

The Development of a Model of Prioritized Knowledge and Skill-Sets for the Chief  
Academic Officer of a Two-Year College

A Dissertation submitted  
to the Graduate School  
Valdosta State University

in partial fulfillment of requirements  
for the degree of

DOCTOR OF EDUCATION

in Adult and Career Education

in the Department of Adult and Career Education  
of the Dewar College of Education

May 2012

Jason S. Goodner


MS, Georgia Southwestern State University, 1999  
BS, Georgia Southern University, 1998

© Copyright 2012 Jason S. Goodner


All Rights Reserved

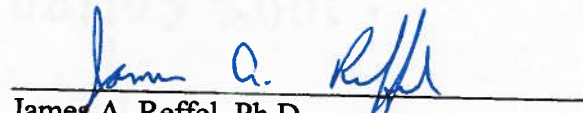
This dissertation, "The Development of a Model of Prioritized Knowledge and Skill-Sets for the Chief Academic Officer of a Two-Year College," by Jason S. Goodner, is approved by:

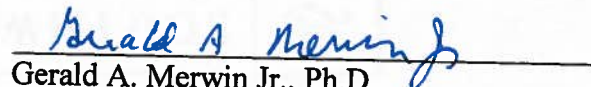
**Dissertation  
Committee  
Chair**

  
Reynaldo L. Martinez Jr., Ph.D.  
Professor of Adult and Career Education

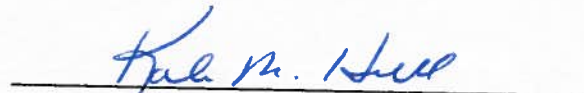
**Committee  
Member**

  
Xavier V. McClung, Ed.D.  
Professor of Adult and Career Education


  
James A. Reffel, Ph.D.  
Professor of Psychology and Counseling

  
Gerald A. Merwin Jr., Ph.D.  
Assistant Professor of Public Administration

**Dean of the  
College of Education**

  
Karla M. Hull, Ed.D.  
Professor of Special Education

**Dean of the  
Graduate School**

  
Alfred F. Fuciarelli, Ph.D.  
Professor of Chemistry

## FAIR USE

This dissertation is protected by the Copyright Laws of the United States (Public Law 94-553, revised in 1976). Consistent with fair use as defined in the Copyright Laws, brief quotations from this material are allowed with proper acknowledgement. Use of the material for financial gain without the author's expressed written permission is not allowed.

## DUPLICATION

I authorize the Head of Interlibrary Loan or the Head of Archives at the Odum Library at Valdosta State University to arrange for duplication of this dissertation for educational or scholarly purposes when so requested by a library user. The duplication shall be at the user's expense.

Signature \_\_\_\_\_

I refuse permission for this dissertation to be duplicated in whole or in part.

Signature \_\_\_\_\_

## ABSTRACT

The chief academic officer (CAO) position is largely neglected in higher education literature. In particular, there is a dearth of information reporting the knowledge and skills specific to a chief academic officer serving a two-year college. Through a Delphi process, a panel of two-year college CAOs qualified and prioritized a list of knowledge and skill items deemed essential to successfully perform the duties of a two-year college chief academic officer. As a result of the study, a contemporary model of prioritized knowledge and skill-sets for a chief academic officer of a two-year college was created. The value of this model is that it provides greater insight into the knowledge and skill-sets needed for the position of two-year college chief academic officer.

## TABLE OF CONTENTS

I.	INTRODUCTION .....	1
	Job Attrition .....	2
	Current Research.....	3
	Conceptual Framework.....	4
	Statement of the Problem.....	9
	Purpose of the Study .....	9
	Research Questions.....	9
	Significance of the Study .....	9
	Definitions.....	10
II.	REVIEW OF LITERATURE .....	12
	Early Research .....	12
	Contemporary Research.....	16
	Delphi Study Technique .....	19
	Delphi Strengths.....	19
	Delphi Weaknesses .....	21
	Delphi Panel.....	22
	Chapter Summary .....	22
III.	RESEARCH METHODOLOGY.....	23
	Description of the Population .....	23
	Delphi Participant Selection and Solicitation .....	23
	Instrumentation .....	24
	Pilot Study.....	25
	Data Gathering Procedure and Analysis .....	27

	Reporting the Findings.....	32
	Chapter Summary .....	32
IV.	RESULTS .....	33
	Panel of Experts .....	33
	Findings of Round One.....	34
	Results of Frequency Ratings .....	36
	Findings of Round Two .....	41
	Findings of Round Three .....	44
	Content Analysis.....	48
	Findings of Round Four .....	54
	Round Four: Question One Results .....	57
	Round Four: Question Two Results.....	60
	Round Four: Question Three Results.....	62
	Round Four: Question Four Results .....	62
	The Final Model.....	63
	Comparative Analysis by Demographic Variables.....	64
	Overall Observation of Data .....	69
	Chapter Summary .....	70
V.	CONCLUSION AND RECOMMENDATIONS .....	72
	Research Questions.....	72
	Conclusions.....	74
	Recommendations for Future Research and Practice .....	76
	Significance of the Study .....	79
	REFERENCES .....	80

Appendix A: Institutional Review Board (IRB) Exemption Report.....	84
Appendix B: Participation Solicitation Letter.....	87
Appendix C: Round One: Letter One .....	89
Appendix D: Round One: Letter Two .....	91
Appendix E: Round One: Letter Three .....	93
Appendix F: Round Two: Letter One .....	95
Appendix G: Round Two: Letter Two.....	97
Appendix H: Round Two: Letter Three.....	99
Appendix I: Round Three: Letter One .....	101
Appendix J: Round Three: Letter Two .....	103
Appendix K: Round Three: Letter Three.....	105
Appendix L: Round Four: Letter One.....	107
Appendix M: Round Four: Letter Two.....	109
Appendix N: Round Four: Letter Three.....	111
Appendix O: Round One Mean Frequency Ratings .....	113
Appendix P: Round One Open Ended Responses .....	116
Appendix Q: Round Two Knowledge and Skill Item Mean Ratings .....	118

## LIST OF TABLES

Table 1: ACE Reported CAO Challenges .....	3
Table 2: Round One Responses by Type of Institution .....	34
Table 3: Round One Responses by States.....	35
Table 4: Round One Knowledge and Skill Items by Highest Mean Score.....	36
Table 5: Round One Knowledge and Skill Items Meeting Secondary Selection Criteria .	37
Table 6: Round One Final List of Knowledge and Skill Items.....	39
Table 7: Round Two Responses by Type of Institution .....	41
Table 8: Round Two Responses by States .....	42
Table 9: Round Two Knowledge and Skill Item Mean Ratings .....	43
Table 10: Round Three Responses by Type of Institution .....	45
Table 11: Round Two Responses by States .....	46
Table 12: Round Three Knowledge and Skill Items Ranking Results .....	47
Table 13: Round Three Knowledge and Skill Items by Numerical Cluster .....	49
Table 14: Round Three Highest Ranked Knowledge and Skill Items .....	50
Table 15: Round Four Responses by Type of Institution .....	55
Table 16: Round Four Responses by States.....	56
Table 17: Round Two Chi-Square Results for Community College and Technical College per Most Important Knowledge and Skill Items .....	65
Table 18: Round Two Chi-Square Results for Technical College and Community and Technical College per the Most Important Knowledge and Skill Items .....	66
Table 19: Round Two Chi-Square Results for Community College and Community and Technical College per the Most Important Knowledge and Skill Items .....	66
Table 20: Round Three Chi-Square Results for Community College and Technical College per the Most Important Knowledge and Skill Items .....	67

Table 21: Round Three Chi-Square Results for Technical College and Community  
and Technical College per the Most Important Knowledge and Skill Items.....68

Table 22: Round Three Chi-Square Results for Community College and Community  
and Technical College per the Most Important Knowledge and Skill Items.....69

## ACKNOWLEDGEMENTS

I could not have earned the Doctor of Education degree without the dedication and support of many people. I would like to express my sincerest thanks to the following individuals:

- Dr. Reynaldo L. Martinez, dissertation advisor: For your commitment, counsel, guidance, encouragement, and friendship. You will forever hold a special place in my heart. I am truly grateful!
- Mrs. Minnie Martinez: For always greeting me with a smile and a hug!
- Dr. Xavior V. McClung, committee member: For believing in my ability and recruiting me to the program.
- Dr. James A. Reffel, research committee member: For your excellent research advice!
- Dr. Gerald A. Merwin, committee member: For your expert review!
- Dr. Jay K. Simmons, President, Iowa Wesleyan College: For inspiring me to become a Chief Academic Officer.
- My Classmates: Al, Ali, Audrey, Bob, Chris, Dave, Jill, Monica, and Phillip. For your dedication and support. A special thank you is extended to Dr. Jill Dennis.
- Andrew College Faculty: For your dedication and support of our College and students. It is an honor to serve as your dean. Special thanks to Amanda Knight, Dr. Frances Kelly, and Dr. Jay Langdale. Your willingness to review and edit strengthened my study.
- Mrs. Karan Pittman, Librarian, Andrew College: For your expert research assistance, counsel, and friendship. Thank you!
- Dr. Sherri Taylor, Dean of Students, Andrew College: For keeping me motivated.
- Mrs. Rachel Bush, Registrar, Andrew College: For your friendship and support.
- Dr. David C. Seyle, President, Andrew College: For your encouragement, patience, understanding, and friendship. Thank you for the opportunity to serve Andrew College as its Chief Academic Officer.
- Leslie: For your belief in me and us. You're my best friend. I love you!
- David and Jayne Hardesty, my parents: For your constant love and support. Words cannot express what you mean to me. I love you!

## Chapter I

### INTRODUCTION

The chief academic officer (CAO) is a vital position in the academy. In a small institution, this person may be called academic dean, dean of the college, dean of instruction, or just dean (Hanzeli, 1966). In large institutions, the position may carry the title of dean of the college, dean of the faculty, academic vice-president, vice president for academic affairs and dean, or provost (Hanzeli, 1966). For this study, the term CAO was used to refer to any of these positions. Regardless of the position or size of the institution, there exists little research to understand the knowledge and skill-sets needed for this important post. Although, a significant amount of research has been conducted targeting college presidents and other leadership positions in higher education, there remains a dearth of research focusing on chief academic officers. According to Gmelch, Wolverton, Wolverton, and Sarros (1999), the CAO was the least studied and most misunderstood position in higher education. Keim and Murray (2008) explained that researchers paid relatively little attention to this important leadership position. In support, Griffiths and McCarty (1980) called the lack of theoretical, conceptual, and research-based literature focusing on the CAO position, an embarrassment to higher education.

Perhaps the reason the CAO position was not seriously represented in the annals of higher education research was that the position had consistently changed since its humble beginnings. According to Dibden (1968), CAOs of the 1960s concentrated their

focus on the aims and objectives of higher education, faculty and scholarship, academic programming and its patrons, and budgets. By the 1980s, CAOs were no longer academicians but rather managers dealing with the complexities of student affairs, constrained budgets, curriculum and program development, and faculty personnel issues (Montez, Wolverton, & Gmelch, 2002). The 1990s witnesses the further expansion of the role of CAO into the areas of community involvement, strengthening faculty diversity, and expanding the college or university through political contacts (Montez et al., 2002). Likewise, Fagin (1997) found that the CAO was involved in ways different from any other member of the academy, even the president. Furthermore, the shifting obligations of the modern CAO presented unique problems to those who sought the position.

#### *Job Attrition*

Eckel, Cook, and King (2009) stated the average length of time for an individual serving as a chief academic officer was 4.7 years, and observed that the CAO position appeared to have much higher turnover rates than any other senior-level position in higher education. While many factors contributed to CAOs leaving the job, Mann (2010) explained the three common reasons for leaving were new opportunities through promotion, retirement, and a return to teaching. However, Mann went on to relate that the changing demands of the job were also a significant factor in turnover among CAOs.

Mooney (1993) reported an annual attrition rate for CAOs of 19%. This high attrition rate begs the question: How does such a high attrition rate negatively impact an institution? Mann (2010) explained that institutions were impacted through loss of time and resources. Kleinsorge (2010) stated when leaders left so did their knowledge regarding organizational structure, cultural and political norms, personnel, and

communication styles. Such a knowledge shift also negatively affected productivity. Momentum was lost and productivity suffered when the CAO left and the search for a new one began (Mann, 2010).

*Current Research*

In 2009, The American Council on Education (ACE) published *The CAO Census: A National Profile of Chief Academic Officers*. This body of research surveyed 3,143 chief academic officers of regionally accredited, degree-granting colleges and universities with 1,715 responses to questions asking about personal characteristics, the nature of the position, and career paths (Eckel et al., 2009). The study reported 48 distinct challenges faced by a CAO. The 48 challenges are listed in Table 1:

Table 1

*ACE Reported CAO Challenges*

CAO Challenges	
Access	Faculty rewards
Accreditation	Faculty workload issues
Administrative restructuring	Governance (faculty senates)
Administrative stability	Innovation (creating opportunities for...)
Assessment	Interdepartmental cooperation
Balancing undergraduate and graduate education	Interdisciplinary programs
Budget and planning	Internationalization
Business practices	Leading change
Changing faculty work expectations	Managing growth

Collective bargaining/unions	New program development
Community engagement	Online education
Cultural change	Partnerships
Curricular change	Pedagogy
Deans (hiring, supervising, firing)	Presidential transition
Developing campus/faculty leaders	Program review
Diversity – student and faculty	Reallocating resources
Enrollment management	Relationship with other vice presidents
Establishing oneself as leader	Relationship with president
Faculty-administrator relations	Research capacity
Faculty development	Strategic planning – developing
Faculty employment policies	Strategic planning – implementing
Faculty growth	Student learning
Faculty hiring	Student retention
Faculty morale	System relations

---

These challenges represented a knowledge and skill item list that was used as a basis for the development of a model of prioritized knowledge and skill-sets needed for today’s two-year college chief academic officers.

*Conceptual Framework*

The conceptual framework of Human Resource Management (HRM) was used as a theoretical perspective from which to contextualize the findings and conclusions of this study. In particular, the HRM principles that frame the development of essential job

functions were applied with attention to a knowledge and skill-set match for the chief academic officer position.

DeNisi and Griffin (2005) reported that human resource management “refers to the comprehensive set of managerial activities and tasks concerned with developing and maintaining a qualified workforce in ways that contribute to organizational effectiveness” (p. 6). In addition, Armstrong (2006) defined human resource management “as a strategic and coherent approach to the management of an organization’s most valued assets – the people working there who individually and collectively contribute to the achievement of its objectives” (p. 3). Building upon these definitions, Armstrong (2006) explained the tasks and functions of HRM can be categorized in the following:

- Organization development;
- Human resource planning;
- Talent management;
- Knowledge management;
- Recruitment and selection;
- Learning and development;
- Reward management;
- Employee relations;
- Health and safety;
- Welfare;
- HR administration;
- Fulfillment of statutory requirements;
- Equal opportunity and diversity issues; and

- Any other matters related to the employment relationship (p. 53).

In concert, Bohlander and Snell (2010) explained the tasks of human resource management were:

- Planning;
- Recruitment & Staffing;
- Job Design;
- Training & Development;
- Appraisal;
- Communications;
- Compensation & Benefits; and
- Labor Relations (p. 5).

Thus, function of the HRM office was to enable the organization to achieve its objectives through the management and development of its employees (Armstrong, 2006).

HRM departments are tasked with the recruitment and staffing of employees and it was, within in this task, we find the framework that guides the development of knowledge and skill-sets. Before a HRM department could begin a process of recruiting for a specific job, an understanding of that job and organizational fit was needed. This process came to be known as “job analysis”, the concept of knowledge and skill-set development and placement. Nelson (1997) explained job analysis as a data gathering tool for the measurement of tasks and/or worker attributes for any kind of job. More specific, DeNisi and Griffin (2005) expressed “job analysis was the process of gathering and organizing detailed information about various jobs within an organization so that

managers could better understand the processes through which they are performed” (p. 155).

Employing a Job Analysis approach to develop essential job functions had many benefits. Raetz (2001) informed some benefits were:

- Production of usable information to write job descriptions;
- Development and/or selection of good employee training programs;
- Conduction of performance appraisals;
- Clear definition of employer/employee expectations; and
- Assessment of changing needs (p. 27).

A Job Analysis approach was categorized to be work-oriented or worker-oriented.

A work-oriented approach focused on specific descriptions of tasks for various jobs (Nelson, 1997). The Functional Job Analysis was a good example of a work-oriented approach. The Functional Job Analysis “assesses job outputs and identifies job tasks in terms of task statements such as who does the task, what action is performed, immediate results, tools/equipment used, and instructions followed” (Nelson, 1997, p. 42). The worker-oriented approach focused on broad human behaviors as they pertained to specific job tasks (Nelson, 1997). The Position Analysis Questionnaire was a worker-centered job analysis method that targeted worker input, mental processes, work output, and relationships with others (Nelson, 1997). While both categorical approaches have merit, the worker-oriented approach did not address actual task activities, which Nelson (1997) stressed as crucial to creating a job description.

The job description was an outcome of a job analysis and was considered a blueprint for a job. A job description identified and described the skills and knowledge

required by the position as well as character traits and physical requirements (Gan & Kleiner, 2005). More specific, DeNisi and Griffin (2005) stated a “job description” listed the essential tasks, duties, and responsibilities for a particular job, specified the major job elements, examples of job tasks, and some indication of the relative importance in the effective conduct of the job (DeNisi & Griffin, p. 167). Written effectively, a job description was the one tool that gave an employee a sense of focus and direction, whereas an ineffectively written job description hindered an employee, causing feelings of resentment, hopelessness, and a sense of career stagnation (Gan & Kleiner, 2005). Therefore, it was strongly urged that careful thought and analysis be performed in the initially stages of devising a job description.

Another output of job analysis was job design. According to DeNisi and Griffin (2005), job design was the “determination of an individual’s work-related responsibilities” (p. 169). Griffin and Moorehead (2006) described job design as the process in which organizations define and structure positions. In other words, this researcher interpreted job design to be the integration of a job into an organizational structure as defined by a specific job description. Proper planning and care must be taken when integrating a job into an organization. Griffin and Moorehead (2006) explained that “properly designed jobs can have a positive impact on the motivation, performance, and job satisfaction. Moreover, poorly designed jobs could adversely impact employee motivation, performance, and job satisfaction” (p. 122).

As noted earlier and indicated by high attrition rates, the changing demands and work responsibilities of the chief academic officer position presented a problem for those who sought the position. Therefore, it is important for individuals who aspire to become a

chief academic officer to have a clear understanding of the knowledge and skill-sets required to perform effectively the essential functions of the position.

### *Statement of the Problem*

The problem that framed this study was that there is a high frequency of turnover for the chief academic officer position in institutions of higher learning which in turn causes multiple negative effects on colleges and universities.

### *Purpose of the Study*

The purpose of this study was to develop a contemporary model of prioritized knowledge and skill-sets recommended for the chief academic officer of a two-year college.

### *Research Questions*

The following research questions will guide this study.

1. Which of the American Council on Education (ACE) reported challenges are of the highest priority as perceived by the participants in this Delphi study?
2. Are there other areas of challenge not reported in the ACE listing important to the chief academic officer of a two-year college?
3. Is there a significant difference between the type of two-year institution and the importance and kinds of challenges faced by the chief academic officer?
4. What does a prioritized contemporary conceptual model of knowledge and skill-sets for two-year college chief academic officers contain?

### *Significance of the Study*

The significance of this research was to provide informed insight upon which individuals who seek to become CAOs can more accurately assess their knowledge and skill-sets to meet the demands of today's CAOs. In addition, persons charged with the

recruitment and hiring of the CAO position will have a stronger basis to develop job descriptions. Little information exists in the literature that described the chief academic officer position or the knowledge and skill-sets needed to perform the job. Only recently, had there been published research that began to describe the contemporary knowledge and skill-sets two-year college CAOs need (Eckel et al., 2009). Furthermore, the lack of research targeting the two-year college CAO is substantial.

Individuals that aspire to become a CAO and institutions of higher education need to understand the knowledge and skill-sets required to perform the duties associated with the position. As such, the development of a contemporary model of prioritized knowledge and skill-sets for a CAO may benefit higher education administrators at the two-year college level. For example, individuals aspiring to become CAOs may use the model to guide their educational and professional development, ensuring a greater understanding of the position. In addition, administrators may reference the model when hiring for the position.

### *Definitions*

The following definitions will apply to this study:

*Chief Academic Officer* – one who is charged with the leadership and administration of the academic and instructional programs of a college and/or university.

*Community College* – a two-year college that awards the Associate of Arts (AA) and Associate of Science (AS) degrees.

*Community and Technical College* – a two-year college that awards the Associate of Arts (AA), Associate of Science (AS), and Associate of Applied Science (AAS) degrees.

*Human Resource Management* - a comprehensive set of managerial activities and tasks concerned with developing and maintaining a qualified workforce in ways that contribute to organizational effectiveness” (DeNisi & Griffin 2005, p. 6).

*Job Analysis* - a detailed study of the requirements necessary to complete a job, taking into consideration chiefly the order of operation, material and machinery needed, and the necessary qualifications of workers (Job Analysis, n.d., 2011).

*Job Description* - an abstract of a job analysis containing the classification of and requirements for a job, used in hiring and placing prospective employees (Job Description, n.d., 2011).

*Job Design* - the process in which organizations define and structure positions (Griffin & Moorehead 2006).

*Southern Association of Colleges and Schools (SACS)* - the regional body for the accreditation of degree-granting higher education institutions in the Southern states (Southern Association of Colleges and Schools, 2011).

*Technical College* – a two-year college that awards the Associate of Applied Science (AAS) degree.

## Chapter II

### REVIEW OF LITERATURE

The purpose of this study was to develop a contemporary model of prioritized knowledge and skill-sets recommended for the chief academic officer (CAO) of a two-year college. The origin and job functions of the chief academic officer were explored. Background information pertaining to the Delphi research method was reviewed. The literature review is divided into the following sections: (a) Early Research, (b) Contemporary Research, (c) Delphi Study Technique, (e) Delphi Strengths, (d) Delphi Weaknesses, and (f) Delphi Panel.

#### *Early Research*

Inconsistent evidence details when the first CAO was appointed in the United States. McGrath (1936) noted the first CAO was appointed in 1816 to lead the Harvard Medical School. According to Dupont (1968), the first CAO in the academy was Mr. E. W. Gurney of Harvard University. Appointed to the newly created position of Dean of the College Faculty by President Eliot in 1870, Gurney's sole purpose was to aid the president in the day-to-day operations of the university. More specific, Gurney was charged with the following:

- Lead faculty meetings in the absence of the president;
- Administer the discipline of the College;
- Take charge of all petitions from undergraduates to the faculty;
- Keep records of admission and matriculation;

- Furnish lists of students as may be required by the faculty;
- Prepare all scales of scholarship;
- Preserve records and conducting attendance;
- Submit each year to the faculty lists of prospective students to be recommended for scholarships and beneficiary aid;
- Provide a list of those who appeared, from the returns made to his office, to have complied with all the regular conditions for the degree of Bachelor of Arts; and
- Superintend the clerical and administrative business of the College (Dupont, 1968, p. 7).

Reeves and Russell (1929) detailed the functions of the CAO as being:

- Direct the educational activities of the College;
- Serve as chief advisor to the president in matters pertaining to the policies of the College;
- Formulate policies and present them to the faculty and president for consideration;
- Direct the attention of the faculty to changing educational thought and practice, with particular reference to present trends;
- Transmit to the president budget recommendations;
- Make reports related to the work of the College;
- Supervise curricula, courses, and methods of instruction;
- Supervise progress and academic welfare of students;
- Assign classification and assignment of students to classes;

- Keep in touch with the disciplinary problems of the College;
- Serve as a member of the administrative council;
- Represent the college at meetings of educational associations; and
- Cooperate with the departments concerned in nominating teaching staff (pp. 73-74).

Clyde A. Milner (1936) studied the position and described the job functions as:

- Interview students on all academic matters;
- Advise failing students;
- Correspond with parents on all matters of student welfare;
- Give counsel on all academic problems;
- Grant permission for changes of courses of study;
- Supervise the college curriculum;
- Excuse class absences;
- Grant permission for extra hours;
- Supervise all discipline;
- Interview applicants for admission;
- Give general advice on all college policies;
- Help estimate the teaching ability of faculty members;
- Make annual reports upon the academic work of the College;
- Estimate the constructive influence of the Faculty;
- Recommend all changes in curriculum;
- Improve instruction;
- Determine entrance requirements for transfer students;

- Give social guidance to freshman; and
- Coordinate and improve the grading system (pp. 96-97).

John W. Gould (1964) researched the CAO position in the 1960s and discovered the primary duties were:

- Faculty relations and morale;
- Recruitment of faculty;
- Curriculum work;
- Budget, promotions, and personnel evaluation;
- Committee work;
- Routine administration; and
- Student Counseling.

Similar studies were conducted by Higgins (1947) and Finnegan (1951) which did not add to the list responsibilities of a CAO separately reported by Reeves and Russell (1929), Milner (1936), and Dupont (1968).

The duties of the CAO described by Reeves and Russell (1929), Milner (1936), Gould (1964), and Dupont (1968) share common themes. Management of academic programming, record keeping, admissions, student discipline, and personnel were significant responsibilities of the chief academic officer in the early years of the position. As the position evolved, the chief academic officer advanced from record keeper to administrator of the college. Reeves and Russell (1929) observed the chief academic officer moving in the direction of campus administrator and primary advisor to the president with attention to personnel, budget, and college policy development. Milner (1936) presented the CAO as the person responsible for all aspects of academic

programming, including scholarship, faculty relations, evaluation, and curricula. Gould (1964) and Dupont (1968) explained the CAO as the individual responsible for academics and administration of the college. It is evident from the early literature that the duties and responsibilities of the CAO were constantly changing and, for the most part, expanding.

### *Contemporary Research*

*Walker Study:* The purpose was to “determine how a select group of community college chief academic officers perceive their roles” (Walker, 1974, p. 1). Walker (1974) sought to discover the perception of roles within the following categories:

- Administrative Duties;
- Student Service Responsibilities;
- Curriculum and Instructional Leadership;
- Evaluation Responsibilities;
- School-Community Responsibilities; and
- Faculty Responsibilities.

With respect to Administrative Duties, Walker (1974) discovered that faculty relations and morale, curriculum planning, evaluation of personnel, and routine administrative duties were major responsibilities of the CAO. Moreover, routine administrative duties required the majority of the CAO’s time. Responsibilities pertaining to Student Services were found not to be a major function of the CAO. In fact, Walker (1974) indicated management of student services to be the responsibility of another administrator.

Curriculum and Instructional Leadership were discovered to be a major responsibility for the CAO. Walker (1974) determined that involving faculty members in

curriculum planning, faculty training programs, and leading the curriculum and instruction committee as significant duties within to this category.

The assignment of Evaluation fell to the responsibility of the CAO as it pertained to faculty and academic support staff. However, Walker (1974) reported 77% of respondents stated evaluation was a joint effort between chief academic officers, deans, division chairmen, and instructors.

School-Community Responsibilities were an important role of the CAO. The respondents reported that CAOs should be involved in civic organizations, act as keynote speakers, and urge faculty to serve as consultants within the community (Walker, 1974).

Faculty Responsibilities were a major function. Seventy-one percent of the respondents indicated that “working to attain high morale among the faculty” was the most important responsibility of the CAO within this category (Walker, 1974, p. 121).

*Ugwu Study:* The aim was to “determine the similarities and differences in the roles and functions of the chief academic officers of vocational-technical programs in selected public community colleges with that of the chief academic officers of public technical institutes or technical colleges” (Ugwu, 1985, p. 4).

Ugwu concluded that technical college CAOs were much more broadly involved in the total administrative routine of their institution with a wider range of responsibilities than their community college counterparts. In addition, Ugwu (1985) discovered that technical college CAOs found the following roles to be more important than their community college counterparts:

- Recommendation of the faculty to the president for promotion and tenure;
- Initiation and maintenance of faculty development programs;

- Suggestion of improved methods of instruction; and
- Appointment and certification of department chairperson (p. 159).

While Ugwu (1985) found these roles to be more essential to technical college CAOs, it was not stated where these roles ranked in terms of importance relative to community college CAOs. Ugwu (1985) did note that community college CAOs devoted a significant amount of time to reviewing curricula, organizational structure, and staff development; functions parallel to the roles deemed most important to the technical college CAOs.

*American Council on Education Study:* In 2009, The American Council on Education published a study that solicited CAOs to describe the nature of their position (Eckel, Cook, & King, 2009). The results of the study indicated that promoting academic quality, setting academic vision of institution, ensuring student success, leading change, and fostering innovation were top priorities for the two-year college CAO (Eckel et al., 2009). In addition, Eckel et al. (2009) found reviewing curriculum and academic programs, supervising; and managing personnel, accounting, accreditation, assessment, and strategic planning to be the most time consuming duties for CAOs that served a two-year institution.

Early research showed the CAO advancing from record keeper to administrator of the college. Reeves and Russell (1929) reported the chief academic officer moving in the direction of campus administrator and primary advisor to the president on matters of personnel, budget, and college policy. Milner (1936) portrayed the CAO as the person responsible for all aspects of academic programming, including scholarship, faculty relations, evaluation, and curricula. Gould (1964) promoted the chief academic officer as the individual responsible for academics and administration of the college.

Contemporary research described the CAO as a campus administrator rather than an academician, as detailed by Walker (1974) and Ugwu (1985). However, curriculum management remained a significant responsibility.

### *Delphi Study Technique*

The Delphi was developed by Olaf Helmer and Norman Dalkey while they were employed by the Rand Corporation. From its development in the 1950s for the purpose of estimating the effects of a massive atomic bomb attack during the beginning of the Cold War, use of the Delphi has mushroomed in the United States and abroad. When little to no information is available on a subject of interest (Hasson, Keeney, & McKenna, 2000), the Delphi is an appropriate technique for gathering information, opinions, and ideas from a panel of experts using a specific sequence designed to transform opinion into consensus (Rushford, 2008). The emphasis of a Delphi study is on “expert” participants, not on representatives (Beech, 2001; Hasson et al., 2000). Furthermore, according to Turoff and Hiltz in 1995, “The essence of the Delphi is a communications structure aimed at producing detailed critical examination and discussion” (as cited in Adler & Ziglio, 1995, p. 57).

### *Delphi Strengths*

The Delphi has strengths which make it advantageous for use as a research method. The Delphi is flexible in that it can be applied across many disciplines (Williams & Webb, 1994). Furthermore, Linstone and Turoff specified there were a surprising variety of application areas. Among those developed were:

- Gathering current and historical data not accurately known or available;
- Examining the significance of historical events;
- Evaluating possible budget allocations;

- Exploring urban and regional planning options;
- Planning university campus and curriculum development;
- Putting together the structure of a model;
- Delineating the pros and cons associated with potential policy options;
- Developing causal relationships in complex economic or social phenomena;
- Distinguishing and clarifying real and perceived human motivations; and
- Exposing priorities of personal values and social goals (1975, p. 4).

The flexibility of the Delphi addresses both time constraints and location of individuals. These characteristics allow individuals, who may be restricted by daily schedules and geographic location, the opportunity to respond at a time available to them (Yousof, 2007).

The Delphi is straight forward. When viewed as a survey method approach to research, advanced mathematical skills are not necessary for design, implementation, and analysis of the research project (Yousof, 2007).

Since the source of a given questionnaire was not disclosed, one of the Delphi's strengths was anonymity (Dalkey, 1967). Yousof (2007) also viewed this claim by stating the Delphi provided confidentiality, doing away with barriers of communication that were often incurred during face-to-face interaction. Anonymity also supports the consensus of expert opinion without the influence of group dynamics. Wilhelm (2001) asserted that problems with face-to-face meetings included potential domination of the meeting by one or more members, erroneously following a single train of thought, group pressure to conform, and the burdens of superfluous information. Therefore, Williams and Webb (1994) explained that the Delphi encourages honest opinion uninhibited by

group pressure. In support, because of successive rounds, each panel member can retract, alter, or add to his or her views with the benefit of contemplation, therefore avoiding groupthink (Williams & Webb, 1994; Yousof, 2007).

Because survey panel members are deemed experts, and a consensus is reached at the conclusion of the survey rounds, the Delphi is considered to be a valid research technique (Williams & Webb, 1994).

### *Delphi Weaknesses*

The Delphi is not without limitations. Yousof (2007) expressed that the consensus reached in a Delphi may not be true and could be a specious compromise that leads the researcher to invoke bias to reach the desired consensus. Linstone and Turoff (1975) suggested there were five common reasons for a Delphi to fail:

1. Imposing monitor views and preconceptions of a problem upon a respondent group by over specifying the structure of the Delphi and not allowing for contribution of other perspectives related to the problem;
2. Assuming the Delphi can be a surrogate for all other human communications in a given situation;
3. Summarizing and presenting poorly the group response and ensuring common interpretations of the evaluation scales utilized in the exercise;
4. Ignoring and not exploring disagreement to discourage participant drop out and artificial consensus; and
5. Understanding the demanding nature of a Delphi and the fact that the respondents should be recognized as consultants and properly compensated for their time if the Delphi is not an integral part of their job function (p. 6).

Barnes (1987) stated other reasons for failure were not fully understanding the time commitment to complete the process, the need for excellent written communication skills, and the view that the Delphi was a total problem solving research method.

### *Delphi Panel*

The size of the panel is also viewed as important. According to Williams and Webb (1994), there was no agreement regarding the size of the survey panel membership, nor any recommendations concerning sampling techniques. Moreover, there was a shortage of research explaining the criteria on which survey panel membership was selected. The Delphi Method literature explained the idea that members of survey panels were experts. However, the question remained: who was deemed an expert? Goodman, as stated in Williams and Webb (1994), argued the question of how an expert was defined was largely unresolved and open to interpretation.

### *Chapter Summary*

Chapter 2 has reviewed historical and contemporary research that focused on the position of CAO and the knowledge and skill items needed to perform the job. In addition, the chapter provided a review of the Delphi research method. It is important to stress that there was a lack of information that described the knowledge and skill items needed for the CAO position. In addition, there was little research targeting CAOs that served two-year colleges.

## Chapter III

### RESEARCH METHODOLOGY

The purpose of this study was to develop a contemporary model of prioritized knowledge and skill-sets recommended for the chief academic officer (CAO) of two-year colleges. The Delphi Method of conducting research was used to identify prioritized knowledge and skill items through consensus of expert opinion. The primary reasons for selecting the Delphi were: (a) excellence for developing structural models; (b) promotion of anonymity and honest opinion; (c) flexible response time; (d) no requirement for face-to-face interaction; and (e) no necessity for advanced mathematical analysis.

#### *Description of the Population*

The population for this study were chief academic officers (n = 270) who served Level I institutions accredited by the Commission on Colleges Southern Association of Colleges and Schools (SACS). An institution is deemed Level I when the highest degree awarded is the associate degree (Southern Association of Colleges and Schools, 2011). SACS accredits colleges and universities in the states of Alabama, Florida, Georgia, Kentucky, Louisiana, Mississippi, North Carolina, South Carolina, Tennessee, Texas, and Virginia.

#### *Delphi Participant Selection and Solicitation*

Participants for this study were drawn from a population of 270 chief academic officers. The criteria used to qualify as participants were as follows:

1. Holds the position of the chief academic officer of a SACS Level I institution;  
and
2. At least five years as a chief academic officer within the past eight  
consecutive years.

Eckel et al. (2009) reported CAOs serving in the position five or more years was 53%. Based on this percentage, 143 of 270 chief academic officers from which to draw would have potentially qualified to participate in the study.

The solicitation of participants began with a solicitation letter (Appendix B) sent via e-mail to each chief academic officer in the SACS accredited Level I institution region. The letter introduced the researcher, the reason for correspondence supported by purpose of the research, and the research problem. The letter briefly described the four-round Delphi study with each round of data collection using an e-survey, and the criteria used to select participants. In addition, the researcher communicated that the ultimate findings of the study would be shared should they choose to participate. Each chief academic officer was asked to reply to the e-mail indicating their willingness to serve as a volunteer participant and self-report that they met the criteria to be eligible for the study. Their “yes” reply served as consent to participate in the study.

Based on the “yes” responses, the Delphi panel of participants was identified. After the panel was identified, the researcher alerted the participants via e-mail and followed the prescribed guidelines for conducting the Delphi Study outlined in this chapter.

### *Instrumentation*

To aid in the development of the Delphi E-Survey instrument, this researcher worked closely with his dissertation committee members and developed the initial

question for Round One to be pilot tested. The instrument was composed of two sections. The first section was the demographic data regarding type and location of institution followed by the second section which was the listing of knowledge and skill items based on Eckel et al. (2009). The pilot test was conducted with five persons not part of the study who were sitting CAOs or once held the position. The purpose of the pilot test was to discern whether the initial question met the stated purpose of the study, and to receive feedback regarding the wording and clarity of the initial question. The results of the pilot test were met with Institutional Review Board's (IRB) approval (See Appendix A).

### *Pilot Study*

The Pilot Study Panel was Dr. David Seyle, Dr. Jay Simmons, Dr. Joan Darden, Dr. David Garrison, and Mr. Joe Dan Banker. Dr. Seyle was President of Andrew College, a private two-year liberal arts college located in Cuthbert, GA. Dr. Seyle served Andrew College as CAO from 1995 to 2006. Dr. Jay Simmons was President of Iowa Wesleyan College, a private four-year liberal arts college located in Mt. Pleasant, IA. Prior to Iowa Wesleyan, Dr. Simmons served LaGrange College, LaGrange, GA., a private, four-year liberal arts college, as CAO from 1997 to 2008. Dr. Joan Darden was a Professor of Nursing at Thomas University, a private four-year comprehensive college located in Thomasville, GA. Prior to Thomas University, Dr. Darden served Darton College, a two-year community college located in Albany, GA., as CAO from 2002 to 2009. Dr. David Garrison had been LaGrange College's, LaGrange, GA CAO since 2009. Mr. Joe Dan Banker was Executive Director for Academic Affairs for the Technical College System of Georgia. Prior to this appointment, Mr. Banker served

Albany Technical College, Albany, GA., a two-year, comprehensive technical college, as CAO from 2005 to 2010.

The participants were asked to review the Participation Solicitation Letter (See Appendix B) and the Round One letter (See Appendix C) and survey instrument. Reviews of the Participation Solicitation Letter (See Appendix B) were positive. Each participant shared that the letter was clear and concise, well written, to the point, and adequately addressed the focus of the study. Two of the five participants offered comments to strengthen the letter. The suggestions were:

1. “I wonder if it would be rhetorically wise to note in the first paragraph, that in addition to being a doctoral degree candidate, you are a sitting CAO of a 2-year institution. I think it would encourage folks to participate...”
2. “You say the Delphi Method will be used, but do not directly describe it. The statement of approval, while probably necessary, does not fit in the paragraph where you place it.”

Review of the Round One letter (See Appendix C) and survey was also positive. Again, each participant shared that the letter was clear and concise, well written, to the point, and adequately addressed the focus of the study. One of the five participants noted, however, that regarding their impression of the survey: “It is easy to miss answering a question or two, and the survey does not indicate which are missed. It was difficult to review the survey.”

Based on the results of the pilot study, the following changes were made:

1. The first sentence of paragraph one in the Participation Solicitation Letter (See Appendix B) was amended to read, “I am a doctoral student at Valdosta State University and the Chief Academic Officer (CAO) of Andrew College.”

2. The sentence, “The Delphi Method is a research method designed to build consensus around a central theme through expert opinion” was added to paragraph two of the Participation Solicitation Letter (See Appendix B) in an effort to describe the Delphi Method.
3. Directions “Answer each question as it pertains to your position as a Chief Academic Officer. Each question requires an answer.” were added to the demographic data collection section of Round One Survey.
4. An introductory statement and directions were added to the CAO Challenges section of Round One Survey. Each read as follows: “Below are 48 challenges of a Chief Academic Officer (CAO) found in the American Council on Education report: ‘The CAO Census: A National Profile of Chief Academic Officers.’ Directions: Determine the frequency of occurrence of each challenge in relation to your position and institution using the frequency scale provided. Each challenge requires an answer. If you inadvertently skip a challenge, you will be alerted after pressing the ‘Done’ button.”

#### *Data Gathering Procedure and Analysis*

The method of gathering data was based upon the use of an E-Delphi Method system. An E-Delphi Method system uses the World Wide Web to communicate with and deliver each round of questionnaires to the participants (Chou, 2002). Using the Web to execute the Delphi study was advantageous to the researcher. Chou (2002) stated that the E-Delphi Method of gathering data was less labor-intensive, not reliant on paper, retained the essence of a traditional Delphi Method study, and sped up the process. Another advantage of using the E-Delphi Method approach was the use of e-survey software.

For an E-Delphi Method study to be successful, Chou (2002) explained that six basic requirements were needed. They were:

1. Provide a friendly interface that allows the project leader to develop and send questionnaires to panel members;
2. Provide a friendly interface that allows panel members to input data;
3. Perform calculation on panel members' input entries;
4. Prepare individual questionnaires with multimedia presentation;
5. Help the researcher determine the stability of each item of the questionnaire;  
and
6. Allow the project leader to monitor the execution of the study and to communicate with panel members easily (p. 234).

To gather the data, a web-based platform called *SurveyMonkey* was used to host and deliver the Delphi study survey. This researcher constructed the e-surveys in consultation with dissertation committee members.

Hasson, Keeney, and McKenna (2000) explained that there were three rounds to the Delphi process, and at the completion of the third round, a level of consensus should be provided for. The three round approach was most common. However, when a greater emphasis for consensus was detected, a fourth round was permitted. Hauck, Kelly, and Fenwick (2007) described a four-stage process to guide the Delphi:

1. Develop the initial questions;
2. Transcribe individual responses;
3. Respond over successive rounds; and
4. Understand the meaning of consensus.

Based on this approach and its emphasis on consensus, four Delphi rounds were organized for this study. Rounds One, Two, and Three were dedicated to data collection, and Round Four was devoted to validation and consensus by the participants.

Each Delphi round consisted of three letters sent via e-mail to each participant. The first letter provided clear and concise instructions and that round's corresponding *SurveyMonkey* survey hyperlink. Each participant was provided five days to complete and submit the survey. At the end of the fifth day, a second e-mail letter was sent asking the participants who had not yet responded to the first e-mail letter to do so within the next forty-eight hours. A third and final e-mail letter was sent at the end of the forty-eight hours asking the participants who still had not responded to do so within the next twenty-four hours. This communication process took place for each Delphi round of this study.

A total of three letters were used to communicate with the participants during each round. Round One letters appear as Appendix C, D, and E. Round Two letters appear as Appendix F, G, and H. Round Three letters appear as Appendix I, J, and K, and Round Four letters appear as Appendix L, M, and N.

Delphi Round One was a validation of the CAO knowledge and skill (challenge) list as cited by Eckel et al. (2009) by each participant. The list did not distinguish institution type by CAO. Therefore, a preliminary evaluation by the participants validated the list as it related to the CAO of a two-year college and supported the aim of this research project.

The first letter of Round One (See Appendix C) containing a *SurveyMonkey* hyperlink directing participants to the knowledge and skill list embedded in a frequency scale was sent to each participant. The participants reviewed the list and used the

frequency scale to determine the frequency of occurrence of each knowledge and skill item in relation to their position and institution. The frequency scale used four descriptors: Always, Frequently, Sometimes, and Never. Each descriptor had a corresponding numerical value beginning with three descending to zero. The numerical values assigned to each descriptor were used to calculate the mean score of each knowledge and skill. Participants were also asked to list any knowledge and skills not represented in the list they felt were worthy of consideration. Round One collection of raw data took place daily and was entered into an excel spreadsheet for analysis at the end of the round.

At the conclusion of Round One, the results were analyzed and the mean score of each knowledge and skill item was calculated using the numerical values assigned to each descriptor. A spreadsheet was developed listing each knowledge and skill in descending order by its mean score. The knowledge and skill items with a mean score of at least 2.0 were identified as those most likely needed by a CAO serving a two-year college. Also, the summation of categories Always and Frequently equal to at least the majority of the respondents were identified as most likely needed by a CAO of a two-year college. Additional knowledge and skill items shared by the participants were included as part of the list.

Delphi Round Two launched with this researcher analyzing the Round One data. Using only the challenges identified as having at least a mean score of 2.0 and the additional challenges listed in Round One, a Rating Scale of Importance (RSI) for each challenge was created. The RSI used numbers 1 through 10, with 1 representing the lowest rating and 10 representing the highest.

The rating scale of importance was replicated using *SurveyMonkey* and a corresponding hyperlink was created. The first Round Two letter (See Appendix F) was sent to the participants asking them to rate each challenge using the rating scale found in the corresponding *SurveyMonkey* hyperlink. The raw data was collected daily and entered into an excel spreadsheet for analysis. At the conclusion of Round Two, this researcher calculated the mean of each item in the RSI. Using the mean scores, a master rating list that illustrated the mean rating score from highest to lowest was created. The knowledge and skill items that had a mean rating of at least a 7.0 were filtered to Round Three.

In addition, comparative analysis was used to determine if a correlation existed between each knowledge and skill item and each type of institution. A chi-square test is used to investigate whether distributions of categorical variables differ from one another (Eck & Ryan, 2011). Therefore, a chi-square test was used to determine if there was a relationship between the type of two-year institution and the importance of the kinds of knowledge and skill items faced by its CAO. The chi-square test was only used in Round Two and Round Three comparative data analysis.

To launch Delphi Round Three, the first letter (See Appendix H) was sent to each participant with a corresponding *SurveyMonkey* link to the survey instrument. The survey instrument listed the items having a mean rating of at least a 7.0 from highest to lowest. Each participant was asked to rank each item by level of importance with 1 being most important, 2 being the second most important and so on until the entire list was ranked. Analysis of the rankings took place using summation, simple addition of each rank specific to each item. At the conclusion of the summation analysis, each item with the lowest total ranking was identified as most important. From this analysis the initial

“Model of Prioritized of Knowledge and Skill-Sets for a Chief Academic Officer of a Two-Year College” was created. The initial model is presented in Chapter 4.

The first Round Four letter (See Appendix L) and the initial model were sent to each participant asking them to provide suggestions and recommendations for validation and consensus of the model. The responses were collected and content analysis was used for analysis. As a result of the content analysis, the final “Model of Prioritized Knowledge and Skill-Sets for a Chief Academic Officer of a Two-year College” was developed. The final model is presented in Chapter 5.

#### *Reporting the Findings*

Report of the findings for each round was displayed in Tables 2 through 22 and Figures 1 and 2. An explanation of each table and figure was provided to interpret the findings.

#### *Chapter Summary*

The Delphi Method proved to be an excellent research technique for generating consensus of expert opinion for the development of structural models. With little research detailing the knowledge and skill-sets needed for the CAO of a two-year college, the Delphi Method was selected to develop a model of prioritized knowledge and skill-sets for a CAO of a two-year college.

## Chapter IV

### RESULTS

The purpose of the four round Delphi Method study was to develop a “Model of Prioritized Knowledge and Skill-Sets for the Chief Academic Officer of a Two-Year College.” Quantitative and qualitative research methods were used to conduct and analyze the study. The following research questions guided the study:

1. Which of the American Council on Education (ACE) reported challenges are of the highest priority as perceived by the participants in this Delphi study?
2. Are there other areas of challenge not reported in the ACE listing important to the chief academic officer (CAO) of a two-year college?
3. Is there a significant difference between the type of two-year institution and the importance and kinds of challenges faced by the chief academic officer?
4. What does a prioritized contemporary conceptual model of knowledge and skill-sets for two-year college CAOs contain?

#### *Panel of Experts*

Prospective participants for this study were CAOs (n = 270) who served Level I institutions accredited by the Commission on College’s Southern Association of Colleges and Schools (SACS). An institution is deemed Level I when the highest degree it awards is the Associate Degree (Southern Association of Colleges and Schools, 2011). SACS accredits colleges and universities in the states of Alabama, Florida, Georgia, Kentucky, Louisiana, Mississippi, North Carolina, South Carolina, Tennessee, Texas, and Virginia.

A participation solicitation letter was sent via e-mail to the 270 prospective participants on Wednesday, December 28, 2011, with follow-up letters sent January 3 and January 5, 2012. One-hundred and six prospective participants accepted the invitation (39% response rate). Fifty-four of the 106 (51%) met the criteria to serve as a participant.

*Findings of Round One*

The primary purpose of Round One was to ask the participants to rate the knowledge and skill items (challenges) identified by Eckel et al. (2009) by frequency of occurrence in fulfilling the responsibilities of their position. Another purpose was to solicit other areas of knowledge and skills not represented in the original list and collect demographic data by type of institution. The directives posed were “Rate the frequency of each challenge as it relates to your position and institution” and “Are there challenges not represented in the CAO Challenge List you feel are worth consideration? If yes, please list in the space provided.”

Round One data collection began January 5, 2012, with a letter sent via e-mail to the 54 participants. Follow-up letters were e-mailed January 11 and January 13, 2012.

Fifty (93% response rate) of the 54 participants completed Round One. The results of Round One relating to type of institution are illustrated in Table 2.

Table 2

*Round One Responses by Type of Institution*

Type of Institution	Response Rate (Percent)	Response Count
Community College	22.0	11
Technical College	4.0	2
Community and Technical College	74.0	37

The results showed that almost three quarters of the participants came from institutions that award the Associate of Arts, Associate of Science, and Associate of Applied Science degrees. Almost a quarter of the participants came from institutions that award only the Associate of Arts and Associate of Science degrees. Only a small number of participants served institutions that offer the Associate of Applied Science degree.

The results of Round One relating to the eleven states within the SACS region are illustrated in Table 3.

Table 3

*Round One Responses by States*

States in the SACS Region	Response Rate (Percent)	Response Count
Alabama	6.0	3
Florida	4.0	2
Georgia	6.0	3
Kentucky	12.0	6
Louisiana	2.0	1
Mississippi	6.0	3
North Carolina	20.0	10
South Carolina	12.0	6
Tennessee	6.0	3
Texas	22.0	11
Virginia	4.0	2

The results showed that each state in the SACS region was represented, with two-thirds of the participants from Texas, North Carolina, Kentucky, and South Carolina.

The largest number of participants came from Texas and North Carolina.

### *Results of Frequency Ratings*

The frequency of occurrence scale categories used in Round One were Always (3), Frequently (2), Sometimes (1), and Never (0). The mean frequency ratings yielded from Round One ranged from 2.50 to .012 (See Appendix O). The primary selection criteria used to identify which knowledge and skill items would be included in Round Two was a frequency mean rating above 2.0. Application of the primary criterion yielded nine challenges illustrated in Table 4.

Table 4

#### *Round One Knowledge and Skill Items by Highest Average Mean Score*

Knowledge and Skills	Always	Frequently	Sometimes	Never	<i>M</i>	<i>SD</i>
Student retention	31	13	6	0	2.50	13.43
Assessment	26	20	2	2	2.40	12.37
Budget and planning	26	19	4	1	2.40	11.96
Student learning	22	20	8	0	2.28	10.38
Accreditation	26	11	11	2	2.22	9.95
Enrollment management	17	23	10	0	2.14	9.88
Strategic planning – implementing	16	24	8	2	2.08	9.57
Leading change	16	22	11	1	2.06	8.89
Online education	12	29	6	3	2.00	11.62

Note: 3 = Always; 2 = Frequently; 1 = Sometimes; 0 = Never

The secondary selection criteria used was a summation of at least 26 from combining the number of frequency ratings of survey categories Always and Frequently. Twenty-six was the majority of the participant panel. Therefore, any item that received a frequency rating score more than half of the participant panel from Round One was

included in Round Two. Application of the secondary selection criteria yielded an additional 21 knowledge and skill items illustrated in Table 5.

Table 5

*Round One Knowledge and Skill Items Meeting Secondary Selection Criteria*

Items of Knowledge and Skills	Always	Frequently	Sum
Strategic planning – developing	11	27	38
Curricular change	12	25	37
Faculty morale	13	21	34
Partnerships	12	22	34
Program review	14	20	34
Faculty development	12	21	33
Faculty hiring	8	25	33
Business practices	3	29	32
Changing faculty work expectations	10	21	31
Faculty growth	7	24	31
Faculty-administrator relations	11	20	31
New program development	8	23	31
Reallocating resources	15	16	31
Developing campus/faculty leaders	13	17	30
Diversity – student and faculty	7	23	30
Innovation (creating opportunities for...)	11	18	29
Managing growth	10	19	29
Pedagogy	9	20	29
Relationship with other vice presidents	14	14	28
Faculty rewards	10	16	26
Faculty workload issues	10	16	26

The items that received the highest sums were:

1. Strategic planning – developing (38);

2. Curricular change (37);
3. Faculty morale (34);
4. Partnerships (34); and
5. Program review (34).

Responses to the open-ended questions asking for other areas of knowledge and skills were reviewed (See Appendix P). A total of 20 responses were provided by the participants. Content analysis of the responses led to the development of the following categories:

- Balance demands of work/life,
- Human Resources,
- Funding Resources,
- Curriculum Articulation,
- Legal Issues,
- Assessment, and
- Student Affairs.

The categories were narrowed based upon items within a category being mentioned at least twice. For example, this researcher noted Assessment and Student Affairs were only mentioned once. In addition, Assessment and Student Affairs were items in the original challenge list (Eckel et al. (2009). Since they were only mentioned once by the respondents and part of the original challenge list (Eckel et al. (2009), these categories were removed from the list. The Human Resources category was renamed to Personnel Issues. This researcher felt Personnel Issues would resonate better with the respondents as opposed to Human Resources. The final open ended categories were:

- Balance demands of work/life,
- Funding issues,
- Internal communication,
- Legal/legislative mandate and issues, and
- Personnel issues.

These five knowledge and skills categories were added to the list of items with the highest means and the greatest sums to compose the list for Round Two. The final listing of knowledge and skills from Round One is shown in Table 6.

Table 6

*Round One Final List of Knowledge and Skill Items*

Knowledge / Skills	Always	Frequently	Rating Average	Sum	SD	Open Ended
Accreditation	26	11	2.22		9.95	
Assessment	26	20	2.40		12.37	
Balance demands of work/personal life						X
Budget and planning	26	19	2.40		11.96	
Business practices	3	29	1.66	32	12.71	
Changing faculty work expectations	10	21	1.80	31	8.96	
Curricular change	12	25	1.98	37	10.21	
Developing campus/faculty leaders	13	17	1.86	30	8.81	
Diversity – student and faculty	7	23	1.74	30	10.85	
Enrollment management	17	23	2.14		9.88	

Faculty development	12	21	1.88	33	8.50	
Faculty growth	7	24	1.72	31	9.88	
Faculty hiring	8	25	1.74	33	9.11	
Faculty morale	13	21	1.90	34	7.85	
Faculty rewards	10	16	1.64	26	7.00	
Faculty workload issues	10	16	1.72	26	10.12	
Faculty-administrator relations	11	20	1.78	31	7.33	
Funding Issues						X
Innovation (creating opportunities for...)	11	18	1.74	29	7.14	
Internal Communication						X
Leading change	16	22	2.06		8.89	
Legal/Legislative Mandates and Issues						X
Managing growth	10	19	1.76	29	8.89	
New program development	8	23	1.74	31	9.33	
Online education	12	29	2.00		11.62	
Partnerships	12	22	1.84	34	7.37	
Pedagogy	9	20	1.72	29	8.58	
Personnel Issues						X
Program review	14	20	1.92	34	7.55	
Reallocating resources	15	16	1.88	31	7.05	
Relationship with other vice presidents	14	14	1.70	28	3.70	
Strategic planning – developing	11	27	1.94	38	10.47	

Strategic planning – implementing	16	24	2.08	9.57
Student learning	22	20	2.28	10.38
Student retention	31	13	2.50	13.43

*Findings of Round Two*

The primary purpose of Round Two was to rate the items on a scale of importance. Another purpose was to collect demographic data by type of institution. The Rating Scale of Importance used numbers 1 through 10 with 1 representing the lowest rating of importance and 10 representing the highest rating of importance. The Round Two directive posed was, “With 1 representing the lowest and 10 being the highest, rate each item according to your position and institution.”

Round Two data collection began on January 16, 2012, with a letter sent via e-mail to the 50 participants who responded to Round One. Follow-up letters were e-mailed January 19 and January 23, 2012.

Forty-four (88% response rate) of the 50 participants completed Round Two. The results of Round Two relating to type of institution are illustrated in Table 7.

Table 7

*Round Two Responses by Type of Institution*

Type of Institution	Response Rate (Percent)	Response Count
Community College	22.7	10
Technical College	6.8	3
Community and Technical College	70.5	31

The results showed that more than two-thirds of the participants came from institutions that award the Associate of Arts, Associate of Science, and Associate of

Applied Science degrees. Almost a quarter of the participants came from institutions that award only the Associate of Arts and Associate of Science degrees. Only a small number of participants served institutions that offer the Associate of Applied Science degree. It is interesting to note the number of participants that selected Technical College increased by one from Round One. A definitive reason cannot be provided for the increase. This researcher speculates a participant from Round One selected another institution type by mistake only to choose the correct institution type in Round Two. Nonetheless, these numbers and proportions were consistent with Round One.

The results of Round Two related to the eleven states within the SACS region are illustrated in Table 8.

Table 8

*Round Two Responses by State*

States in the SACS Region	Response Rate (Percent)	Response Count
Alabama	4.5	2
Florida	4.5	2
Georgia	6.8	3
Kentucky	11.4	5
Louisiana	2.3	1
Mississippi	4.5	2
North Carolina	18.2	8
South Carolina	13.6	6
Tennessee	6.8	3
Texas	22.7	10
Virginia	4.5	2

The results show that each state in the SACS region is represented with two-thirds of the participants from Texas, North Carolina, South Carolina, and Kentucky. These proportions were consistent with Round One.

Round Two mean ratings ranged from 9.07 to 6.09 (See Appendix Q). The primary selection criteria used to select the items of knowledge and skill that would filter to Round Three were items that received an average mean rating of at least 7.0.

Application of the criteria yielded 24 items of knowledge and skill illustrated in Table 9.

Table 9

*Round Two Knowledge and Skill Item Mean Ratings*

Rating Scale	1	2	3	4	5	6	7	8	9	10	<i>M</i>	<i>SD</i>
Accreditation	1	0	0	0	1	0	3	5	7	26	9.07	8.00
Assessment	1	0	1	0	0	1	1	7	14	18	8.81	6.57
Student learning	2	0	0	0	0	1	3	5	12	20	8.77	6.65
Student retention	2	0	0	1	0	1	5	7	11	16	8.42	5.50
Funding Issues	2	0	1	1	2	2	2	9	8	16	8.12	5.10
Budget and planning	1	1	0	1	2	3	3	10	14	8	7.95	4.72
Online education	2	0	2	0	2	3	6	9	14	5	7.58	4.40
Personnel Issues	0	2	0	2	3	2	5	16	8	5	7.53	4.79
Faculty-administrator relations	0	1	2	1	1	5	8	11	8	6	7.51	3.83
Leading change	2	0	2	1	5	4	3	4	11	11	7.51	3.83
Legal/Legislative mandates and issues	0	2	0	1	6	4	5	9	6	10	7.51	3.56
Strategic planning – implementing	1	1	4	0	2	1	5	10	14	5	7.49	4.52
New program development	1	0	2	2	3	3	8	5	13	6	7.47	3.89
Faculty hiring	1	0	1	4	1	3	8	11	8	6	7.42	3.77
Reallocating resources	1	1	4	2	0	3	5	10	12	5	7.30	3.95
Faculty morale	1	1	1	1	1	7	7	11	11	2	7.28	4.27
Program review	1	0	1	1	6	4	4	13	11	2	7.28	4.47

Strategic planning – developing	1	1	4	0	2	2	6	13	10	4	7.28	4.24
Enrollment management	0	0	5	1	4	4	5	8	10	6	7.26	4.47
Faculty workload issues	1	1	1	1	3	5	6	14	9	2	7.21	4.35
Faculty development	2	0	2	1	1	7	10	7	10	3	7.09	3.83
Internal communication	1	0	3	2	5	3	10	4	9	6	7.07	3.27
Curricular change	1	0	3	2	3	4	10	8	8	4	7.05	3.30
Innovation (creating opportunities for...)	2	0	3	3	3	2	6	11	8	5	7.02	3.27

Note: 1 = lowest rating; 10 = highest rating

The items of knowledge and skills that received the highest mean rating were:

1. Accreditation (9.07);
2. Assessment (8.81);
3. Student learning (8.77);
4. Student retention (8.42);
5. Funding issues (8.12); and
6. Budget and planning (7.95).

It should be noted that “Funding issues,” “Internal communication,” “Legal/legislative mandate and issues,” and “Personnel issues” were four of the five categories created as a result of the open-ended questions from Round One that met the criteria for inclusion in Round Three. Also to be noted is that category “Funding Issues” received the fifth highest mean rating. Category “Balance demands of work/life” received the lowest mean rating of 6.09 and was not included.

#### *Findings of Round Three*

The primary purpose of Round Three was to rank the knowledge and skill items that met the criteria from Round Two and collect demographic data by type of institution. At the conclusion of Round Three data collection, the initial “Model of Prioritized

Knowledge and Skill-Sets” was developed. Using only the knowledge and skill items identified as having met the criteria from Round Two, a list was developed citing each knowledge and skill in order from highest mean to lowest mean. The directive posed for Round Three was to “Rank each item by level of importance according to your position and institution with 1 being most important, 2 being the second most important, 3 being third most important and so on until you have ranked the entire list.”

Round Three data collection began on January 24, 2012, with a letter sent via e-mail to the 44 participants who responded to Round Two. Follow-up letters were e-mailed January 30, 2012, and February 1, 2012.

Thirty-nine (87% response rate) of the 44 participants completed Round Three. The results of Round Three related to type of institution are illustrated in Table 10.

Table 10

*Round Three Responses by Type of Institution*

Type of Institution	Response Rate (Percent)	Response Count
Community College	17.9	7
Technical College	7.7	3
Community and Technical College	74.4	29

The results showed that almost three quarters of the participants came from institutions that award the Associate of Arts, Associate of Science, and Associate of Applied Science degrees. Less than one fifth of the participants came from institutions that award only the Associate of Arts and Associate of Science degrees. These percentages are consistent with Rounds One and Two. Only a small number of participants served institutions that award the Associate of Applied Science degree. It is important to note the number of participants that selected Technical College increased by

one from Round One. The researcher speculates the participant from Round One that selected another institution type by mistake only to choose the correct institution type in Round Two, did so again for Round Three.

The results of Round Three related to the eleven states within the SACS region are illustrated in Table 11.

Table 11

*Round Two Responses by State*

Type of Institution	Response Rate (Percent)	Response Count
Alabama	5.1	2
Florida	5.1	2
Georgia	7.7	3
Kentucky	12.8	5
Louisiana	2.6	1
Mississippi	2.6	1
North Carolina	15.4	6
South Carolina	15.4	6
Tennessee	7.7	3
Texas	20.5	8
Virginia	5.1	2

The results showed that each state in the SACS region was represented with two thirds of the participants coming from Texas, North Carolina, Kentucky, and South Carolina. Texas, North Carolina, and South Carolina had the highest number of respondents.

The results of the Round Three ranking summations ranged from 108 to 703. Round Three rankings are illustrated in Table 12.

Table 12

*Round Three Knowledge and Skill Item Ranking Results*

Items of Knowledge and Skills	Summation of Rankings
Student learning	108
Accreditation	186
Assessment	221
Student retention	227
Budget and planning	321
Funding Issues	335
Strategic planning – implementing	492
Faculty hiring	500
Leading change	506
Online education	518
Enrollment management	520
Legal/Legislative mandates and issues	531
Personnel Issues	549
Reallocating resources	552
Faculty development	562
Strategic planning – developing	563
Program review	579
Faculty morale	585
New program development	604
Curricular change	614
Internal communication	629
Faculty workload issues	645
Faculty-administrator relations	650
Innovation (creating opportunities for...)	703

Each participant was asked to rank each item by level of importance with 1 being most important, 2 being the second most important and so on until the entire list was ranked 1 - 24. The rankings for each individual knowledge and skill item were added together to reach the ranked summation. The lowest summation indicates the highest ranking. The following knowledge and skill items received the lowest ranked summations; therefore, they were ranked the highest by the participants.

1. Student Learning (108);
2. Accreditation (186);
3. Assessment (221);
4. Student Retention (227);
5. Budget and Planning (321); and
6. Funding Issues (335).

It should be noted the highest ranked knowledge and skill items from Round Three were the same knowledge and skill items that received the highest mean rating from Round Two. Also important, the category “Funding Issues” was created as a result of the open ended responses from Round One.

### *Content Analysis*

To develop the initial “Model of Prioritized Knowledge and Skill-Sets for the Chief Academic Officer of a Two-Year College,” the researcher first grouped the knowledge and skill items into seven groups. The knowledge and skill items were grouped together by numerical cluster of approximately 50 points between each other. The groups identified are illustrated in Table 13.

Table 13

*Round Three Knowledge and Skill Items by Numerical Cluster*

Group	Knowledge and Skill Items	Rank
One	Student learning	108
Two	Accreditation	186
	Assessment	221
Three	Student retention	227
	Budget and planning	321
	Funding Issues	335
Four	Strategic planning – implementing	492
	Faculty hiring	500
	Leading change	506
	Online education	518
	Enrollment management	520
	Legal/Legislative mandates and issues	531
	Personnel Issues	549
	Reallocating resources	552
Five	Faculty development	562
	Strategic planning – developing	563
	Program review	579
	Faculty morale	585
	New program development	604
Six	Curricular change	614
	Internal communication	629
	Faculty workload issues	645
	Faculty-administrator relations	650
Seven	Innovation (creating opportunities for...)	703

Second, the top ranked knowledge and skills as a result of Round Three were identified. The top six knowledge and skill items are illustrated in Table 14.

Table 14

*Round Three Highest Ranked Knowledge and Skill Items*

Highest Ranked Knowledge and Skill Items	Rank
Student learning	108
Accreditation	186
Assessment	221
Student retention	227
Budget and planning	321
Funding Issues	335

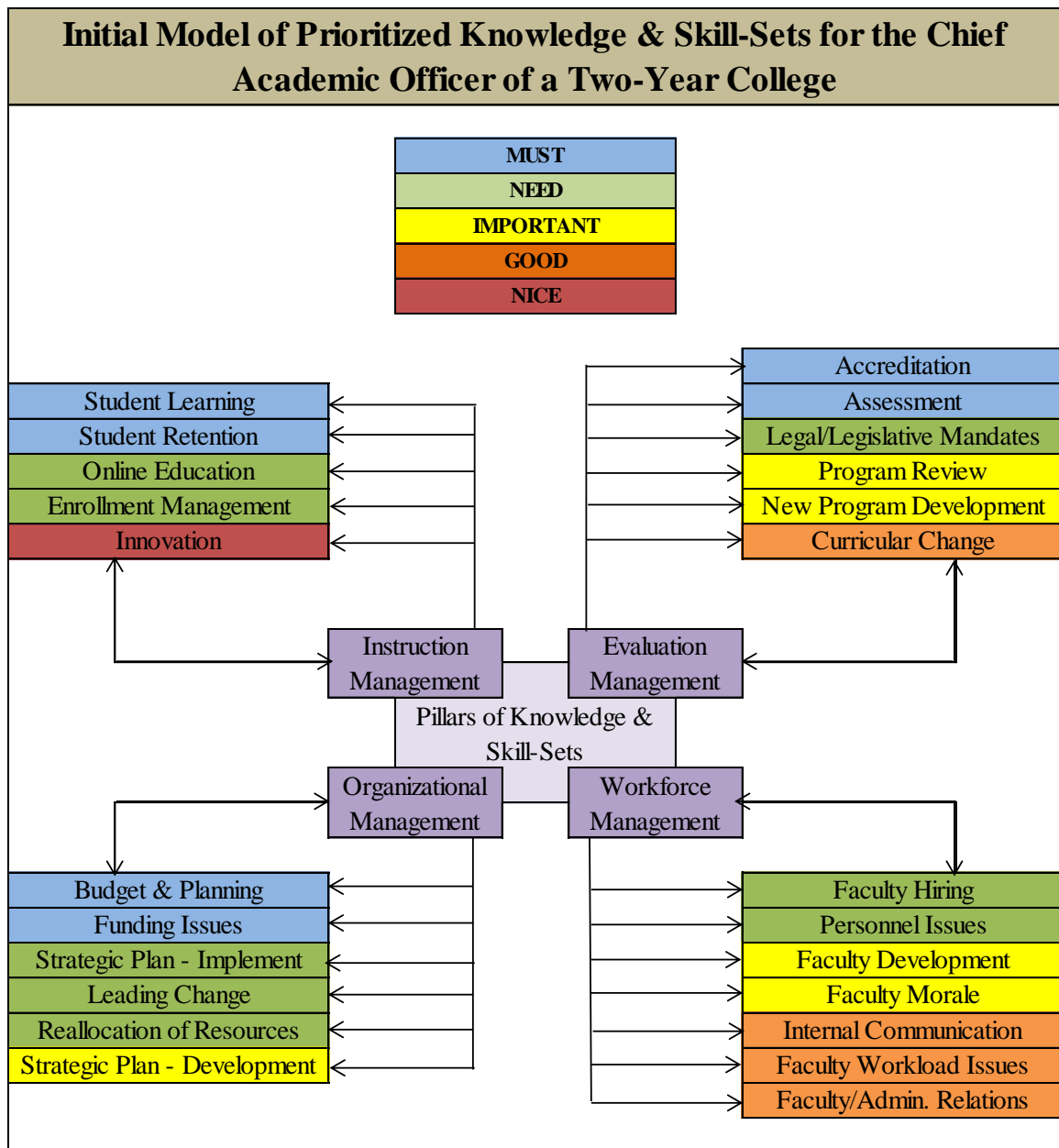
Third, the researcher compared Round Three rankings against Round One frequency ratings in an effort to identify challenges that were ranked high but had a low frequency rating. The analysis did not identify knowledge and skill items meeting the criteria. Round Three rankings were also compared against Round Two ratings to identify if any Round Three knowledge and skill items were ranked high but had a low rating. The analysis did not identify knowledge and skill items meeting the criteria.

Fourth, content analysis was used to categorize the knowledge and skills together under unifying themes that resulted in the four “Pillars of Knowledge & Skill-Sets.” The four pillars were:

- Instruction Management
- Evaluation Management
- Organizational Management
- Workforce Management

With the four pillars identified and each knowledge and skill grouped together under the pillars, the researcher was able to develop the initial model as illustrated by

Figure 1. To indicate priority, a color legend was created to present the knowledge and skills from highest to lowest based on the rankings. The color blue identifies the knowledge and skills a CAO “MUST” (highest priority) possess. Green identifies the knowledge and skills a CAO “NEEDS” (high priority) to possess. Yellow represents the knowledge and skills “IMPORTANT” (priority) for a CAO to possess. Orange indicates the knowledge and skills that are “GOOD” (low priority) for a CAO to know. And “NICE” (lowest priority), the red category represents the knowledge and skills with the lowest priority for a CAO. Even though the knowledge and skills are prioritized, all of the items included in the model have been regarded as essential for two-year college CAO.



*Figure 1:* The items in the four pillars are the items that filtered through Delphi Rounds One (frequency), Two (rating), and Three (ranking). As a result of the frequency, rating, and ranking process the initial Model of Prioritized Knowledge and Skill-Sets for the Chief Academic Officer of a Two-Year College was developed.

The model has the four “Pillars of Knowledge and Skill-Sets.” Underneath each pillar, the following sets of knowledge and skills were listed by priority. Under pillar Instruction Management, the prioritized knowledge and skills were:

- Student Learning (MUST);

- Student Retention (MUST);
- Online Education (NEED);
- Enrollment Management (NEED); and
- Innovation (NICE).

Under pillar Evaluation Management, the prioritized knowledge and skills were:

- Accreditation (MUST);
- Assessment (MUST);
- Legal/Legislative Mandates (NEED);
- Program Review (IMPORTANT);
- New Program Development (IMPORTANT); and
- Curricular Change (GOOD).

Under pillar Organizational Management, the prioritized knowledge and skills were:

- Budget & Planning (MUST);
- Funding Issues (MUST);
- Strategic Plan – Implement (NEED);
- Leading Change (NEED);
- Reallocation of Resources (NEED); and
- Strategic Plan – Development (IMPORTANT).

Under pillar Workforce Management, the prioritized knowledge and skills were:

- Faculty Hiring (NEED);
- Personnel Issues (NEED);
- Faculty Development (IMPORTANT);
- Faculty Morale (IMPORTANT);

- Internal Communication (GOOD);
- Faculty Workload Issues (GOOD); and
- Faculty/Admin Relations (GOOD).

#### *Findings of Round Four*

Based on the analysis of the data collected from Rounds One, Two, and Three of this Delphi study, the initial “Model of Prioritized Knowledge and Skill-Sets for a Chief Academic Officer of a Two-Year College” (Figure 1) was created. The primary purpose of Round Four was to ask the participants for suggestions and recommendations for validation and consensus of the initial “Model of Prioritized Knowledge and Skill-Sets for a Chief Academic Officer of a Two-Year College.” Another purpose of Round Four was to collect demographic data by type of institution.

Round Four data collection began February 16, 2012, with a letter and the initial “Model of Prioritized Knowledge and Skill-Sets for a Chief Academic Officer of a Two-Year College” (Figure 1) sent via e-mail to the 39 participants who responded to Round Three. Follow-up letters along with the model were e-mailed February 21 and February 22, 2012.

Thirty-seven (95% response rate) of the 39 respondents participated in Round Four. However, only 31 (84% response rate) of the 37 participants completed the entire Round Four survey. The results of Round Four related to type of institution are illustrated in Table 15.

Table 15

*Round Four Responses by Type of Institution*

Type of Institution	Response Rate (Percent)	Response Count
Community College	29.7	11
Technical College	8.1	3
Community and Technical College	62.2	23

The results show that almost two-thirds of the participants came from institutions that award the Associate of Arts, Associate of Science, and Associate of Applied Science degrees. Almost one third of the participants came from institutions that award only the Associate of Arts and Associate of Science degrees. Only a small number of participants served institutions that award the Associate of Applied Science degree. The vast majority of participants still indicated Community College and Community and Technical College as institution type. However, the percentage was less from previous rounds. It is noted the number of Technical College participants (n = 3) increased by one from Round One. Again, it is speculated a participant that filtered from Round One selected Technical College as institution type by mistake but chose the correct type in Rounds Two, Three, and Four.

The results of Round Four related to the eleven states within the SACS region are illustrated in Table 16.

Table 16

*Round Four Responses by States*

States in SACS Region	Response Rate (Percent)	Response Count
Alabama	5.4	2
Florida	5.4	2
Georgia	5.4	2
Kentucky	16.2	6
Louisiana	2.7	1
Mississippi	2.7	1
North Carolina	16.2	6
South Carolina	10.8	4
Tennessee	8.1	3
Texas	21.6	8
Virginia	5.4	2

The results showed that each state in the SACS region was represented with almost two-thirds of the participants coming from Texas, North Carolina, Kentucky, and South Carolina. Texas had the most participants. However, North Carolina and Kentucky participants outnumbered the South Carolina participants.

To achieve consensus and validation of the model (Figure 1), the participants were asked to respond to the following questions:

1. Comment on whether or not you agree with the categorization of the items within each of the “Pillars of Knowledge and Skill-Sets.” Please offer any changes in the categorization of items among the four “pillars.”
2. Comment on the strengths and shortcomings of the model.

3. Comment on whether or not you feel this model is a valid reflection of the results of the Delphi process.
4. Comment on whether or not this model accurately captures the most important knowledge and skill-sets a CAO of two-year institutions of higher learning needs to effectively perform the job.

*Round Four: Question One Results*

The majority of the participants stated they agreed with the categorizations of the items within each of the “Pillars of Knowledge and Skill-Sets” and did not suggest changes. Four respondents were extremely positive in their review, having shared the following:

- “I think the groupings accurately reflect the major responsibilities of the job. It actually reflects my job description and I imagine that of most CAOs.”
- “The categorizations certainly fall within the realm of skills that a CAO needs in today’s community college.”
- “I like the four clusters and rank orders within.”
- “As it turns out, the “Pillars of Knowledge and Skill-Sets” reflect the action initiatives which drive most of the actions of a Chief Academic Officer.”

A small number of the participants stated they agreed with the categorizations of the items within each of the “Pillars of Knowledge and Skill-Sets,” but offered changes for reorganization of the items within the categorizations for consideration. Three unique suggestions for change are listed below:

- “Although I am very pleased with the categorizations, I think Leading Change, Personnel Issues, and Faculty Development are all at the MUST level.”
- “I think the ‘pillars’ are an acceptable way to look at the requirements for being an effective CAO. I certainly think they could have been grouped in a different way, but any grouping would include an element of ‘style’ by the person doing the grouping.”
- “Basically, yes. I would alter the positioning of some of them. For example, I think you need a strategic plan before you can allocate budget resources appropriately.”

Almost one third of the participants did not specifically state they agreed or disagreed with the categorizations of the items within each of the “Pillars of Knowledge and Skill-Sets.” However, detailed suggestions for changes to the categorizations were provided. The suggestions were as follows:

- “Curricular Change and New Program Development might go with Instruction Management at least as well as with Evaluation Management. In practice, Faculty Development is more closely tied to Instruction Management than to Workforce Management. Strategic Plan Implementation and Development are often connected with accreditation. It might be just as well to use the SACS Comprehensive Standards as the organizing principle.”
- “I believe in Instruction Management; Innovation needs to be a need instead of a nice. In today's society you have to have innovation in the

college/classroom to be able to capture the students. Under Workforce Management, Personnel Issues should be a must.”

- “I would re-title evaluation management to institutional effectiveness, and workforce management to personnel management. Workforce carries a distinct meaning in community colleges that we typically do not apply to ourselves. Institutional effectiveness seems to incorporate the assessment, accreditation, legal and legislative components.”
- “It seems to me that program review and curricular change as a result of that review are elements of assessment, which makes them musts rather than just ‘important’ and ‘good.’ Additionally, I’m not sure you can divorce communication and faculty-administration relations from ‘personnel issues’.”
- “In the instruction management pillar, I would consider changing ‘innovation’ from ‘nice’ to ‘important.’ Without innovation, and an appreciation for the innovation of others, a CAO will lead his or her institution to academic and organizational stagnation. In the evaluation management pillar, I would move ‘legal/legislative mandates’ to ‘must.’ Following legal mandates is just as important as following accreditation standards - perhaps more important in avoiding institutional liability. In the ‘workforce management’ pillar, I would move ‘internal communication’ to ‘important’ -- without effective communication, the CAO is not likely to maintain an acceptable level of faculty morale.”
- “Under Organizational Management, Budget and Planning needs to include analysis. Maybe the category should be Budget & Analysis and Planning.

- “Program development and curricular change should be in the ‘instruction management’ pillar. Legislative mandates probably fit better in ‘organizational’.”
- “I would think internal communication should be important instead of good. The rest seem to be where I would think they need to be.”
- “I would put enrollment management under organizational management rather than instruction management. I'm not sure about the placement of accreditation and legal/legislative mandates; certainly, these relate to evaluation but they seem much larger than that to me and more properly linked to organizational management.”

*Round Four: Question Two Results*

When asked to comment on the strengths and shortcomings of the model, 15 of the participants shared the model was an excellent representation of the chief academic officer position. Samples of comments follow:

- “Overall I think your model is very interesting and well thought out. It does hit the key components of what a CAO does quite well. Congratulations.”
- “I think it is an excellent model and one well-suited for the purpose of your research.”
- “The model is comprehensive.”
- “Very well designed. See no shortcomings.”

Sixteen of the participants detailed their opinions on the strengths and shortcomings of the model. Samples of their reflections follow:

- “A strength is that the model provides a ‘map’ for recruiting, hiring, and developing/mentoring CAOs who have or need to develop the full “pillar” skill set. What is lacking in the model is a measure of the personality/behavioral aspects of effective CAOs. While a CAO may have all the pillar skills, how those skills are modeled and communicated can “make or break” that CAO’s success with the faculty, fellow administrators, and the community.”
- “The strength of the model is that it provides a comprehensive analysis of what we do in the job. The weakness of the model is that it is only based on the opinions of a group of people in the job”.
- “I agree with the divisions of the pillars and the important issues in each, but different size institutions may rate the importance and skill set differently. For example, it appears a lesser need/importance exists for “workforce management.” This may be true in a large institution, but in a small institution, the CAO role as face to face leader is very important.”
- “It is imperative to have most of the skills but hard to determine which are most important. It seems like it is situational—you need that at this time and this at that time.”
- “I think a big strength is the accurate representation of what CAOs must do, it is not a good representation of what CAOs should do necessarily. Regrettably, governmental, fiscal, and accreditation constraints force focus to be placed in certain areas beyond their true weight.”

#### *Round Four: Question Three Results*

Twenty-eight participants stated the model was a valid reflection of the Delphi process. Validation of the model was reflected by the following comments:

- “I agree the model reflects the results of the Delphi process.”
- “I agree that the results are a valid reflection.”
- “I think it is a valid reflection.”
- “Given the process that you followed, the results are not unexpected. I believe it reflects what the CAOs generally told you they were doing.”
- “Surprisingly, I do agree that this model turns out to be a valid reflection.”

Two participant responses were neutral.

- “I think the model has merit, but cannot judge whether the model truly reflects the Delphi process because I have not had the opportunity to review input from other participants.”
- “Hard to say since I don’t know how others responded, but seems to make good effort at sorting all the information.”

#### *Round Four: Question Four Results*

Twenty-five participants stated the model accurately captured the most important knowledge and skills a CAO of two-year institutions needs to effectively perform the job.

A sample of responses expressing the accuracy of the model follows:

- “Yes, this model does an excellent job capturing the knowledge and skill-set need for the CAO position.”
- “I definitely believe that this model accurately captures the most important knowledge and skill-sets required of a CAO in a two-year system.”

- “I am quite impressed with the model.”
- “I agree that this model accurately reflects the most important knowledge and skill-sets for a CAO of a two-year college.”

Other comments that targeted the order and ranking of the knowledge and skill items in the model follow:

- “With regard to the ranking, I place greater value on Innovation in instruction because I believe it is in keeping our instruction fresh and cutting edge that enables student learning and retention.”
- “As stated above—innovation is important.”
- “I am concerned that “innovation” shows as nice to have because that is what the best community colleges in my state are known for and what keeps us competitive and viable.”

### *The Final Model*

The responses collected lead to the development of the final “Model of Prioritized Knowledge and Skill-Sets of a Chief Academic Officer for a Two-Year College.” The responses lead to the following changes to the initial model:

- Roman numerals were added to the legend, knowledge, and skill item clusters to better clarify priority.
- The colors were removed from the model in exchange for Roman numerals.
- Knowledge and Skill items “Internal Communication” and “Innovation” level of importance were raised from GOOD to IMPORTANT. The need to raise the level of importance for “Innovation” was a result of each question. In particular, the comment “Without innovation and an appreciation for the

innovation of others, a CAO will lead his or her institution to academic and organizational stagnation” lead this researcher to raise the level of importance for knowledge and skill “Innovation.” The need to raise the level of importance for “Internal Communication” was also a result of each question. The comment “I would move internal communication to important—without effective communication, the CAO is not likely to maintain an acceptable level of faculty morale”, in particular, lead this researcher to raise the level of importance for knowledge and skill “Internal Communication”.

- “Innovation” was the only knowledge and skill item categorized as “Nice.” Therefore, the category “NICE” was deleted from the legend.
- Knowledge and Skill-Sets Pillar “Organizational Management” was renamed to “Organization Management.” This change ensured that nouns were used to name each “Pillar of Knowledge and Skill-Sets.”

The final “Model of Prioritized Knowledge and Skill-Sets for a Chief Academic Officer of a Two-Year College” is presented in chapter five.

#### *Comparative Analysis by Demographic Variables*

To determine if there was a significant difference between the type of two-year institution and the importance and kinds of knowledge and skills needed by the chief academic officer for a two-year institution, the chi-square test for homogeneity was applied to results from Round Two and Round Three using the level of significance .05 to ensure results were not due to chance. The categories Community College (CC), Technical College (TC) and Community and Technical College (CCTC) were the demographic variables. Accreditation, Assessment, Budget and Planning, Funding Issues, Student Learning, and Student Retention were the knowledge and skill items.

This researcher selected these knowledge and skill items due to the fact they were the top rated items from Round Two and the top ranked items from Round Three.

*Round Two Chi-Square Results: Community College and Technical College*

Based on the chi-square data illustrated in Table 17, the relationship between Community College and Technical College and the knowledge and skills was not significantly different at the .05 level and, thus, could not negate the difference was due to chance.

Table 17

*Round Two Chi-Square Results for Community College and Technical College per Most Important Knowledge and Skill Items*

Knowledge and Skill	Institution Type		df	$\chi^2$
	Community College	Technical College		
Accreditation	9.20	9.67	2	0.96
Assessment	8.80	9.67	2	0.89
Budget and Planning	8.10	9.00	2	0.87
Funding Issues	8.00	8.33	2	0.98
Student Learning	9.30	8.33	2	0.77
Student Retention	8.40	8.33	2	0.94

Note. \*  $p < .05$ .

*Round Two Chi-Square Results: Technical College and Community & Technical College*

Based on the chi-square data illustrated in Table 18, the relationship between Technical College, and Community and Technical College and the knowledge and skill items was not significantly different at the .05 level and, thus, could not negate the difference was due to chance.

Table 18

*Round Two Chi-Square Results for Technical College and Community and Technical College per Most Important Knowledge and Skill Items*

Knowledge and Skill	Institution Type		df	$\chi^2$
	Technical College	Community and Technical College		
Accreditation	9.67	8.97	2	0.96
Assessment	9.67	8.73	2	0.91
Budget and Planning	9.00	7.80	2	0.85
Funding Issues	8.33	8.13	2	0.96
Student Learning	8.33	8.63	2	0.86
Student Retention	8.33	8.43	2	0.90

Note. \*  $p < .05$ .

*Round Two Chi-Square Results: Community College and Community and Technical College*

Based on the chi-square data illustrated in Table 19, the relationship between Community College and Community and Technical College and the knowledge and skills was not significantly different at the .05 level and, thus, could not negate the difference was due to chance.

Table 19

*Round Two Chi-Square Results for Community College and Community and Technical College per Most Important Knowledge and Skill Items*

Knowledge and Skill	Institution Type		df	$\chi^2$
	Community College	Community and Technical College		
Accreditation	9.20	8.97	2	0.99
Assessment	8.80	8.73	2	0.98
Budget and Planning	8.10	7.80	2	0.97
Funding Issues	8.00	8.13	2	0.94

Student Learning	9.30	8.63	2	0.91
Student Retention	8.40	8.43	2	0.96

Note. \*  $p < .05$ .

The comparative analysis results of Round Two did not indicate a relationship between demographic variable type of institution and knowledge and skill item.

*Round Three Chi-Square Results: Community College and Technical College*

Table 20 illustrates the Round Three chi-square comparative analysis for Community College and Technical College. Based on the results, there was a statistically significant difference for the knowledge and skills item Student Learning,  $\chi^2(2, n = 59) = .05, p < .05$ . The  $p$  value .00 is below the .05 level of significance which indicates the difference of ranking may be related to type of institution. The other items of knowledge and skill were not statistically significant.

Table 20

*Round Three Chi-Square Results for Community College and Technical College per Most Important Knowledge and Skill Items*

Knowledge and Skill	Institution Type		df	$\chi^2$
	Community College	Technical College		
Accreditation	32	11	2	0.70
Assessment	50	23	2	0.54
Budget and Planning	50	17	2	0.60
Funding Issues	68	17	2	0.09
Student Learning	14	20	2	0.00*
Student Retention	45	14	2	0.44

Note. \*  $p < .05$ .

Table 21 illustrates the Round Three chi-square comparative analysis for Technical College and Community and Technical College. Based on the results, there

was a statistically significant difference for knowledge and skill item Assessment,  $\chi^2 (2, N = 171) = .04, p < .05$ . The results also showed there was a statistical difference for knowledge and skill item Student Learning,  $\chi^2 (2, N = 94) = .00, p < .05$ . Assessment's  $p$  value of .04 and Student Learning's  $p$  value of .00 were below the .05 level of significance. This is the second time that knowledge and skill item Student Learning has surfaced. The other items of knowledge and skill were not statistically significant.

Table 21

*Round Three Chi-Square Results for Technical College and Community and Technical College per Most Important Knowledge and Skill Items*

Knowledge and Skill	Institution Type		df	$\chi^2$
	Technical College	Community and Technical College		
Accreditation	11	143	2	0.43
Assessment	23	148	2	0.04*
Budget and Planning	17	254	2	0.12
Funding Issues	17	250	2	0.14
Student Learning	20	74	2	0.00*
Student Retention	14	168	2	0.55

Note. \*  $p < .05$ .

Table 22 illustrates the Round Three Chi-Square comparative analysis for Community College and Community and Technical College. Note that  $p$  values below .05 illustrated statistically significant results. Based on the results, knowledge and skill items were not statistically different in ranking and could not negate the difference was due to chance. However, the knowledge and skill item Assessment,  $\chi^2 (2, N = 198) = .06, p < .05$ . is extremely close to level of significance .05, and may be significantly different.

Table 22

*Round Three Chi-Square Results for Community College and Community and Technical College per Most Important Knowledge and Skill Items*

Knowledge and Skill	Institution Type		df	$\chi^2$
	Community College	Community and Technical College		
Accreditation	32	143	2	0.57
Assessment	50	148	2	0.06
Budget and Planning	50	254	2	0.12
Funding Issues	68	250	2	0.53
Student Learning	14	74	2	0.34
Student Retention	45	168	2	0.68

Note. \*  $p < .05$ .

It should be stated that the differences noted by the comparative analysis for Technical College and Community College, and Technical College and Community and Technical College may exist. However, only two participants selected Technical College as institution type. Therefore, this researcher cannot definitively conclude that a statistical difference exists and one not attributable to chance because of the small number of participants for this type of two-year institution.

*Overall Observation of Data*

Trends in the demographic data across each round of data collection emerged. Almost three quarters of the participants indicated they serve a Community and Technical College. Almost one quarter of the participants indicated they serve a Community College, and only a small number of the participants indicated they serve a Technical College. Another trend consistent across each round of data collection was that two-thirds of respondents came from the states of Texas, North Carolina, South Carolina, and Kentucky. Participant attrition averaged 10% between rounds with an overall attrition

rate of 43%. The study began with 54 qualified participants and ended with 31, which is a persistence rate of 57%.

The knowledge and skill items Accreditation, Assessment, Budget and Planning, Funding Issues, Student Learning, and Student Retention were the most important rated items in Round Two and the top ranked items in Round Three. It is important to note the item Funding Issues was an item that emerged from the “other areas of knowledge and skill” not reported in the original CAO challenge list. The other items from “other areas of knowledge and skill” that filtered through to Round Three were Internal Communication, Legal/Legislative Mandate and Issues, and Personnel Issues. Even though a few items from the chi-square comparative analysis shows a difference between Technical College and the other types of institutions, it is difficult to infer a conclusion from this result due to the small number of participants from Technical Colleges in this study.

#### *Chapter Summary*

Chapter 4 presented the results of each round of this Delphi study. Demographic data by type of institution was collected for each round of the Delphi study. The primary purpose of Round One was to ask the participants to rate the knowledge and skills identified by Eckel et al. (2009) through frequency of occurrence. Another purpose was to solicit other areas of knowledge and skills not represented in the original list. As a result of Round One, 34 knowledge and skill items met the criteria for inclusion in Round Two. The primary purpose of Round Two was to rate the items on a scale of importance. Twenty-four knowledge and skill items met the criteria for inclusion in Round Three. The primary purpose of Round Three was to rank the knowledge and skill items that met the criteria from Round Two and to develop the initial “Model of Prioritized Knowledge

and Skill-Sets for a Chief Academic Officer of a Two-Year College.” The knowledge and skill items were ranked and prioritized. Using content analysis, the knowledge and skill items were grouped into four distinct categories and illustrated in an initial graphic model. The primary purpose of Round Four was to ask the participants for suggestions and recommendations for validation and consensus of the initial “Model of Prioritized Knowledge and Skill-Sets for a Chief Academic Officer of a Two-Year College.” The participant’s responses lead to the development of the final “Model of Prioritized Knowledge and Skill-Sets for a Chief Academic Officer of a Two-Year College.”

## Chapter V

### CONCLUSIONS AND RECOMMENDATIONS

This chapter begins with a review of the results of the study followed by conclusions and recommendations. It is divided into the following sections: (a) Research Questions, (b) Conclusions, (c) Recommendations for Future Research and Practice, and (d) Significance of the Study.

#### *Research Questions*

The problem that framed this study concerned whether there is a high frequency of turnover for the chief academic officer (CAO) position. The purpose of this study was to develop a contemporary model of prioritized knowledge and skill-sets recommended for the chief academic officer of a two-year college. The problem and purpose of this study framed the research questions.

*Research Question One: Which of the American Council on Education (ACE) reported challenges are of the highest priority as perceived by the participants in this Delphi study?* The findings of this Delphi study indicated the knowledge and skill items (challenges) of the highest priority were (a) Student Learning, (b) Assessment, (c) Accreditation, (d) Student Retention, (e) Budget and Planning, and (f) Funding Issues.

*Research Question Two: Are there other areas of challenge not reported in the ACE listing important to the chief academic officer of a two-year college?* The results of the Delphi study showed that indeed there were other areas of knowledge and skill that were not included in the initial list of challenges (Eckel et al., 2009). These new items of

knowledge and skill were (a) Balance the Demands of Work and Life, (b) Funding Issues, (c) Internal Communication, (d) Legal/Legislative Mandates and Issues, and (e) Personnel Issues. It is important to note that Funding Issues was one of the six knowledge and skill items with highest priority.

*Research Question Three: Is there a significant difference between the type of two-year institution and the importance and kinds of challenges faced by the chief academic officer?* The findings of this Delphi Study generally indicated that there was no difference by type of institution with regards to the rating of the items of knowledge and skill. However, the chi-square analysis did reveal there were differences in the rankings of the items in relation to the type of institution. These knowledge and skill items were Student Learning between participants from a Technical College and participants from a Community College; and Assessment and Student Learning between respondents from a Technical College and respondents from a Community and Technical College. As mentioned in Chapter 4, the low number of Technical College participants (N = 2) made it difficult to have confidence in these findings.

*Research Question Four: What does a prioritized contemporary conceptual model of knowledge and skill-sets for two-year college CAOs contain?* The results of the Delphi process is the model illustrated in Figure 2. The final model presented was altered slightly based on the comments of the participants in Round Four. These changes are: (a) the level of importance was raised from GOOD to IMPORTANT for the knowledge and skill items of “Internal Communication” and “Innovation,” changing their priority; (b) the level of importance category NICE was deleted from the legend; (c) Roman numerals were added to the legend and knowledge and skill item clusters to clarify priority; and (d)

the colors indicated priority were removed. The remaining structure of the model was found to be sound and valid.

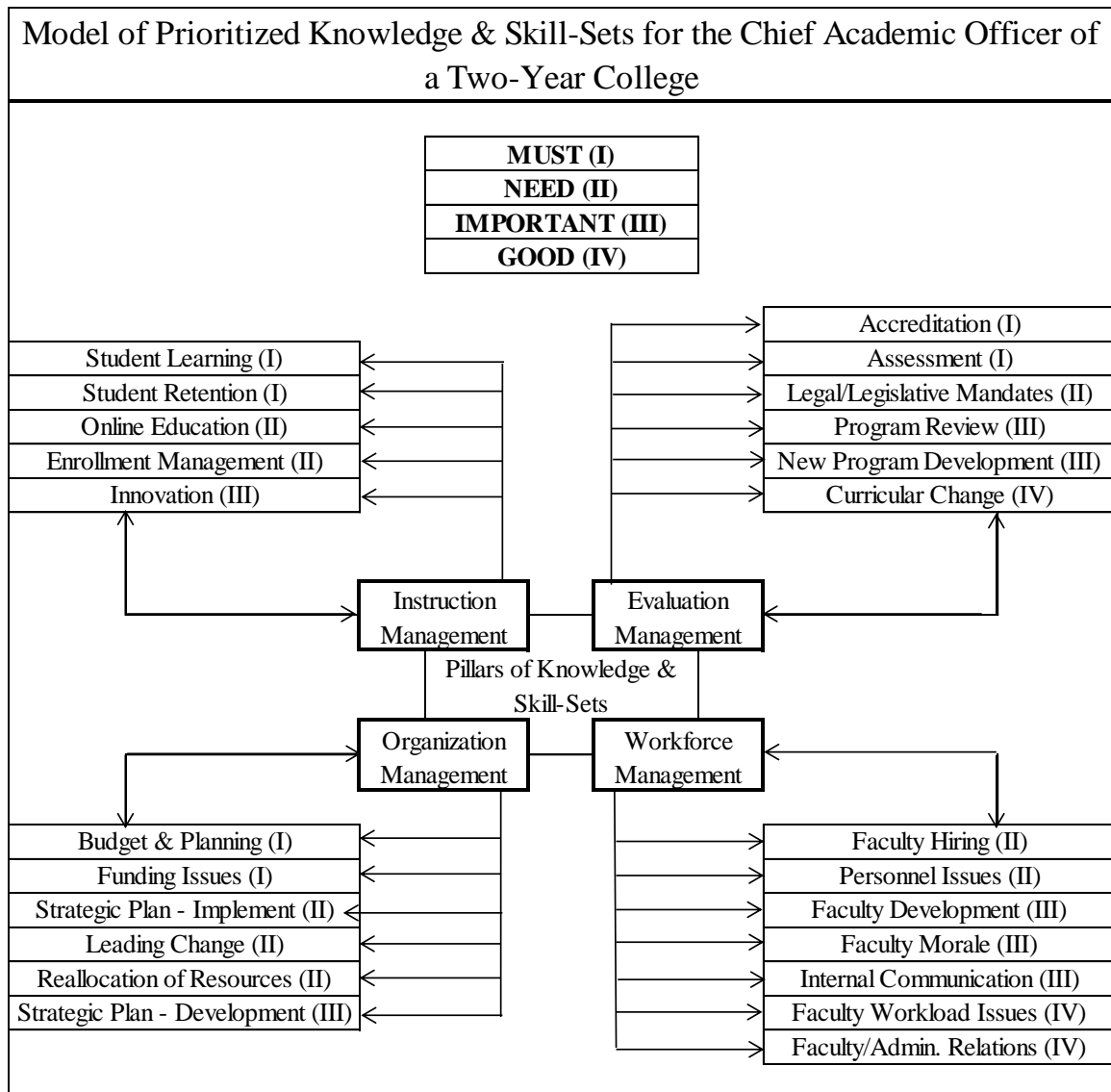


Figure 2: The items in the four pillars are the items that filtered through Delphi Rounds One (frequency), Two (rating), and Three (ranking). As a result of the frequency, rating, ranking process, and participant consensus, the final Model of Prioritized Knowledge and Skill-Sets for the Chief Academic Officer of a Two-Year College was developed.

### Conclusions

The findings and the answers to the research questions lead to the following conclusions:

*Conclusion One:* A CAO must be very knowledgeable in a variety of areas beyond just academics. The historical and contemporary duties explained in the review of the literature both portray the CAO as more than just an academician. A great deal of responsibility is placed on the chief academic officer in the overall management of the institution. Ensuring the institution is in good standing, that it meets the student's needs for success, and that it is a good steward of financial resources is crucial to being successful for today's CAOs of two-year institutions. These skill areas are particularly important due to the rise in enrollments at two-year colleges. Moreover, CAOs should be attuned to these skill areas due to the greater emphasis being placed at the federal level on accountability and quality for two-year colleges.

*Conclusion Two:* Not all items of knowledge and skill were included in the initial challenge list. As might be expected, knowledge and skill items are constantly evolving. In fact, the final listing of knowledge and skills (See Figure 2) is different from the initial CAO Challenge List (Eckel et al., 2009). Due to this evolution, the knowledge and skill items for a two-year college chief academic warrant constant review and study.

*Conclusion Three:* With regard to type of institution, the work of a chief academic officer in differing types of two-year institutions is very similar, and; therefore, these knowledge and skill items can apply uniformly to all CAOs in all types of two-year institutions. However, this conclusion must be qualified by a recognition of the limitations of generalizability from a Delphi study.

*Conclusion Four:* The model that was developed as a result of this study is a valid foundation for a more generalized model of prioritized knowledge and skill-sets for chief academic officers at two-year institutions.

### *Recommendations for Future Research and Practice*

The findings of the study, answers to the research questions, and conclusions lead to the following recommendations for future research and practice.

*Recommendation One:* Similar research should be conducted in other regions of the United States. The population sample was limited to the Commission on Colleges (COC) Southern Association of Colleges and Schools (SACS) region. Because the population sample was limited to one region, the model cannot be generalized across the entire two-year college CAO population in the United States. Therefore, in order to say this model (See Figure 2) is valid for all two-year college CAOs, more research with greater population samples is recommended.

*Recommendation Two:* In future research, personality types that may be best suited to effectively function as a CAO in two-year institutions should be studied to provide further application of the model. This recommendation is derived from the final round of comments, and this researcher deems it important to address in the future. While the model addresses what a two-year college CAO should know and do, it does not address how it needs to be accomplished. Personality type assessments address the style and approach in which a position is managed. Therefore, it is important to examine which personality style may best be suited to the effective execution of the duties and responsibilities of a two-year college CAO.

*Recommendation Three:* Another recommendation is that future research needs to be conducted to explore the situational contexts of the position that may affect the priority of particular knowledge and skill items. This inquiry is important due to changes in contexts over time. Because contexts change, different circumstances will require changes in the importance of knowledge and skills. For example, today, knowledge and

skill item “Online Education” is slotted in the second tier of importance in the model. However, should online education continue to grow in use this item of knowledge and skill may rise in level of importance. Thus, continued research to take into account the situational variable is recommended.

*Recommendation Four:* The size of institution is a specific situational variable for further research as it relates to the prioritization of the knowledge and skill items in the model. This observation came from the final round of comments. The size of the institution could be related to the importance and priority of the knowledge and skills needed to perform the duties of the position. For example, the CAO of a smaller college has to have more knowledge and be more directly involved in the functions of the institution than the CAO of a larger institution. The ability to delegate tasks and responsibilities is much easier at a larger institution due to a richer capacity of personnel. Therefore, future study should focus on the relationships between the knowledge and skill items alongside considerations of the size of institution.

*Recommendation Five:* It is recommended for future research that other qualitative research designs be used to further validate the model. For example, interviews of two-year CAOs could be conducted to provide personal insight into the importance of the model and its elements. Such qualitative research could bring a greater depth of understanding the reasons for the priority of the knowledge and skill items.

*Recommendation Six:* Taking into account the problem of high attrition rates for CAOs, future research and practice is recommended to determine if the model could serve as a basis for creating a professional development curriculum specific to two-year college CAOs. For example, persons who aspire to become a CAO of a two-year college could enroll in a course or series of workshops/seminars developed from the model in an

effort to prepare for the position. Another example is that sitting two-year college CAOs could benefit from a course or workshops developed from the model in an effort to enhance their current set of knowledge and skills. Therefore, further research is recommended to determine if the model could serve as a foundation for a two-year college CAO professional development program.

*Recommendation Seven:* Future research efforts to target more two-year technical colleges are recommended. Only a small number of participants in this study served in technical colleges. Therefore, future study should include a significantly larger population sample of CAOs who serve two-year technical colleges. Also, this study could verify a trend of two-year colleges including both community colleges and community and technical colleges, and moving away from pure technical colleges.

*Recommendation Eight:* Pillar of knowledge and skill-sets workforce management does not include items prioritized higher than NEED (II). Therefore, it is recommended for further research to discover why these specific knowledge and skill items were not prioritized in the MUST (I) category.

*Recommendation Nine:* It is recommended for further research to include CAO of all levels of experience and compare them to this Delphi panel to see if there is a difference in priority of knowledge and skill-set or context.

*Recommendation Ten:* Taking into consideration the Human Resources Management theoretical framework, it is recommended for practice that this model be used as a guide to set a structure for chief academic officer job descriptions for two-year colleges in the SACS region.

### *Significance of the Study*

The significance of this study is that it provides a greater insight into the knowledge and skill-sets needed for the position of CAO of a two-year college. The overall value of this study is found in the following:

- The study validates a contemporary list of knowledge and skill items for two-year college CAO.
- The study presents the contemporary list of knowledge and skill items in a graphical model (See Figure 2).
- The study provides a sense of priority and importance to the items of knowledge and skill in the model.
- The study identifies new items of knowledge and skill not previously acknowledged in the literature.
- The study provides individuals who aspire to be a two-year college CAO a structure to accurately assess knowledge and skill-set areas needed to function in the position.
- The study delivers a model that provides a framework that can be used to compose or enhance CAO job descriptions.

## REFERENCES

- Adler, M., & Ziglio, E. (1995). *Gazing into the oracle: The delphi method and its application to social policy and public health*. London, England: Jessica Kingsley Publishers.
- Armstrong, M. (2006). *A handbook of human resource practice*. Philadelphia, PA: Kogan Page Limited.
- Barnes, J. L. (1987). *An international study of curricular organizers of the study of technology*. (Unpublished doctoral dissertation), Virginia Polytechnic Institute and State University, Blacksburg, VA.
- Beech, B. (2001). The delphi approach: recent applications in health care. *Nurse Researcher*. 8(4), 38-47.
- Bohlander, G., & Snell, S. (2010). *Managing human resources*. Mason, OH: South Western Cengage Learning.
- Chou, C. (2002). Developing the e-delphi system: A web-based forecasting tool for educational research. *British Journal of Educational Technology*. 33(2), 233-236.
- Dalkey, N.C. (1967). *Delphi*. Santa Monica, CA: The RAND Corporation.
- DeNisi, A., & Griffin, R. (2005). *Human resource management*. Boston, MA: Houghton Mifflin Company.
- Dibden, A. (1968). *The Academic Deanship in American Colleges and Universities*. Carbondale, Ill: Southern Illinois University Press.
- Dupont, G. (1968). *The dean and his office*. In A. Dibden (Ed.), *The Academic Deanship in American Colleges and Universities* (4-27). Carbondale Ill: Southern Illinois University Press.

- Eck, D., & Ryan, J. (2011). The chi square statistic. Retrieved from <http://math.hws.edu/javamath/ryan/ChiSquare.html>
- Eckel, P., Cook, B., & King, J. (2009). *The cao census: A national profile of chief academic officers*. Washington, DC: American Council on Education.
- Fagin, C.M. (1997). The leadership role of a dean. In M. J. Austin, F.L. Ahern, & R.A. English (Eds.), *The professional dean: meeting the leadership challenges*. 25, 95-99. San Francisco, CA: Jossey-Bass.
- Finnegan, D.F. (1951). *The function of the academic dean in american catholic higher education*. Washington, D.C.: The Catholic University of America Press.
- Gan, M., & Kleiner, B. (2005). How to write job descriptions effectively? *Management Research Review*, 28(8), 48-54.
- Gmelch, W., Wolverton, M., Wolverton, M., & Sarros, J. (1999). The academic dean: An imperiled species searching for balance. *Research in Higher Education*, 40, 717-740.
- Gould, J. (1964). *The academic deanship*. New York, NY: Columbia University.
- Griffin, R., & Moorhead, G. (2006). *Fundamentals of organizational behavior*. Boston, MA: Houghton Mifflin Company.
- Griffiths, D., & McCarty, J. (Ed.). (1980). *The dilemma of the deanship*. Danville, IL: The Interstate Printers & Publishers, Inc.
- Hanzeli, V. (1966). The educational leadership of the academic dean: His position in the administrative triad. *The Journal of Higher Education*, 37(8), 421-428.
- Hasson, F., Keeney, S., & McKenna, H. (2000). Research guidelines for the delphi survey technique. *Journal of Advanced Nursing*, 32(4), 1008-1015.

- Hauck Y., Kelly R.G., & Fenwick J. (2007) Research priorities for parenting and child health: A delphi study. *Journal of Advanced Nursing* 59(2), 129–139.
- Higgins, R. (1947). The functions of the academic dean. *Association of American Colleges Bulletin*, 33, 93-99.
- Keim, M., & Murray, J. (2008). Chief academic officers' demographics and educational backgrounds. *Community College Review*. 36, 116-132.
- Kleinsorge, R. (2010). Expanding the role of succession planning. *T+D*, 64(4), 66-69.
- Job Analysis. (n.d.). *Dictionary.com Unabridged*. Retrieved May 26, 2011, from [http://dictionary.reference.com/browse/job analysis](http://dictionary.reference.com/browse/job%20analysis)
- Job Description. (n.d.). *Dictionary.com Unabridged*. Retrieved May 26, 2011, from [http://dictionary.reference.com/browse/job description](http://dictionary.reference.com/browse/job%20description)
- Linstone, H. A., & Turoff, M. (1975). *The delphi method: Techniques and applications*. Reading, MA: Addison-Wesley.
- Mann, T. (2010). Attrition among chief academic officers threatens strategic plans. *Chronicle of Higher Education*, 56 (39), A80.
- McGrath, E. (1936). The dean. *The Journal of Higher Education*, 70(5), 599-605.
- Milner, C. (1936). *The dean of the small college*. Boston, MA: The Christopher Publishing House.
- Montez, J., Wolverton, M., & Gmelch, W. (2002). The roles and challenges of deans. *The Review of Higher Education*, 26(2), 241-266.
- Mooney, C. (1993). Study Examines Turnover Rates in 12 Campus Jobs. *Chronicle of Higher Education*. 39(23), A16.
- Nelson, J. (1997). The boundaryless organization: Implications for job analysis, recruitment, and selection. *People and Strategy*, 20(4), 39-49.

- Raetz, T. (2001). Conducting job analyses and creating position descriptions for student affairs professionals. *College Student Affairs Journal*, 21(1), 26-34.
- Reeves, F. W., & Russell, J. D. (1929). *College Organization and Administration*. Indianapolis, IN: Board of Education Disciples of Christ.
- Rushford, K. (2008). Identifying research priorities: Delphi Technique. *Pediatric Nursing*, 19, 10.
- Southern Association of Colleges and Schools. (2011). Retrieved from <http://www.sacscoc.org/index.asp>
- Turoff, M., & Hiltz, S. (1996). Computer-based delphi processes. In M. Adler, & E. Ziglio (Eds.), *Gazing into the oracle: The delphi method and its application to social policy and public health* (56-85). Jessica Kingsley Publishers.
- Ugwu, D. (1985). *The roles and functions of the academic dean in selected technical institutions of the United States*. (Unpublished doctoral dissertation). Southern Illinois University, Carbondale, IL.
- Walker, J. (1974) *The role of the academic dean in selected southern california community colleges*. (Unpublished doctoral dissertation). United States International University, San Diego, CA.
- Williams, P. L., & Webb, C. (1994). The Delphi Technique: a methodological discussion. *Journal of Advanced Nursing*, 19, 180-186.
- Wilhelm, J. (2001). The Alchemy of the oracle: The delphi technique. *The Delta Pi Epsilon Journal*, 43(1), 6-26.
- Yousof, M. (2007). The Delphi Technique. *Essays in Education*, 20, 80-89.

APPENDIX A:

Institutional Review Board (IRB) Exemption Report



***Institutional Review Board (IRB)  
for the Protection of Human  
Research Participants***

**PROTOCOL EXEMPTION REPORT**

---

**PROTOCOL NUMBER:** IRB-02754-2011

**INVESTIGATOR:** Jason Goodner

**PROJECT TITLE:** The development of a model of prioritized knowledge and skill sets for two-year college chief academic officers

---

**DETERMINATION:**

- This research protocol is exempt from Institutional Review Board oversight under Exemption Category(ies) 2. You may begin your study immediately. If the nature of the research project changes such that exemption criteria may no longer apply, please consult with the IRB Administrator ([irb@valdosta.edu](mailto:irb@valdosta.edu)) before continuing your research.
  - Exemption of this research protocol from Institutional Review Board oversight is pending. You may **not** begin your research until you have addressed the following concerns/questions and the IRB has formally notified you of exemption. You may send your responses to [irb@valdosta.edu](mailto:irb@valdosta.edu).
- 

**ADDITIONAL COMMENTS/SUGGESTIONS:**

Although not a requirement for exemption, the following suggestions are offered by the IRB Administrator to enhance the protection of participants and/or strengthen the research proposal. If you make any of these suggested changes to your protocol, please submit revisions so that IRB has a complete protocol on file.

**Comment**

Remove the statement: "This study has been approved by the VSU Internal Review Board." from the middle of the second paragraph of the Participation Solicitation Letter (exemption and approval are two different actions.) If you wish to make reference to IRB action, you should substitute the following paragraph for the one that says "If you have any questions or comments..."

Questions regarding the purpose or procedures of the research should be directed to *name of researcher* at *telephone number* or *e-mail address*. This study has been exempted from Institutional Review Board (IRB) review in accordance with Federal regulations. The IRB, a university committee established by Federal law, is responsible for protecting the rights and welfare of research participants. If you have concerns or questions about your rights as a research participant, you may contact the VSU IRB Administrator at 229-259-5045 or [irb@valdosta.edu](mailto:irb@valdosta.edu).

**Barbara H. Gray** Date: 11/28/11  
Barbara H. Gray, IRB Administrator  
**259-5045.**

*Thank you for submitting an IRB application.*  
*Please direct questions to [irb@valdosta.edu](mailto:irb@valdosta.edu) or 229-*

cc: Dr. Karla Hull (COE – Dean)  
Dr. Renaldo Martinez, Jr. (Advisor)

APPENDIX B:

Participation Solicitation Letter

December 28, 2011

Dear [First Name],

I am a doctoral student at Valdosta State University and the Chief Academic Officer (CAO) of Andrew College, Cuthbert, GA. I request your assistance in my dissertation research study to develop a current conceptual model of knowledge and skill-sets needed for the Chief Academic Officer (CAO) position of Level I institutions accredited by the Southern Association of Colleges and Schools (SACS). Because you serve a Level I SACS accredited institution as its Chief Academic Officer, you are receiving this letter.

My research has shown that there is no current description of the knowledge and skills that CAOs in two year institutions need to fulfill the demands of today's CAO position. My dissertation study will use a Delphi Method research design. The Delphi Method is a research method designed to build consensus around a central theme through expert opinion. Participants will take part in four rounds of data collection. Each round will consist of completing a short e-survey sent via an e-mail letter. The time frame allotted for each round will be 8 days with the complete data collection taking approximately 6 weeks. As such, I hope you will agree to participate in this study.

Your identity and responses will be kept confidential. Results will only be released as summaries in a way that individual's answers from each round cannot be identified. While your participation is voluntary, it is my hope you will see this study as an opportunity to strengthen the two-year college CAO position.

If you are willing to participate in this study and share your expertise about the CAO position, please double click the hyperlink below and answer three short questions by January 3, 2012.

Survey Hyperlink

If you have any questions or comments about this study, feel free to contact me via e-mail at [jsgoodner@valdosta.edu](mailto:jsgoodner@valdosta.edu).

Thank you very much for your consideration. I look forward to hearing from you.

Sincerely,

Jason Goodner  
Doctoral Student  
CAO Andrew College

APPENDIX C:

Round One: Letter One

January 5, 2012

Dear [First Name],

Thank you very much for your willingness and time to participate in this research study. The Round One Survey hyperlink is below. The survey contains three demographic questions and a list of 48 challenges of a Chief Academic Officer (CAO) found in the American Council on Education report: "The CAO Census: A National Profile of Chief Academic Officers". Double-click the hyperlink to open the survey.

Please respond to the demographic questions and review the list of challenges. Please determine the frequency of occurrence of each challenge in relation to your position and institution using the frequency scale provided. Completion of the survey will take approximately 10 minutes.

This first round of the study will provide a consensus listing of the most frequent challenges faced by CAOs and lead to the content of the second round. The link is below:

Survey Hyperlink

Please complete and submit the survey by January 10.

Thank you very much for your time and contributions to this study.

Jason Goodner  
VSU Doctoral Student  
CAO Andrew College

APPENDIX D:

Round One: Letter Two

January 11, 2012

Dear [First Name],

On January 5, 2012 a survey seeking your opinions about the challenges of the Chief Academic Officer position was e-mailed to you. You received this letter because you volunteered to participate in my dissertation study focusing on the two-year college CAO position.

If you have already completed the survey, please accept my sincere thanks. If not please do so by January 13, 2012. For your convenience I have attached the SurveyMonkey link to the e-survey below. Completion of the survey will take approximately 10 minutes.

Using the frequency scale provided, determine the occurrence of each challenge in relation to your position and institution.

[Survey Hyperlink](#)

Thank you for your time,

Jason Goodner  
VSU Doctoral Student  
CAO Andrew College

APPENDIX E:

Round One: Letter Three

January 13, 2012

Dear [First Name],

On January 5 a survey seeking your opinions about the challenges of the Chief Academic Officer position was e-mailed to you.

If you have already completed the survey, thank you. If not please do so by January 14.

For your convenience I have attached the SurveyMonkey link to the e-survey below. Completion of the survey will take approximately 10 minutes.

[Survey Hyperlink](#)

Round Two of this study will begin January 16.

Thank you for your time,

Jason Goodner  
VSU Doctoral Student  
CAO Andrew College

APPENDIX F:

Round Two: Letter One

January 16, 2012

Dear [First Name],

Using only the challenges identified as having at least a mean score of 2, a Rating Scale of Importance (RSI) for each challenge was created based on the results of Round One. The RSI listing each challenge is found at the SurveyMonkey link below.

Click on the SurveyMonkey link and review the RSI challenge list. With 1 representing the lowest and 10 being the highest, rate each item according to your position and institution.

[Survey Hyperlink](#)

Please complete the Round Two survey by January 19.

Thank you for your time,

Jason Goodner  
VSU Doctoral Student  
CAO Andrew College

APPENDIX G:

Round Two: Letter Two

January 19, 2012

Dear [First Name],

On January 16 a survey asking you to rate the importance challenges CAOs encounter was e-mailed to you. You received that survey because you volunteered to participate in my dissertation study focusing on the two-year college CAO position.

If you have already completed the survey, please accept my sincere thanks. If not please do so by January 22. For your convenience I have attached the SurveyMonkey link to the e-survey below. Completion of the survey will take approximately 10 minutes.

Click on the SurveyMonkey link and review the RSI challenge list. With 1 representing the lowest and 10 being the highest, rate each item according to your position and institution.

[Survey Hyperlink](#)

Thank you for your time,

Jason Goodner  
VSU Doctoral Student  
CAO Andrew College

APPENDIX H:

Round Two: Letter Three

January 23, 2012

Dear [First Name],

On January 16 a survey asking you to rate the importance challenges CAOs encounter was e-mailed to you.

If you have already completed the survey, thank you. If not please do so by January 24.

For your convenience I have attached the SurveyMonkey link to the e-survey below. Completion of the survey will take approximately 10 minutes.

[Survey Hyperlink](#)

Round Three of this study will begin January 24.

Thank you for your time,

Jason Goodner  
VSU Doctoral Student  
CAO Andrew College

APPENDIX I:

Round Three: Letter One

January 24, 2012

Dear [First Name],

Click on the SurveyMonkey link below and review the Master Rating List (MRL). Only the challenges with a mean score of at least 7.0 from Round Two are included in the MRL.

Rank each item by level of importance according to your position and institution with 1 being *most important*, 2 being the *second most important*, 3 being *third most important* and so on until you have ranked the entire list.

[Survey Hyperlink](#)

Please complete this Round Three survey by January 29.

Thank you for your time,

Jason Goodner  
VSU Doctoral Student  
CAO Andrew College

APPENDIX J:

Round Three: Letter Two

January 30

Dear [First Name],

On January 24 a survey asking you to rank the important challenges CAOs encounter was e-mailed to you. You received that survey because you volunteered to participate in my dissertation study focusing on the two-year college CAO position.

If you have already completed the survey, please accept my sincere thanks. If not please do so by February 1. For your convenience I have attached the SurveyMonkey link to the e-survey below. Completion of the survey will take approximately 10 minutes.

Click on the SurveyMonkey link below and review the Master Rating List (MRL). Rank each item by level of importance according to your position and institution with 1 being *most important*, 2 being the *second most important*, 3 being *third most important* and so on until you have ranked the entire list.

[Survey Hyperlink](#)

Thank you for your time,

Jason Goodner  
VSU Doctoral Student  
CAO Andrew College

APPENDIX K:

Round Three: Letter Three

February 1, 2012

Dear [First Name],

On January 24 a survey asking you to rank the importance challenges CAOs encounter was e-mailed to you.

If you have already completed the survey, thank you. If not please do so by [insert date here – one day from date of this letter]. For your convenience I have attached the SurveyMonkey link to the e-survey below. Completion of the survey will take approximately 10 minutes.

[Survey Hyperlink](#)

The final round of this study will begin February 16.

Thank you for your time,

Jason Goodner  
VSU Doctoral Student  
CAO Andrew College

APPENDIX L:

Round Four: Letter One

February 16, 2012

Dear [First Name],

Based on the analysis of the data collected from Rounds One, Two, and Three of this Delphi study, an initial “Model of Prioritized Knowledge and Skill-Sets for a Chief Academic Officer of a Two-Year College” has been created. The model is attached to this e-mail as a .pdf document for your review.

After you review of the model, click on the SurveyMonkey link below. In the spaces provided, please make suggestions and recommendations for validation and consensus of the model.

The responses collected will lead to the development of the final “Model of Prioritized Knowledge and Skill-Sets of a Chief Academic Officer for a Two-Year College”.

[Survey Hyperlink](#)

Please complete your review by Tuesday, February 21, 2012.

Your time and contributions to this research is greatly appreciated,

Jason Goodner  
VSU Doctoral Student  
CAO Andrew College

APPENDIX M:

Round Four: Letter Two

February 21, 2012

Dear [First Name],

See attachment and below. If you have already completed the survey, please accept my sincere thanks. If not please do so by Thursday, February 23 at 5pm.

Thank you for contributing to this research.

Jason Goodner  
VSU Doctoral Student  
CAO Andrew College

---

February 16, 2012

Dear [First Name],

Based on the analysis of the data collected from Rounds One, Two, and Three of this Delphi study, an initial “Model of Prioritized Knowledge and Skill-Sets for a Chief Academic Officer of a Two-Year College” has been created. The model is attached to this e-mail as a .pdf document for your review.

After you review of the model, click on the SurveyMonkey link below. In the spaces provided, please make suggestions and recommendations for validation and consensus of the model.

The responses collected will lead to the development of the final “Model of Prioritized Knowledge and Skill-Sets of a Chief Academic Officer for a Two-Year College”.

[Survey Hyperlink](#)

Please complete your review by Tuesday, February 21, 2012.

Your time and contributions to this research is greatly appreciated,

Jason Goodner  
VSU Doctoral Student  
CAO Andrew College

APPENDIX N:

Round Four: Letter Three

Date

February 22, 2012

Dear [First Name],

See attachment and below. If you have already completed the survey, please accept my sincere thanks. If not please do so by Thursday, February 23 at 5pm.

Thank you for contributing to this research. I'll be in touch via e-mail with the results in the near future.

Jason Goodner  
VSU Doctoral Student  
CAO Andrew College

---

February 16, 2012

Dear [First Name],

Based on the analysis of the data collected from Rounds One, Two, and Three of this Delphi study, an initial "Model of Prioritized Knowledge and Skill-Sets for a Chief Academic Officer of a Two-Year College" has been created. The model is attached to this e-mail as a .pdf document for your review.

After you review of the model, click on the SurveyMonkey link below. In the spaces provided, please make suggestions and recommendations for validation and consensus of the model.

The responses collected will lead to the development of the final "Model of Prioritized Knowledge and Skill-Sets of a Chief Academic Officer for a Two-Year College".

[Survey Hyperlink](#)

Please complete your review by Tuesday, February 21, 2012.

Your time and contributions to this research is greatly appreciated,

Jason Goodner  
VSU Doctoral Student  
CAO Andrew College

APPENDIX O:

Round One Mean Frequency Ratings

*Round One Knowledge and Skill Items by Average Mean Score*

<b>Knowledge and Skills</b>	<b><i>M</i></b>
Student retention	2.50
Assessment	2.40
Budget and planning	2.40
Student learning	2.28
Accreditation	2.22
Enrollment management	2.14
Strategic planning – implementing	2.08
Leading change	2.06
Online education	2.00
Curricular change	1.98
Strategic planning – developing	1.94
Program review	1.92
Faculty morale	1.90
Faculty development	1.88
Reallocating resources	1.88
Developing campus/faculty leaders	1.86
Partnerships	1.84
Changing faculty work expectations	1.80
Faculty-administrator relations	1.78
Managing growth	1.76
Diversity – student and faculty	1.74
Faculty hiring	1.74
Innovation (creating opportunities for...)	1.74
New program development	1.74
Faculty growth	1.72
Faculty workload issues	1.72
Pedagogy	1.72

Relationship with other vice presidents	1.70
Business practices	1.66
Faculty rewards	1.64
Interdepartmental cooperation	1.62
System relations	1.62
Deans (hiring, supervising, firing)	1.56
Faculty employment policies	1.54
Access	1.52
Cultural change	1.50
Relationship with president	1.50
Community engagement	1.48
Establishing oneself as leader	1.40
Interdisciplinary programs	1.28
Governance (faculty senates)	1.24
Administrative restructuring	1.12
Internationalization	1.10
Administrative stability	1.08
Presidential transition	0.86
Research capacity	0.66
Balancing undergraduate and graduate education	0.20
Collective bargaining/unions	0.12

---

APPENDIX P:

Round One Open Ended Responses

1. Collaboration with student affairs
2. Balance between work and personal life because we are so electronically connected 24/7.
3. Relationships and ensuring two-way, effective communication. Removing "silos" that present barriers to good communication and effective implementation of strategic initiatives.
4. Developmental Education; Articulation and Transfer Issues; Funding issues - state, local, tuition/fees; Grants
5. Legislative intrusion into education without understanding the consequences; e.g. meningitis vaccination
6. Personnel issues-firing, sexual harassment, performance; Student complaints; Implementation of legislative mandates
7. You have community relations and partnerships enlisted but I think in our technical programs we need a constant focus on interactions with the business community in the specific field of learning. many schools, some I have been employed with, do not make the effort needed to maintain these relationships and keep the programs relevant to the community. I am not sure where that fits in with this process but I see that as a major part of our academic process.
8. External funding - grants.
9. HR issues with legal implications.
10. Student completion (graduation); student transfer to university; success of students after transfer to university
11. The list is very comprehensive, so I have none to add.
12. Time management is always a challenge.
13. None
14. Balancing the multitude of responsibilities and priorities; Maintaining work/life balance
15. One of the most difficult challenges, is getting people (faculty, staff, and students) to see other sides of an issue and to understand others perspectives on an issue. Communication is the number one issue that I have seen in my 25 + years of working in a professional organization. The CC is no different. People make assumptions and jump to conclusions about their observations when they don't know what the real truth. If they have a problem and learn to ask others a question, a lot of hurt feelings could be eliminated. A diverse population of people working so closely together will certainly cause this. And it does often.
16. Legislative
17. Overall funding deficiencies in this state and in most states. state allocation continues to decrease while cost of doing business continues to increase. Progress in student learning must continue regardless.
18. Teaching strategies for the current generation of students; underprepared students; current effect of student loans.
19. Balancing personal time and professional time; Family and health vs. "the job"
20. Faculty promotions; Time/project management

APPENDIX Q:

Round Two Knowledge and Skill Item Mean Ratings

Rating Scale	1	2	3	4	5	6	7	8	9	10	<i>M</i>
Accreditation	1	0	0	0	1	0	3	5	7	26	9.07
Assessment	1	0	1	0	0	1	1	7	14	18	8.81
Student learning	2	0	0	0	0	1	3	5	12	20	8.77
Student retention	2	0	0	1	0	1	5	7	11	16	8.42
Funding Issues	2	0	1	1	2	2	2	9	8	16	8.12
Budget and planning	1	1	0	1	2	3	3	10	14	8	7.95
Online education	2	0	2	0	2	3	6	9	14	5	7.58
Personnel Issues	0	2	0	2	3	2	5	16	8	5	7.53
Faculty-administrator relations	0	1	2	1	1	5	8	11	8	6	7.51
Leading change	2	0	2	1	5	4	3	4	11	11	7.51
Legal/Legislative mandates and issues	0	2	0	1	6	4	5	9	6	10	7.51
Strategic planning – implementing	1	1	4	0	2	1	5	10	14	5	7.49
New program development	1	0	2	2	3	3	8	5	13	6	7.47
Faculty hiring	1	0	1	4	1	3	8	11	8	6	7.42
Reallocating resources	1	1	4	2	0	3	5	10	12	5	7.30
Faculty morale	1	1	1	1	1	7	7	11	11	2	7.28
Program review	1	0	1	1	6	4	4	13	11	2	7.28
Strategic planning – developing	1	1	4	0	2	2	6	13	10	4	7.28
Enrollment management	0	0	5	1	4	4	5	8	10	6	7.26
Faculty workload issues	1	1	1	1	3	5	6	14	9	2	7.21
Faculty development	2	0	2	1	1	7	10	7	10	3	7.09
Internal communication	1	0	3	2	5	3	10	4	9	6	7.07
Curricular change	1	0	3	2	3	4	10	8	8	4	7.05
Innovation (creating opportunities for...)	2	0	3	3	3	2	6	11	8	5	7.02
Pedagogy	1	2	2	0	6	3	9	10	5	5	6.91
Partnerships	0	3	2	1	3	6	6	14	5	3	6.88
Changing faculty work expectations	1	1	1	2	5	8	3	13	7	2	6.86
Developing campus/faculty leaders	1	1	2	4	3	2	11	9	9	1	6.79

Relationship with other vice presidents	3	0	2	5	3	4	2	12	7	5	6.77
Managing growth	1	1	2	2	7	5	8	10	5	2	6.58
Faculty growth	2	0	2	5	3	3	10	11	7	0	6.56
Faculty rewards	2	2	2	3	4	4	7	12	7	0	6.42
Diversity – student and faculty	2	1	4	2	3	6	8	12	4	1	6.35
Business practices	2	1	3	2	8	4	8	8	6	1	6.26
Balance demands of work/personal life	2	2	2	3	10	4	5	9	3	3	6.09

---