My instructors make me feel as though I bring valuable ideas to the class.	5	4	3	2	1
13. I interact with my instructors outside of class.	5	4	3	2	1
14. My instructors are willing to give me individual help when needed.	5	4	3	2	1
15. Even if the work in my classes is hard, I can learn it.	5	4	3	2	1

	Completely Agree	Agree	Undecided	Disagree	Completely Disagree
16. It seems like my instructors really care about whether I am learning.	5	4	3	2	1
17. People of different ethnicity are encouraged to contribute to the class discussion.	5	4	3	2	1

When I think about the classes I have taken at this college, I would say that . . .

	Completely Agree	Agree	Undecided	Disagree	Completely Disagree
18. If I have enough time, I can do a good job on all my coursework.	5	4	3	2	1
19. I am encouraged to share life experiences when they relate to the class material.	5	4	3	2	1
20. I can generally express my honest opinions in class.	5	4	3	2	1
21. My instructors provide lots of written feedback on the assignments I turn in.	5	4	3	2	1
22. I feel like my personal and family history is valued in class.	5	4	3	2	1

	Completely Agree	Agree	Undecided	Disagree	Completely Disagree
23. Women are encouraged to contribute to the class discussion.	5	4	3	2	1
24. I feel as though I am treated equally to other students.	5	4	3	2	1
25. My instructors make an effort to make their classes interesting.	5	4	3	2	1

When I think about this college in general, I would say that….

26. I see myself as a part of the campus community.	5	4	3	2	1
27. I'm certain I can do almost all the work in college if I don't give up.	5	4	3	2	1
28. My instructors encourage students to become involved on campus.	5	4	3	2	1

When I think about this college in general, I would say that….

29. I'm certain I can master the skills taught at this college.	5	4	3	2	1
30. I am planning on returning to this college for the spring 2011 semester.	5	4	3	2	1

	Completely Agree	Agree	Undecided	Disagree	Completely Disagree
31. I can do almost all the work in college if I don't give up.	5	4	3	2	1
32. I feel that I am a member of the campus community.	5	4	3	2	1
33. I expect to complete a degree or certificate at this college.	5	4	3	2	1
34. I feel a sense of belonging to the campus community.	5	4	3	2	1

When I think about this college in general, I would say that….

	Completely Agree	Agree	Undecided	Disagree	Completely Disagree
35. My instructors are easily accessible outside of their classrooms or offices.	5	4	3	2	1
36. I can do even the hardest coursework if I try.	5	4	3	2	1
37. I've had one or more instructors at this college whom I thought of as a mentor.	5	4	3	2	1
38. My instructors generally remember my name.	5	4	3	2	1

	Completely Agree	Agree	Undecided	Disagree	Completely Disagree
39. I'm certain I can figure out how to do the most difficult course-work.	5	4	3	2	1

In your experiences at this college, how often have you done each of the following:

Used e-mail to communicate with an instructor.

Used texting to communicate with an instructor.

Discussed grades or assignments with an instructor.

Talked about career plans with an instructor or advisor.

Discussed ideas from your readings or classes with instructors outside of class.

Received prompt feedback (written or oral) from instructors on your performance.

Worked with instructors on activities other than coursework.

Please share some general information about you:

a. What is your gender?

_____ Male

_____ Female

b. How do you identify your race/ethnicity?

_____ Hispanic/Latino

_____ White

_____ American Indian

_____ Black/African American

_____ Asian/Pacific Islander

_____ Other

c. What is your age? _____

d. Did you enroll in at least one course at CNM in the Spring 2011 semester?

Yes _____

No _____

If yes, did you complete the course(s)?

e. Are you the first person in your family to attend college?

Yes _____

No _____

f. What is the total household income where you live?

____$0-$15,000, ____$16,000-$20,000, ___$21,000-$25,000, ___$26,000-$30,000,

____$31,000-$35,000, ____$36,000-$40,000, ____$41,000 or more

Thank you for participating in this study!

Appendix B

Table Q

	5	4	3	2	1	Missing
	Completely Agree	Agree	Undecided	Disagree	Completely Disagree	
Q2aRC (n=144)	50%	37%	8%	5%	.7%	0
Q2bRC (n=144)	33%	51%	10%	5%	.7%	0
Q2cRC (n=143)	35%	29%	11%	16%	8%	.7%
Q2dRC (n=144)	25%	48%	15%	10%	2%	0
Q2eRC (n=144)	40%	37%	11%	9%	3%	0
Q2fRC (n=144)	26%	44%	18%	11%	1%	0
Q2gRC (n=143)	35%	44%	14%	5%	1%	.7%
Q2hRC (n=144)	33%	47%	13%	7%	.1%	0%
Q2iRC (n=142)	33%	38%	15%	10%	4%	1.4%
Q2jRC (n=144)	24%	35%	22%	14%	4%	0

Table Q3

| | Counts/% | | | | | |
| | 5 | 4 | 3 | 2 | 1 | Missing |
	Completely Agree	Agree	Undecided	Disagree	Completely Disagree	
Q3aRC (n=143)	28%	57%	14%	0	.7%	.7%
Q3bRC (n=144)	22%	50%	28%	0	.7%	0
Q3cRC (n=141)	13%	24%	44%	0	16%	2.1%
Q3dRC (n=139)	26%	44%	24%	0	2.1%	3.5%
Q3eRC (n=144)	37%	51%	12%	0	.7%	0
Q3fRC (n=143)	25%	41%	20%	10%	3%	.7%
Q3gRC (n=144)	33%	49%	15%	2%	1%	0
Q3hRC (n=143)	49%	42%	5%	2%	.7%	.7%
Q3iRC (n=141)	29%	47%	13%	6%	2%	2.1%
Q3jRC (n=142)	30%	52%	9%	5%	3%	1.4%
Q3kRC (n=142)	19%	40%	19%	17%	4%	1.4%
Q3lRC (n=139)	16%	26%	37%	15%	3%	3.5%
Q3mRC (n=141)	31%	50%	14%	1%	2.1%	
Q3nRC (n=142)	32%	51%	10%	4%	1%	1.4%
Q3oRC (n=142)	31%	47%	12%	6%	3%	1.4%

Table Q10

	Counts/%					
	5	4	3	2	1	Missing
	Completely Agree	Agree	Undecided	Disagree	Completely Disagree	
Q10aRevC (n=138)	19%	40%	15%	17%	6%	4.2%
Q10bRevC(n=137)	51%	39%	3%	2%	0	4.9%
Q10cRevC (n=137)	15%	31%	25%	22%	3%	4.9%
Q10dRevC (n=137)	45%	42%	7%	.7%	0	4.9%
Q10eRevC (n=136)	52%	35%	5%	1%	1%	5.6%
Q10fRevC (n=138)	49%	41%	1%	1%	0	4.2%
Q10gRevC (n=136)	25%	28%	21%	15%	6%	5.6%
Q10hRevC (n=138)	58%	32%	3%	2%	1%	4.2%
Q10iRevC (n=138)	24%	26%	22%	17%	6%	4.2%
Q10jRevC (n=137)	19%	42%	20%	13%	2%	4.9%
Q10kRevC (n=138)	48%	38%	8%	1%	0	4.2%
Q10lRevC (n=138)	31%	32%	19%	11%	2%	4.2%
Q10mRevC (n=138)	36%	46%	5%	6%	3%	4.2%
Q10nRevC (n=138)	36%	46%	5%	6%	3%	4.2%
Q10oRevC (n=138)	39%	48%	7%	2%	0	4.2%

Table Q11

		Counts/%			
	4	3	2	1	Never
		Daily	Once A	Once A	Once A
		Week	Month	Semester	
Q11aRC (n=136)		6%	49%	17%	20%	1%
Q11bRC (n=136)		.7%	4%	6%	7%	76%
Q11cRC (n=136)		3%	14%	33%	34%	10%
Q11dRC (n=136)		13%	45%	24%	10%	3%
Q11eRC (n=136)		2%	7%	10%	34%	41%
Q11fRC (n=136)		4%	4%	8%	51%	28%
Q11gRC (n=137)		3%	6%	10%	20%	56%
Q11hRC (n=135)		7%	39%	24%	17%	8%
Q11iRC (n=137)		4%	5%	4%	13%	71%

Table Q2

| | Mean Std. | | | |
	Mean	Std	Min	Max
Q2aRC (144)	4.31	.863	1	5
Q2bRC (144)	4.12	.824	1	5
Q2cRC (143)	3.67	1.331	1	5
Q2dRC (144)	3.83	.989	1	5
Q2eRC (144)	4.03	1.064	1	5
Q2fRC (144)	3.81	.989	1	5
Q2gRC (143)	4.07	.901	1	5
Q2hRC (144)	4.03	.896	1	5
Q2iRC (142)	3.88	1.088	1	5
Q2jRC (144)	3.62	1.122	1	5

Table Q3

	Mean	Std	Min	Max
Q3aRevC (143)	4.12	.687	1	5
Q3bRevC (144)	3.92	.743	1	5
Q3cRevC (141)	3.19	1.189	1	5
Q3dRevC (139)	3.95	.845	1	5
Q3eRevC (144)	4.23	.707	1	5
Q3fRevC (143)	3.76	1.036	1	5
Q3gRevC (144)	4.09	.827	1	5
Q3hRevC (143)	4.38	.740	1	5
Q3iRevC (141)	3.97	.941	1	5
Q3jRevC (142)	4.03	.922	1	5
Q3kRevC (142)	3.56	1.095	1	5
Q3lRevC (139)	3.38	1.031	1	5
Q3mRevC (141)	4.11	.799	1	5
Q3nRevC (142)	4.09	.850	1	5
Q3oRevC(142)	4.00	.960	1	5

Table Q10

	Mean	Std	Min	Max
Q10aRevC (138)	3.51	1.160	1	5
Q10bRevC (137)	4.47	.665	2	5
Q10cRevC (137)	3.36	1.090	1	5
Q10dRevC (137)	4.39	.656	2	5
Q10eRevC (136)	4.43	.785	1	5
Q10fRevC (138)	4.46	.606	2	5
Q10gRevC (136)	3.54	1.223	1	5
Q10hRevC (138)	4.49	.785	1	5
Q10iRevC (138)	3.46	1.233	1	5
Q10jRevC (137)	3.66	1.011	1	5
Q10kRevC (138)	4.38	.708	2	5
Q10lRevC (138)	3.83	1.080	1	5
Q10mRevC (138)	4.11	.972	1	5
Q10nRevC (138)	4.29	.696	2	5

Table Q11

	Mean Std.			
	Mean	Std	Min	Max
Q11aRC (136)	2.41	.946	0	4
Q11bRC (136)	.37	.850	0	4
Q11cRC (136)	1.63	.966	0	4
Q11dRC (137)	2.57	.956	0	4
Q11eRC (136)	.89	1.016	0	4
Q11fRC (138)	.99	.943	0	4
Q11gRC (136)	.73	1.074	0	4
Q11hRC (138)	2.22	1.084	0	4
Q11iRC (138)	.50	1.037	0	4

Appendix C

Replacement of missing values for Q2, Q3, Q10, and Q11with the variable mean

(n=136)

	Number Missing	Replaced With
Q2cRC	1	variable mean
Q2iRC	2	variable mean
Q3aRC	1	variable mean
Q3cRC	3	variable mean
Q3dRC	5	variable mean
Q3fRC	1	variable mean
Q3iRC	1	variable mean
Q3jRC	1	variable mean
Q3kRC	1	variable mean
Q3lRC	3	variable mean
Q3mRC	2	variable mean
Q3nRC	1	variable mean
Q3oRC	1	variable mean
Q10bRC	1	variable mean
Q10cRC	1	variable mean
Q10dRC	1	variable mean
Q10eRC	2	variable mean
Q10gRC	2	variable mean
Q10jRC	1	variable mean

Q11aRC	1		variable mean
Q11bRC	1		variable mean
Q11cRC	1		variable mean
Q11dRC	1		variable mean
Q11eRC	1		variable mean
Q11fRC	1		variable mean
Q11hRC	2		variable mean