IDENTIFICATION OF FACTORS RELATED TO THE ENGAGEMENT OF COMMUNITY COLLEGE FACULTY IN GRANT WRITING ACTIVITIES: A NATIONAL PERSPECTIVE

By

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To my daughters, Jennifer and Marissa, who are also my biggest cheerleaders

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LIST OF ABBREVIATIONS

AACC	American Association of Community Colleges
AASCU	American Association of State Colleges and Universities
ATE	Advanced Technology Education program
CRD	Council for Resource Development
IPEDS	Integrated Postsecondary Education Data System
IRB	Institutional Review Board
JCAR	Joint Commission on Accountability Reporting
NSF	National Science Foundation
NSOPF	National Study of Postsecondary Faculty
SPSS	Statistical Package for the Social Sciences software package
TAACCCT	Trade Adjustment Assistance Community College and Career Training Grant Program
TUES	Transforming Undergraduate Education in Science program
URL	Uniform Resource Locator

Abstract of Dissertation Presented to the Graduate School
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The purpose of this quantitative, internet-based, self-reported study of grant personnel at 85 public community colleges, was to identify factors that indicate the optimum circumstances under which public community college faculty can be engaged in participating in resource development processes necessary to receive external funding in the form of grants. Variables included, but were not limited to, faculty characteristics such as unionization, salary, and tenure; institutional characteristics, such as size, location, years of existence of grants office, and enrollment; and, incentives, such as promotions, stipends, professional development opportunities, and release time, which are offered by college administration to entice faculty to participate in grant writing and associated activities.

The results of this study demonstrated that while institutional commitment, and the inherent characteristics demonstrated as such, are important to the successful pursuit of external funding, it is the college administration's support of the grant office and staff which is significant, not the ability to offer incentives to faculty. This support from administration allows for the cultivation of relationships vital to the engagement of

faculty members in grantsmanship and associated activities, including service as principal investigator, project director or grant manager.

Further research is recommended to examine motivation from the faculty's point of view. Since significant relationships were uncovered related to community college grant functions and the engagement of faculty in grantsmanship activities, further study is recommended related to the institutional commitment of community colleges toward the development and ongoing support of grant offices and resource development staff dedicated to the pursuit of grants. The recommendations for further research will continue to identify and clarify key elements related to successful application by community colleges to competitive grant funded programs, regardless of the funding agency, in order to secure external funding essential to carrying out institutional missions and meeting strategic goals.

CHAPTER 1
INTRODUCTION

Need for the Study

In current economic conditions, community colleges—like their K-12 and university system counterparts—are faced with increasingly reduced financial support from state governments and local municipalities, which have historically borne the burden of funding the majority of the cost of student instruction, at the same time that enrollments have increased as unemployed and under-employed look for routes to better futures (Arnone, 2002; Boggs, 2004; Herbkersman & Hibbert-Jones, 2003b; Ryan, 2003; Zeiss, 2003). The primary mission of the almost 1,200 public, independent, and tribal community colleges in the United States is to provide individuals with affordable, open access to postsecondary education opportunities (AACC, 2011; Boggs, 2004; Cohen & Brawer, 2008; Florida Senate, 2011; Levin, 2000; Levin, Kater & Wagoner, 2006; Mellow, 2000; Mellow & Heelan, 2008; Witt, Wattenbarger, Gollattscheck & Suppiger, 1994). Increasing tuition generates much needed revenue, but it can also limit access and place undue hardship on those least able to bear the financial burden—the community college student (Kenton, Schuh, Huba, & Shelley, 2004). The 11.7 million individuals attending community colleges (AACC) include traditional students matriculating directly from high school, and nontraditional students, often older—career changers, minorities, disabled individuals, military veterans, displaced homemakers, and incumbent workers desiring additional education and training for job keeping and promotion purposes. Alternative streams of revenue had to be identified and pursued. Compared to university systems with well-connected alumni, large endowments, and well-staffed foundation and sponsored research offices, community colleges are relative

newcomers to fundraising activities (Ryan). In the last two decades, community college involvement in the pursuit of external funding has steadily increased (Meaders, Carrier, & Keener, 2003). Community colleges across the country have become more entrepreneurial, meeting economic challenges by investing human and fiscal capital in grant office and foundation operations in order to take advantage of funding opportunities to increase external funding successes (Zeiss, 2003; Meaders, 2002).

At least 57% of job openings in the United States between 2006 and 2016 will require some postsecondary education (Liming & Wolf, 2008). As tuition costs and admissions standards have risen, students desiring baccalaureate degrees have increasingly begun their studies at community colleges before transferring to 4-year higher education institutions. Nearly half of all individuals earning baccalaureate degrees in the United States began their education by first attending community colleges (AACC, 2011; Boggs, 2004). In addition, in 20 states students also have opportunities to engage in and complete their baccalaureate degree program studies at community colleges (AASCU, 2010). The basic mission of community colleges has remained the same; however, their flexibility and ability to quickly meet local and regional workforce needs has contributed to a changing role and a broadened mission (Craft & Guy, 2003). Close to 80% of firefighters, law enforcement officers, and emergency medicine technicians are trained at and receive their credentials from community colleges, and 59% of new nurses and the majority of other new health-care workers are educated at community colleges (AACC). As displaced and incumbent workers alike seek to upgrade skills and pursue advanced training, the types of programs, degrees and certifications offered at community colleges must continually

evolve to keep up with demand (Renninger, Meilof, Pitts, & Smalley, 2007). This evolution cannot occur without revenue sources to support supplemental items such as professional development for faculty and staff, innovative technology, and laboratory equipment such as high fidelity human patient simulators.

Community colleges first found themselves spotlighted in 2006, with the advent of the U.S. Department of Labor Employment and Training Administration Community Based Job Training grants, during the administration of President George W. Bush. This initiative, which, in partnership with local/regional Workforce Boards, economic development agencies, business/industry, and K-20 educational system representation, was intended to build capacity and increase training opportunities at community colleges in order to give individuals the knowledge and skills necessary to succeed in high growth-high demand industries and fulfill targeted regional workforce needs.

The need to pursue grant opportunities at the community college level is further demonstrated by the urgency indicated when there is growth in enrollment in addition to decreases in state funding. Depending on the tax structure of a given state, the remaining funding comes from society in the form of taxes—sales, personal income, and property. State spending on higher education is closely tied to economic cycles and fluctuates widely as tax revenues vary dependent on changing economic conditions (Kenton, Huba, Schuh & Shelley II, 2005; Schiradi & Ziedenberg, 2002). Higher education budgets have often been sacrificed to support correctional system budgets, especially throughout the 1980s and 1990s (Schiradi & Ziedenberg). According to a Pew Research Center report, in the state of Florida, for every dollar spent on higher education, the correctional system requires $.66, and one in every 15 state

discretionary dollars is spent on corrections (Warren, 2009). In FY 2007, 9.3% of the Florida General Fund was dedicated to the correctional system (Warren, 2008). Between 1987 and 2008, spending on corrections increased 137% while higher education spending increased a modest 24% (Pew Research Center, 2010). Unlike Medicaid and the K-12 public school systems, corrections and higher education funding are not currently mandated by federal requirements – although there are certainly unfunded state and federal mandates, which must often be addressed. For example, in 2004, the Florida State Legislature passed the Carey Baker Freedom Flag Act which mandated that "each public K-20 educational institution that is provided or authorized by the Constitution and laws of Florida shall display daily, in each classroom, the flag of the United States" (n.p.). This mandate included a requirement that all schools first attempt to secure donations or external funding in order to purchase and install flags.

Early research has begun to identify factors necessary for successful community college grant resource development environments (Ryan, 2003; Meaders, 2002; Herbkersman & Hibbert-Jones, 2003a). However, there is limited research about resource development, especially as related to external funding in the form of grants (Jackson & Keener, 2002). Community college faculty have been identified as being integral to the success of new grant-funded projects and programs, both during the project proposal development and implementation stages (Herbkersman & Hibbert-Jones, 2003a; Renninger Meilor, Pitts, & Smalley, 2007; Bauer, 2001). However, unlike university professors, by definition community college faculty are not researchers or writers of journal articles, but rather are *teachers*, acting as "arbiters of the curriculum"

(Cohen & Brawer, 2008, n.p.), making decisions on course content, preparing and evaluating examinations, and providing instruction to students.

Purpose of the Study

The purpose of this study was to identify factors that indicate the optimum circumstances under which public community college faculty can be engaged in participating in resource development processes necessary to receive external funding in the form of grants. Variables included, but were not limited to, faculty characteristics such as rank, ethnicity, gender, tenure status, and employment status (e.g., full- or part-time); institutional characteristics, such as size of enrollment, location and years of existence of grants office; and, incentives, such as promotions, stipends, professional development opportunities, and release time, which are offered by college administration to entice faculty to participate in grant writing and associated activities. The following three research questions were developed:

1. What is the relationship between faculty characteristics and faculty engagement in grant writing and associated activities?
2. What is the relationship between institutional characteristics and faculty engagement in grant writing and associated activities?
3. What is the relationship between incentives, which are offered by the college administration to entice faculty to participate, and actual faculty engagement in grant writing and associated activities?

Delimitations and Limitations of the Study

Delimitations

The following items are the proposed delimitations of this study. The study will be limited to resource development officers with grant responsibilities, employed at public community colleges in the United States, who are members of the Council for Resource Development (CRD). Community colleges that offer baccalaureate programs

will be included in the study; however, data related to baccalaureate faculty participating in grant writing and associated activities will not be reported. Only community colleges that self-identify as actively participating in the resource development processes necessary to engage in grant writing and associated activities necessary to receive external funding in the form of grants will be included in the study. The appropriate descriptive statistics will be utilized to analyze data collected from survey respondents.

Limitations

The following items are the proposed limitations of this study. The results of this study will only be generalized to like institutions—public community colleges that are members of the Council for Resource Development (CRD) and actively participating in the resource development processes necessary to engage in grant writing and associated activities necessary to receive external funding in the form of grants. The accuracy of the data analysis will be dependent upon the information provided on the survey instrument by the respondents. Data will be based on a specified one-year period of time: 2009-2010 academic year.

Significance of Study

According to Kenton, Huba, Schuh and Shelley (2005), much like other public higher education institutions, “community colleges derive their revenue for operating expenditures from a variety of sources, including state and local governments, student tuition and fees, federal and state grants, and endowments” (p. 109). Marks and Caruthers (1999) define funding for colleges and universities as “the sources of money for general operating budgets and how and where the money is spent” (n.p.). Honeyman and Bruhn (1996; in Honeyman, Wattenbarger, & Westbrook [Eds.]),

describe the funding function of higher education as being a “delicate balance of revenue sources” – which are diverse and differ in each state (p. 1). These sources include (a) tuition and fees, (b) federal funds, (c) state funds, (d) local funds, (e) private gifts and grants, (6) sales and services – revenue generating activities (Cohen & Brawer, 2008; Honeyman, D. S. & Bruhn, M.,1996).

When confronted with severe budget shortfalls, state legislatures often look to higher education as one of the few remaining “pots of money” in order to cut spending and reduce appropriations, and although public colleges and universities tend to fare well when times are good, they may be seen as easy targets for cuts in times of declining revenue (Hansen, 2003) . It has become apparent to community college administrators—faced with increasingly reduced financial support from state governments and local municipalities at the same time their institutions were experiencing unprecedented growth in student numbers—that community colleges must engage in the active pursuit of grant funding opportunities, often to support what could be considered normal operating expenses (Ryan, 2003; Herbkersman & Hibbert-Jones, 2003b; Zeiss, 2003; Arnone, 2002). In early 2007, it was reported that public community colleges received 5% of their revenue through federal funds (Renninger, et al., 2007); by January 2010, that figure had increased to 15% (AACC, 2011). Although state appropriations may be decreasing, as state legislative bodies and federal agencies have come to recognize that community colleges are capable of rising to the occasion of fulfilling critical workforce needs—not only locally, but beyond traditional service areas—increased funding opportunities have been made available to institutions

that are prepared to not only submit competitive applications, but then also to meet promised goals and objectives when those projects are successfully funded.

For many successful external funding initiatives, community college faculty must be fully engaged in the planning, development, and writing processes inherent to submission of grant applications to funding agencies. Some community college resource development offices are more successful than others in engaging faculty; however, as evidenced by this representative posting to the Council for Resource Development (CRD) listserv—"I'm interested if anyone has made some good progress on not just collaborating with faculty, but with informing faculty about grants in general, grant opportunities, or grants' office procedures"—the majority of its member colleges have found this to be a somewhat insurmountable challenge (Shumate, 2009; Appendix A). Upon her retirement, after many years of watching enthusiastic community college faculty daunted by the extra time and work necessary to participate in grant writing initiatives, Munz (2005) stated, "I wish I had known better ways for nurturing faculty and administration to support grant development objectives" (p. 17).

This study was designed to identify the factors that indicate the optimum circumstances under which public community college faculty can be engaged in participating in resource development processes necessary to receive external funding in the form of grants. The federal government has long been one of the primary sources of revenue for postsecondary education, including community college systems (Honeyman, Wattenbarger, & Westbrook, 1996). Community colleges have long been eligible for competitive funding opportunities from a number of federal agencies. Community colleges are eligible for the Transforming Undergraduate Education in

Science (TUES) and Advanced Technological Education (ATE) programs sponsored by the National Science Foundation (NSF). Community colleges are eligible for most of the U.S. Department of Education's postsecondary education funding opportunities, including Title III—Strengthening Institutions, and the TRIO programs (e.g., Student Support Services, Veterans Upward Bound, Educational Talent Search, Educational Opportunity Center, and the classic Upward Bound). The YouthBuild, High Growth Training Initiative, Technology-Based Learning, Community Based Job Training Grant—announced by then President George W. Bush in his 2004 State of the Union address (Boggs, 2004)—and Trade Adjustment Assistance Community College and Career Training Grants programs are among the funding opportunities offered by the U.S. Department of Labor for which community colleges are not only eligible, but may also be the required partners or consortium leaders. Other federal funding agencies, including the National Endowment for the Arts, National Endowment for the Humanities, U.S. Department of Transportation, U.S. Department of Energy, and National Institute of Health all have programs providing opportunities for community colleges to apply for funding (Renninger, et al., 2007). Not only was this study appropriate because of the growing need for community colleges to pursue external funding streams in light of the current economy, but it was also timely because the American Recovery and Reinvestment Act of 2009, signed by President Barak Obama on February 17, 2009, contained language specific to a community college and career training grant program (H.R. 1, 2009). On January 20, 2011, the U.S. Department of Labor Employment and Training Administration announced the fiscal year 2011 grant competition for the Trade Adjustment Assistance Community College and Career Training Grant Program

(TAACCCT) program. There is $2 billion appropriated to fund the program over four years. Approximately $500 million in grants were awarded to community college-led consortiums in September 2011 through the TAACCCT grant program. By statute, the program is designed to ensure that every state, through its eligible institutions of higher education (i.e., community colleges), will receive at least $2.5 million in grant awards. These funds, like the Community Based Job Training grants previously mentioned, were granted through competitive funding opportunities to community colleges for the purpose of developing, offering, or improving educational or career training programs for eligible workers.

Identification of the factors that indicated the optimum circumstances under which public community college faculty in the United States can be engaged in participating in resource development processes necessary to receive external funding in the form of grants allows administrators and resource development professionals to increase successful funding award rates. Implications from this research may assist college decision makers in the allocation of human and fiscal capital resources to support grantsmanship activities.

Definition of Terms

The following term definitions are accepted for use in this study.

American Association of Community Colleges. The primary national advocacy organization for community colleges. Its efforts are focused on five strategic action areas: (a) Recognition and advocacy for community colleges, (b) Student access, learning and success, (c) Community college leadership development, (d) Economic and workforce development, and (e) Global intercultural education (AACC, 2011)

Community college. Any institution regionally accredited to award the associate in arts, associated in applied science, or the associate in science as the highest degree conferred, or if bachelor's degrees account for less than 10% of all undergraduate degrees (The Carnegie Foundation for the Advancement of Teaching, 2003).

Public community college. Refers to any publicly supported (with public funds) institution, which meets the same definition of a community college (Cohen & Brawer, 2008; Mellow, 2000; Mellow & Heelan, 2008; Witt, Wattenbarger, Gollattscheck & Suppiger, 1994).

Council for Resource Development (CRD). An affiliate council of the American Association of Community Colleges (AACC), which provides networking opportunities and education to its membership, which includes resource development officers, grant writers, foundation directors, alumni officers, college presidents, administrators, faculty and staff (CRD, 2011).

External funding. Resources received from sources outside of the prescribed revenue streams, such as tuition and state appropriations, to support the mission of the public community college.

Faculty. Individuals responsible for making decisions on course content, preparing and evaluation examinations, and providing instruction to students (Cohen & Brawer, 2008; Levin, Kater & Wagoner, 2006).

Faculty workload. Refers to the number of hours spent in the classroom each week, any required office hours, and any other assigned duties such as committee service. Teaching is the largest share of the community college faculty member's workload, which does not normally include any expectation of research or publication

(Cohen & Brawer, 2008; Levin, Kater & Wagoner, 2006; Mellow & Heelan, 2008; Witt, Wattenbarger, Gollattscheck & Suppiger, 1994).

Grantsmanship. Refers to the possession of the set of skills necessary to procure external funding through successful submission of grant applications. This skill set includes the ability to identify need, gather and present information and data (qualitative and quantitative), develop a solution approach to a problem statement, design a comprehensive evaluation design, review funding agency criteria, prepare a budget, and complete/submit a proposal.

Grants officer. The administrative staff member at the community college responsible for coordinating all activities related to the pursuit of grant-funded resources.

Institutional advancement. At most higher education institutions, this refers to the functions of fundraising (e.g., grants, foundation, alumni affairs), and public relations (e.g., marketing, publications, special events), and the offices and staff responsible for these functions.

Proposal. The actual written document transmitted either via hard copy or electronically to the granting agency in order to request funding (Henson, 2004; Bauer, 2001; Bauer, 2003).

Rank. Rank refers to the categories of faculty positions (e.g., instructor, assistant professor, associate professor, and professor).

Research. Used in this context, refers to a systematic, diligent inquiry or examination in some field of knowledge (McKechnie, 1983).

Release time. The paid time faculty members receive outside of the classroom to pursue activities other than providing instruction to students or other prescribed duties.

Resource development. This is the function that encompasses the pursuit of external funding opportunities through grantsmanship and private fundraising techniques in order to the support the mission and identified needs of an institution (Brumbach & Villadsen, 2002; Glass & Jackson, 2002; Meaders, 2002).

Tenure. This describes the status of an individual faculty member's contract (e.g., single year or continuing).

Unduplicated credit head count. The number of students enrolled in credit courses, during any specified period, with each individual student only counted once.

Overview of the Methodology

A review of relevant literature, which pertains to the pursuit of grant-funded opportunities by public educational institutions in the United States, has been conducted. While all such literature was reviewed for relevancy, regardless of the type of higher education institution, the literature specific to grant writing and activities by public community college faculty, both full-time and part-time, was the focus of this study. Data has been collected through a survey, which was made available in electronic form to community colleges that are members of the Council for Resource Development (CRD) and have grant writing professionals on staff. Although respondents were assured that their survey responses would remain confidential, they were not anonymous. Each respondent provided the name of his or her institution and also his or her own name and contact information in case there was any question related to information provided in the survey. CRD has a membership of over 1600

members, made up of both grant office and college foundation staff, at more than 700 institutions (CRD, 2011). The community colleges identified by survey respondents will be categorized by a variety of classifications, including enrollment, through the Integrated Postsecondary Education Data System (http://nces.ed.gov/ipeds). Statistical Package for the Social Sciences (SPSS) software will be utilized in order to run a variety of tests to determine relationships between the variables.

Population

The link (URL) to an online survey was emailed by paid staff at the national office of the Council for Resource Development (CRD) to the appropriate college staff responsible for grant functions at public two-year community colleges in the United States and territories, who are also active members (defined as being in a paid membership status) of CRD.

Data Collection

The Buros Institute of Mental Measurements website was examined for a survey instrument (http://buros.unl.edu/buros/jsp/category.html) which would be suitable for this study. The Category Search tool, which is available on the website at no cost to the user, classified all tests included in the Mental Measurements Yearbook series (since the 9th edition, 1985) into 18 major categories. A thorough search, particularly in the categories of Achievement, Education, Vocations, and Miscellaneous, did not yield any currently validated surveys or instruments which would be appropriate for the proposed study. Similar to an earlier study, which was, related to community college grant development operations (Meaders, 2002), a survey instrument was developed by this researcher, in order to gather data for this study. The survey instrument developed by Meaders and Carrier was used as a starting point/model with permission (Appendix B

and Appendix C). Dr. Christopher M. Mullin, Program Director for Policy Analysis for the American Association of Community Colleges, also reviewed the survey and made suggestions for improvement (personal communication; September 14, 2010). The paid executive director and volunteer executive board of the Council for Resource Development (CRD) also reviewed the survey instrument and provided comments (personal communications; September 13-15, 2010). A link to an electronic version of the survey was distributed by the national office of the Council for Resource Development to each of its members involved in grant writing activities at public community colleges in the United States. As the completed surveys were logged into the Survey Monkey ® professional system and received by the researcher, responses from usable surveys were entered into the Statistical Package for the Social Sciences (SPSS) software application database for analysis. A commitment in writing was received stating that the executive director and volunteer executive board of the Council for Resource Development supported this study (Appendix D and Appendix E), and the resulting survey instrument (Appendix F).

Data Analysis

Three overarching research questions were developed. Variables were chosen based on a review of the relevant literature, personal experience, and upon the suggestions of volunteer leadership—current president and immediate past president—and the Executive Director of the Council for Resource Development (CRD), in addition to the sitting president of this researcher's community college. In order to ensure consistency, data germane to each institution (e.g., enrollment, Carnegie classification, etc.) was collected from the Integrated Postsecondary Education Data System (IPEDS). Variables included, but were not limited to faculty and institutional characteristics, and

incentives, such as stipends and release time, which are offered by college administration to entice faculty to participate in grant writing and associated activities. The Statistical Package for the Social Sciences (SPSS) software application was utilized to perform descriptive and inferential statistical studies in an effort to determine the relationship between the variables and levels of faculty participation in grant writing and associated activities. An appropriate significance level was selected.

Organization of the Study

Chapter 1 of this study includes the introduction, purpose, overview, delimitations and limitations, term definitions, and a brief overview of the proposed methodology. Chapter 2 contains a review of the literature relevant to the study. Chapter 3 elaborates on the research questions, determination of the population to be surveyed, and the methodology for conducting the data collection and analysis. Chapter 4 contains the results of the data analysis, and Chapter 5 provides a discussion of the research findings, conclusions, any implications, and recommendations for further study.

CHAPTER 2
REVIEW OF RELATED LITERATURE

The review of the literature, which follows here, is presented in two sections. The first section is an overview of resource development, particularly the pursuit of grant funds, in postsecondary institutions, particularly in community colleges. The second section is a discussion of the research variables.

Resource Development in Higher Education

Community colleges are increasingly dependent on new funding streams. It is unlikely that states will increase allocations to community colleges by more than a couple of percentage points a year, if at all, administrators must look beyond traditional budget lines to fund the costs of new programs, new construction, wage increases, and technology updates (Cohen & Brawer, 2008; Jackson & Keener, 2002; Mellow & Heelan, 2008). In the absence of any new external funding streams, institutions must reallocate resources to support new initiatives (O'Banion, 1997). Although a diversification of revenue sources is essential for institutional stability and the capacity to serve future needs, Newman, Couturier, and Scurry (2004) cautioned against colleges allowing revenue to become "the end rather than the means" (p. 16). This type of thinking leads college administrators to chase the money, rather than looking for funding opportunities, which would be specific to meeting, established institutional goals and priorities.

History

Community college financing trends follow changes in institutional purpose and organizational systems, and external factors such as local and state economies (Cohen & Brawer, 2008; Kenton, Huba, Schuh & Shelley II, 2005; Mellow & Heelan, 2008).

Public postsecondary institutions have always had to operate within a sphere of political influence; however, when colleges were small, few people external to the institution operations cared where operating funds came from or how they were spent (Cohen & Brawer; Gleazer, Jr., 1998; Mellow & Heelan). More attention was focused as enrollments increased and budgets got larger, and other public agencies found themselves competing against colleges for state dollars. Campbell, Leverty and Sayles (1996) detailed what have been historically the five major sources of financial support for higher education operating expenses: (a) federal government, (b) state government, (c) local government, (d) student tuition and fees, and (e) other.

Early funding models found community colleges mostly dependent on local tax funds for financial support. During the infancy of community colleges, student tuition and fees represented the largest percentage of total revenues; state aid was reported to be an average of less than 5% of all public college revenues during the 1920s (Cohen & Brawer; Mellow & Heelan). In most states, state governments are currently the largest sources of funds for public community colleges (Campbell, et al.; Kenton, Huba, Schuh & Shelley II, 2005). By 1992, the percentages attributed to the different postsecondary education funding sources had changed to 46% state, 18% local, 20% student tuition and fees, 5% federal, 1% private gifts and grants, 7% sales and services, and 3% other (Campbell, et al.). In 2010, the percentages attributed to the different postsecondary funding sources had changed to 38% state, 21% local, 17% student tuition and fees, 15% federal, and 9% other (AACC, 2011). Particularly in states in which local tax support is mandated for K-12 school systems, but not allowed for postsecondary institutions, the percentage of state funding for community colleges has risen. However,

this revenue stream is neither stable, nor guaranteed (Gleazer). As demonstrated by deep budget cuts and other posturing by state legislatures struggling to balance budgets during economic downturns, Campbell, et al. described higher education as "the largest area of state funding that is not constitutionally mandated, dictated by matching federal dollars or otherwise required" (p. 175). Tollefson, Garrett and Ingram (1999) asserted that in most states, public community colleges are in the process of transitioning from being state-supported to state-assisted, with less than 50% of their funding coming from state coffers. In order to maintain the open access part of their mission, attempts continue in most states to have the primary funding for community college operating expenses come from sources other than tuition and fees (Kenton, Schuh, Huba & Shelley II, 2004; Kenton, Schuh, Huba & Shelley II, 2005; Levin, Kater & Wagoner, 2006).

Even though most of the grant dollars received through funding agencies are restricted in nature—intended for specific purposes or activities—these funds represent a growing percentage of college budgets (Campbell, et al.). For example, in 2008, 12% of all full-time career service staff (e.g., administrative support personnel) and administrative/professional personnel at Pensacola State College were funded by restricted grant dollars (T. Henderson, Director of Human Resources, in a personal communication, March 20, 2009). The activities supported in this manner allow for more efficient and effective use of limited college operating budgets.

Discussion of the Research Variables

Traditionally, previous study emphasis has focused on the competence or specific skills required for individual faculty members to demonstrate expertise in grantsmanship—grant writing and associated activities, particularly in baccalaureate

and advanced degree-granting institutions where the majority of faculty research takes place. This review takes a broader perspective, examining instead a larger framework of characteristics, particularly organizational attributes as they contribute to a culture of external resource development.

Institutional Characteristics

The survey respondents' community colleges will be identified in narrative by size and geographic location. Outside of a shared commitment to open access, comprehensiveness, and responsiveness to local and regional workforce needs, public community colleges are more diverse than they are alike (Katsinas, 2003). These differences include governance, geography, size, and institutional control (Katsinas). Katsinas (2003) stated, "Classifications help frame how we know what we know" (p. 19). It is posited that the classifications of geography (rural, suburban, or urban) and size (small or large) are most pertinent to this study; however, information related to governance (e.g., multicampus, single campus, etc.) may also provide significant information related to grant writing and associated activities by faculty.

Geography

Public community colleges are created by state legislatures and are funded, at least in part, by legislative appropriations. As recognized political subdivisions of states, geographical service areas for these postsecondary institutions are typically defined by state statute or regulation (Katsinas, 2003). Katsinas also justified using geography as a classification category because of the historic precedent set as states established community college systems to best maximize access for their citizens. Most individuals living in the United States have a community college within a short drive (Witt, Wattenbarger, Gollattscheck & Suppiger, 1994). For example, in the state of Florida,

the original plan to develop a statewide system of community colleges (now called the Florida College System) mandated that when more than one county is considered as part of the college's service area, no area should, in general, have a longer than 30 mile travel radius for students commuting to and from an institution (Wattenbarger, 1957).

The urban classification includes all territory, population and housing units located with a UA or a UC, with core census block groups or blocks that have a population density of at least 1,000 people per square mile, and surrounding census blocks that have an overall density of at least 500 people per square mile (U.S. Census Bureau, 2010). Katsinas (2003) categorized as an urban or suburban community college those having a physical address (zip code) within one of America's hundred largest metropolitan areas, as defined by the U.S. Census.

The rural classification includes all territory, population, and housing units located outside of urbanized areas (UA) and urban clusters (UC), with core census block groups or blocks have a population density of less than 1,000 people per square mile, and surrounding census blocks that have an overall density of less than 500 people per square mile (U.S. Census Bureau, 2010). Katsinas (2003) categorized as a rural community college any college having a physical address (zip code) which did not fall under the urban definition.

Institution size

The Carnegie Classification (Carnegie Foundation, 2009) provided a detailed breakdown describing community colleges by size:

(a) very small two-year (VS2)—fall enrollment data show Full-Time Equivalent (FTE) enrollment, which is calculated as full-time plus one-third part-time, of fewer than 500 students at these associate degree granting institutions; (b) small two-

year (S2)—fall enrollment data show FTE enrollment of 500-1,999 students at these associate degree-granting institutions; (c) Medium two-year (M2)—fall enrollment data show FTE enrollment of 2,000-4,999 students at these associate degree granting institutions; (d) large two-year (L2)—fall enrollment data show FTE enrollment of 5,000-9,999 students at these associate degree granting institutions; and (e) very large two-year (VL2)—fall enrollment data show FTE enrollment of at least 10,000 students at these associate degree-granting institutions. (n.p.)

Katsinas (2003) classified small community colleges as those with unduplicated credit enrollments (headcount) below 2,500 students. An enrollment of more than 2,500 students places a community college in the large category. Because full-time equivalency in each state is calculated with different formulas, and IPEDS provides consistent headcount enrollment data, Katsinas' definition of size was utilized for the purposes of this study, rather than the Carnegie classification.

Faculty Characteristics

Variables for this study included, but were not limited to, faculty characteristics, such as rank, ethnicity, gender, and status (e.g., full- or part-time). In general characteristics of community college faculty differ from faculty in both universities and secondary schools (Adams, 2002; Cohen & Brawer, 2008; Gibson-Harman, Henson, 2004; Rodriguez & Haworth, 2002; Levin, 2006; Levin, 2006; Levin, Kater & Wagoner, 2006; Mellow & Heelan, 2008; Outcalt, 2000). The proportion of male faculty members at the community college is generally higher than that found in secondary schools, but is generally lower than the proportion of males found at universities (Cohen & Brawer). University faculty members are more likely to hold advanced graduate degrees than

community college instructors are; most community college instructors have a master's degree or the equivalent experience—as set out in regional accrediting body guidelines—in the occupational fields in which they teach (Levin; Cohen & Brawer; Outcalt).

Creating a Culture of Grantsmanship

Institutional Behaviors

Community college educational systems need more finances each year to accomplish the same results as the previous year simply because teachers' productivity does not increase along with their salaries (Cohen & Brawer, 2008; Coombs, 1968; Honeyman, D. S. & Bruhn, M. (1996). Encouraging more grant proposal submissions is a continual challenge for administrators and success requires significant institutional commitment (Porter, 2004). Community college administrators are increasingly finding it necessary to integrate resource development activities directly with strategic institutional planning (Bass, 2003; Brumbach & Villadsen, 2002; Glass & Jackson, 1998). Some institutions support cultures more conducive to supporting grantsmanship activities by faculty than others (Haire & Dodson-Pennington, 2002). Pensacola State College's Strategic Goal #4—The College will expand external funding through fundraising and the writing of grants and contracts—demonstrates the type of commitment necessary for successful pursuit of external funding. Institutional culture is an abstract concept; however, certain institutional behaviors, existing alone, or in any combination, demonstrate an institutional culture that is conducive to particular activities, such as being respectful of all types of diversity, being learning-centered, and supporting grantsmanship. The three specific institutional behaviors—faculty hiring practices, administrative financial commitment, and enforced reward systems—

advanced by Miner, Miner and Griffith (2003) to operationally define the research culture of an institution can also define the culture of faculty grantsmanship at a community college.

Faculty

Community college faculty members who identify with the community college mission of accessibility demonstrate a commitment to learning and success of all students (Levin, Kater & Wagoner, 2006; Twombly, 2004) and, unlike their university counterparts; most of their time is spent in teaching, or instructional, activities, as opposed to research or service. If individuals are pursuing postsecondary education in order to acquire the requisite knowledge to pursue employment in any given career field, then the greatest portion of time that faculty are engaged in instructional activity should be directed at helping these students learning what they need to know (Levin, Kater & Wagoner, 2006; Levin, 2006; Middaugh, 2001; Outcalt, 2000).

Cohen and Brawer (2008) called community college faculty the “arbiters of the curriculum” (p. 73). There is not a widely accepted definition of faculty productivity (Adams, 2002; Levin, 2006; Levin, Kater & Wagoner, 2006; Middaugh, 2001; Townsend & Rosser, 2007) or that of teacher as researcher (Henson, 2004). Middaugh adopted the Joint Commission on Accountability Reporting (JCAR) definition of *teaching* to encompass the actual delivery of instruction, as well as all activities, which supported the teaching process, such as, “lectures and seminars, directed study, laboratory sessions, clinical supervision, class preparation, evaluation of student work, curriculum development, academic and career advising, and professional development for increasing faculty effectiveness” (p. 37)

Middaugh (2001) defined faculty research activities to include “conducting experimental or scholarly research, developing creative works, preparing or reviewing articles or books, preparing and reviewing proposals for external funding, attending professional meetings or conferences essential to remaining current in field” (p. 38).

The final category, service, includes such activities as serving on committees, giving speeches, consulting, etc. (Middaugh, 2001). Townsend and Rosser (2007) asserted that an institution’s dominant mission (i.e., two-year colleges, liberal arts colleges, doctoral-granting universities) was the most important factor in determining faculty roles. They measured teaching activities by the number of courses taught, total classroom credit hours and total number of students taught in credit classes; and, measured research activities by articles in refereed and non-refereed journals, presentations and books, because these activities were indicators of research (Townsend & Rosser).

As reported in the 2004 National Study of Postsecondary Faculty (NSOPF), in Fall 2003, male faculty members at two-year postsecondary education institutions taught 99% undergraduate students, taught an average of 4.7 credit courses, and only 14.5% had teaching assistants; female faculty members at two-year postsecondary education institutions taught 99.2% undergraduate students, taught an average of 4.1 credit courses, and only 12.2% had teaching assistants (U.S. Department of Education, 2004). This contrasts sharply with the teaching activities demonstrated by faculty at doctoral institutions. Male faculty members at doctoral institutions taught 71.0% undergraduate students, taught an average of 2.2 credit courses, and 42.3% had teaching assistants; female faculty members at doctoral institutions taught 70.0% undergraduate students,

an average of 2.5 credit courses, and 30.9% had teaching assistants (U.S. Department of Education).

A significant number of senior faculty members will be soon be retiring (Adams, 2002; Austin, 2002; Cohen & Brawer, 2008; Gibson-Harman, Rodriguez & Haworth, 2002). Porter (2004) asserted that the knowledge and skills brought to institutions by new faculty members would become even more important as the pressure to pursue external funding opportunities increases. However, faculty hiring and training practices have been examined, and little change is evident (Adams, 2007; Cohen & Brawer; Gibson-Harman, Rodriguez & Haworth, 2002). Although there have been affirmative action programs in place for decades, diversification of faculty ranks through the employment of members of minority groups has not made much progress (Cohen & Brawer). Twombly (2004) argued that by examining how faculty hiring searches are conducted it was possible to identify the "crucial elements of the academic profession in community colleges" (p. 22). The faculty hiring search process includes creating a job description, determining recruiting practices, identifying and applying criteria for screening candidates through both application ad interview functions, and making the final selection and offer to hire (Twombly). Twombly posited that throughout the hiring process, "an institution reveals both how it acts on its values and the values of the profession" (p. 22). Another hiring practice issue is the increasing use of part-time faculty, adjuncts, as a way for community colleges, and most four-year institutions, to save money even though the use of many adjuncts is generally not considered to be a good educational practice (Bailey, Calcagno, Jenkins, Kienzel & Leinbach, 2005; Witt, Wattenbarger, Gollattscheck & Suppiger, 1994). Miner, Miner and Griffith (2003)

asserted that regardless of the type of educational institution, “the faculty members you hire today will affect the level of extramural funding you will secure years later” (p. 12). Porter (2004) posited that the more proposals are written by a faculty member, the more likely they will meet with success; and, the more faculty members who are developing and writing successful proposals will increase the institution’s budget.

In the past, colleges and universities have often functioned as if they had no need to be accountable for the manner in which fiscal and personnel resources were utilized (Middaugh, 2001). Middaugh asserted, “When institutions have tried to talk about faculty productivity, they have spoken most often in terms of what faculty do” (p. 5). Expectations for community college faculty to conduct research and write for publication have customarily been low, and their primary responsibility has been to teach (Cohen & Brawer). Community college faculty have been traditionally hired to facilitate learning by a diverse population of students, made even more diverse by the realization of open access, the overarching mission of community colleges (Levin, 2006; Levin, Kater & Wagoner, 2006). Levin, et al. explored the occupational and professional identities and roles of community college faculty and described them as “multifaceted, pan-occupational team players who contribute to reduced costs, increased profits, or produce measurable outcomes, and expand markets” (p. 15). Community college faculty members are being increasingly asked to go beyond their traditional teaching roles. Levin, et al. noted that faculty would be challenged to produce knowledge through research and scholarly writing, in addition to disseminating knowledge as facilitators of student learning. Cohen and Brawer posited that having faculty more broadly involved by participating in activities such as reading and writing in their

particular discipline, conducting research on student learning outcomes, and becoming facilitators of integrating technology into curriculum, would produce a more desirable model for faculty professionals.

The 2004 National Study of Postsecondary Faculty (NSOPF), the most recent of four cycles, provides some insight into the activities and productivity of postsecondary faculty members at all institution types. At doctoral institutions, male faculty spend 48.8% of their time teaching, 27.8% doing research, 10.8% in administration-related activities, and 12.6% in other activities (defined to include clinical service, sabbatical, technical activities, other institutional activities such as library services, community public service, subsidized performance, and artist-in-resident appointments); female faculty at doctoral institutions spend 55.2% of their time teaching, 19.7% doing research, 12.0% in administration-related activities, and 13.2% engaged in other activities (U.S. Department of Education, 2004). In comparison, male faculty members at 2-year postsecondary institutions spend 88.1% of their time teaching, less than 1% doing research, 6.3% in administration-related activities, and 5.6% engaged in other activities; female faculty members at 2-year institutions spend 80.8% of their time teaching, less than 1% doing research, 9.8% in administration-related activities, and 9.4% engaged in other activities (U.S. Department of Education). Two-year postsecondary institution faculty members also spend less time engaged in activities, which may lead to publications or presentations. The 2004 National Study of Postsecondary Faculty defines recent publications and presentations as

> those over the past 2 years (prior to Fall 2003), as reported by the respondent; recent publications include articles published in refereed and non-refereed journals or creative works in juried and non-juried media, published reviews of

> books, articles, or creative works, or chapters in edited volumes, and textbooks, books, and reports. (n.p.)

Male faculty at doctoral institutions reported an average of 9.0 publications and 8.2 presentations, and female faculty reported an average of 6.0 publications and 6.8 presentations (U.S. Department of Education). In comparison, male faculty at two-year postsecondary institutions only reported an average of 4.3 publications and 5.8 presentations, and female faculty reported an average of 3.6 publications and 5.4 presentations (U.S. Department of Education).

Constraints

Ineffective communication, between not only faculty and administrators, but also among the ranks of faculty and administrators, constrains all facets of grantsmanship (Brumbach & Villadsen, 2002; Glass & Jackson, 1998; Outcalt, 2000; Porter, 2004). One of the often-voiced complaints by community college faculty related to their lack of engagement in grantsmanship is simply a shortage during the normal working day of blocks of time available to engage in grant writing and associated activities (Cumbie, Weinert, Luparell, Conley & Smith, 2005). In its 2004 National Study of Postsecondary Faculty, the U.S. Department of Education defined total hours worked per week to "include hours spent on paid and unpaid activities both at and outside of the institution" (2004). In doctoral institutions, 4.6% of the male faculty members worked less than 40 hours; 22.5% worked 40-49 hours, 33.5% worked 50-59 hours, and 39.5% worked 60 or more hours; 6.2% of the female faculty members worked less than 40 hours per week; 26.6% worked 40-49 hours, 34.4% worked 50-59 hours, and 32.8% reported working 60 or more hours each week (U.S. Department of Education, 2004). In comparison, 16.1% of the male faculty members at two-year postsecondary institutions reported working

less than 40 hours; 36.4% worked 40-49 hours, 25.0 worked 50-59 hours, and 22.5% worked 60 or more hours each week; 15.9% of the female faculty members at two-year postsecondary institutions reported working less than 40 hours; 38.3% worked 40-49 hours, 26.1 worked 50-59 hours, and 19.7% worked 60 or more hours each week (U.S. Department of Education). Hegyvary (2005) described writing for publication or for grant funding as an “arduous task” (p. 193).

The notion that anyone with a graduate degree would have the skills necessary to produce a successful grant application implies that effective writing is an innate skill possessed by most community college faculty members (Adams, 2002; Hegyvary, 2005). New faculty members, in particular, find the grant-funded project proposal and submission processes to be intimidating, especially if they had no prior experience (Boyer & Cockriel, 1998). The 2004 National Study of Postsecondary Faculty reports full-time instructional faculty activities, by institution type and gender, into the categories of any scholarly activity and any funded scholarly activity. Male faculty members at doctoral institutions spend 84.2% of their time engaged in any scholarly activity and 49.0% of their time in any funded scholarly activity; female faculty members at doctoral institutions spend 77.3% of their time engaged in any scholarly activity and 40.0% of their time in any funded scholarly activity (U.S. Department of Education). In contrast, male faculty members at two-year postsecondary institutions spend 31.8% of their time engaged in any scholarly activity, and 7.9% of their time in any funded scholarly activity; female faculty members at two-year postsecondary institutions spend 31.7% of their time engaged in any scholarly activity, and 9.2% of their time in any funded scholarly activity (U.S. Department of Education).

Cumbie, et al. (2005) identified a number of constraints which create a program, department or institutional level culture where the development of project proposals likely to result in successful grant awards is not recognized as a worthy way in which to spend time and resources. These constraints included other faculty commitments (e.g., meetings and committee service), constant interruptions during the writing process (e.g., office hours to meet with students and other faculty/staff stopping by to chat), and a lack of collegial relationships (Crumbie, et al.).

CHAPTER 3
METHODOLOGY

Chapter 3 contains a description of the research methods and procedures used in this study. The subsections are the purpose of the study, research questions, population and sample, instrumentation, data collection, data analysis, and summary.

Purpose of the Study

The purpose of this study was to identify factors that indicate the optimum institutional circumstances under which public community college faculty can be engaged in participating in resource development processes necessary to receive external funding in the form of grants. Variables included, but were not limited to, faculty characteristics such as rank, ethnicity, gender, tenure status, and employment status (e.g., full- or part-time); institutional characteristics, such as size/student enrollment, location and years of existence of grants office; and, incentives, such as promotions, stipends, professional development opportunities, and release time, which are offered by college administration to entice faculty to participate in grant writing and associated activities.

A review of relevant literature has been conducted. While all such literature has been reviewed for relevancy, regardless of the type of higher education institution, the intent was that literature specific to grant writing and associated activities by public community college faculty, both full-time and part-time, would be the focus of this study. Data was collected through a survey made available in electronic form to staff having responsibility for securing grant funding for community colleges that are also institutional members of the Council for Resource Development (CRD). CRD currently has a membership of over 1600 members at more than 700 institutions (CRD, 2011). The

community colleges were classified by size and geographic location. The Statistical Package for the Social Sciences (SPSS) software was utilized in order to run a variety of tests to determine relationships between the variables.

Research Questions

This study examined the following broad-based question: What factors indicate the optimum institutional circumstances under which public community college faculty can be engaged in participating in resource development processes necessary to receive external funding in the form of grants? To address this broader question, the following three research questions were developed:

1. What is the relationship between faculty characteristics and faculty engagement in grant writing and associated activities?
2. What is the relationship between institutional characteristics and faculty engagement in grant writing and associated activities?
3. What is the relationship between incentives, which are offered by the college administration to entice faculty to participate and actual faculty engagement in grant writing and associated activities?

The null hypotheses are as follows:

H_{01}: There is no relationship between faculty engagement in grant writing and associated activities depending on faculty characteristics.

H_{02}: There is no relationship between faculty engagement in grant writing and associated activities depending on institutional characteristics.

H_{03}: There is no relationship between faculty engagement in grant writing and associated activities depending on incentives, which are offered by the college administration to entice faculty to participate.

The research hypotheses are as follows:

H_1: There is a relationship between faculty engagement in grant writing and associated activities depending on faculty characteristics.

H_2: There is a relationship between faculty engagement in grant writing and associated activities depending on faculty characteristics.

H_3: There is a relationship between faculty engagement in grant writing and associated activities depending on incentives, which are offered by the college administration to entice faculty to participate.

Design of the Study

Suskie (1996) asserted that researchers should not bother doing a survey unless they expect honest and valid answers from the respondents. Since the subject of engaging community college faculty in grantsmanship activities had been a topic of discussion among community college grants professionals for some time, it was believed that there would be an adequate number of respondents and that those individuals would respond in a truthful manner. Survey questions were based on previous research conducted by Meaders (Appendix B) and Carrier (Appendix C), this researcher's personal experience, and suggestions made by Council for Resource Development paid staff and volunteer executive board members.

To conduct the study, the URL to an internet-based survey, developed with Survey Monkey ® professional collection system (http://surveymonkey.com), was emailed to 255 members of the national Council for Resource Development. Although there are some factors which are of concern to researchers, such as the fact that significant numbers of people still do not have access or do not use the Internet, receipt of email addresses for each prospective respondent to this survey ensures that they will have the requisite access (Solomon, 2001; Best & Krueger, 2002). Creswell (2009) asserted that electronic (i.e., online, email, and web-based) survey instruments were appropriate to be used for survey research. Sheehan (2006) posited that while email survey response rates have declined in recent years, they are still a viable method to utilize for data collection.

Population and Sample

There are 1,167 public and independent community colleges in the United States; when branch campuses are included that number approaches 1600 (AACC, 2011). Although most of these two-year institutions probably engage in some level of grant seeking, it was determined that paid membership in the national Council for Resource Development constituted an additional institutional commitment to the successful pursuit of external funding. The population for this survey was determined from this paid membership. Fowler (1984) asserted that "Researchers usually have no interest in the characteristics of a sample per se; the reason for collecting data about a sample is to reach conclusions about an entire population" (p. 35). The sample frame, sample size, and the specific design of the selection procedures determine how well a sample will represent a population (Fowler; Suskie, 1996). In a study of 15 years of email surveys and data collection, Sheehan (2001) reported a mean response rate of 36.83%, with a high of 72.0% in 1992, and a low of 21.6% in 1997. This researcher believed that the highly literate population in question would be interested in the research question and respond in adequate numbers for an appropriate sample (Fowler; Sheehan, 2006; Suskie). A specific respondent for each institution was designated by emailing the directions and electronic link to the survey only to members of the study population. The study population was comprised of the appropriate grants office staff at 255 two-year associate degree granting and associate degree dominant community colleges (e.g., public, private, tribal, etc.) in the United States and its territories. It was requested that only one response be returned for each institution. The URL/web address to an online survey developed within the Survey Monkey ® professional collection system (http://surveymonkey.com) was emailed to every member of this population. The

sample was stratified in that it was required that these staff also be active (paid) members of the Council for Resource Development (CRD). The Council for Resource Development (2011) is an affiliate council of the American Association of Community Colleges (AACC), which provides networking opportunities and education to its membership, which includes (a) resource development officers, (b) grant writers, (c) foundation directors, (d) alumni officers, (e) college presidents, (f) administrators, and (g) faculty and staff with an interest in resource development.

Instrumentation and Data Collection

The Buros Institute of Mental Measurements website was examined for a survey instrument (http://buros.unl.edu/buros/jsp/category.html) which would be suitable for this study. The Category Search tool, which is available on the website at no cost to the user, classifies all tests included in the Mental Measurements Yearbook series (since the 9th edition, 1985) into 18 major categories. A thorough search, particularly in the categories of Achievement, Education, Vocations, and Miscellaneous, did not yield any currently validated surveys or instruments which would be appropriate for this study. A fundamental part of the survey process is using questions as measures (Fowler, 1984). Modeled after an earlier study which was related to community college grant development operations (Meaders, 2002), with permission from Dr. Sharon M. Carrier and Dr. Sherry Meaders (personal communications, February 23, 2010), a survey instrument was developed by this researcher. The paid professional Executive Director of Council Resource Development and the organization's volunteer Executive Board reviewed the survey and provided comments and suggestions for improvement. Dr. Christopher M. Mullin, Program Director for Policy Analysis for the American

Association of Community Colleges, also reviewed the survey and made suggestions for improvement. The president of this researcher's postsecondary institution also reviewed the survey instrument, and additional suggestions were made for improvement. Suggestions for improvement were incorporated into the final survey instrument. As the completed surveys were received in the Survey Monkey ® professional collection system, they were assigned a numbered code, and responses from usable surveys were entered into the Statistical Package for the Social Sciences (SPSS) software application database for analysis. A commitment in writing was received stating that this study, and distribution of the link to the resulting survey instrument, would be fully supported by the professional Executive Director for the national office (Appendix D) and the elected president and past-president of the Executive Board for the Council for Resource Development (Appendix E).

Like the majority of surveys, a single data collection method was utilized for the purpose of this study (Fowler, 1984). The URL to the final survey instrument (Appendix F), containing respondent instructions and the informed consent, was emailed in October 3, 2010, by paid staff in the national office of the Council for Resource Development to members appropriate to include in the population. Solomon (2001) asserted that an especially effective and efficient approach to Internet surveying was the combination of an email cover letter with the use of an HTML form for the actual data collection. The URL/link to this study's survey was sent within an email cover letter to resource development personnel having grant writing responsibilities at 255 public community colleges in the United States and its territories. Personnel receiving the email containing the link were requested to respond to the survey by October 30, 2010.

Survey Monkey ® professional collection system was chosen because it was cost effective, easy to use, and allowed for a variety of download formats for collected data. The Survey Monkey ® professional collection system collected and stored all of the responses automatically, which allowed for real time error checking and correction, therefore increasing the accuracy of the data collection process (Solomon, 2001).

The first response was recorded by the Survey Monkey ® professional collection system on October 6, 2010. A total of 85 usable surveys were received from the population for a survey response rate of 33.33%. Although respondents were assured that their survey responses would remain confidential, they were not anonymous in order to allow this researcher to also collect reliable data related to institutional and human resource characteristics from the U.S. Department of Education National Center for Educational Statistics Integrated Postsecondary Education Data System. This method of collection for specific institutional and human resource characteristics would ensure uniformity of data points across all of the community college respondents. Each respondent provided the name of his or her institution and also his or her own name and contact information in case there was any question related to information provided in the survey.

The survey instrument – CRD/UF Research: Community College Faculty Grant Writing Activities (Appendix F) – was comprised of three distinct sections and was designed to obtain information related to the following: college characteristics, grant office functions, faculty involvement and incentives related to that involvement.

Questions1 through 12 from Section 1, *College*, were used to collect data related to institutional characteristics for the statistical analysis of the 85 respondents and

included the following: Question 1 –Informed Consent; Question 2 –Institution; Question 3 – Designated contact person for survey; Question 4 – Identify college structure represented; Question 5 – Degrees granted by institution; Question 6 – Faculty union or non-union; Question 7 – Number of faculty Fall 2009; Question 8 – Presence of a Chief Resource Development Officer; Question 9 – If "yes" for Question #8, to whom does this person report; Question 10 – Existence of a negotiated indirect cost rate; Question 11 – Existence of an Institutional Review Board; and, Question 12 – Existence of a strategic goal related to external funding.

Question 1 included information about the study, informed consent, and directions for completing the survey. Respondents were required to "agree" that they had read the information and wished to participate in the survey in order to be allowed to progress to the rest of the questions. Anyone declining was redirected to a "thank you" page. Questions 2 and 3 were intended to provide information identifying each institution, and a staff member to contact if a situation occurred in which this researcher had any question about responses. Again, respondents were required to answer this question before being allowed to progress to the rest of the survey questions. Anyone declining to provide this information could simply close his or her Internet browser and discontinue the survey process. It was expected that a number of potential respondents might choose to opt out of participating in the survey at this point. The purpose of question 4 was to identify the college structure represented, whether the respondent was at an institution that was part of a multi-college district, a multi-campus district, or a single community college campus. Question 5 was intended to identify all of the degrees granted by an institution – associate in arts, associate in applied science,

associate in science, and baccalaureate degrees, technical certificates, and diplomas. The purpose of question 6 was to identify whether the institution's faculty were unionized or part of a collective bargaining unit. The purpose of question 7 was to ascertain how many faculty members (full- and part-time) were employed by the institution in the fall 2009 semester – the data collected from responses to this question were later discarded; instead, data collected from the IPEDS system were used in lieu of the survey responses to ensure consistency. The purpose of questions 8 and 9 was to determine whether a responding institution had a Chief Resource Development Officer or some staff person with similar responsibilities, and to determine to whom this person reports within the college's organizational structure. Meaders (2002) asserted that when community colleges make resource development (e.g., external fundraising and grantsmanship) an institutional priority, time and resources will be focused on areas related to college mission achievement. Questions 10-12 were designed to measure whether resource development was an institutional priority at each of the respondent colleges. The intent of question 10 was to determine whether the institution had, or was in the process of establishing, an indirect cost rate negotiated with its cognizant agency, which under these circumstances for most postsecondary institutions that agency is the U.S. Department of Health and Human Services. The purpose of question 11 was to identify whether each responding institution had an Institutional Review Board (IRB) or its equivalent on site, had a formal local partner arrangement (e.g., with a university or research institution) or was in the process of establishing their own. Last in this section, the purpose of question 12 was to determine whether each responding community college had an institutional strategic goal related to external funding.

Meaders (2002) examined the identification of readiness factors in community college grant development operations and asserted that “Studying fundraising by comparing institutional characteristics and results does not fully explain why some colleges generate more grant revenue than others that are similar” (p. 102). Questions 13 through 19 in Section II, Grants Function, were used to collect data related to the grants functions located at each institution for the statistical analysis of the 85 respondents and included the following: Question 13 - Year the grants office established; Question 14 – Location of grants function; Question 15 – Number of individuals assigned to grant project development; Question 16 – Association of grant officer with administration; Question 17 – Number of individuals assigned to grant project development operations; Question 18 – Number and status of applications submitted to any funding source; Question 19 – Number of new awards received, by agency; and, Question 20 – Total amount of funding to be realized as result of awards.

The purpose of question 13 was to determine whether there was actually an office responsible for grantsmanship activities, and if so, how long it had been in existence. Question 14 was intended to determine how the location of any grants functions fit into the overall structure of each institution – in a dedicated grants office, co-located with other college functions (e.g., institutional research, marketing, etc.), or with the college foundation. The purpose of question 15 was to gather information about the individual primarily responsible for grants operations at each college – title, years in current position, total number of years with the institution, total years in resource development at any institution, and the title of their supervisor. Data collected from responses to question 16 would determine the grant officer’s administration association: (a) state

college system administration office, (b) central or district administration office of a multi-campus district, (c) decentralized college administration office in a multi-college district, (d) decentralized campus administration office (branch campus) of a multi-campus college, (e) single community college campus administration office, and (f) other (in which the respondents were asked to specify).

The purpose of question 17 was to determine the number of part-time and full-time employees, by job classification (e.g., professional, paraprofessional, clerical, other), specifically assigned to grant project development operations. The purpose of question 18 was to quantify the total number of grant applications submitted to any funding source during the previous fiscal year. The intent of question 19 was to quantify the number of new awards received by each community college between July 1, 2009, and July 1, 2010, identified by funding agency.

The questions in Section III, *Faculty Involvement*, were used to collect data related to faculty engagement in grant writing and associated activities, and any incentives received by faculty for that engagement, for the statistical analysis of the 85 respondents and included the following: Question 21 – Number of faculty as project director, grant manager or principal investigator; Question 22 – Number of faculty participating in any grant activities; Question 23 – Existence of incentives for faculty; and, Question 24 – Types of incentives.

The purpose of question 21 was to quantify the number of part-time and full-time faculty members at each community college who were currently acting in an official capacity as grant project director, grant manager, or principal investigator, in addition to teaching duties. The intent of question 22 was to quantify the number of part-time and

full-time faculty members at each community college who had participated in any type of grant project development/writing activities, and the capacity in which they had served, including: (a) planning committee, (b) data collection, (c) budget development, (d) proposal writing, and (e) other (in which the respondents were asked to specify).

Question 23 was intended to determine whether each community college offered any type of incentive to faculty members participating in grant project development/writing activities pre-submission of grant application, regardless of whether or not the grant application is eventually funded. Respondents who answered in the affirmative to question 23, were requested in question 24 to indicate all incentives that were available, including: (a) release time, (b) stipends, (c) opportunities to participate in travel, (d) opportunities to participate in professional development activities, (e) points awarded toward promotion, (f) invitation to college-wide recognition celebrations, (g) recognition in college publication (print or electronic formats), (h) written recognition from administration (president or vice president), and (i) other (in which the respondents were asked to specify),

In question 25 respondents were give an open text box in which to provide any other pertinent comments related to faculty engaging in grant project development/writing activities at their institution which they would like to share.

In order to assure consistency, additional data were obtained by using information provided by each institution's Chief Information Officer, for official reporting purposes, to the National Center for Education Statistics through the Integrated Postsecondary Education Data System (IPEDS). The IPEDS Data Center Compare Individual Institutions function (http://nces.ed.gov/ipeds/datacenter/InstitutionByName.aspx) was

utilized to compare selected variables for 2009 and 2010 and included the following: (a) enrollment, (b) number of part-time faculty, (c) number of full-time faculty, (d) part-time to full-time faculty ratio, (e) tenure status of faculty, (f) rank of faculty, (g) gender, (h) ethnicity, (i) student to faculty ratio, and (j) number of new faculty hires.

Data Analysis

Variables were chosen based on a review of relevant literature, personal experience, and upon the suggestions of a policy analyst for the American Association for Community Colleges, the volunteer leadership—current president and immediate past president—and the Executive Director of the Council for Resource Development (CRD), in addition to the sitting president of this researcher's community college. Three research questions were developed for the selected independent variables, and descriptive and inferential statistics were conducted on the data from the 85 eligible respondents. A linear regression model was utilized to test select variables to predict optimum circumstances under which community colleges may increase the level of engagement of faculty in grant writing and associated activities.

Utilizing SPSS, descriptive statistics of frequencies, means, and percentages were calculated from data collected for each institution from the Integrated Postsecondary Education Data System (IPEDS), and selected survey questions in Sections 1—*College*, 2—Grants Function, and 3—Faculty Involvement, for the sample population, and included institution characteristics, faculty characteristics, and incentives offered.

Institution characteristics which were examined included: (a) Carnegie Classification of institutions, (b) institution size, (c) student enrollments, (d) first-time-degree-seeking students, (e) states represented, (f) Council for Resource Development

regions and regional accreditation agencies represented, (h) total new hires (faculty), (i) student to faculty and part-time to full-time faculty ratios, (j) college structure, (k) types of degrees offered, (l) presence of a chief resource development officer, (m) existence of a negotiated indirect cost rate, an institutional review board, and an institutional strategic goal related to external funding, (n) location of grants functions, (o) number of years grants office has been in existence, individual responsible for grants has been with institution, individual responsible for grants has been in their current position, and individual responsible for grants has been in resource development, (p) total number of grants staff and grants personnel reporting directly to the president, (q) grants officer's association with organizational structure, and (r) total number of applications submitted to any source, submitted to any source which have been funded, submitted to the National Science Foundation, and number funded by the National Science Foundation.

Faculty characteristics examined included: (a) tenure status of faculty, (b) gender of faculty, (c) ethnicity of faculty, (d) faculty salaries, (e) total faculty any grant participation, (f) total faculty as principal investigator, project director or grant manager, (g) unionization of faculty, (h) total faculty serving on grant planning committees, (i) total faculty participating in data collection for grant applications, (j) total faculty participating in grant budget development, (k) total faculty participating in grant proposal writing, and (l) total faculty with any other type of participation in grant activities pre-submission.

Incentives for participation in grant writing and associated activities included whether the institution offered any type of incentive and the types of incentives offered, if any.

Summary

Three overarching research questions were developed. Variables were chosen based on a review of relevant literature, personal experience, and upon the suggestions of volunteer leadership—current president and immediate past president—and the professional Executive Director of the Council for Resource Development (CRD), in addition to a policy analyst for the American Association of Community Colleges, and the sitting president of this researcher's community college. The population for this study was limited to 255 institutions for which the staff members responsible for grant writing and associated activities were paid members of CRD in good standing. The link to an electronic survey was emailed by the national CRD office staff to the appropriate grant function staff at each of these 255 institutions. Usable responses were received from 85 (33.33%) colleges. Variables included, but were not limited to, institutional and faculty characteristics and incentives, such as stipends and release time, which are offered by college administration to entice faculty to participate in grant writing and associated activities. In order to test the research questions, three research hypotheses were developed. The Statistical Package for the Social Sciences (SPSS) software application was utilized to perform descriptive and inferential statistical studies in an effort to determine relationships between the variables and levels of faculty participation in grant writing and associated activities. A significance level of 5% ($p < .05$) was selected. Linear regression analysis tests were conducted on select variables, using SPSS 13.0 to predict the variability of faculty participating in grant writing and associated activities.

CHAPTER 4
RESULTS OF DATA ANALYSIS

Overview

The purpose of my study was to identify the factors that indicated the circumstances for the highest level of engagement of faculty in grant writing and associated activities at community colleges. This study explored whether there were any differences among the variables associated with institution and faculty characteristics, grants office functions, and incentives offered by college administrations for faculty and the number of community college faculty engaging in grant writing of associated activities or serving as principal investigator, project director or grant manager for funded grant projects. A review of the relevant literature allowed for the appropriate variables to be chosen for analysis. The analysis process begins by gaining an understanding of the data set in order to identify strengths and weaknesses, allowing for the identification of significant relationships (Stufflebeam & Shinkfield, 2007). This chapter reports the results of the data analysis including descriptive statistics, frequency and correlation data, and outcomes of select multiple regression analyses. Chapter 5 provides a discussion of the findings and conclusions based on the results of the data analysis in this study related in this chapter.

The data for analysis were collected by means of the URL (Uniform Resource Locator)/web address to an online survey developed within the Survey Monkey ® professional collection system. The electronic link to the online survey was emailed to the appropriate grants office staff at 255 two-year associate degree-granting and associate degree-dominant community colleges (e.g., public, private, tribal, etc.) in the United States and its territories. It was required that these grants office staff members

also be active, paid members of the Council for Resource Development (CRD). The Council for Resource Development (2010), an affiliate council of the American Association of Community Colleges (AACC), provides networking opportunities and education to its membership, which includes resource development officers, grant writers, foundation directors, alumni officers, college presidents, administrators, and faculty and staff with an interest in resource development. Only staff members with grant responsibilities were included in this study. This process resulted in 85 (33.33%) usable surveys for this study.

The overarching purpose of this study was to identify factors that indicate the optimum circumstances under which public community college faculty can be engaged in participating in resource development processes necessary to receive external funding in the form of grants. Three research questions were developed:

1. What is the relationship between faculty characteristics and faculty engagement in grant writing and associated activities?
2. What is the relationship between institutional characteristics and faculty engagement in grant writing and associated activities?
3. What is the relationship between incentives, which are offered by the college administration to entice faculty to participate and actual faculty engagement in grant writing and associated activities?

The three research hypotheses, and associated null hypotheses, are as follows:

H_{01}: There is no relationship between in faculty engagement in grant writing and associated activities depending on faculty characteristics.
H_1: There is a relationship between faculty engagement in grant writing and associated activities depending on faculty characteristics.

H_{02}: There is no relationship between faculty engagement in grant writing and associated activities depending on institutional characteristics.
H_2: There is a relationship between faculty engagement in grant writing and associated activities depending on faculty characteristics.

H_{03}: There is no relationship between faculty engagement in grant writing and associated activities depending on incentives, which are offered by the college administration to entice faculty to participate.

H_3: There is a relationship between in faculty engagement in grant writing and associated activities depending on incentives, which are offered by the college administration to entice faculty to participate.

Descriptive Statistics

Utilizing the Statistical Package for the Social Sciences software package (SPSS), descriptive statistics of frequencies, means, and percentages were calculated from data collected for each institution. These data were collected from the Integrated Postsecondary Education Data System (IPEDS), and from selected survey questions in Sections 1—College, 2—Grants Function, and 3—Faculty Involvement, from the sample population, and included institution characteristics, faculty characteristics, and incentives offered.

A data analysis of the 85 respondents and data collected from the Integrated Postsecondary Education Data System (IPEDS) for each institution yielded the following summary findings of note. Institutions responding to the survey represented each of the six regional accreditation agencies. Institutions responding to the survey represented each of the 10 Council for Resource Development regions. Respondents represented institutions in 34 (68%) states. The number of institutions classified as “large” was 77 (90.6%); the number classified as “small” was seven (8.2%). Total student enrollment (2009) ranged from 1,153 to 59,120, with a mean of 11,948. The number of first-time-degree-seeking students ranged from 229 to 11,613, with a mean of 2,232. The total of new faculty hires made by an institution (2009) ranged from 1 to 175, with a mean of 19.48. The number of institutions reporting that their faculty were unionized was 45 (54.2%). Average salaries of full-time faculty ranged from $41,411 to $92,789, with a

mean of $61,361. The number of full-time faculty (2009) ranged from 29 to 658, with a mean of 180.44. Numbers of faculty involved in any type of grant writing or associated activities ranged from 3 to 112, with a mean of 18.31. The total number of faculty acting as principal investigator, project director or grant manager ranged from 1 to 89, with a mean of 5.17. The number of institutions reporting that there was a Chief Resource Development Officer responsible for grant writing functions was 74 (87%). Institutions having a Chief Resource Development Officer indicated that 37 (43%) reported to a campus president, chancellor, or district president. The number of institutions reporting that they either already had a negotiated indirect cost rate with their cognizant federal agency (U.S. Department of Health and Human Services), or were in the process of establishing one was 69 (81%). The number of institutions reporting that they already had an Institutional Review Board, were in the process of establishing one, or had a formal local partner arrangement was 60 (70%). The number of respondents indicating that their institution had a strategic goal related to external funding was 37 (43.5%). The number of years the grants offices had been in existence ranged from 1 to 41, with a mean of 10.13. The total number of grant applications submitted to any source ranged from 4 to 155, with a mean of 34.91. The total number of funded grant applications ranged from 2 to 125, with a mean of 22.22. The total number of grant applications submitted to the National Science Foundation (NSF) ranged from 2 to 17, with a mean of 2.85. The total number of funded NSF applications ranged from 1 to 10, with a mean of 1.83. The number of institutions offering any type of incentive to faculty engaging in grant writing and associated activities, pre-submission/award, was 11

(12.9%). The student to faculty ratios ranged from 1:8 to 1:36, with a mean ratio of 1:22.

Although respondents were assured that their survey responses would remain confidential, they were not anonymous. Each respondent provided the name of their institution and their own name and contact information in case there were any questions related to the responses that they provided in the survey. Having this information, as recommended by Dr. Christopher M. Mullin, Program Director for Policy Analysis for the American Association of Community Colleges, allowed this researcher to access detailed, consistent data related to institutional and human resource characteristics for each college through the U.S. Department of Education National Center for Educational Statistics Integrated Postsecondary Education Data System Data Center.

Faculty Characteristics

Whether the institution's faculty was unionized was indicated by the respondents' reply to survey question 6 (Table 4-1).

Survey question 21 was designed to measure the total number of part- and full-time faculty currently (at the time of the survey, fall 2010) acting in an official capacity as principal investigator, project director, or grant manager (Table 4-2). The numbers of full-time faculty acting in an official capacity as principal investigator, project director, or grant manager ranged from 1 (16.3%) to 89 (1.2%), with a mean of 8.49. Thirty-six institutions indicated that they had no full-time faculty acting in this capacity. The number of part-time faculty in the same official capacity ranged from 1 (80.0%) to 5 (20.0%), with a mean of 1.80. Seventy-five institutions indicated that they had no part-time faculty acting in this capacity.

The results of survey question 22 provided details related to the total number of faculty who have participated in grant writing and any associated grantsmanship activity, such as serving on a grant planning committee, or assisting with data collection and budget development (Table 4-3). The number of faculty participating in grant project planning reported by survey respondents ranged from 0 (33.0%) to 20 (2.4%). The number of faculty participating in data collection for the purposes of grant project development ranged from 0 (53.6%) to 12 (1.2%). The number of faculty participating in budget development for the purposes of grant project development ranged from 0 (46.4%) to 15 (1.2%). The number of faculty participating in actual grant proposal writing ranges from 0 (36.9%) to 20 (1.2%). The total number of faculty who have participated in grant writing and any of the named associated grantsmanship activities ranges from 0 (27.4%) to 112 (1.2%).

Faculty characteristics – IPEDS. Accessing IPEDS data provided additional information related to faculty characteristics. There were new faculty hires in 2009 at 80 (94.1%) of the 85 respondent institutions, ranging from one to 101.

The student to faculty ratio (X to 1), a possible indicator of faculty workload, ranged from a low of 8:1 to a high of 36:1 (Table 4-4).

The number of full-time faculty (2009) ranged from 29 to 658, with a mean of 180.44. Salary information mined from IPEDS Average salaries of full-time faculty ranged from $41,411 to $92,789, with a mean of $61,361. Table 4-5 provides the wide range of salaries at the respondent institutions for each rank (9 month equated).

Institutional Characteristics

Questions in survey Section I, College (questions 1-12), and Section II, Grants Functions (questions 13-20), were intended to gather information relating to the culture of grant seeking, or lack thereof, at each respondent institution.

The identity of the colleges was captured by survey question 2 as each respondent self-identified their institution's name, which allowed for identification of location, and Council for Resource Development and accreditation agency regional membership. Respondents represented institutions in 34 (68%) of the 50 United States.

The Council for Higher Education Accreditation (CHEA) recognizes six regional accrediting organizations, as shown in Figure 4-1:

> Recognition by CHEA affirms that the standards and processes of the accrediting organization are consistent with the academic quality, improvement and accountability expectations that CHEA has established, including the eligibility standard that the majority of institutions or programs each accredits are degree granting. (n.p.)

Institutions responding to the survey (Table 4-6) represented each of these accrediting organizations.

The stated mission of the Council for Resource Development (CRD; 2011) is that it "connects, educates, supports, strengthens, and celebrates community college development professionals" (n.p.). The current structure of CRD is such that it is divided into 10 geographical regions, as shown in Figure 4-2. Respondents to the survey (Table 4-7) represented each of the ten regions. Although CRD also includes member institutions located in Canada, it should be noted here that only community colleges located in the United States were included in this research study and received the study survey. Region I includes Connecticut, Labrador, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont, New Brunswick, Nova Scotia, Newfoundland,

Prince Edward, and Quebec, Canada. Region II includes New Jersey, New York, Puerto Rico, and the Virgin Islands. Region III includes Delaware, District of Columbia Maryland, Pennsylvania, Virginia, and West Virginia. Region IV includes Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, and Tennessee. Region V includes Illinois, Indiana, Michigan, Minnesota, Ohio, Wisconsin, and Ontario, Canada. Region VI includes Arkansas, Louisiana, New Mexico, Oklahoma, and Texas. Region VII includes Iowa, Kansas, Missouri, and Nebraska. Region VIII includes Colorado, Montana, North Dakota, South Dakota, Utah, Wyoming, Alberta, Manitoba, Northwest Territories, and Saskatchewan. Arizona, California, Hawaii, Nevada, Guam, and Trust Territories comprise Region IX, and Region X includes Alaska, Idaho, Oregon, Washington, British Columbia, and Yukon Territories.

Survey question 4 asked respondents to identify the college structure represented (Table 4-8). The majority of the respondents, 42.4%, indicated that their institution was part of a multi-campus district (n = 36).

Survey question 5 asked what types of degrees were granted by each respondent institution. The largest group of respondents identified their institution as Associate in Arts degree granting, representing 98.8% of the 85 respondents (Table 4-9).

In survey question 7, respondents were requested to indicate the total number of part-time and full-time faculty members at their institution during the fall 2009 semester. Due to inconsistencies, these data were discarded. Instead, data collected from the U.S. Department of Education National Center for Educational Statistics Integrated Postsecondary Education Data System Data Center were used.

In survey question 8, respondents were asked if there was a Chief Resource Development Officer or person with similar responsibilities (Table 4-10). There were 74 (87.1%) responses indicating that there was a Chief Resource Development Officer in place at the institution; 11 (12.9%) responded that was not. In survey question 9, respondents were asked, "to whom does this person (the Chief Resource Development Officer) report."

Information gathered in response to survey question 10 provided information related to the existence of a negotiated indirect cost rate at each institution (Table 4-11). In its guide for the best practices for indirect costing, the U.S. Agency for International Development (2011) provides a succinct explanation of the benefit of having a negotiated indirect cost rate agreement:

> Indirect costs are costs, which cannot be directly identified with a single contract or grant. The indirect costs are applied equitably across all of the business activities of the organization, according to the benefits each gains from them. Some examples of indirect costs are office space rental, utilities and clerical and managerial staff salaries. To the extent that indirect costs are reasonable, allowable and allocable, they are a legitimate cost of doing business payable under a U.S. Government contract or grant. Responsibility for negotiating indirect cost rates with organizations doing business with the U.S. Government is specifically assigned. Each organization negotiates its indirect cost rates with one government agency, which has been assigned cognizance. The resulting Negotiated Indirect Cost Rate Agreement is binding on the entire government. (n.p.)

Even as recently as five years ago, community colleges were not required to have a negotiated indirect cost rate agreement in order to claim the maximum indirect costs allowed on federal grant awards, usually 5-8%, from agencies such as the U.S. Department of Education. Although indirect cost rate agreements negotiated with community colleges do not typically result in percentages as high as universities, they are now necessary to have in place to claim even the minimal percentages allowed by

U. S. Government funding agencies. As an additional benefit, many funding agencies allow the unrealized amount to be utilized as leverage, providing a stronger showing of institutional commitment to the success of a project. For example, this researcher's institution has been approved for a 40.0% indirect cost rate agreement negotiated with its cognizant agency, the U. S. Department of Health and Human Services.

The responses to survey question 11 provided information related to whether or not each of the respondent institutions has an Institutional Review Board (Table 4-12). Ten years ago, it would have been virtually impossible to find a community college with an Institutional Review Board (IRB) in place; however, even though community college faculty have instruction as their primary duty, many have become involved in presenting and publishing, especially as model practices have been identified. This researcher's institution has an opportunity for full-time faculty members to participate in educational research and earn a stipend, as negotiated in their collective bargaining agreement. Participation in the institutional review board is necessary to assess the risks and benefits of any proposed research. In addition, institutions applying for most federal funding opportunities are now required to provide the Protection of Human Subjects Assurance Identification/Institutional Review Board Certification/Declaration of Exemption Form (OMB No. 0990-0263) which asks specifically for the status of IRB review of the project. According to the U. S. Department of Health and Human Services, Office of Human Research Protections:

> Risks to research subjects posed by participation in research should be justified by the anticipated benefits to the subjects or society. This requirement is clearly stated in all codes of research ethics, and is central to the federal regulations. One of the major responsibilities of the IRB, therefore, is to assess the risks and benefits of proposed research. (n.p.)

Cohen and Brawer (1972) asserted, “distinct goals are inputs to institutional identity” (p. 25). One indicator as to the importance, or value, of grant writing and associated activities to the college’s administration is the existence of an institutional strategic goal related to external funding. Response to survey question 12 provided information as to whether or not each of the respondent institutions has such a strategic goal in place (Table 4-13). As reported earlier, the number of respondents indicating that their institution had a strategic goal related to external funding was only 37 (43.5%).

A representative sample of the strategic goals related to the pursuit of external funding provided by respondents in the open-ended request made at the end of survey question 12 for such are as follows (“the college” is substituted for any instance where a specific college name was provided in the strategic goal statement). A small college in CRD Region IV has a strategic goal related to Responsible Resource Management, which states:

> Promote the responsible management of resources by maintaining sound fiscal operations, seeking additional resources, improving college facilities, and providing an environment conducive to progressive implementation of technology.

A large college in CRD Region I has a strategic goal in place, which outlines a very specific annual target for the grants office to achieve:

> Financial Planning, Analysis, and Budgeting: Strengthen the college’s financial viability by setting annual targets for profitability. The college will generate a minimum increase of grant revenues 3% annually.

Many institutions had concise strategic goal statements related to the pursuit of external funding – “just go after the money”: (a) Provide funding for college priorities for which other resources are unavailable; (b) The college will increase annual revenues from grants and contracts; (c) Optimize the range of funding sources; (d) Increase external

funding through grants; (e) The college will secure $1,000,000 in additional funding through grant resources by 2015; (f) The college will expand external funding through fundraising and the writing of grants; (g) Grow college financial resources; (h) Increase resources for financial growth and stability and (i) Increase college revenues by aggressively seeking funds from public and private sources, including grants.

A smaller number of institutions have a strategic goal in place related to external funding, yet also directly correlated to the overall college mission: (a) Acquire the financial resources available for the college to fulfill its mission; (b) Seek grants and charitable contributions that will further the accomplishment of the strategic plan; (c) The college develops resources and infrastructure to support its mission and vision; and (d) The college will provide and develop financial resources to maintain and improve programs and services consistent with institutional commitments (mission, goals, and objectives).

Support of college programs was the focus of a large college in CRD Region IV: The college will secure funding that supports exemplary programs and services. Four of the respondent colleges consider external funding as part of an overarching theme of fiscal stability and sustainability: (a) Resource development and operational efficiencies that ensure effective support for the college's long-term efforts to provide an innovative and exemplary learning environment; (b) Resource development and cost efficiencies increase and/or improve innovative entrepreneurial actions across the college by creating new revenue sources; (c) Increase college's financial potential to ensure sustainability; and (d) Increase the fiscal well-being of the college.

One large college located in CRD Region IV, and accredited by the Southern Association of Colleges and Schools, has what is perhaps arguably the most comprehensive interpretation of including external funding within an institutional strategic goal: Enhance institutional effectiveness by continuously improving human, fiscal, physical, and technological resources.

Institutional characteristics – IPEDS. Accessing IPEDS data provided additional information related to institutional characteristics. The Carnegie Classification (Carnegie Foundation, 2009) provided a detailed breakdown describing community colleges by size (Table 4-14).

> VS2: Very small two-year—fall enrollment data show Full-Time Equivalent (FTE) enrollment, which is calculated as full-time plus one-third part-time, of fewer than 500 students at these associate degree granting institutions.
>
> S2: Small two-year—fall enrollment data show FTE enrollment of 500-1,999 students at these associate degree-granting institutions.
>
> M2: Medium two-year—fall enrollment data show FTE enrollment of 2,000-4,999 students at these associate degree-granting institutions
>
> L2: Large two-year—fall enrollment data show FTE enrollment of 5,000-9,999 students at these associate degree granting institutions; and
>
> VL2: Very large two-year—fall enrollment data show FTE enrollment of at least 10,000 students at these associate degree-granting institutions. (n.p.)

Katsinas (2003) classified small community colleges as those with unduplicated credit enrollments (headcount) below 2,500 students. An enrollment of more than 2,500 students places a community college in the large category. Using this definition, 77 (90.6%) of the respondent institutions are categorized as Large, and 8 (9.4%) are categorized as Small.

Although statistics for both institutional size classification methods were examined, it is believed by this researcher that because full-time equivalency in each state is calculated with different formulas, and IPEDS provides consistent headcount enrollment data, the definition of size provided by Katsinas is more meaningful for the purposes of this study, rather than the Carnegie classification.

Grant Functions

In answering survey question 13, the respondents provided information as to what year the grants office had been established at their institution. The newest grant office, of all respondents, was established in 2010; the oldest was established in 1970. Table 4-15 provides the actual number of years each grants office has been in existence.

Responses to survey question 15 allowed for the capture of information related directly to the individual primarily responsible for the grant functions at each institution. Because of the diversity of office and department names, more than 50 titles were reported, although most individuals were directors or coordinators. The newest staff member reported being in his or her current position for less than a year. The most senior staff member reported being in his or her current position for 24 years. Individuals reported a wide range of total years working in resource development. The least experienced staff member reported less than one year and the most experienced staff member reported working in resource development for 32 years. The location of the grants offices and staff are found at many different levels within institutional organizational structures. Most staff responsible for grant functions reported to executive directors/directors or some other title (n=52, 61.2%); 25 (29.4%) respondents indicated that they reported to vice presidents and 8 (9.4%) indicated that they reported to the president of their respective institution.

As detailed in Table 4-16, responses to survey question 17 provided the number total staff dedicated to grant office functions, which ranged from 1 (37%) to 8 (2.4%), with a mean of 2.10.

Responses to survey question 18 provided insight into the production level of each office. The production level of each grants office was measured in terms of the total number of applications submitted to any funding source during the 2009-2010 academic year ending June 30, 2010. The smallest number of applications submitted was 4 (3.5%). The largest number of applications submitted to any funding source was 155 (1.2%). The mean was 34.91. The total number of applications to any funding source which were actually funded during the 2009-2010 academic year ending June 30, 2010, ranged from 2 (3.2%) to 125 (1.2%), with a mean of 22.22. The total number of applications to any funding source which were unfunded during the 2009-2010 academic year ending June 30, 2010, ranged from 1 (8.2%) to 33 (3.3%), with a mean of 9.63. Most institutions still had applications, which were pending, awaiting word from funding agencies as to their status. The number of applications to any source still pending ranged from 1 (32.6%) to 55 (1.2%), with a mean of 9.64.

Submission of applications to the National Science Foundation (NSF) are particularly indicative of faculty engagement in grant project development and application processes. According to NSF guidance,

> Scientists, engineers and educations usually initiate proposals that are officially submitted by their employing organization. Except where a program solicitation establishes more restrictive eligibility criteria, individuals and organizations may submit proposals: Universities and colleges – U.S. universities and two- and four-year colleges (including community colleges) acting on behalf of their faculty members. Such organizations are also referred to as academic institutions. (n.p.)

Survey question 19 requested information related to applications submitted to the National Science Foundation. The number of applications submitted to the National Science Foundation by any single community college ranged from 1 (25.9%) to 17 (1.2%), with 45 (52.9%) of the community colleges indicating that they had not submitted an application to the National Science Foundation during the 2009-2010 academic year ending June 30, 2010. Of those 40 community colleges actually submitting applications to the National Science Foundation, 29 reported that they had received awards, with the number of awards ranging from 22 colleges reporting that they had received one (75.9%) award, to one college reporting that they had received 10 (3.4%) awards.

Incentives

Survey question 23 asks respondents if their institution offers any type of incentive to faculty members participating in grant project development and writing activities pre-submission of application, whether or not the grant application was eventually funded. Sixty-three of the respondents answered this question; 11 (17.5%) responded that their institutions offered incentives, while 52 (61.2%) responded that their institutions did not offer any type of incentives. In survey question 24, respondents indicating that their institutions did offer incentives were asked to indicate what types of incentives were available for faculty members participating in grant project development and writing activities pre-submission of application, whether or not the grant application was eventually funded (Table 4-17).

Hypothesis Testing

A variety of tests were utilized to analyze the survey data to determine if they answerer the study's three research questions and the corresponding hypotheses and

null hypotheses. Descriptive statistics provided a detailed picture of the institutional and faculty characteristics and grant functions for the community colleges of each of the survey respondents. The Bivariate Correlations procedure was utilized to compute the Pearson's correlation coefficient. This correlation test measures how variables or rank orders are related. Pearson-product correlations allowed for examination of the relationships between the various independent variables and the levels of faculty engagement in grantsmanship activities. Multiple regression analyses were conducted to determine the degree of association between a selection of dependent and independent variables. A confidence level of 95% is utilized for all data analyses.

Research Question One

Is there a relationship between faculty characteristics and faculty engagement in grant writing and associated activities? The hypothesis associated with Research Question One asserts that there should be a relationship between faculty engagement in grant writing and associated activities depending on various faculty characteristics. The null hypothesis posits that there will be no relationship between faculty engagement in grant writing and associated activities depending on faculty characteristics.

The dependent variables are the total number of faculty members involved in grant writing and any of the associated activities (e.g., planning, budget development, data collection) and the total number of faculty members that were currently (as of the time of the survey) serving as principal investigator, project director or grant manager of active funded grant projects. As detailed in Table 4-18, there is no relationship between total faculty as principal investigator, project director or grant manager or total faculty engaging in any type of grantsmanship activities and whether faculty are unionized, the ratio of part-time to full-time faculty, average faculty salary, the number of new faculty

hires, or the ratio of students to faculty. The only variables displaying a significant relationship for faculty as principal investigator, project director, or grant manager are the total number of tenured (p = 0.000) and total number of non-tenured (p = 0.0001) faculty members. The only variables displaying a significant relationship for faculty engaging in any type of grantsmanship activities are the total number of tenured (p – 0.000) and total number of non-tenured (p = 0.000) faculty members. The null hypothesis was rejected for these variables. The numbers are small and it is also possible that this result is more a factor of having more faculty available to participate than any other reason for there to be a relationship. The rank, gender and ethnicity variables also resulted in there being no significant relationship and are not discussed here.

Research Question Two

What is the relationship between institutional characteristics and faculty engagement in grant writing and associated activities? The hypothesis associated with Research Question Two asserts that there is relationship between in the number of faculty serving as principal investigators, project directors and grants managers and faculty engagement in grant writing and associated activities depending on institutional characteristics, including grant office functions. The null hypothesis posits that there is no relationship between faculty engagement in grant writing and associated activities depending on institutional characteristics. Grant functions included within institutional characteristics are discussed separately. As discussed earlier, a number of factors indicate that an institution is committed to supporting any and all efforts in the pursuit of external funding through the submission of grant applications, such as the presence of

an institutional goal related to external funding, chief resource development officer, a negotiated indirect cost rate, and an established institutional review board.

Additional Pearson Correlation tests were conducted to determine if there were any relationships between grant functions at the institutions and the engagement of faculty in grantsmanship activities, including service as principal investigator, project director and grant manager, and participation in grant writing and associated activities. Table 4-19 provides data related to the Pearson Correlations conducted to test this hypothesis for both administrative and grant function institutional characteristics.

Administrative

There was no significant relationship indicated between total faculty as principal investigator, project director or grant manager or total faculty engaged in any grant activity, and whether an institution had a negotiated indirect cost rate, and established institutional review board, an institutional strategic goal related to external funding, accreditation agency or CRD region membership, or the size classification of the institution. When the variable of whether or not the institution offered bachelor's degrees was examined there was a significant relationship ($p = 0.025$) with total faculty as principal investigator, project director or grant manager; this relationship did not exist for total faculty engaging in any grant activity. The relationship between faculty as principal investigator, project director and grant manager and variables of the number of first time degree seeking students ($p = 0.000$) and total student enrollment Fall 2009 ($p = 0.000$) provide indications of a significant relationship; as does the relationship between first time degree seeking students ($p = 0.012$) and total student enrollment Fall 2009 ($p = 0.010$) variables and the engagement of faculty in any grant activities. On the basis of these variables, the null hypothesis is rejected.

Grant functions

There was no relationship between the total faculty as principal investigator, project director or grant manager and the following variables: 1) the number of years the grant office had been established; 2) whether there was a chief resource development officer; 3) the location of the grants function; 4) the number of years in current position for the individual responsible for the grants function; 5) the number of years with the institution for the individual responsible for the grants function; or 6) the number of years in resource development for the individual responsible for the grants function. For those variables, the null hypothesis was not rejected. However, there were significant relationships for the variables of the number of total staff dedicated to grants activities ($p = 0.000$), the total number of applications submitted to any funding source ($p = 0.000$), and the total number of applications submitted to the National Science Foundation ($p = 0.000$). On the basis of the results of the tests conducted on those variables, the null hypothesis was rejected. The picture looks similar for the variable relationships with the total number of faculty engaged in any grant participation, although in addition to the variables of the number of total staff dedicated to grants activities ($p = 0.000$), the total number of applications submitted to any funding source ($p = 0.000$), and the total number of applications submitted to the National Science Foundation ($p = 0.000$), there was also a significant relationship for the number of years a grant office had been established ($p = 0.004$), a significant relationship with the number of years the individual responsible for the grants function had been in their current position ($p = 0.024$), and there was also a significant relationship with the location of the grants function ($p = 0.044$). For those variables, the null hypothesis was rejected.

Research Question Three

What is the relationship between incentives, which are offered by the college administration to entice faculty to participate and actual faculty engagement in grant writing and associated activities? The hypothesis associated with Research Question Three asserts that there should be a relationship between faculty engagement in grant writing and associated activities depending on incentives, which are offered by the college administration to entice faculty to participate. The null hypothesis posits that there will be no relationship between faculty engagement in grant writing and associated activities depending on incentives, which are offered by the college administration to entice faculty to participate. Table 4-20 provides data related to the Pearson Correlation conducted to test this hypothesis. The question of whether there was any relationship if there were any incentives at all offered was examined, and then Pearson Correlation tests were conducted for each of specific incentives offered. As shown, there are no significant relationships between whether any incentives at all were offered, or any of the specific incentives being offered by the college administration and faculty members as principal investigator, project director or grant manager, or engaging in any grant writing and associated activities. The null hypothesis was not rejected.

Regression Models

In order to further investigate the relationships between faculty and institutional characteristics and faculty engagement in grant writing and associated grantsmanship activities, linear regressions were conducted with selected variables in order to estimate the coefficients of the linear equation, involving one or more independent variables, which best predict the value of the dependent variable.

Faculty Engagement in Grant Writing

The proposed regression model was as follows: Faculty Engagement in Grant Writing Activities (total faculty any grant participation) = a constant + b (number of years grant office established) + b (years in current position for individual responsible for grants) + b (years with institution for individual responsible for grants) + b (years in resource development for individual responsible for grants) + b (total grant staff) + b (total number of applications submitted to any source) + b (grand total full-time faculty) + b (total enrollment 2009) + b (total number of first time degree seeking students) + b (estimated full-time enrollment) + b (estimated part-time enrollment) + b (total new faculty hires 2009) + b (grand total male full-time faculty) + b (grand total female full-time faculty).

The R^2 of .668 for the model for faculty engagement in grant writing activities was statistically significant ($F_{(4,54)} = 25.105$, $p = 0.000$) suggesting that the explanatory variables were jointly associated with approximately 66% of the variance seen in the measures of faculty engagement in grant writing activities. The adjusted R^2 was 0.641. This value for the R^2 indicated a strong association. Table 4-21 reports the Beta In, the observed t-test values and their significance levels for the excluded variables.

Table 4-22 reports the unstandardized regression coefficients (b), the standard regression coefficients (β), the observed t-test values and their significance levels for the four explanatory (independent) variables, which were found to be statistically significant: (a) Total number of applications submitted to any source (b = .277, t(55) = 3.320, $p = 0.002$); (b) Total Enrollment 2009 (b = .001, t(55) = 3.465, $p = 0.001$); (c) Total grant staff (b = 3.322, t(55) = 2.138, $p = 0.037$; and (c) Years in current position for individual responsible for grants (b = .829, t(55) = 2.046, $p = 0.046$)

The proposed regression model was as follows: Faculty Engagement in Grant Writing Activities (total faculty any grant participation) = -6.217 + .088 (number of years grant office established) + .829 (years in current position for individual responsible for grants) + -.086 (years with institution for individual responsible for grants) + -.049 (years in resource development for individual responsible for grants) + 3.322 (total grant staff) + .277 (total number of applications submitted to any source) + .116 (grand total full-time faculty) + .001 (total enrollment 2009) + .190 (total number of first time degree seeking students) + .021 (estimated full-time enrollment) + -.035 (estimated part-time enrollment) + .082 (total new faculty hires 2009) + .037 (grand total male full-time faculty) + .204 (grand total female full-time faculty).

As explained in the following detail, it is suggested that for any increases in the independent variables—total number of applications submitted to any source, total student enrollment, total number of grant office staff, and the number of years in his or her current position for the individual responsible for grants functions—there will be an increase in faculty engagement in grant writing and associated grantsmanship activities.

For the statistically significant explanatory (independent) variable total number of applications submitted to any source, the regression coefficient (b) value of .277 suggested that for each additional grant application submitted to any source there is a 0.277 point increase in faculty engagement in grant writing activities.

For the statistically significant explanatory (independent) variable total student enrollment 2009, the regression coefficient (b) value of .001 suggested that for each additional student there is a 0.001 point increase in faculty engagement in grant writing activities.

For the statistically significant explanatory (independent) variable total grant office staff, the regression coefficient (b) value of 3.322 suggested that for each additional grant staff member there is a 3.322 point increase in faculty engagement in grant writing activities.

For the statistically significant explanatory (independent) variable number of year in current position for individual responsible for grants functions, the regression coefficient (b) value of .829 suggested that for each additional year the individual responsible for grant functions spent in their current position there is a .829 point increase in faculty engagement in grant writing activities.

Faculty Members Serving as Principal Investigator, Project Director or Grant Manager

The proposed regression model was as follows: Faculty Engagement in Grant Writing Activities (faculty serving as principal investigator, project director or grant manager) = a constant + b (number of years grant office established) + b (years in current position for individual responsible for grants) + b (years with institution for individual responsible for grants) + b (years in resource development for individual responsible for grants) + b (total grant staff) + b (total number of applications submitted to any source) + b (grand total full-time faculty) + b (total enrollment 2009) + b (total number of first time degree seeking students) + b (estimated full-time enrollment) + b (estimated part-time enrollment) + b (total new faculty hires 2009) + b (grand total male full-time faculty) + b (grand total female full-time faculty).

The R^2 of .738 for the model for faculty engagement in grant writing activities was statistically significant ($F_{(4,54)} = 35.127$, $p = 0.000$) suggesting that the explanatory variables were jointly associated with approximately 74% of the variance seen in the

measures of faculty engagement in grant writing activities. The adjusted R^2 was.717. This value for the R^2 indicated a strong association. Table 4-23 reports the Beta ln, the observed t-test values and their significance levels for the excluded variables.

The proposed regression model was as follows: Faculty Engagement in Grant Writing Activities (faculty serving as principal investigator, project director or grant manager) = -8.596 + -.277 (number of years grant office established) + .154 (years in current position for individual responsible for grants) + .090 (years with institution for individual responsible for grants) + .024 (years in resource development for individual responsible for grants) + 2.529 (total grant staff) + .173 (total number of applications submitted to any source) + .089 (grand total full-time faculty) + .001 (total enrollment 2009) + .438 (total number of first time degree seeking students) + -.073 (estimated full-time enrollment) + .119 (estimated part-time enrollment) + -.116 (total new faculty hires 2009) + .077 (grand total male full-time faculty) + .066 (grand total female full-time faculty).

Table 4-24 reports the unstandardized regression coefficients (b), the standard regression coefficients (β), the observed t-test values and their significance levels for the four explanatory (independent) variables, which were found to be statistically significant: (a) Total enrollment 2009 (b = .001, t(55) = 5.013, *p* = 0.000); (b) Total number of grant applications submitted to any source (b = .173, t(55) = 3.976, *p* = 0.000); (c) Total number of grant staff (b = 2.529, t(55) = 3.099, *p* = 0.000); and, (d) Number of years grant office had been established (b = .277, t(55) = 2.164, *p* = 0.000)

As explained in detail following, it is suggested that for any increases in the independent variables—total student enrollment, total number of grant applications

submitted to any source, total number of grant office staff, and number of years the grant office had been established—there will be an increase in faculty participating as principal investigator, project director, or grant manager.

For the statistically significant explanatory (independent) variable total enrollment 2009, the regression coefficient (b) value of .001 suggested that for each additional student enrollment there is a 0.001 point increase in faculty participating as principal investigator, project director or grant manager.

For the statistically significant explanatory (independent) variable total number of grant applications submitted to any source, the regression coefficient (b) value of .173 suggested that for each additional grant application submitted to any source there is a .173 point increase in faculty participating as principal investigator, project director or grant manager.

For the statistically significant explanatory (independent) variable total number of grant staff, the regression coefficient (b) value of 2.529 suggested that for each additional grant office staff member, there is a 2.529 point increase in faculty participating as principal investigator, project director or grant manager.

For the statistically significant explanatory (independent) variable number of years grant office had been established, the regression coefficient (b) value of .277 suggested that for each additional year that the grant office had been established, there is a .277 point increase in faculty participating as principal investigator, project director or grant manager.

Summary

The data for analysis was collected by means of the URL (Uniform Resource Locator)/web address to an online survey developed within the Survey Monkey ®

professional collection system, the electronic link to which was emailed to the appropriate grants office staff, who were also active members of the Council for Resource Development, at 255 two-year associate degree granting and associate degree dominant community colleges (e.g., public, private, tribal, etc.) in the United States and its territories. This process resulted in 85 (33.33%) usable surveys for this study.

The overarching purpose of this study was to identify factors that indicate the optimum circumstances under which public community college faculty can be engaged in participating in resource development processes necessary to receive external funding in the form of grants. A variety of tests were utilized to analyze the survey data to determine if they answerer the study's three research questions and the corresponding hypotheses and null hypotheses. Descriptive statistics provided a detailed picture of the institutional and faculty characteristics and grant functions for the community colleges of each of the survey respondents. The Bivariate Correlations procedure was utilized to compute the Pearson's correlation coefficient. Multiple regression analyses were conducted to determine the degree of association between the independent variables and the levels of faculty engagement in grantsmanship activities. A significance level of 95% was selected.

The hypothesis associated with Research Question One asserted that there is a relationship between faculty engagement in grant writing and associated activities depending on various faculty characteristics. The null hypothesis posits that there is no relationship between faculty engagement in grant writing and associated activities depending on faculty characteristics. There is no relationship between total faculty as

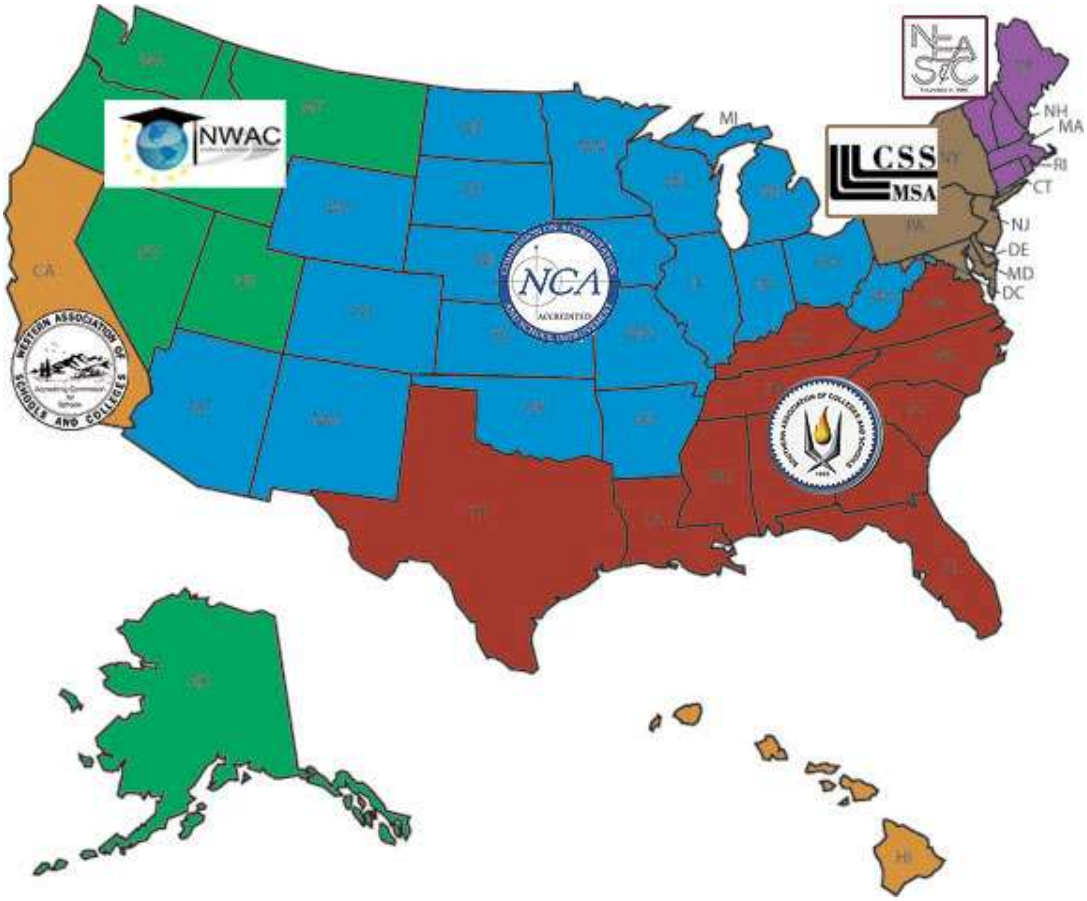
principal investigator, project director or grant manager or total faculty engaging in any type of grantsmanship and whether faculty are unionized, the ratio of part-time to full-time faculty, average faculty salary, the number of new faculty hires, or the ratio of students to faculty. The only variables displaying a significant relationship are the total number of tenured ($p = 0.000$) and total number of non-tenured faculty members ($p = 0.0001$; $p = 0.000$). The null hypothesis was rejected. It is possible that this result is more a factor of having more faculty available to participate than any other reason for there to be a relationship.

The hypothesis associated with Research Question Two asserted that there is a relationship between the number of faculty serving as principal investigators, project directors and grants managers and faculty engagement in grant writing and associated activities depending on institutional characteristics, including grant office functions. The null hypothesis posits that there is no relationship between faculty engagement in grant writing and associated activities depending on institutional characteristics. There was no relationship for a number of variables; however, there were significant relationships for the variables of the number of total staff dedicated to grants activities ($p = 0.000$), the total number of applications submitted to any funding source ($p = 0.000$), and the total number of applications submitted to the National Science Foundation ($p = 0.000$), there were also significant relationships for the number of years a grant office had been established ($p = 0.004$), the number of years the individual responsible for the grants function had been in their current position ($p = 0.024$), and the location of the grants functions ($p = 0.044$).

The hypothesis associated with Research Question Three asserted that there is a relationship between faculty engagement in grant writing and associated activities, including participation as a principal investigator, project director or grant manager, depending on incentives, which are offered by the college administration to entice faculty to participate. The null hypothesis posits that there is no relationship between faculty engagement in grant writing and associated activities depending on incentives, which are offered by the college administration to entice faculty to participate. There were no significant relationships between whether any incentives at all were offered, or any of the specific incentives being offered by the college administration and faculty members as principal investigator, project director, or grant manager, or engaging in any grant writing and associated grantsmanship activities. The null hypothesis was not rejected.

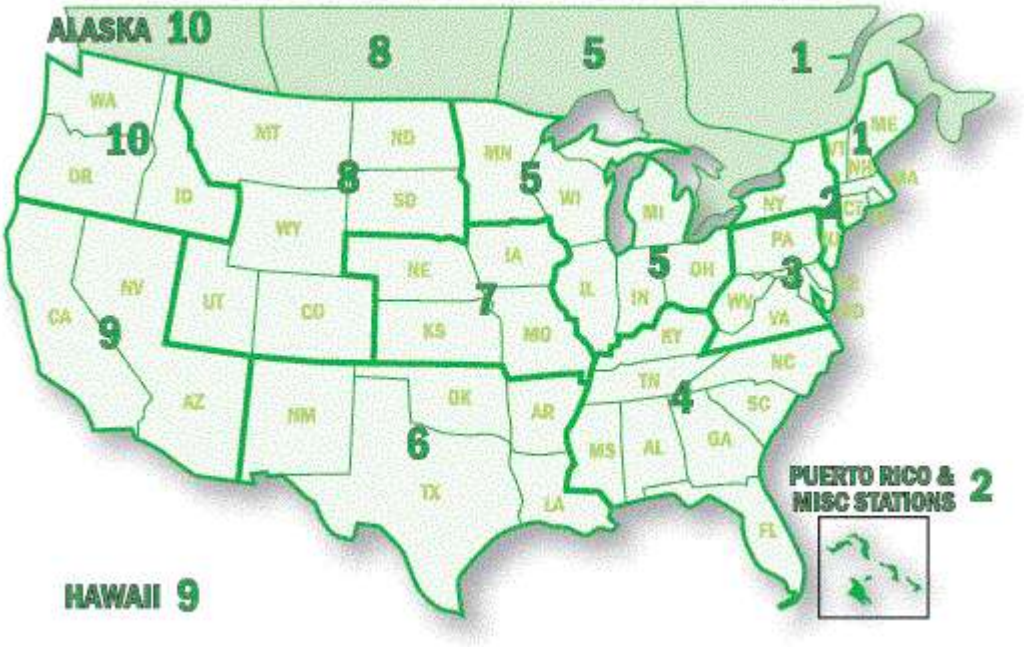
Linear Regressions were conducted with selected variables in order to estimate the coefficients of the linear equation, involving one or more independent variables, which best predict the value of the dependent variable. The analysis of the linear regression models suggested that for any increases in the independent variables—total student enrollment, total number of grant applications submitted to any source, total number of grant office staff, and number of years the grant office had been established—there will be an increase in faculty participating as principal investigator, project director, or grant manager. In addition, it is suggested that for any increases in the independent variables—total number of applications submitted to any source, total student enrollment, total number of grant office staff, and the number of years in his or

her current position for the individual responsible for grants functions—there will be an increase in faculty engagement in grant writing and associated grantsmanship activities.



(Source: http://www.parkcityindependent.com/accreditation/accreditation-agencies. Last accessed October 2011.)

Figure 4-1. Map of accreditation agency regions



(Source: http://www.crdnet.org/index.php?option=com_content&view=article&id=63&Itemid=76. Last accessed October 2011).

Figure 4-2. Council for Resource Development region map

Table 4-1. Unionization of faculty

Status	Frequency	Percent
Union	45	54.2
Non-union	38	45.8
Total	83	100.0

Table 4-2. Total number of part- and full-time faculty acting as principal investigator, project director, or grant manager

Number of faculty acting as principal investigator, project director or grant manager	Frequency	Percent
0.0	34	40.5
1.0	8	9.5
2.0	9	10.7
3.0	7	8.3
4.0	5	6.0
5.0	1	1.2
6.0	1	1.2
7.0	3	3.6
8.0	1	1.2
10.0	3	3.6
11.0	2	2.4
12.0	2	2.4
14.0	2	2.4
18.0	1	1.2
19.0	1	1.2
28.0	1	1.2
34.0	1	1.2
35.0	1	1.2
89.0	1	1.2
Total	84	100.0

Table 4-3. Total faculty, any grant participation

Total number of faculty who have participated in grant writing and any other associated activity	Frequency	Percent
.00	24	28.3
3.00	2	2.4
4.00	3	3.5
6.00	2	2.4
7.00	4	4.7
8.00	2	2.4
9.00	2	2.4
10.00	4	4.7
11.00	2	2.4
13.00	3	3.5
14.00	2	2.4
15.00	3	3.5
16.00	2	2.4
17.00	3	3.5
18.00	1	1.2
20.00	2	2.4
21.00	1	1.2
22.00	1	1.2
24.00	1	1.2
28.00	1	1.2
30.00	1	1.2
31.00	1	1.2
34.00	2	2.4
35.00	1	1.2
38.00	2	2.4
41.00	1	1.2
43.00	1	1.2
44.00	1	1.2
46.00	1	1.2
54.00	1	1.2
57.00	1	1.2
58.00	2	2.4
62.00	1	1.2
69.00	1	1.2
75.00	1	1.2
77.00	1	1.2
112.00	1	1.2
Total	85	100.0

Table 4-4. Student to faculty ratio

Number of students (X) to each faculty member (1)	Frequency	Percent
8.00	1	1.2
12.00	8	9.5
14.00	1	1.2
15.00	2	2.4
16.00	3	3.5
17.00	4	4.7
18.00	9	10.6
19.00	5	5.9
20.00	13	15.3
21.00	3	3.5
22.00	5	5.9
23.00	4	4.7
24.00	3	3.5
25.00	6	7.1
26.00	4	4.7
27.00	2	2.4
28.00	2	2.4
29.00	2	2.4
30.00	6	7.1
31.00	1	1.2
32.00	1	1.2
33.00	4	4.7
36.00	1	1.2
Total	85	100.0

Source: IPEDS, accessed September 2011

Table 4-5. Fall 2009 Faculty salary information (9 month equated)

Faculty Rank	High	Low
Professor	$108,488.00	$47,310.00
Associate Professor	$85,995.00	$40,672.00
Assistant Professor	$70,017.00	$39,049.00
Instructor	$92,789.00	$35,126.00

Source: IPEDS, accessed September 2011

Table 4-6. Accrediting organizations represented in study

Accrediting organization	Frequency	Percent
Middle States Commission on Higher Education	5	5.9
New England Association of Schools & Colleges	3	3.5
North Central Association of Schools & Colleges	28	32.9
Northwest Commission on Colleges & Universities	5	5.9
Southern Association of Colleges & Schools	33	38.9
Western Association of Schools and Colleges	11	12.9
	85	100.0

Source: IPEDS, accessed September 2011

Table 4-7. Council for Resource Development regions represented in study

Council for Resource Development Region	Frequency	Percent
Region I	3	3.5
Region II	2	2.4
Region III	4	4.7
Region IV	30	35.3
Region V	14	16.5
Region VI	7	8.2
Region VII	5	5.9
Region VIII	3	3.5
Region IX	13	15.3
Region X	4	4.7
Total	85	100.0

Source: Council for Resource Development, http://www.crdnet.org, accessed September 2011

Table 4-8. College structure

Structure type	Frequency	Percent
Multi-college district	14	16.7
Multi-campus district	36	42.9
Single community college campus	26	31.0
Other	8	9.5
Total	84	100.0

Table 4-9. Types of degrees granted by institutions

Type of degree	Frequency	Percent
Associate in Arts	83	98.8
Associate in Applied Science	64	76.2
Associate in Science	77	91.7
Technical Certificate	80	95.2
Diploma	27	32.1
Any type of Bachelor's degree	16	19.0

Table 4-10. Reporting line for Chief Resource Development Officer

Reporting line	Frequency	Percent
Not applicable	8	9.9
Campus president	25	30.9
Chancellor	5	6.2
Dean	2	2.5
District president	7	8.6
Provost	2	2.5
Vice president	18	22.2
Other	14	17.3
Total	81	100.0

Table 4-11. Existence of a negotiated indirect cost rate agreement

Indirect cost rate agreement in place	Frequency	Percent
No	14	16.9
Yes	63	75.9
No, but in the process of establishing	6	7.2
Total	83	100.0

Table 4-12. Existence of an institutional review board

Institutional review board in place	Frequency	Percent
No	21	25.9
Yes, on site	45	55.6
No, but in the process of establishing	9	11.1
No, but have formal local partner arrangement	6	7.4
Total	81	100.0

Table 4-13. Existence of an institutional strategic goal related to external funding

Strategic goal related to external funding	Frequency	Percent
Yes	37	47.4
No	41	52.6
Total	78	100.0

Table 4-14. Carnegie Classification of institutions

Carnegie Classification	Frequency	Percent
Associate's—Public Rural-serving Small	4	4.7
Associate's—Public Rural-serving Medium	23	27.1
Associate's—Public Rural-serving Large	15	17.6
Associate's—Public Suburban-serving Single Campus	10	11.8
Associate's—Public Suburban-serving Multi-Campus	7	8.2
Associate's—Public Urban-serving Single Campus	6	7.1
Associate's—Public, Urban-serving Multicampus	15	17.6
Associate's—Public 2-year Colleges under 4-year University	2	2.4
Associate's—Pubic 4-year Primarily Associate's	3	3.5
Total	85	100.0

Source: IPEDS, accessed September 2011

Table 4-15. Number of years grants office has been established

Number of years grants office established	Frequency	Percent
1	3	4.9
2	5	8.2
3	2	3.3
4	4	6.6
5	2	3.3
6	9	14.8
7	5	8.2
8	5	8.2
9	3	4.9
10	5	8.2
11	2	3.3
13	2	3.3
14	1	1.6
17	2	3.3
18	2	3.3
19	2	3.3
21	2	3.3
25	1	1.6
27	1	1.6
31	2	3.3
41	1	1.6
Total	61	100.0

Table 4-16. Total staff dedicated to grant office functions

Total number of staff dedicated to grant office functions	Frequency	Percent
1	37	43.5
2	23	27.1
3	15	17.6
4	2	2.4
5	3	3.5
6	2	2.4
8	2	2.4
Total	85	100.0

Table 4-17. Types of incentives offered to faculty

Type of incentive offered to faculty members participating in grant project development and writing activities pre-submission of application	Frequency	All respondent institutions Percent	Institutions indicating incentives are offered Percent
Release time	5	5.9	8.1
Stipend	2	3.2	2.4
Travel	2	2.4	3.2
Professional development	3	3.5	4.8
Points for promotion	5	5.9	8.1
Invitation to college-wide celebration	1	1.2	1.6
Recognition in college publication	3	3.5	4.8
Written recognition from administration (president or VP)	3	3.5	4.8
Any other incentive	4	4.7	6.5

Table 4-18. Pearson Correlation – Faculty Characteristics

	Descriptive Statistics				
	Mean	Std. Deviation	N	Pearson Correlation	Sig. (2-tailed)
Total faculty as principal investigator, project director or grant manager	5.2235	11.56388	85		
Faculty unionized	.5422	.50125	83	-.001	.996
Ratio of PT to FT faculty	2.5723	1.16072	85	.118	.281
Average faculty salary	61373.259	16117.83962	58	.087	.516
Number of new faculty hires	20.4815	26.33966	81	.076	.501
Total tenured faculty Fall 2009	120.1765	106.22480	51	.650**	.000
Total non-tenured faculty Fall 2009	40.1569	31.740.43	51	.438**	.001
Student to faculty ratio (X to 1)	22.2235	5.66606	85	.022	.839
Total faculty any grant participation	5.2235	11.56388	85		
Faculty unionized	.5422	.50125	83	-.014	.900
Ratio of PT to FT faculty	2.5723	1.16072	85	-.020	.853
Average faculty salary	61373.259	16117.83962	58	.070	.600
Number of new faculty hires	20.4815	26.33966	81	.070	.600
Total tenured faculty Fall 2009	120.1765	106.22480	51	.475**	.000
Total non-tenured faculty Fall 2009	40.1569	31.740.43	51	.543**	.000
Student to faculty ratio (X to 1)	22.2235	5.66606	85	.037	.739

**Correlation is significant at the 0.05 level (2-tailed)

Table 4-19. Pearson Correlations – Institutional Characteristics

	Descriptive Statistics				
	Mean	Std. Deviation	N	Pearson Correlation	Sig. (2-tailed)
ADMINISTRATIVE CHARACTERISTICS					
Total faculty as principal investigator, project director or grant manager	5.2235	11.56388	85		
Indirect cost rate	1.2353	.42670	85	-.127	.248
Institutional review board	1.0000	.81650	82	-.067	.550
Strategic goal related to external funding	1.5190	.50283	79	-.050	.661
Bachelor's degree offered	.2000	.40237	85	.244**	.025
Accreditation agency	4.0706	1.38691	85	.123	.262
Total student enrollment Fall 2009	12340.729	11373.94423	85	.480**	.000
Number of first time degree seeking students	2291.1882	2061.06385	85	.493**	.000
CRD region	5.4941	2.32289	85	-.004	.973
Size classification	1.9176	.27653	85	.110	.316
Total faculty any grant participation	18.4588	22.11741	85		
Indirect cost rate	1.2353	.42670	85	-.142	.196
Institutional review board	1.0000	.81650	82	-.115	.305
Strategic goal related to external funding	1.5190	.50283	79	-.067	.560
Bachelor's degree offered	.2000	.40237	85	.166	.129
Accreditation agency	4.0706	1.38691	85	.047	.666
Total student enrollment Fall 2009	12340.729	11373.94423	85	.280**	.010
Number of first time degree seeking students	2291.1882	2061.06385	85	.272**	.012
CRD region	5.4941	2.32289	85	-.039	.726
Size classification	1.9176	.27653	85	.183	.093

Table 4-19. Continued

	Descriptive Statistics				
	Mean	Std. Deviation	N	Pearson Correlation	Sig. (2-tailed)
GRANT FUNCTION CHARACTERISTICS					
Total faculty as principal investigator, project director or grant manager	5.2235	11.56388	85		
Number of years grant office established	10.0806	8.19696	62	.179	.164
Presence of a Chief Resource Development Officer	.9059	.33179	85	-.140	.200
Location of grants function	1.8235	.94539	68	-.219	.073
Years in current position for individual responsible for grants	5.4816	4.6579	68	.169	.169
Years with institution for individual responsible for grants	8.2941	7.29827	68	.085	.492
Years in resource development for individual responsible for grants	13.0294	8.55083	68	.063	.612
Total staff dedicated to grants activities	2.1294	1.51805	85	.603**	.000
Total number of applications submitted to any source	34.9242	30.83969	66	.577**	.000
Number of applications submitted to NSF	2.8049	3.28800	41	.614**	.000

Table 4-19. Continued

	Descriptive Statistics				
	Mean	Std. Deviation	N	Pearson Correlation	Sig. (2-tailed)
Total faculty any grant participation					
Number of years grant office established	10.0806	8.19696	62	.359**	.004
Presence of a Chief Resource Development Officer	.9059	.33179	85	-.129	.240
Total number of applications submitted to any source	34.9242	30.83969	66	.624**	.000
Location of grants function	5.4816	4.6579	68	-.245**	.044
Years in current position for individual responsible for grants	8.2941	7.29827	68	.274**	.024
Years with institution for individual responsible for grants	13.0294	8.55083	68	.215	.079
Years in resource development for individual responsible for grants	2.1294	1.51805	85	.117	.343
Total staff dedicated to grants activities	34.9242	30.83969	66	.656**	.000
Number of applications submitted to NSF	2.8049	3.28800	41	.711**	.000

**Correlation is significant at the 0.05 level (2-tailed)

Table 4-20. Incentives offered – Correlation

	Faculty as principal investigator, project director or grant manager (N=62)	Faculty engaged in grant writing and associated activities (N=62)
Incentives offered		
Pearson Correlation	-.155	-.121
Sig. (2-tailed)	.225	.346
Release Time		
Pearson Correlation	-.108	-.034
Sig. (2-tailed)	.403	.795
Stipend		
Pearson Correlation	-.038	.050
Sig. (2-tailed)	.767	.701
Travel		
Pearson Correlation	-.074	-.119
Sig. (2-tailed)	.569	.359
Professional development		
Pearson Correlation	-.088	-.158
Sig. (2-tailed)	.496	.219
Points for promotion		
Pearson Correlation	-.090	-.090
Sig. (2-tailed)	.488	.488
Invitation to college-wide celebration		
Pearson Correlation	-.037	.000
Sig. (2-tailed)	.777	.998
Recognition in college publication		
Pearson Correlation	-.053	.143
Sig. (2-tailed)	.682	.269
Written recognition from administration		
Pearson Correlation	-.047	.116
Sig. (2-tailed)	.715	.371

**Correlation is significant at the 0.05 level (2-tailed)

Table 4-21. Regression table for faculty engagement in grant writing activities (faculty participating in any grantsmanship activities) – excluded variables

	Beta In	T	Sig.
Number of years grant office established	.088	.886	.380
Years with institution for individual responsible for grants	-.086	-.633	.530
Years in resource development for individual responsible for grants	-.049	-.473	.638
Grant total full-time faculty	.116	.740	.463
Number of first time degree seeking students	.190	.639	.526
Estimated full-time enrollment	.021	.079	.937
Estimated part-time enrollment	-.035	-.079	.937
Total new faculty hires 2009	.082	.885	.380
Grand total male faculty	.037	.247	.806
Grand total female faculty	.204	1.560	.125

**Correlation is significant at the 0.05 level.

Table 4-22. Regression table for faculty engagement in grant writing activities (faculty participating in any grantsmanship activities) – statistically significant explanatory variables

	Unstandardized Coefficients		Standardized Coefficients Beta		
	(b)	Std. Error	(β)	t	Sig.
(Constant)	-6.217	3.654		-1.701	.095
Total number of applications submitted to any source	.277	.083	.344	3.320	.002
Total enrollment 2009	.001	.000	.359	3.465	.001
Total grant staff	3.322	1.553	.228	2.138	.037
Years in current position for individual responsible for grants	.829	.405	.180	2.046	.046

**Correlation is significant at the 0.05 level

Table 4-23. Regression table for faculty engagement in grant writing activities (faculty serving as principal investigator, project director or grant manager) – excluded variables

	Beta In	T	Sig.
Years in current position for individual responsible for grants	.154	1.812	.076
Years with institution for individual responsible for grants	.090	1.017	.314
Years in resource development for individual responsible for grants	.024	.297	.768
Grant total full-time faculty	.089	.644	.523
Number of first time degree seeking students	.438	1.701	.095
Estimated full-time enrollment	-.073	-.307	.760
Estimated part-time enrollment	.119	.307	.760
Total new faculty hires 2009	-.116	-1.396	.169
Grand total male faculty	.077	.582	.563
Grand total female faculty	.066	.547	.587

**Correlation is significant at the 0.05 level

Table 4-24. Regression table for faculty engagement in grant writing activities (faculty serving as principal investigator, project director or grant manager) – statistically significant explanatory variables

	Unstandardized Coefficients		Standardized Coefficients Beta		
	(b)	Std. Error	(β)	t	Sig.
Constant	-8.596	1.862		-4.618	.000
Total enrollment 2009	.001	.000	.450	5.013	.000
Total number of applications submitted to any source	.173	.044	.363	3.976	.000
Total number of grant staff	2.529	.816	.292	3.099	.003
Number of years grant office has been established	.277	.128	.172	2.164	.035

**Correlation is significant at the 0.05 level

CHAPTER 5
CONCLUSIONS

Overview

Four year universities and colleges have long understood the value of resource development, both in the form of private donations and the pursuit of external grant funding (Glass & Jackson, 1998). The current financial situation can provide both challenges and opportunities for prepared community colleges (Bass, 2003). There has been limited research about resource development and its role as an emerging strategic function at public community colleges in the United States (Jackson & Keener, 2002). The purpose of this study was to identify factors that indicate the optimum institutional circumstances under which public community college faculty can be engaged in participating in resource development processes necessary to receive external funding in the form of grants. Variables included, but were not limited to, faculty characteristics such as rank, ethnicity, gender, tenure status, and employment status (e.g., full- or part-time); institutional characteristics, such as size/student enrollment, location and years of existence of grants office; and, incentives, such as promotions, stipends, professional development opportunities, and release time, which are offered by college administration to entice faculty to participate in grant writing and associated activities.

A review of relevant literature, which pertains to the pursuit of grant funded opportunities by public educational institutions in the United States, has been conducted. While all such literature has been reviewed for relevancy, regardless of the type of higher education institution, the intent was that literature specific to grant writing and associated activities by public community college faculty, both full-time and part-time, would be the focus of this study. Data was collected through a survey made

available in electronic form to staff having responsibility for securing grant funding for community colleges that are also institutional members of the Council for Resource Development (CRD). CRD currently boasts a membership of over 1600 members at more than 700 institutions (CRD, 2010). The community colleges were classified by size and geographic location. The Statistical Package for the Social Sciences (SPSS) software was utilized in order to run a variety of tests to determine relationships between the variables.

Research Questions

This study examined the following broad-based question: What factors indicate the optimum institutional circumstances under which public community college faculty can be engaged in participating in resource development processes necessary to receive external funding in the form of grants? To address this broader question, the following three research questions were developed:

1. What is the relationship between faculty characteristics and faculty engagement in grant writing and associated activities?
2. What is the relationship between institutional characteristics and faculty engagement in grant writing and associated activities?
3. What is the relationship between incentives, which are offered by the college administration to entice faculty to participate and actual faculty engagement in grant writing and associated activities?

Discussion of Findings

Faculty Characteristics

Was there any relationship between faculty characteristics and faculty engagement in grant writing and associated activities, including service as principal investigator, project director or grant manager? As discussed in Chapter 4, there was no relationship between engaging in any type of grantsmanship and whether faculty are

unionized, the ratio of part-time to full-time faculty, average faculty salary, the number of new faculty hires, or the ratio of students to faculty. It was expected by this researcher that any one of these variables would have some relationship. New faculty hires often arrive at the institution with new ideas, and also a desire to earn promotions and/or tenure. Miner, Miner and Griffith (2003) asserted that regardless of the type of educational institution, “the faculty members you hire today will affect the level of extramural funding you will secure years later” (p. 12), yet the number of new faculty hires had no relationship in this study. Pink (2009) asserts that if pay is fair and adequate, it takes the issue of money off the table so that employees focus on the work itself, not on compensation for that work. Apparently, that was true for this study, because despite a large range, average faculty salary also had no relationship with faculty members participating in grantsmanship activities. The ratio of students to faculty is an indicator of work load, so there was some expectation that a higher ratio of students to faculty may have an adverse effect on faculty engagement in grantsmanship; however, there was no relationship. The only variables displaying a significant relationship are the total number of tenured and total number of non-tenured faculty members ($p = 0.000$; $p = 0.001$). The null hypothesis was rejected. The numbers are small and it is also possible that this result is more a factor of having more faculty available to participate than for any other reason that there might be for this relationship to exist—more of an economy of scale.

Institutional Characteristics

Was there any relationship between institutional characteristics and faculty engagement in grant writing and associated activities, including service as principal investigator, project director or grant manager? Meaders (2002) and Glass and

Jackson (1998) made a good case for the identification of readiness factors in community college grant development operations and integration of resource development with strategic planning, so it was expected that a number of the factors examined in this study would present a significant relationship. The establishment of a negotiated indirect cost rate, an institutional review board, and an institutional strategic goal related to external funding all require a significant amount of institutional commitment so it was expected that these variables would present a significant relationship in this study. They did not present a significant relationship. Anecdotally, the southern part of the United States, particularly Texas, Florida, North Carolina and Virginia, are considered extremely competitive when it comes to the pursuit of external funding opportunities, so it was purely for interest sake, that the variables of accreditation agency membership or Council for Resource Development region were studied to see if there was any relationship. There was no significant relationship. When the variable of whether or not the institution offered bachelor's degrees was examined there was a significant relationship ($p = 0.024$) with total faculty as principal investigator, project director or grant manager; this relationship did not exist for total faculty engaging in any grant activity. The relationship between faculty as principal investigator, project director and grant manager and variables of the number of first time degree seeking students ($p = 0.000$) and total student enrollment Fall 2009 ($p = 0.000$) provide indications of significant relationships; as does the relationship between first time degree seeking students ($p = 0.004$) and total student enrollment Fall 2009 ($p = 0.010$). The null was rejected for these variables. However, the numbers are small and much like the earlier situation in which the number of faculty represented a significant

relationship, it is also possible that this result is more a factor of having more faculty available to participate because there are more students, than for any other reason that there might be for this relationship to exist—more of an economy of scale.

More significant to this researcher were the relationships examined between grant functions at the institutions and the engagement of faculty in grantsmanship activities, including service as principal investigator, project director or grant manager, and participation in grant writing and associated activities. There were significant relationships between the number of faculty serving as principal investigator, project director or grant manager and the variables of the number of total staff dedicated to grants activities ($p = 0.000$), the total number of applications submitted to any funding source ($p = 0.000$), and the total number of applications submitted to the National Science Foundation ($p = 0.000$). The picture looks similar for the variable relationships with the total number of faculty engaged in any grant participation, although in addition to the relationships just stated, there was also a significant relationship for the number of years a grant office had been established ($p = 0.004$), a significant relationship with the number of years the individual responsible for the grants function had been in their current position ($p = 0.024$), and there was also a significant relationship with the location of the grants function ($p = .044$). For each of these variables the null hypothesis was rejected. The establishment and support of a fully staffed, dedicated grants office is also a significant commitment on the part of college administrators.

Incentives

Was there any relationship between incentives and faculty engagement in grant writing and associated activities, including service as principal investigator, project director or grant manager? Pink (2009) asserted, “In many instances, contingent

incentives—that cornerstone of how businesses attempt to motivate employees—may be a losing proposition" (p. 42). The results of this study and examination of incentive related variables supports Pink's assertion. As detailed in Chapter 4, there were no significant relationships between whether any incentives at all were offered, or any of the specific incentives being offered by the college administration and faculty members as principal investigator, project director or grant manager, or engaging in any grant writing and associated activities. The null hypothesis was not rejected.

Implications for Practice

Previous research conducted provided valuable data related to the factors influencing grant-generated revenue from an institutional viewpoint (Meaders, 2002). As also indicated in this study, community colleges with significant enrollment—more students and more faculty, which lead inevitably to greater operating costs—are better equipped to submit more applications resulting in greater resources as a result of external funding (Meaders). Encouraging more grant proposal submissions is a continual challenge for administrators and success requires significant institutional commitment (Jackson & Keener, 2002; Porter, 2004). Some institutions support cultures more conducive to supporting grantsmanship activities by faculty than others. As the pressure to pursue external funding opportunities increases, the knowledge and skills brought to institutions by new faculty members will become even more important (Adams, 2002; Outcalt, 2000; Porter, 2004). Fullan (2001) stated, "data without relationships merely cause more information glut" (p. 6). Institutional culture is an abstract concept; however, certain institutional behaviors, existing alone, or in any combination, demonstrate an institutional culture that is conducive to particular activities, such as being respectful of all types of diversity, being learning-centered, and

supporting grantsmanship. The results of this study seem to indicate that, rather than institutional concepts (e.g., negotiated indirect cost rate, establishment of an institutional review board, etc.), relationships between people—in this case between the grants office staff and faculty members—are more important. The strong significant relationships between the number of faculty serving as principal investigator, project director or grant manager the number of total staff dedicated to grants activities, the total number of applications submitted to any funding source, and the total number of applications submitted to the National Science Foundation. The picture looks similar for the variable relationships with the total number of faculty engaged in any grant participation, although in addition to the relationships just stated, there was also significant relationships for the number of years a grant office had been established, a the number of years the individual responsible for the grants function had been in their current position, and the location of the grants function. Is institutional commitment such that the grant office is operating with a part-time staff out of an office the size of a broom closet, or does the chief resource development officer report to the president from an office front and center with other important administrative units? Fullan posited that relationships must be carefully coordinated, and that relationships and organizational success are closely interrelated.

Although examination of the majority of the variables chosen for this study did not present significant relationships with the engagement of faculty members in grantsmanship activities, including the service of faculty as principal investigator, projector director or grant manager, Jervis (1999) asserted that strong effects could actually be disguised by the apparent lack of a relationship. This researcher has been

guilty of using the excuse that her institution's faculty members are unionized, and functioning under a negotiated collective bargaining agreement, as the reason for their minimal participation in grant writing and associated activities. If the results of this study are to be believed, whether or not the faculty is unionized has no relationship whatsoever on their participation in grant writing and associated activities.

As economic conditions continue to change and the pressure to pursue external funding opportunities increases, the knowledge and skills brought to institutions by new faculty members will become even more important (Adams, 2002; Brumbach & Villaden, 2002; Haire & Dodson-Pennington, 2002; Porter, 2004). As indicated by the results of this study, grants office staff will also be increasingly important in providing avenues for relationships with these faculty members to flourish and be fruitful.

Recommendations for Further Research

It has been suggested that conducting a factor analysis, a statistical method used to describe variability among observed, correlate variables in terms of a potentially lower number of unobserved, uncorrelated variables called factors, could perhaps provide additional information related to the resultant statistically significant correlations uncovered during the data analysis for this research study.

As a result of the data analysis, which was performed for this study, the following topics are recommended for further research (Stufflebeam & Shinkfield, 2007).

Since incentivizing faculty members did not have any relationship with faculty members becoming involved in grantsmanship activities or being willing to serve as principal investigator, project director or grant manager, further study is recommended using motivation theory to examine their reasons for participation (or lack thereof).

Since there were no significant relationships discovered related to the faculty demographics studied (e.g., gender and ethnicity), it is recommended that additional demographics be studied, such as, age of faculty and academic discipline or field of study.

Since significant relationships were uncovered related to community college grant functions and the engagement of faculty in grantsmanship activities, further study is recommended related to the institutional commitment of community colleges toward the development and ongoing support of grant offices.

Since significant relationships were related to the staffing requisite for grant functions, further study is recommended for skills and professional development needed for grant professionals' job-getting and job-keeping activities at the community college. Along this same vein of thought, further study is recommended to determine what is the optimum staffing and organizational/reporting structure for a successful grant office.

Since significant relationships were uncovered related to community college grant functions and the engagement of faculty in grantsmanship activities, further study is recommended related to the personal and professional relationships, and the manner in which they are developed, which grant staff have, especially with full-time/tenured faculty members.

In addition, in depth profiles of grant officers, from among those who have been successful in achieving high levels of faculty participation, and of community college faculty members who do participate in grant writing activities, would perhaps provide additional insight.

In this researcher's experience, institutional characteristics at the community college such as the establishment of a negotiated indirect cost rate, institutional review board, and institutional strategic goals related to external funding are the direct result of grant making requirements. It is accepted here that each of these tasks takes a commitment of time and talent from college staff already often stretched thin. Further study would provide valuable information to decision makers at community colleges that have yet to dedicate any measure of institutional commitment to the accomplishment of these tasks.

This study purposely did not examine the many factors related to community colleges offering baccalaureate degrees and how they might be related to the pursuit of external funding in the form of grants. However, as increasing numbers of associate degree-granting institutions across the country add baccalaureate degree programs to their educational offerings, further study is recommended related to the professional preparation of baccalaureate faculty members and their engagement in grantsmanship activities.

The recommendations for further research will continue to identify and clarify key elements related to successful application by community colleges to competitive grant funded programs, regardless of the funding agency. Community college budgets have been significantly constrained during recent years and there are no signs that better times are ahead in the near future. It is important for the decision makers—college administrators responsible for finance, planning and governance—to have all of the information necessary to maximize the benefits of institutional commitments in the most

effective and efficient ways possible for the realization of positive results related to external funding efforts.

APPENDIX A
REPRESENTATIVE COUNCIL FOR RESOURCE DEVELOPMENT LISTSERV POSTING

Debbie Douma - RE: [crd] Faculty Incentive Ideas

From: [redacted]@tulsacc.edu>
To: <crd@lists.crdnet.org>
Date: 2/12/2009 4:03 PM
Subject: RE: [crd] Faculty Incentive Ideas
Attachments: message-footer.txt

Interested if anyone has made some good progress on not just collaborating with faculty, but with informing faculty about grants in general, grant opportunities, or grants' office procedures?

Faculty incentive ideas? Presentation material? Ideas for formats that work: classes, meet and greet sessions, etc?

Thank you,

[redacted] Grant Writer
Tulsa Community College
[redacted]
6111 E. Skelly Dr.
Tulsa, OK 74135
[redacted]tulsacc.edu

APPENDIX B
MEADERS PERMISSION LETTER

Web Mail v1.0.24

UF UNIVERSITY of FLORIDA

DOUMA,DEBORAH L

Check Mail | Compose Mail | Address Book | Edit Folders | Preferences | Logout

Help | About | Send Feedback

Select a Folder: Move Copy

Sender: "DOUMA,DEBORAH L" [redacted] Add to address book
To: Meaders.Sherry@[redacted], ddouma[redacted]
CC: sjmeaders@[redacted]
Date: Tue Feb 23 12:24:41 EST 2010
Subject: RE: your dissertation and survey

Thank you so much for your quick response! I will share your regards with Dr. Campbell and Dr. Honeyman when we have class in Gainesville in early March. You're right about all aspects of the program, but I think I've already used almost everything I've learned somehow in my current position, so it has been the right program for me and time & money well spent (but I will still be glad when it is all over!).

Thank you for Dr. Carrier's information. I will contact her also.

I am still developing a new survey, but it will probably go out on the listserv as a link on Survey Monkey to all of the CRD membership. We've got one more course to take this summer and then it is on to no-man's-land of the dissertation!

Thank you again for everything, and you just may hear from me again!
Debbie

On Tue Feb 23 09:24:14 EST 2010, Meaders.Sherry@[redacted] wrote:

> Ms. Douma,
>
> Yes, you have the right Dr Meaders. I'm delighted you have the opportunity to study under Dr. Campbell and Dr. Honeyman. Although they drove us to the brink, the learning and experiences were invaluable. Please say Hello to them from me.
>
> Yes, you may reference the survey in my dissertation. I am pleased my work can be helpful to you. I'm also excited you have the support of CRD. As you know, CRD helped support my dissertation expenses and validating the survey. It's amazing in such a short time span that we

have the technology to replace the costly 'paper and pencil' survey. What electronic survey instrument are you using?
Hopefully the
instrument can provide raw data as well as a few descriptive statistics. Are you surveying all the community colleges? With the ease of electronic surveying perhaps the return rate will be high which will be important. Are you conducting a multiple regression?

Do you need the permission of Dr. Carrier who was my partner in the developing and conducting the national survey? If so, her email is scarrier@Rollins.edu Best of everything on completing your dissertation. It can be the
loneliest time. Please don't hesitate to contact me if I can be of more help or just to vent!

Sherry Meaders, Ed.D.

Grant Development & Management

Division of Curriculum & Instruction

[redacted]County School District

[redacted]

-----Original Message-----
From: DOUMA,DEBORAH L [mailto:[redacted] Sent: Tuesday, February 23, 2010 12:05 AM
To: Meaders, Sherry@[redacted]
Subject: your dissertation and survey

Dr. Meaders,

First off, I hope that I have the "right" Dr. Meaders! :-)

I am a student in the 2007 LEAD cohort at UF. Dr. Dale Campbell is my chair. I am also the director of institutional research and grants at Pensacola Junior College. With the support of the national CRD office, my dissertation topic is related to the engagement of community college faculty in grant writing activities.

I am writing to you now, to request permission to include your survey as an example when I submit my own instrument for IRB permissions. Although I will have questions related specifically to numbers of faculty involved, incentives available for faculty participation, etc., many questions in Sections I & II of the survey that you used (college profile and grant development) still

make sense, with appropriate reference. Polly Binns and the current CRD president have agreed to pilot my survey with the national board. However, Drs. Campbell and Honeyman have indicated that it would be appropriate to include examples that would help establish my survey's reliability/validity. One other major difference ... I'm hoping to collect all data by way of having an electronic link available for the survey - no more paper and postage!

I appreciate your kind consideration of my request. And, if I have the wrong Dr. Meaders, I apologize!

Thanks,

Debbie

[redacted]

--

Deborah L. Douma

LEAD Higher Ed Admin Cohort

College of Education

University of Florida

Due to Florida's broad public records law, most written communications to or from government employees regarding public education are public records. Therefore, this e-mail communication may be subject to public disclosure.

--
Deborah L. Douma
LEAD Higher Ed Admin Cohort
College of Education
University of Florida

APPENDIX C
CARRIER PERMISSION LETTER

Web Mail v1.0.24

UF UNIVERSITY of FLORIDA

DOUMA,DEBORAH L

Check Mail | Compose Mail | Address Book | Edit Folders | Preferences | Logout

Help | About | Send Feedback

Select a Folder: Move Copy

Sender: "DOUMA,DEBORAH L" <ddouma[redacted] Add to address book
To: Sharon Carrier <scarrier@[redacted]
CC:
Date: Tue Feb 23 20:42:34 EST 2010
Subject: Re: Fwd: RE: your dissertation and survey

Dr. Carrier,
Thank you so much for your quick response. Yes, items will definitely need to be changed up! I will be happy to share results when the study is completed.
Thanks,
Debbie

On Tue Feb 23 18:22:51 EST 2010, Sharon Carrier <scarrier@rollins.edu> wrote:

> I am happy to grant permission for the use of the survey, which I am sure will need to be modified in order to be useful for your purposes. I wish you all the best in your research!
>
> Sharon Sharon M. Carrier, Ph.D.
> Assistant Vice President for Alumni Relations
> [redacted]
> PH:[redacted] FAX:[redacted] E-mail: scarrier@[redacted]
> http://www.rollins.edu/alumni
>
> >>> "DOUMA,DEBORAH L" <ddouma[redacted] 2/23/2010 5:53 PM >>>
> Dr. Carrier, I received your contact info from Dr. Sherry Meaders. As I detailed in the attached email to Dr. Meaders, I am a member of the 2007 LEAD cohort at UF (Maureen Maensivu and Toni Strollo-Holbrook of Rollins are also in our cohort). I am also the director of institutional research and grants at Pensacola Junior College. I am in the early stages of developing my dissertation and found Dr. Meaders' dissertation as I begun the process of

working on the literature review. My topic is going to be related to community college faculty and their engagement in grant writing activities, expanding upon Dr. Meaders' research. I am requesting permission to include the survey you all developed as a "model" for IRB permissions, with appropriate citation, to help establish reliability and validity as I develop my survey and Dr. Meaders suggested that I also contact you for that permission. The sections related to grant functions are especially pertinent to my purposes, and will be expanded upon with questions about faculty involvement. The national CRD office and board has committed their support to help develop and pilot the survey and then make it available to the membership. Thank you for your kind consideration of my request. Debbie -- Deborah L. Douma LEAD Higher Ed Admin Cohort College of Education University of Florida

--
Deborah L. Douma
LEAD Higher Ed Admin Cohort
College of Education
University of Florida

<< ^ >> delete reply (all) forward printer-friendly message source

APPENDIX D
COUNCIL FOR RESOURCE DEVELOPMENT SUPPORT LETTER – EXECUTIVE DIRECTOR

Debbie Douma - RE: dissertation topic

From: [redacted]@crdnet.org>
To: [redacted]@brookdalecc.edu>, "Debbie Douma" <DDouma@[redacted]>
Date: 2/16/2009 9:03 AM
Subject: RE: dissertation topic
CC: [redacted]@sctechsystem.edu>

Debbie: absolutely a great topic. We get this all the time on the listserv...did you see them last week?! Of course, we'll do all we can to help you from this end!

Best,
[redacted]

[redacted]
Executive Director
Council for Resource Development
[redacted]
Washington, DC 20036
Office: [redacted]
Cell: [redacted]
Fax: [redacted]

From: [redacted]com [mailto[redacted]com] **On Behalf Of** [redacted]
Sent: Monday, February 16, 2009 9:39 AM
To: Debbie Douma
Cc: [redacted]
Subject: Re: dissertation topic

Hi Debbie,

It was great seeing you in FL. Glad to get the message about your dissertation topic. I like the topic you have identified. It is a very difficult and real issue we face. I have a situation right now with an ATE proposal--an academic dean is trying to shove an idea at the faculty who won't bite...but there is NO incentive attached...not even interest on the part of the faculty...that could be part of the "what doesn't work" study.

Let's see what the others say,
[redacted]

On Thu, Feb 12, 2009 at 5:41 PM, Debbie Douma <DDouma@pjc.edu> wrote:
[redacted]

A[redacted] are already aware (from our contact at the Community College Futures Assembly), I am in the EdD (Higher Education Administration) program at the University of Florida. I still have a year of course work left, but they are already working with us and have expectations that we will soon identify a topic of study for our dissertation. What I have tentatively identified is something in the area of determining the optimum (or not) conditions/situations under which faculty do or will/will not participate in grant writing/grant activities.

I'm writing to you now because I'm hoping that there would be some value/use of this information to the

APPENDIX E
COUNCIL FOR RESOURCE DEVELOPMENT SUPPORT LETTER – EXECUTIVE BOARD

(2/17/2009) Debbie Douma - RE: dissertation topic Page 1

From: [redacted]@actechsystem.edu>
To: "Debbie Douma <DDouma@pjc.edu>, "[redacted]@brooksalecc.edu" <[redacted]...
Date: 2/17/2009 7:48 AM
Subject: RE: dissertation topic

Debbie,

I think you have identified a great topic and one that will definitely be of value to our members.

It might also be useful to consider the differences in faculty interest say in STEM versus humanities. My uneducated guess is that STEM faculty may be more willing to work on grants because the payoff is upgraded laboratories, etc. What's the pay off for humanities?

It was great seeing you in Florida - and good luck! Let us know how your topic evolves.

[redacted]

-----Original Message-----
From: Debbie Douma [mailto:DDouma[redacted]
Sent: Thursday, February 12, 2009 5:42 PM
To: [redacted]@brooksalecc.edu[redacted]@crdnet.or[redacted]
Subject: dissertation topic

[redacted]

As [redacted] are already aware (from our contact at the Community College Futures Assembly), I am in the EdD (Higher Education Administration) program at the University of Florida. I still have a year of course work left, but they are already working with us and have expectations that we will soon identify a topic of study for our dissertation. What I have tentatively identified is something in the area of determining the optimum (or not) conditions/situations under which faculty do or will/will not participate in grant writing/grant activities.

I'm writing to you now because I'm hoping that there would be some value/use of this information to the CRD membership ... in hopes that I could count on CRD support when it comes time to conduct the survey!

Your thoughts??
Thanks!
Debbie

"Success means we go to sleep at night knowing that our talents and abilities were used in a way that served others." -- Marianne Williamson

Debbie Douma, Director
Institutional Research & Grants
Pensacola Junior College
([redacted]
[redacted]
ddouma[redacted]

APPENDIX F
SURVEY INSTRUMENT

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Exit this survey

1. Informed Consent

1. Purpose of the research study:
The purpose of this study is to identify factors that indicate the optimum circumstances under which public community college faculty can be engaged in participating in resource development processes necessary to receive external funding in the form of grants.

What you will be asked to do in the study:
Please answer the following 25 questions about faculty engagement in grant writing activities at your institution.

Time required:
If you have all information available, this survey will take approximately 15 minutes to fill out.

Risks and benefits:
There is no anticipated risk in completing this survey. After this research study is complete, initial results will be shared during a presentation at the Fall 2010 CRD national conference, to be followed by a white paper detailing the results.

Compensation:
There will be no compensation if you choose to participate in this research study; however, all participants will be entered into a random drawing for a $50 Amazon.com gift card.

Confidentiality:
Your identity will be kept confidential to the extent provided by law. Your information will be assigned a code number and the list connecting your name to this number will be kept in a locked file. When the study is completed and the data have been analyzed, the list will be destroyed. Your name will not be used in any report.

Voluntary participation:
Your participation in this study is completely voluntary. There is no penalty for not participating.

Right to withdraw from the study:
You have the right to withdraw from the study at anytime without consequence.

Whom to contact if you have questions about the study:
Debbie Douma, Director of Institutional Research & Grants, Pensacola State College; Graduate Student, College of Education, University of Florida

[redacted](cell)
ddouma@[redacted]
ddouma@[redacted]

Whom to contact about your rights as a research participant in the study:
IRB02 Office, Box 112250, University of Florida, Gainesville, FL 32611-2250
352.392.0433

Agreement:
I have read the procedure described above. I voluntarily agree to participate in the procedure and have received a copy of this description.

- (•) Agree, click on the "Next" button below to begin the survey
- ( ) Disagree, close to exit survey

Next

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Exit this survey

2. Section I. College

***2. Institution Name**

3. Designated contact person for this survey:

Name

Title

Telephone

Email

4. Identify college structure represented:

- ◉ Multi-college district
- ○ Multi-campus district
- ○ Single community college campus
- ○ Other (please specify)

5. Degrees granted by institution (check all that apply):

- ☐ Associate in Arts
- ☐ Associate in Applied Science
- ☐ Associate in Science
- ☐ Technical Certificate
- ☐ Diploma
- ☐ Baccalaureate
- ☐ Other (please specify)

6. Faculty

- ◉ Union

- ○ Non-union

7. Number of faculty Fall 2009:

Full-time faculty [ ]

Part-time/adjunct faculty [ ]

8. Is there a Chief Resource Development Officer (or person with similar responsibilities)?

- ◉ Yes
- ○ No

9. If "yes" for Question #8, to whom does this person report?

- ◉ Not Applicable
- ○ Campus President
- ○ Chancellor
- ○ Dean
- ○ District President
- ○ Provost
- ○ Vice President
- ○ Other (please specify)

[ ]

10. Does the institution have a negotiated indirect cost rate?

- ◉ Yes
- ○ No
- ○ No, but in the process of establishing

11. Does the institution have an Institutional Review Board or its equivalent?

- ◉ Yes, on site
- ○ No, but in the process of establishing
- ○ No, but have a formal local partner arrangement (e.g., with a university or research institution)
- ○ No

12. Is there a strategic goal related to external funding?

- ◉ No

○ Yes (please provide the goal statement below)

Prev Next

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Exit this survey

3. Section II. Grants Functions

13. When was the grants office established?

- (●) Not Applicable
- ( ) Year

14. Location of grants function?

- (●) Dedicated grants office
- ( ) Co-located with other college functions (e.g. Institutional Research, Marketing, etc.)
- ( ) Foundation
- ( ) Other (please specify)

15. Provide the following information about the individual primarily responsible for grants operations:

Title	
Years in current position	
Years with institution	
Years in resource development	
Title of supervisor	

16. The grant officer's association is with the:

- (●) State college system administration office
- ( ) Central or district administration office of a multi-campus district
- ( ) Decentralized college administration office in a multi-college district
- ( ) Decentralized campus administration office (branch campus) of a multi-campus college
- ( ) Single community college campus administration office
- ( ) Other (please specify)

17. How many individuals are assigned to grant project development operations?

	Professional	Paraprofessional	Clerical	Other
Full-time				
Part-time				

Examples of position titles:

18. During the previous fiscal year, the number and status of all grant applications:

	Total	Funded	Unfunded	Still Pending
Number of applications submitted to any funding source				

19. Number of new awards by agency, between July 1, 2009, and July 1, 2010:

Note: Include new applications for "non-competitive" continuation funding.

	Number of Applications	Number of Awards
U.S. Dept. of Education		
U.S. Dept. of Energy		
DOL		
HRSA		
NSF		
NEA		
NEH		
State grants		
Local grants		
Non-profit organization grants		
Corporate grants		
Private foundation grants		

Other

Comments

20. Total amount of funding to be realized as a result of applications awarded between July 1, 2009, and July 1, 2010.

Note: Include funding from new non-competitive continuation awards, but not funding from grants awarded in previous years. For example, if you received a new Title III grant, count total project award (all 5 years of funding); do not count last fiscal year of funding from a TRIO grant awarded four years ago.

Use numerical text only.

U.S. Dept. of Education

U.S. Dept. of Energy

DOL

HRSA

NSF

NEA

NEH

State grants

Local grants

Non-profit organization grants

Corporate grants

Private foundation grants

Other

Prev Next

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Exit this survey

4. Section III. Faculty Involvement

21. Please indicate the number of faculty currently acting in an official capacity as grant project director, manager or principal investigator in addition to teaching duties:

Full-Time Faculty

Part-Time Faculty

22. In the past 12 months, please indicate the number of faculty who have participated in any type of grant project development/writing activities and the capacity in which they have served:

	Full-Time Faculty	Part-Time Faculty
Planning Committee		
Data Collection		
Budget Development		
Proposal Writing		
Other		

23. Does your institution offer any type of incentive to faculty members participating in grant project development/writing activities pre-submission of application (whether or not the grant is eventually funded)?

- (●) Yes
- ( ) No

24. If you responded "yes" to Question #23, please check all incentives that are available:

- [ ] Not Applicable
- [ ] Release time
- [ ] Stipend
- [ ] Opportunities to participate in travel
- [ ] Opportunities to participate in professional development activities
- [ ] Points awarded for promotion
- [ ] Invitation to college-wide recognition celebration
- [ ] Recognition in college publication (print or electronic formats)

- [ ] Written recognition from administration (president or vice president)
- [ ] Other (please specify)

25. Please provide any other pertinent comments related to faculty engaging in grant project development/writing activities at your institution which you would like share.

Prev Done

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BIOGRAPHICAL SKETCH

Deborah Lynn Douma relocated to Pensacola from Southern California and began working at Pensacola State College (formerly Pensacola Junior College) in 1999, and is currently serving as the Dean of Institutional Effectiveness and Grants. She has an Associate of Arts degree in general studies from Irvine Valley College in California, and a Bachelor of Arts in Communication Arts, specializing in public relations, and a Master of Science in administration from The University of West Florida in Pensacola, Florida. She has been awarded the degree of Doctor of Education in Higher Education Administration from the University of Florida. Deborah serves on the boards of the Escambia Coalition on the Homeless and the Florida Council for Resource Development.