

Spring 2010

A Conceptual Model of Career Development to Enhance Academic Motivation

Nancy Creighton Collins
Old Dominion University

Follow this and additional works at: https://digitalcommons.odu.edu/stemps_etds

 Part of the [Educational Psychology Commons](#), and the [Higher Education Commons](#)

Recommended Citation

Collins, Nancy C.. "A Conceptual Model of Career Development to Enhance Academic Motivation" (2010). Doctor of Philosophy (PhD), dissertation, STEM and Professional Studies, Old Dominion University, DOI: 10.25777/m77n-mp29
https://digitalcommons.odu.edu/stemps_etds/53

This Dissertation is brought to you for free and open access by the STEM Education & Professional Studies at ODU Digital Commons. It has been accepted for inclusion in STEMPS Theses & Dissertations by an authorized administrator of ODU Digital Commons. For more information, please contact digitalcommons@odu.edu.

**A CONCEPTUAL MODEL OF CAREER DEVELOPMENT
TO ENHANCE ACADEMIC MOTIVATION**

by

Nancy Creighton Collins

B.S. June 1972, University of Connecticut
M.A. December 1997, Norfolk State University
M.S. May 2005, Old Dominion University

A Dissertation Submitted to the Faculty of
Old Dominion University in Partial Fulfillment of the
Requirements for the Degree of

DOCTOR OF PHILOSOPHY IN EDUCATION

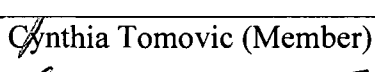
CONCENTRATION IN
OCCUPATIONAL AND TECHNICAL STUDIES

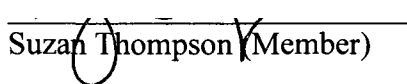
OLD DOMINION UNIVERSITY

March 2010

Approved by:


John M. Ritz (Director)


Cynthia Tomovic (Member)


Suzan Thompson (Member)

ABSTRACT

A CONCEPTUAL MODEL OF CAREER DEVELOPMENT TO ENHANCE ACADEMIC MOTIVATION

Nancy Creighton Collins
Old Dominion University, 2010
Director: Dr. John M. Ritz

The purpose of this study was to develop, refine, and validate a conceptual model of career development to enhance the academic motivation of community college students. To achieve this end, a straw model was built from the theoretical and empirical research literature. The model was then refined and validated through three rounds of a Delphi study. The Delphi study solicited the opinions of students who had successfully completed community college programs.

Three research goals guided this study: 1) identify the components of modern motivation theory that apply to the academic motivation of community college students, 2) identify key components of career development theory that could be applied to a comprehensive career development program for college students, and 3) synthesize the findings into a conceptual model for a program that supports students' career development using strategies for enhancing motivation.

The gatekeeper method was used to select participants for the Delphi panel. Fourteen university academic advisors nominated students for the panel based on selection criteria. From this population 33 students agreed to serve on the Delphi panel. Twenty-seven (82%) of the participants completed the final round of the study. The panel participated in three rounds. The first round asked open-ended questions concerning the straw model and provided an opportunity for participants to add to the model. During the

second round participants were asked to evaluate the items in the model and respond to the importance of each item. During the third round participants were asked to compare their responses with those of the other participants.

The findings of this study provided a conceptual model which focuses on four important factors identified by the literature as affecting both career development and academic motivation. These four factors are self-efficacy, interest, values, and goals. The Delphi participants added two other additional factors to the model: personal qualities and contextual environment. The model also contains 19 career development objectives and 28 motivational strategies which provide input into model. The purpose of the model is to serve as a guide to practitioners as a foundation to build retention programs.

Copyright, 2010, by Nancy Creighton Collins, All Rights Reserved

This dissertation is dedicated to my grandmothers,
two very accomplished and interesting women.

ACKNOWLEDGEMENTS

The successful completion of a dissertation requires the assistance of many people. It would not be possible without the assistance of committee members who are willing to devote their valuable time or the help from professionals in the field who offer their expertise or the support of family and friends.

I first want to acknowledge my committee chair, Dr. John Ritz. I chose the doctoral program in Occupational and Technical Studies because I was impressed with Dr. Ritz's reputation for caring about student success. I am finishing the program even more impressed. I also want to thank my committee members, Dr. Cindy Tomovic and Dr. Suzan Thompson. Of all the professors I have known throughout my academic career, they were two of the most creative and inspirational. They were perfect choices for a study about student motivation.

I want to extend special acknowledgement and appreciation to the four professionals who assisted with this study: Cheri Lewis, Maureen Dooley, Regenia Hill, and Cindy Downing. Their dedication to students is remarkable. They are good friends.

I could not have finished the doctoral program or the dissertation without the kind words of encouragement from friends and family members around the country. I am sure they are all happy that this long project is finally complete. The last acknowledgement and important thank you goes to Jack Collins, my patient proofreader and patient husband.

Nancy Creighton Collins

TABLE OF CONTENTS

	Page
ABSTRACT	ii
ACKNOWLEDGMENTS	vi
LIST OF TABLES	x
LIST OF FIGURES	xi
 Chapter	
I. INTRODUCTION.....	1
Statement of the Problem	2
Research Goals	3
Background and Significance.....	3
Limitations of the Study	6
Assumptions	6
Procedures	7
Definition of Terms	7
Summary and Overview	8
II. REVIEW OF THE LITERATURE	10
Motivation	12
Theories of Motivation.....	13
Self-Efficacy Theory	15
Locus of Control Theories.....	18
Self-Determination Theory.....	19
Flow Theory	22
Interest Theories	24
Goal Theories	28
Attribution Theory.....	29
Expectancy-Value Theory	30
Social-Cognitive Theories.....	33
Synthesized Model of Academic Motivation	34
Strategies for Enhancing Academic Motivation.....	36
Establish Inclusion.....	39
Develop Attitude.....	40
Enhance Meaning	41
Engender Competence.....	41
Career Development.....	43
Theories of Career Development.....	44
Trait and Factor Theories	44

Developmental Theories.....	47
Career Decision-Making Theories.....	49
Social Cognitive Career Theory	53
Values-Based Theories	56
Synthesized Model of Career Development.....	58
Career Development Objectives.....	62
Career Readiness	62
Information Gathering	63
Integration and Evaluation.....	64
Action Plans.....	65
Straw Conceptual Model	66
Summary.....	69
III. METHODS AND PROCEDURES	70
Research Technique.....	71
Study Population.....	73
Data Collection and Instruments	75
Data Analysis.....	80
Qualitative Analysis	80
Quantitative Analysis	81
Reliability and Validity	82
Summary	83
IV. FINDINGS	85
Panel Participants	85
Round 1 Results.....	86
Question 1	88
Question 2.....	90
Question 3.....	91
Question 4.....	94
Question 5.....	95
Question 6.....	97
Round 1 Summary	98
Revised Straw Model.....	103
Round 2 Results.....	108
Round 3 Results.....	119
Consensus	131
Summary.....	139
V. SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS	141
Summary.....	141
Conclusions	146
Research Goal 1	146
Research Goal 2.....	147
Research Goal 3.....	148
Conceptual Model.....	150

Recommendations	158
REFERENCES	161
APPENDICES	178
A. Straw Model.....	178
B. E-mail Soliciting Identification of Students for the Panel	182
C. E-mail Requesting Participation in the Panel, Round 1 E-mail. Attachments, and Follow-up E-mail.....	185
D. Round 2 E-mail, Attachment, and Follow-up E-mail.....	191
E. Round 3 E-mail, Attachment, and Follow-up E-mail	203
VITA.....	217

LIST OF TABLES

Table	Page
1. Prevalent theories of motivation and career development.....	11
2. Summary of participants' majors	86
3. Demographic characteristics of panel participants	87
4. Summary of Round1 findings	98
5. Additions and modifications to the straw model.....	104
6. Summary of Round 2 findings.....	110
7. Summary of Round 3 findings.....	120
8. Distribution of coefficients of variation	131
9. Differences between Rounds 2 and 3	132

LIST OF FIGURES

Figure	Page
1. Bandura's sources and consequences of self-efficacy	17
2. The self-determination theory continuum of motivation.....	22
3. Development of interest as described by Hidi and Renninger	25
4. Model of interest theory adapted from Scheifele	27
5. Weiner's classification of attributions	31
6. Components of achievement task values in the expectancy-value model.....	32
7. Synthesized model of academic motivation	37
8. Synthesized model of strategies for enhancing academic motivation.....	43
9. Conceptual model of the career decision-making process	47
10. Career decision-making model based on Tiedeman's and Marcia's theories	51
11. Synthesized taxonomy of decision making difficulties	53
12. Social cognitive model of career development.....	55
13. Influence of value on career decisions	58
14. Synthesized model of career development	61
15. Model of career development objectives.....	66
16. Straw model of career development to enhance academic motivation	68
17. Phases of the study	76
18. Conceptual model of career development to enhance academic motivation.....	151

CHAPTER I

INTRODUCTION

In spite of the considerable attention two-year colleges have given to student retention over the last few decades, two-year colleges continue to experience low retention rates. According to the United States Department of Education (2009), 45% of students who started two-year colleges in 2003 have dropped out without completing a degree or continuing at another college. Poor retention is a significant issue because students who do not complete college are more likely to have lower life long earnings, less fulfilling work environments, fewer health benefits, shorter life spans, and higher probability of unemployment (Baum & Ma, 2007). Community colleges are especially vulnerable to student retention problems as these institutions are more likely to enroll students who are minorities, first-generation college students, from low-income families, and underprepared (Fike & Fike, 2008). It is essential for community colleges to create retention plans that work.

Two reasons are commonly cited for low student retention. The first is that many students lack career goals. Tinto (1993), in his classic work *Leaving College*, proposed the higher the student's occupational and educational goals, the more likely the student is to stay in school. Research has supported this relationship between career goals and retention (Hull-Blanks, Kurpius, Befort, Sollenberger, Nicpon, & Huser, 2005; Peterson & Delmas, 2002). The second reason often cited for attrition is many students lack motivation. Student commitment, which can be expressed as motivation, drive, or effort, has been proven to be centrally related to attrition according to Tinto (1993).

Helping students choose a major is an essential part of the retention plan for many colleges (Cuseo, 2005). Creators of retention plans assume that once a student chooses a career and corresponding major, the student becomes motivated and remains in school. Although theorists believe career development interventions can promote academic motivation, little research has been conducted to establish this relationship (Dykeman, et al., 2003). This leaves questions concerning the relationship between career decision and motivation unanswered. Without an essential understanding of how these retention factors interact, it is difficult to create retention plans that work. This study attempts to fill the gap by exploring career development and motivation from the viewpoint of students and from their views propose a conceptual model for career development that enhances academic motivation.

Statement of the Problem

Researchers have found career interventions alone have limited results in increasing retention. Increased intrinsic motivation, which promotes successful career decision-making, does improve student retention, yet it is a difficult factor to influence. This leaves educators needing a new model, one that combines what is known about career development theory, motivation theory, and instructional strategies in order to provide a workable strategy for increasing student success. This study aims to fill that void by developing, refining, and validating a conceptual model for career development to enhance academic motivation in community college students.

This model will provide colleges with a framework for retention plans that target two of the significant causes of attrition. A workable model of career development for

enhancing academic motivation is particularly important for community colleges which have large populations of students who are at risk of dropping out.

Research Goals

This study developed, refined, and validated a conceptual model for career development that enhances academic motivation in community college students. The following research goals were used to guide this study:

1. Identify the components of modern motivation theory that apply to the academic motivation of community college students.
2. Identify the key components of career development theory that could be applied to a comprehensive career development program for college students.
3. Synthesize the findings into a conceptual model for a program that supports students' career development using instructional strategies for enhancing motivation.

A straw model was created based on the theoretical and empirical research literature identified in the research goals. The model was then refined and validated by students who had successfully completed community college and were currently enrolled in baccalaureate and graduate programs.

Background and Significance

In a world with a complex, information-driven, global economy, there is constantly changing, confusing, and conflicting information about potential careers. At the same time that students are in more need of help with career decision-making, counselors have less time to help them. High school counselors are often dealing with a variety of issues, including violence, gangs, suicide, divorce, pregnancy, and poverty (Coy, 1999), leaving little time for career guidance activities. In under-funded schools

with standardized testing, the primary role of the counselor often becomes test administrator. In some high schools, the only career guidance students receive is the use of a computer-assisted program (Whiston, 2003).

People often change careers during their lifetime, thus requiring the career decision-making process to be conducted more than once. In order to make sound career decisions, one needs not only self-awareness and career-awareness, but also critical thinking skills that aid in decision-making. In schools where standardized testing is the norm, critical thinking skills are often pushed aside in favor of memorization for tests (Friedman, 2006). It is not surprising that students leave high school without clear plans for their futures and without the skills necessary for making good decisions.

Colleges have attempted to help students with their career decisions by providing career services such as counseling and computerized career-search systems. These services have met with mixed results. Analysis of the results is complicated by the fact that students who are most in need of counseling may well be the ones who do not request counseling assistance. The Community College Survey of Student Engagement (2008) found while 50% of community college students surveyed identified career counseling as important, only 6% reported using them often and 51% reported using them rarely or never. Career counseling has been found to be an effective retention agent by some (Anderson, 2003); while other researchers have found no significant correlation between career counseling and retention (Polansky, Horan, & Hanish, 1993). Boyd, Hunt, Hunt, Magoon, and VanBrunt (1998) found a significant correlation only after two semesters. Kiener (2006) found computerized career-search activities only worked for students with high levels of intrinsic motivation. Cuseo (2005) and Tinto (1993) agreed

that educators who try to push career decision-making onto students too soon, in an effort to fix the retention problem, are making a mistake.

While there is some debate concerning the role of career interventions in student retention, there is no disagreement regarding motivation. Motivation is essential to retention. Intrinsic motivation and its key component, self-efficacy, have been found to be a significant predictor of retention, as well as a positive predictor of student grades (Lynch, 2006). Bandura and Locke (2003) made the connection between motivation and self-efficacy by saying that perceived self-efficacy enhances motivation and performance attainments. Students with higher perceived self-efficacy are more likely to prepare themselves academically for their careers. Bandura and Locke stated that a large body of research has found that the higher the perceived self-efficacy, the wider the career options students will consider pursuing, the greater their interest in their education and their careers, and the greater their staying power. If intrinsic motivation is such a desirable trait, how can schools produce it in students? Several theories have been proposed. Bandura's theory of self-efficacy is particularly useful in that it proposes that self-efficacy, and therefore intrinsic motivation, can be enhanced (Bandura & Locke, 2003).

Successful college completion is important because it not only benefits students, but also colleges themselves and society in general (Baum & Ma, 2007). Over the past few decades, colleges have increased efforts to improve student retention. These efforts have achieved only limited success as retention of students continues to be a problem. This is especially true in community colleges (United States Department of Education, 2009). This suggests a need for the creation of better retention plans.

Two factors that are important to student retention are career goals and motivation (Tinto, 1993). Based on the knowledge of career development, motivation, and instructional strategies, a new model of career development that enhances academic motivation has the potential to significantly improve community college retention programs and increase the quality of life of many students.

Limitations of the Study

The purpose of this study was to generate a model that would have value to practitioners as a foundation to build strong retention programs. It is hoped the model will also encourage other researchers to continue to explore this important topic. It was not the purpose of this study to field test the model.

The model was refined and validated by a panel of students. The panel was limited to students who were nominated by their university advisors. Each student had successfully completed a community college program and was currently enrolled in a baccalaureate or graduate program. The study did not include students who successfully completed terminal programs at the community college.

The model was not designed to answer all of the problems of student attrition. It was designed to complement programs which address other issues related to student success such as financial issues, developmental coursework, study skill assistance, etc. The model only addressed the two critical areas of career development and motivation.

Assumptions

No attempt was made to differentiate between traditional and non-traditional students in the model. Previous research has found non-traditional (i.e., older) students possess more motivation and have more career maturity (Bye, Pushkar, & Conway,

2007). This model assumes that everyone, no matter what their current level of motivation, would benefit from increased motivation.

Procedures

This study was conducted in stages. First, a straw model was developed based on the motivation, career development, and instructional strategies literature. The straw model served as the starting point for a Delphi study. Next, a panel of participants was chosen from students who had successfully completed their studies at community colleges and were now pursuing baccalaureate or graduate degrees. These students were selected by their academic advisors. Using the Delphi technique of multiple rounds of questions, participants provided input to both open-ended and closed questions with the purpose of refining the straw model and validating it. Once participants reached consensus, the conceptual model was complete.

Definition of Terms

To assist the reader, the following terms are defined:

Academic Success: There is no one common measure of academic success (Kuh, Cruce, Shoup, Kinzie, & Gonyea, 2008). Academic success may be measured in terms of attrition, retention, graduation rates, and/or grade point average. In the literature all these types of measurements appear (e.g., see Anderson, 2003; Bembenuddy, 2007; St. John, Hu, Simmons, Carter, & Weber, 2004). In this paper no value was placed on any measurement as being superior. Rather all were considered appropriate indicators of success.

Career Development: The term career refers to more than just a job. It refers to the way individuals view themselves in relationship to what they do (Sharf, 2009).

Development implies that it is a process that occurs over time. In this context a career development program is not just about finding a job. It is a comprehensive program that includes self-awareness, career exploration, decision-making skills, and developmental stages.

Motivation: Sansone and Harackiewicz (2000) described motivation as a force that “energizes and guides behavior toward reaching a particular goal” or the reason “why we do the things we do” (p. 1). They described motivation as being of two types: intrinsic and extrinsic.

Intrinsic Motivation: This is motivation that is authentic, self-authored, and self-regulated. It is one's inherent tendency to seek out challenges, to explore, and to learn (Ryan & Deci, 2000).

Extrinsic Motivation: Extrinsic motivation is motivation from outside one's self (Ryan & Deci, 2000).

Amotivation: Amotivation refers to a lack of motivation (Ryan & Deci, 2000).

Self Efficacy: Self efficacy are the beliefs people have about their capabilities to exert influence over events that affect their lives (Bandura, 1997). Bandura's theory of self efficacy proposes that beliefs are linked to how people feel, think, motivate themselves, and behave.

Summary and Overview

In order for community colleges to address the problems of student retention it is essential for them to address two important reasons why students drop out of college: lack of motivation and lack of career goals. The purpose of this study was to create a conceptual model for career development to enhance academic motivation. This model

provides a framework which may be used for the creation of retention plans for community college students.

This chapter included an overview of the background of the problem, the problem statement, the research goals, the background and significance of the study, the limitations and assumptions, the procedures, and the definition of key terms. Chapter II will review the theoretical and empirical literature on the topics of motivation and career development. The straw model is built in this chapter. Chapter III will provide an explanation of the methodology, including a description of the Delphi technique, the study population, instruments, data collection methods, and the data analysis. The findings of the study will be presented in Chapter IV. In Chapter V, the study will be summarized, conclusions will be drawn, recommendations will be made, and a conceptual model for career development to enhance academic motivation will be presented.

CHAPTER II

REVIEW OF THE LITERATURE

Two reasons often cited to explain community college attrition are lack of motivation and lack of clear career goals (Tinto, 1993; Cuseo, 2005). The creation of a retention program to address these two issues requires a thorough understanding of both motivation theory and career development theory. Neither topic is simple. Dozens of theories attempt to explain why people do the things they do (Fiske, 2008) and why people choose the careers they choose (Gordon, 2007). In this review nine motivation theories and five career development theories are described. These theories were chosen based on their prevalence in current practice (Eccles & Wigfield, 2002; Sharf, 2009) and their usefulness in contributing to a conceptual model of career development to enhance the academic motivation of community college students. Instructional strategies which have been identified as promoting motivation are also described. Throughout the review, current research studies which support the theories and practices are included. It should be noted that much of the research in this area has been conducted with secondary school students or university students. Very few studies have focused specifically on the motivation and career development of community college students.

This chapter is divided into three sections: motivation, career development, and a proposed conceptual model of career development to enhance academic motivation. Motivation was included first because many career development theories were developed from motivation theories. The first section of the chapter includes a review of motivation theories, a synthesized model drawn from the major factors related to motivation, and a discussion of strategies for enhancing academic motivation. The second section includes

a review of career development theories, a synthesized model drawn from the major factors related to career development, and objectives believed to be important for a comprehensive program of career development. Table 1 provides a list of the motivation and career development theories reviewed in the first two sections of the chapter. In the third section of the chapter, the two models are synthesized into a combined model of

Table 1

Prevalent theories of motivation and career development

Topic	Theory
Motivation	Self Efficacy
	Locus of Control
	Self-Determination
	Flow
	Interest
	Goal
	Attribution
	Expectancy-Value
	Social-Cognitive
	Career Development
Developmental	
Career Decision-Making	
Social Cognitive	
Values-Based	

career development to enhance the academic motivation of community college students. The purpose of the combined model was to serve as a straw model for a Delphi study. The Delphi study further refined the model.

Motivation

It is a commonly held notion that people who are motivated will achieve. Recent studies (Hudy, 2007; Lynch, 2006) finding positive correlations between college student motivation and grades support this notion. Motivation is too complex to be considered a single dichotomous variable. Students are not simply either motivated or not motivated. The many dimensions of motivation are illustrated by the wide variety of current motivation theories: control theories, self-efficacy theories, intrinsic motivation theories, interest theories, goal theories, modern expectancy-value theories, and social-cognitive theories among others (Eccles & Wigfield, 2002).

Current educational research studies have found relationships among motivational theories, particularly among four variables: self-efficacy, interest, goals, and values. Paulsen and Feldman (2007) found self efficacy to have a significant effect on college students' use of self-regulated motivational strategies. Scheel and Gonzalez (2007) found that academic self-efficacy predicted academic motivation. Bembenutty (2007) found self-efficacy beliefs to be moderately to highly correlated with grades. Nauta, Kahn, Angell, and Cantarelli (2002) found a reciprocal relationship between career interests and self-efficacy in university students. Bye, Pushkar, and Conway (2007) found interest to be a significant predictor of intrinsic motivation in undergraduate students. In a study of college freshmen, Hull-Blanks, Kurpius, Befort, Sollenberger, Nicpon, and Huser (2005) found that students who reported having job-related goals were more likely to make

positive persistence decisions than students who did not have goals. Melendez's (2002) experimental study found a values-based career intervention increased the educational self-efficacy of male college freshmen. From this research it is clear that self-efficacy, interests, goals, and values are all important components of motivation and achievement. This research supports the commonly held belief that motivation leads to achievement and supports Tinto's (1993) assertion that motivation is an important part of student commitment to stay in school.

Theories of Motivation

Current views of motivation have evolved with considerable changes from earlier theories. In the 18th century hedonism, the pursuit of happiness, was the predominant motivational theory (Fiske, 2008). It was in this environment that Freud developed his drive theory, a theory which proposes motivation arises from biological drives. Early behavioral theories of motivation evolved from the drive theory proposition that humans are responsive to basic drives (Brophy, 2004). Behaviorists later deemphasized drives and instead focused on reinforcement as the primary motivator of behavior. Need theories were developed as an alternative to behavioral reinforcement theories. The most famous of these was Maslow's hierarchy of needs theory. Hierarchy of needs theory proposes that lower level needs, such as physiological and safety, must be met before a person is motivated to pursue the next higher level of need, such as love and esteem (Brophy, 2004). Goal theories evolved as an alternative to behavior reinforcement and need theories. While behavior reinforcement theories and need theories are both based on reactions to a stimulus, goal theories view motivation as proactive. Individuals are motivated by the goals they set. The most recent evolution of motivation theories is the

current focus on intrinsic motivation. Intrinsic motivation theories shift the focus from people doing what they need to do to doing what they want to do. Locke and Latham (1994) noted that while modern theories were developed from earlier theories, they still incorporate concepts from these theories.

Eccles and Wigfield's (2002) review of recent motivation research, drawn from developmental and educational psychology, provides a useful framework for understanding academic motivation. Eccles and Wigfield (2002) divided current theories into four categories: theories focused on expectancies for success, theories focused on task value, theories that integrate expectancies and values, and theories integrating motivation and cognition. The authors described expectancy theories as theories concerning individuals' beliefs about their competence and their sense of control over their own success. These theories include self-efficacy theory and locus of control theories. Theories focused on task value, or reason for engagement, describe the reasons why people choose to do the things they do. These theories fall into three categories: intrinsic motivation theories (including self-determination theory and flow theory), interest theories, and goal theories. Eccles and Wigfield's (2002) category of theories integrating expectancy and value constructs includes two theories: attribution theory and expectancy-value theories. Theories integrating motivation and cognition include the social-cognitive theories of self-regulation and motivation.

This review focuses on the theories identified by Eccles and Wigfield (2002) as the leading motivational theories that are relevant to education. These theories, presented in the order identified by the authors, include: self-efficacy theory, locus of control

theory, self-determination theory, flow theory, interest theory, goal theory, attribution theory, expectancy-value theory, and social-cognitive theory.

Self-Efficacy Theory. Bandura (1997) considered self-efficacy to be the foundation of motivation. He defined it as the perception of one's ability to successfully perform a given task or behavior. Bandura made a careful distinction between self-efficacy and self-esteem. While self-efficacy is the judgment of personal capability, self-esteem is the judgment of self-worth. Considering self-efficacy to be multidimensional, varying in strength, generality, and level, Bandura identified four sources of perceived self-efficacy and three consequences.

Bandura (1997) also hypothesized that people's beliefs about their self-efficacy are formed from four sources: mastery experiences, vicarious experiences, verbal persuasion, and physiological and affective states. According to this theory, performance accomplishments, or mastery experiences, are the most influential factor in determining self-efficacy. It is the experience of overcoming obstacles through persistent effort that leads to resilient self-efficacy. If tasks are too easy, individuals may come to expect quick results and become easily discouraged by failure. Pajares (2008) explained the relationship between mastery experiences and motivation in academic terms. After students complete an academic task, they evaluate how well they did. If they believe they were successful, then their confidence is raised for future performance in similar tasks. For example, students who earn top grades in science will likely consider themselves to be capable future scientists. Vicarious learning increases self-efficacy when individuals see people similar to themselves succeed by sustained effort (Bandura, 1997). Pajares (2008) pointed out that young people, who may be uncertain about their abilities and

have limited previous experience, are especially sensitive to vicarious experience. They may say, "If he can do it, so can I!" (Pajares, 2008, p. 116). The third source of self-efficacy is social or verbal persuasion (Bandura, 1997). Social persuasion refers to encouragement from others. Positive encouragement can boost self-efficacy to some extent; negative persuasion can greatly undermine it. The fourth source of information about self-efficacy comes from physiological and affective states (Bandura, 1997). This source is also referred to as emotional arousal (Betz, 2004). It refers to individuals' use of emotional reactions to judge their capabilities. For example, anxiety and stress are interpreted by individuals as signs of their vulnerability to poor performance. Pajares (2008) used the classroom example of students reporting the feeling of butterflies in their stomachs before a mathematics examination. Reducing stress levels and correcting misinterpretations of physiological states contribute to positive emotional reactions which enhance self-efficacy. Classroom strategies using the four sources (performance accomplishments, vicarious experiences, verbal persuasion, and emotional affect) have been successful in enhancing students' self-efficacy (Pajares, 2008).

There are three behavioral consequences of self-efficacy: approach versus avoidance, performance, and persistence (Bandura, 1997). The first consequence, approach versus avoidance, can be described simply as, people tend to avoid activities at which they think they will fail. Betz (2004) related approach vs. avoidance to career development. Self-efficacy determines which majors and careers individuals will attempt and which they will avoid. Self-efficacy also determines the process of career development. For example, students with low self-efficacy in career development may avoid career exploration and decision-making activities. Bandura (1997) proposed that

the second consequence of self-efficacy is performance. The third consequence of self-efficacy is persistence. Figure 1 depicts the relationship between the sources and the consequences.

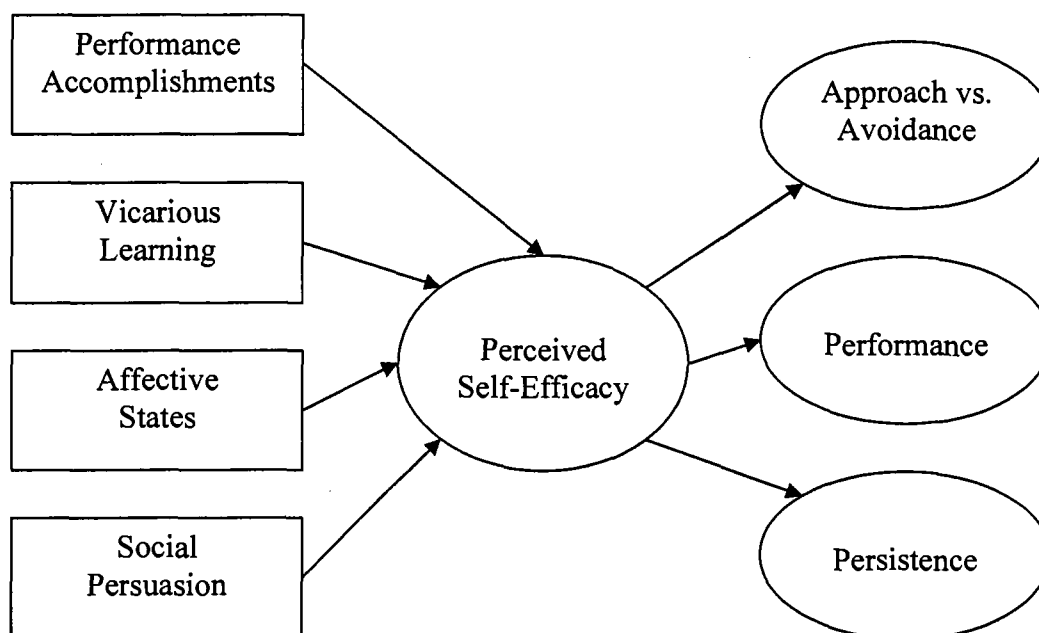


Figure 1. Bandura's sources and consequences of self-efficacy. Adapted from Betz (2004).

Research has supported the theoretical predictions of Bandura's theory (Eccles & Wigfield, 2002). Numerous studies have shown the relationship between self-efficacy beliefs and grade point average. An example of research confirming the relationship between self-efficacy and motivation is Scheel and Gonzalez's (2007) study which found academic self-efficacy to be a predictor of academic motivation in high school students.

Self-efficacy theory was a particularly relevant contributor to the synthesized model of academic motivation because it not only proposes what predicts motivation, it also suggests causes that may be manipulated in order to increase motivation. Self-

efficacy is also intricately interwoven into a number of other motivation and career development theories.

Locus of Control Theories. Locus of control theories are also theories focused on expectancy. Locus of control theories propose that individuals expect to succeed to the extent they feel in control of their own successes and failures. An example is Rotter's (1975) theory of locus of control which developed out of social learning theory. Rotter described social learning theory as containing four variables: behaviors, expectancies, reinforcements, and situations. The behavior that occurs in a situation is a function of the expectancy that the behavior will result in a particular reinforcement. Locus of control refers to whether the individual perceives the reinforcement as being dependent upon the individual's own actions. Rotter (1975) described locus of control as being either internal or external. Individuals who believe in external control believe that things happen as a result of luck, chance, fate, or powerful others. Those with an internal locus of control believe that things happen because of their own ability or behavior. Individuals with an internal locus are more likely to change their behavior. Marks (1998) pointed out that although Rotter cautioned practitioners to not assume that the characteristics of individuals with internal locus of control are all positive and those with external are all negative, most research and practice have assumed that internal control is better. Marks (1998) argued that the preference for internal control is the result of Western cultural bias.

Locus of control theory has been integrated into other broader theories. The variable of locus of control has been widely used in research. Marks (1998) found over 4000 studies which used this variable. Locus of control is an integral part of the self-

determination theory and attribution theories discussed below. Locus of control is noted in the synthesized conceptual model of academic motivation for its influence on effort strategies which enhance self-efficacy.

Self-Determination Theory. Self-determination theory, developed by Ryan and Deci (2000), is one of several theories that focus on why people choose to do the things they do. Self-determination theory distinguishes between motivation that is internally generated (intrinsic motivation) and motivation that is externally coerced (extrinsic motivation). According to self-determination theory, intrinsic motivation is the natural inclination toward assimilation, mastery, spontaneous interest, and exploration that all humans share. This premise is based on the observations of developmental psychologists who note that from birth children are inquisitive and curious. Ryan and Deci (2000) also noted that the maintenance and enhancement of this natural inclination over the lifespan requires supportive conditions. They hypothesized that intrinsic motivation was more likely to flourish in social environments providing security and relatedness. Likewise, the natural inclination toward intrinsic motivation could be thwarted by social environments not providing these kinds of support.

A major premise of self-determination theory is that there are three basic psychological needs that are influenced by the social environment: autonomy, competence, and relatedness (Deci & Ryan, 2008). Autonomy refers to the individual's feeling that they may choose and implement their own actions. Although there has been some argument that autonomy only applies in individualistic cultures, Deci and Ryan (2008) noted that subsequent research in a variety of countries, including those which value collectivism, have supported the notion of the importance of autonomy. The second

psychological need is competence or effectiveness. This refers to individuals' beliefs that they have the ability to exert some impact on the environment and have some control over outcomes. This need echoes the premises of self-efficacy and locus of control theories. The third need is relatedness, having satisfying relationships and healthy social connections. According to Deci and Ryan (2008) an environment that fosters autonomy, competence, and relatedness promotes intrinsic motivation.

In self-determination theory types of motivation are described in a continuum based on degree of autonomy and three types of motivation: intrinsic, extrinsic, and amotivation (Ryan & Deci, 2000). Intrinsic motivation refers to the motivation to do an activity simply because of the inherent satisfaction of the activity itself. Extrinsic motivation refers to performing an action in order to obtain a separate outcome. For example, individuals may go to work only for the reward of a paycheck. Ryan and Deci (2000) noted that although intrinsic motivation is highly desirable, much of what people do throughout their lifetimes is not intrinsically motivated. Amotivation refers to lack of motivation. When people are amotivated they either do not act at all or they simply go through the motions.

The self-determination continuum begins with amotivation. There may be several reasons for amotivation: not valuing an activity, not expecting it to produce a desired outcome, or not feeling competent to do it (self-efficacy). The relationship between values and expectations and amotivation are discussed later in expectancy-value theories. Extrinsic motivation is divided into four types based on degree of autonomy. On one extreme is external regulation. This is based on reward and punishment. The individual may feel controlled or alienated. The next type of extrinsic motivation is introjected

motivation. In this type the person has partially internalized the regulation. Motives for action may be approval-seeking or avoidance of shame. The third type of extrinsic motivation, according to Ryan and Deci (2008), is called identified regulation. In this type the individual has accepted the regulation as being personally important. The fourth type, integrated regulation, occurs when the regulations are fully assimilated. In other words, they fit into the individual's other values and needs. Integrated regulation is very similar to intrinsic motivation, but it differs because the motivation is still for obtaining a separate outcome, not for the inherent enjoyment of the task. When motivation is more autonomous, as in the last two regulatory styles of extrinsic motivation, its influence on behavior is similar to intrinsic motivation. Figure 2 describes the continuum from amotivation to intrinsic motivation.

A considerable number of studies have found that autonomous motivation is associated with more engagement, lower dropout rates, and higher quality learning (Ryan & Deci, 2000). A study of Canadian college students (Faye & Sharpe, 2008) and Belgian college students (Vansteenkiste, Simons, Lens, Sheldon, & Deci, 2004) both supported self-determination theory. In studies concerning the motivation of troubled and troubling youth, Harper (2007) found that autonomy support influenced behavior change. Keiner (2006) found that college students with an autonomous orientation were more likely to engage in career exploration activities. In a study of first-generation community college students, Prospero and Vohra-Gupta (2007) found that amotivation and extrinsic motivation contributed significantly to lower grades. Ghassemi's (2007) study of

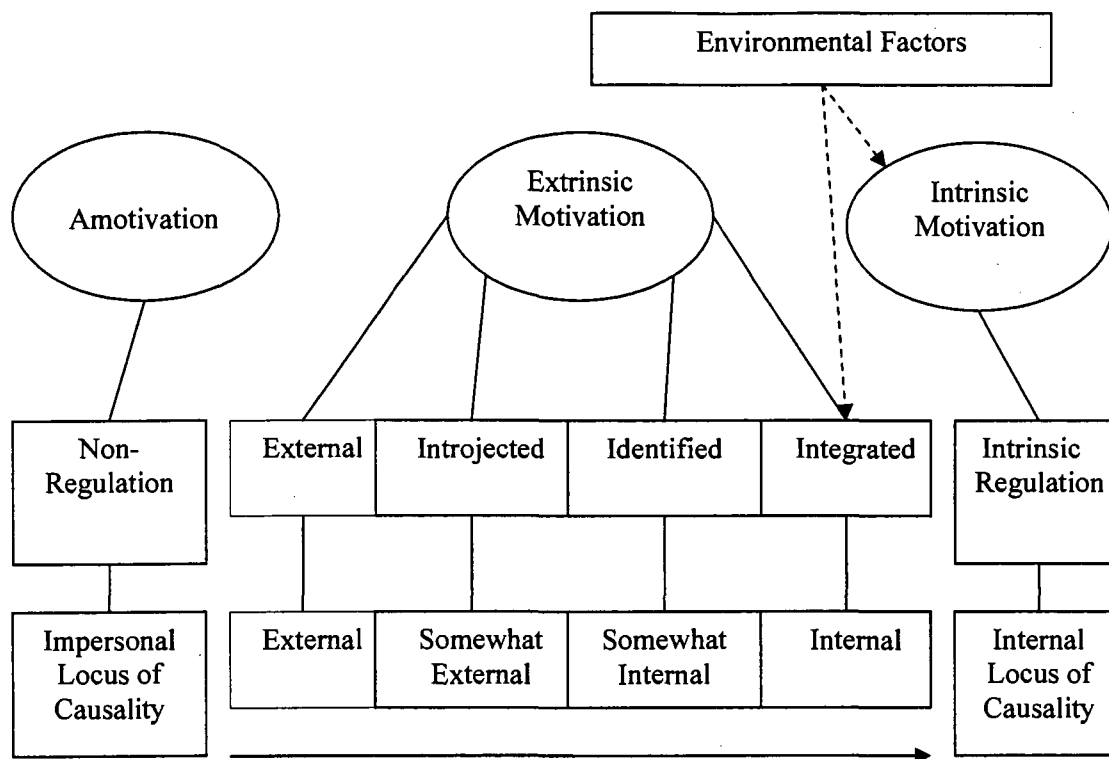


Figure 2. The self-determination theory continuum of motivation.

community college students found a positive correlation between intrinsic motivation and career decidedness.

The piece of self-determination theory that was most relevant to the synthesized model of academic motivation was the description of environmental factors that are conducive to the development of intrinsic motivation and subsequent achievement. These factors are an environment that supports autonomy, competence, and relatedness.

Flow Theory. Flow theory, developed by Csikszentmihalyi (1990), also describes why people choose to do what they do. This theory defines intrinsic motivation in terms of the subjective experience that occurs when people are deeply engaged in an activity. When individuals are in a state of flow they perceive their performance as being

pleasurable and successful and the activity as worth doing for its own sake.

Csikszentmihalyi (1990) stated that when in the state of flow, the experience is so enjoyable that people will do it even at great cost just for the sake of doing it. In his studies of the state of flow in the work environment, he found that people who were more often in flow were especially likely to feel strong, concentrated, and motivated. The flow experience only occurs when the skills are not too high or too low for the challenge (Shernoff, Csikszentmihalyi, Sneider, & Shernoff, 2003). There is a delicate balance between challenges and skills. If the challenges are low and skills are too low, apathy will occur. If challenges are high and skills are low, anxiety results. If the challenges are low and skills are high, relaxation occurs.

Recent research has shown that for the condition of flow to occur, both challenges and skills must be high (Eccles & Wigfield, 2002). A longitudinal study of high school students across the United States (Shernoff, Csikszentmihalyi, Sneider, & Shernoff, 2003) and a study of Japanese college students (Asakawa, 2004) supported the proposition that challenges and skills must both be high for flow to occur. However, a study of Chinese college students (Moneta, 2004) found that the Chinese tend to experience the highest level of intrinsic motivation when the challenge is low and the skills are high. Moneta (2004) suggested that this variation may be caused by the Chinese internalization of collectivist values and suggested that this finding calls for a multicultural development of flow theory.

Flow theory contributed the notion of the balance between skill level and challenge level to the synthesized model of academic motivation. In deference to multicultural perspectives, the required challenge level is not assumed to be high, only

appropriate to the individual. However, high skill level is assumed in the model to be an enhancer of motivation.

Interest Theories. Interest is a variable that appears in almost every theory of motivation. It is an important factor in educational psychology. Both students and teachers attribute differences in academic motivation to interest. Pioneering educator John Dewey stressed the importance of interest as a precursor to motivation and learning (Zimmerman & Schunck, 2008). Hidi and Ainley (2008) described interest as being a psychological state with both affective and cognitive components. They described the moment in which interest is triggered as being a positive affective, or emotional, state. As interest continues to develop, the cognitive component of the process emerges. They described two types of interest: situational interest and individual interest. Hidi and Renninger (2006) proposed a four-phase model of interest development from the situational to the individual. Schiefele (1991) approached interest theory in a different manner. He defined interest as a content-specific motivation characteristic with intrinsic feeling-related and value-related components. The feeling-related component refers to the enjoyment and involvement feelings associated with the object or activity of interest. The value-related component refers to the personal significance of the object or activity. Both Hidi and Renninger's (2006) model and Schiefele's (1991) model make important contributions to the understanding of the relationship between interest and motivation.

Hidi and Renninger's (2006) model describes interest as developing in four sequential and distinct phases. These phases are cumulative and progressive. However, they must be supported and sustained or they can become dormant or disappear. The first of the four phases is triggered situational interest. Interest can be sparked by activities

that are novel or appealing in some way. Triggered situational interest is short term and task or activity specific. The second phase is maintained situational interest. This phase involves focused attention and persistence over time. Interest is held through meaningful tasks and personally involving activities. It is generally externally supported. The third phase is emerging individual interest. During this phase individuals start to have an enduring predisposition to reengage in tasks related to the interest. It is characterized by positive feelings and the beginnings of an accumulation of content-related knowledge and value. The fourth phase is well-developed individual interest. The predisposition to reengage in tasks related to the interest is now relatively enduring. This phase is characterized by positive feelings, increased knowledge and value, and higher levels of self-reflection. The model is represented in Figure 3.

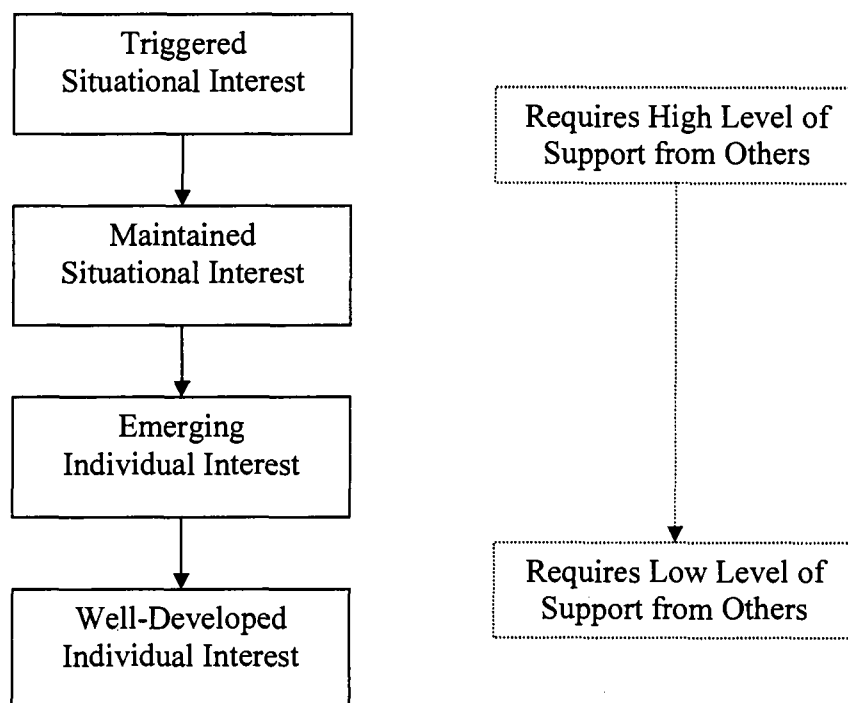


Figure 3. Development of interest as described by Hidi and Renninger (2006).

Schiefele (1991) proposed that there are two distinguishable components of individual interest. The first component, the feeling-related valence, refers to the feelings that are associated with an object or an activity. These might be described as involvement, stimulation, or flow (Eccless & Wigfield, 2002). The second component is the value-related valence which refers to the personal significance or importance of an object or activity. An activity might have personal significance because it contributes to the person's personal development or competence (Schiefele, 1991). Both valences are highly correlated to each other, but in any situation one valence may be more important than the other. For example, an interest may create strong feelings of excitement or it may have value because of its personal meaning. Schiefele also noted that the valences relate to the intrinsic character of the interest, not to events external to the interest. An example is the difference between the interest in reading a book and the interest in passing an exam about the book. Schiefele (1991) proposed a hypothetical model of the relationship between interest, learning, and motivation. He divided the model into three phases representing the course of an action: pre-actional, actional, and post-actional.

In Schiefele's (1991) model general motivation orientations (such as a general achievement motivation orientation or a task oriented motivation) and interest (intrinsic feeling-related and value-related valences) contribute to the motivational orientation toward a specific task. This task-specific orientation may be intrinsic or extrinsic. For example, the individual may want to learn about a topic for its own sake or for external reasons. Input to the task-specific motivation orientation may include internal and/or external stimuli. During the action phase of performing the task there are two effects. One effect is emotional, such as a feeling of enjoyment. The other effect is cognitive, such as

using learning strategies. The post-actional phase includes the learning outcome, or depth of comprehension. The post-actional phase also includes the evaluation of the learning outcome, emotional experience, and personal significance. The results of the learning outcome loop back to influence the cognitive characteristics, such as knowledge and learning strategies, which will influence the next task. The evaluation loops back to provide input into general motivation orientation and interest. Schiefele (1991) based his model on the results of six separate empirical research studies. A simplified version is shown in Figure 4.

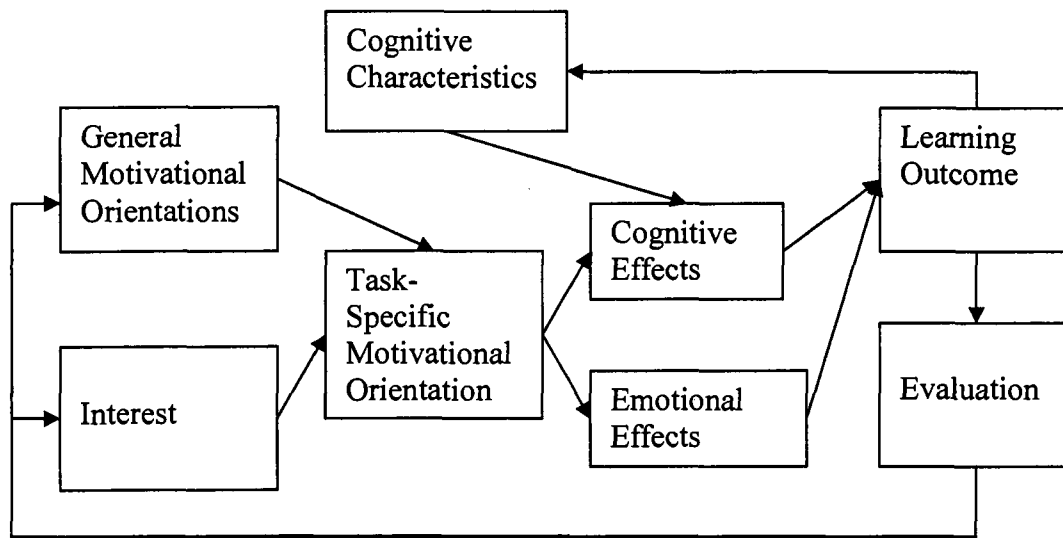


Figure 4. Model of interest theory adapted from Schiefele (1991).

Both Hidi and Renninger's (2006) and Schiefele's (1991) theories have relevance in academic motivation. Hidi and Renninger's theory contributed to the model the notion that meaningful experiences and high levels of support are required while an individual is developing interest. Schiefele's (1991) theory contributed the idea that in addition to interest, general motivational orientations influence task-specific motivation. Schiefele's

(1991) theory also supports the iterative effects of motivation. Learning outcomes become input to the next motivational situation. Both interest theories support the self efficacy and self-determination theories and the importance of a supportive environment for the growth of motivation. The interest factor was included as a key factor in the synthesized model of academic motivation.

Goal Theories. Goals are the method for putting interests into action. Goals have an important relationship with motivation. Zimmerman (2008) found that when students set goals for themselves, they are more motivated. According to Bandura (1997), individuals engage in self-observation and self-evaluation concerning their personal goals. Individuals first set goals for their behavior. They monitor the discrepancies between their goals and their performance. If they find a large discrepancy between their goals and their performance, they are motivated to decrease the discrepancy. Although the literature supports this relationship between the discrepancy and motivation (Radosevich, Rota, Law, & Kim, 2007), studies by Austin and Vancouver (1996) have found a number of different reactions to the discrepancy. Some individuals persist in striving, others revise their goals or allocate additional resources to them and others abandon their goals when the discrepancy is large. Zimmerman (2008) described the effects of goals on motivation. Goals enhance choice and attention toward goal-relevant tasks and away from goal-irrelevant tasks. When individuals have goals they increase their efforts in order to attain the goals. Goals also sustain their persistence and increase their affective reactions to the targeted outcomes.

Goal orientations are of two types: mastery goal orientation and performance goal orientation (Linnenbrink & Pintrich, 2002). Mastery goal orientation focuses on learning

and understanding. Performance goal orientation focuses on demonstrating ability or competence particularly in relation to others. Another dimension to the orientations is the approach or avoidance dimension. Individuals with approach mastery goals focus on understanding. Individuals with avoidance master goals try to avoid misunderstanding. Individuals with approach performance goals focus on outperforming others, while those with avoidance performance goals try to avoid appearing stupid. In a study of college students, Radosevich, Rota, Law, and Kim (2007) found that students' performance was positively influenced by a performance-approach orientation but negatively associated with a performance-avoid orientation.

Goals were included in the synthesized conceptual model of academic motivation as a major factor influencing motivation. Goal theory, along with intrinsic motivation theory, self-determination theory, flow theory, and interest theory, provide a model for conceptualizing why people do the things they do. These are the theories that Eccles and Wigfield (2002) describe as focusing on task value.

Attribution Theory. The two categories described above focused on expectancies and task values. The next category is theories that integrate expectancies and values. Two examples of integration categories are: attribution theory and expectancy-value theory.

Wiener's attribution theory of achievement motivation proposes that future behavior is determined in part by how the person perceives the causes of past events (Wiener, Nierenberg, & Goldstein, 1997). Individuals attribute their outcomes (successes and failures) to a variety of factors. These factors include ability, effort, task difficulty, and luck (Schunk, 2008) Students may also attribute causes to negative factors, such as

illness, distractions, teacher's attitude, and room conditions. For any outcome more than one factor may be involved. For example, when students do well on tests, they may attribute their success foremost to ability (belief that they are good at that subject) and secondly to effort (they studied for the test). According to attribution theory, attributions have a direct relationship with motivation. When students feel they can control their outcomes, they are motivated to learn. When students feel their reasons for failure are stable and uncontrollable (for example, lack of ability), they are likely to decrease their achievement striving (quit studying). The result is lower expectations, motivation, emotions, and self-regulation (Eccles & Wigfield, 2002; Schunck, 2008). As Figure 5 illustrates, the factors may be internal or external to the person; they may be stable or unstable over time; and they may be controllable or uncontrollable.

In a longitudinal study of Canadian college students Hall, Hladkyj, Perry, and Ruthig (2004) examined the impact of attributional retraining on student motivation and achievement. The purpose of the retraining was to assist students in viewing their performance as being unstable and controllable. The results indicated that those students receiving attributional retraining increased their perceptions of self-control and improved their academic performance.

The contribution of attributional theory to the synthesized model of academic motivation was its relationship to effort strategies. In other words, when individuals attribute their success to be controllable, they are more likely to be motivated to use effort strategies to achieve success.

Expectancy-Value Theory. Expectancy-value theories provide an integration of expectancy theories and value theories. Expectancy-value theories propose that

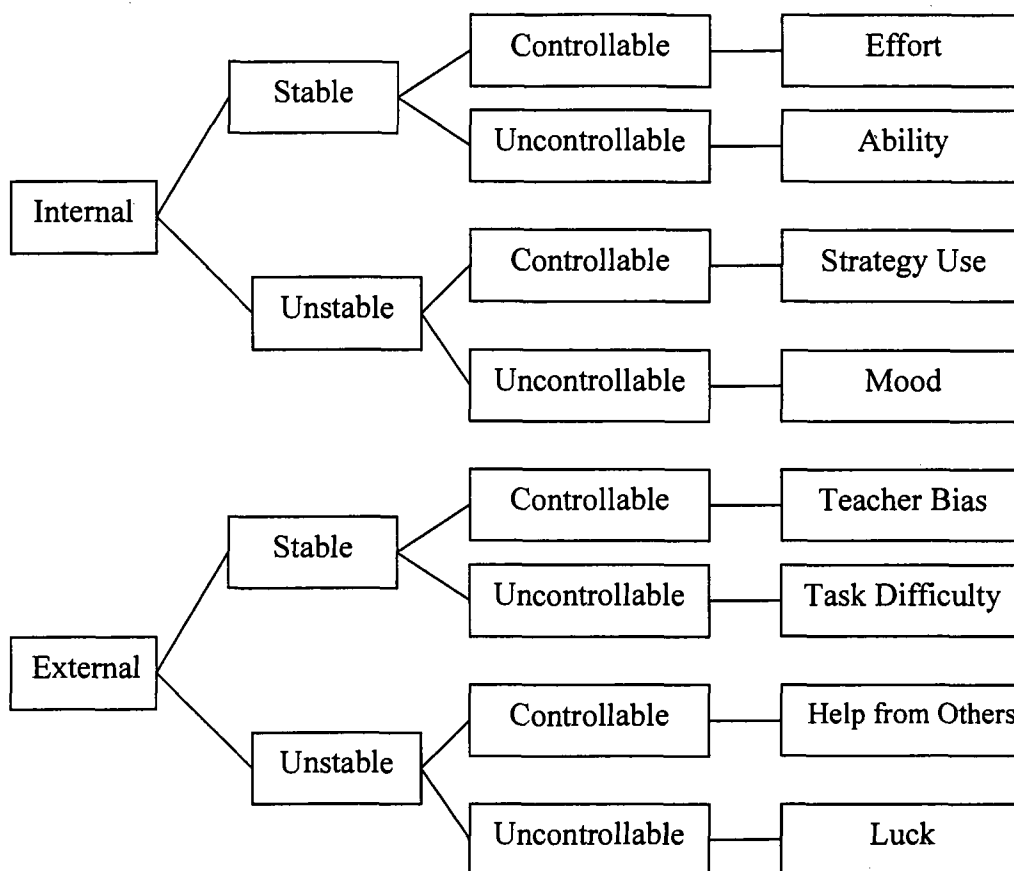


Figure 5. Weiner's classification of attributions. Adapted from Schunck (2008).

individuals' motivations to perform different achievement tasks are based on their expectancies for success and the value they ascribe to the outcomes (Wigfield, 1994). Expectancies for success are generally thought of in self-efficacy terms. Values have several components. The expectancy-value model describes four-components of task-value: attainment value, intrinsic value, utility value, and cost (Eccles & Wigfield, 2002). Attainment value is the importance of doing well on a particular task. Intrinsic value is interest. Utility value is usefulness. Cost value includes the negative aspects of engaging

in the task (such as anxiety), effort needed, and lost opportunities. Figure 6 illustrates the components.

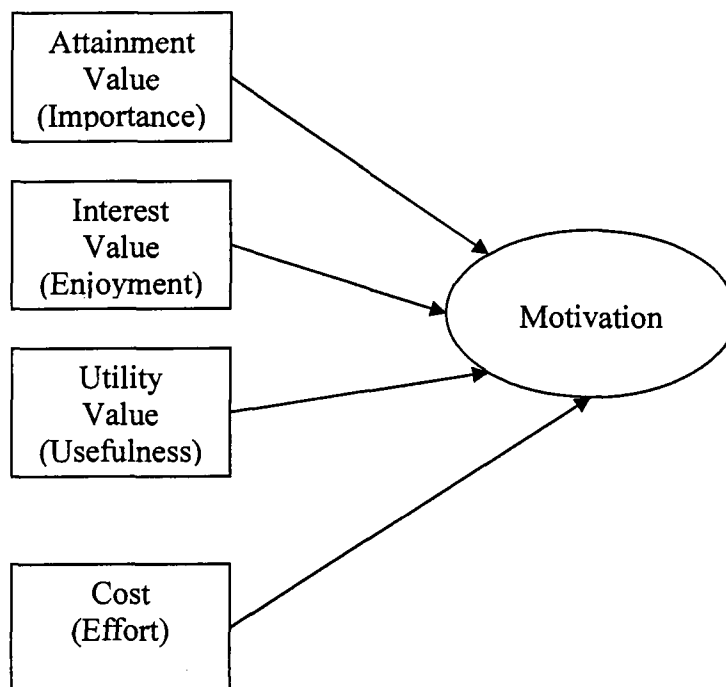


Figure 6. Components of achievement task values in the expectancy-value model.

Adapted from Wigfield, Hoa, & Klauda (2008).

Research of adolescents performing domain-specific tasks (such as in mathematics or English) have supported the relationship between expectancy beliefs, perceived values, and achievement motivation (Eccles & Wigfield, 2002). In activities such as making enrollment decisions, task values were a stronger predictor (Eccles & Wigfield, 2002). In career choices, expectancies and values were both predictors.

Expectancy-value theory added important components to the synthesized conceptual model of academic motivation. The theory contributed the notion that value is an important influencer of motivation. Simply put, if an individual does not value an

activity, he or she will not be motivated to participate in it. Expectancy-value theory also added the idea that there are multiple types of values.

Social-Cognitive Theories. The last type of motivation theory to be reviewed, social-cognitive, falls into Eccles and Wigfield's (2002) category of theories integrating motivation and cognition. Social-cognitive theories which link motivation to self-regulation of behavior are particularly useful in describing how motivation relates to academic achievement. Zimmerman and Schunk (2008) described self-regulation as the process by which learners are active in their own learning process and in achieving their own goals. In response to questions concerning whether self-regulated learning is solely a Western cultural construct, they replied that self-regulation does not refer to social isolation. McInerney (2008) found that self-regulation was related to motivation and high achievement regardless of the cultural background of the learner, but the ways these qualities were manifested varied by culture. Research has supported the idea that self-regulated learning increases academic success. Zimmerman and Schunck (2008) proposed that motivation can be a precursor to self-regulated learning, a mediator of self-regulated outcomes, and an outcome of self-regulated learning. They listed numerous sources of motivation: goal orientation, interest, self-efficacy, outcome expectancy, future time perspective, task values, volition, intrinsic motivation, causal attributions, goal setting, self-reactions, social motivation, gender identity, and cultural identity.

The contribution of social-cognitive theory to the synthesized conceptual model was the confirmation that the motivational factors previously discussed (self-efficacy, causal attributions, intrinsic motivation, interests, goals, and values) are contributors to

academic motivation. Social-cognitive theory also reinforced the iterative nature of motivation.

Synthesized Model of Academic Motivation

The nine motivational theories described above illustrate the wide variety of thought concerning motivation. In addition to different approaches to the causes of motivation, such as the role of interests or values, there are differences in the concept of motivation, the value of intrinsic versus extrinsic, and what motivation means to people from cultures other than Western cultures. At the same time there are considerable differences; there are also similarities and overlapping themes. The synthesized model was created by choosing the elements which represented dominant and reoccurring themes and weaving them together into a model of academic motivation.

Four themes arose in the discussion of factors influencing motivation. These are: self-efficacy, goals, interests, and values. The model also includes two additional factors, general motivational orientation and social environment. The general motivational orientation factor, identified by Schiefele (1991), serves as a reminder that motivation is task or domain specific. For example, a student might be highly motivated to study science but have little motivation for studying history. However, the student's general motivational orientation towards academic achievement might mediate the effects of lack of motivation for a particular subject. The social environment factor illustrates that motivation is not formed in a vacuum. As Ryan and Deci (2000) proposed, a social environment that supports autonomy, competence, and relatedness encourages the natural inclination of individuals to be intrinsically motivated. In addition to the four major

influential factors, the conceptual model proposes three effects of motivation: increased performance, persistence, and achievement.

The model incorporates Bandura's (1997) theory that self-efficacy comes from four sources: social or verbal persuasion, vicarious experiences, physiological and affective states, and mastery experiences or accomplishments. The model proposes an iterative relationship between self-efficacy and motivation. Self-efficacy enhances motivation, which results in achievement, which in turn enhances self-efficacy.

The model proposes that goals influence motivation. It illustrates that the type of goals which are most likely to increase motivation are mastery approach goals. In other words, in an education setting, students are likely to experience the highest levels of motivation to perform a task when they are doing it for obtaining understanding of the subject rather than doing it to outperform others. Although goals are shown in isolation in the model, they are actually highly influenced by interest and values. Individuals set goals for themselves in areas that are of personal interest and value to them. Likewise, goals have a close relationship with self-efficacy. The accomplishment of goals increases self-efficacy and self-efficacy influences the choice of goals.

Interest is the factor most commonly associated with motivation. It is the factor that educators most often attempt to manipulate. Conventional thinking is that if a course is interesting, students will be motivated to learn the subject matter. The model includes Hidi and Renninger's (2006) proposal that situational interest, sparked by attention-grabbing activities, can be nurtured into a highly developed individual interest. Highly developed individual interest influences motivation. The interest factor also incorporates the flow theory proposal that states that there is a balance between skill level and

challenge level. For example, if a task appears to be too difficult or completely unchallenging, an individual will have little interest in attempting it. The model illustrates the iterative process of motivation regarding interest. When individuals are motivated, they perform, persist, and achieve. The achievement improves their skill level which in turn increases their interest and their motivation.

Values are the fourth major influence on motivation. Values are labeled as expectancy-value in the model to illustrate their role in the expectancy-value model (Eccles & Wigfield, 2002). This model proposes that motivation is influenced by the interest value of a task, the attainment value, and the utility or usefulness. Cost is also a factor in motivation.

The synthesized model of academic motivation (Figure 7) includes the factors that influence motivation, as well as the elements that result from motivation. Most important, the model illustrates the iterative nature of motivation. The achievement which results from motivation becomes the input into future motivation. Although the synthesized model provides a view of what influences motivation and what results from motivation, it does not address how to increase motivation. In the following discussion strategies for enhancing motivation are reviewed within the context of the synthesized model.

Strategies for Enhancing Motivation

The synthesized model of academic motivation provides an understanding of the factors related to motivation. In order to make the model useful as a framework for enhancing academic motivation in community college students, strategies for enhancing motivation are considered within the context of the model.

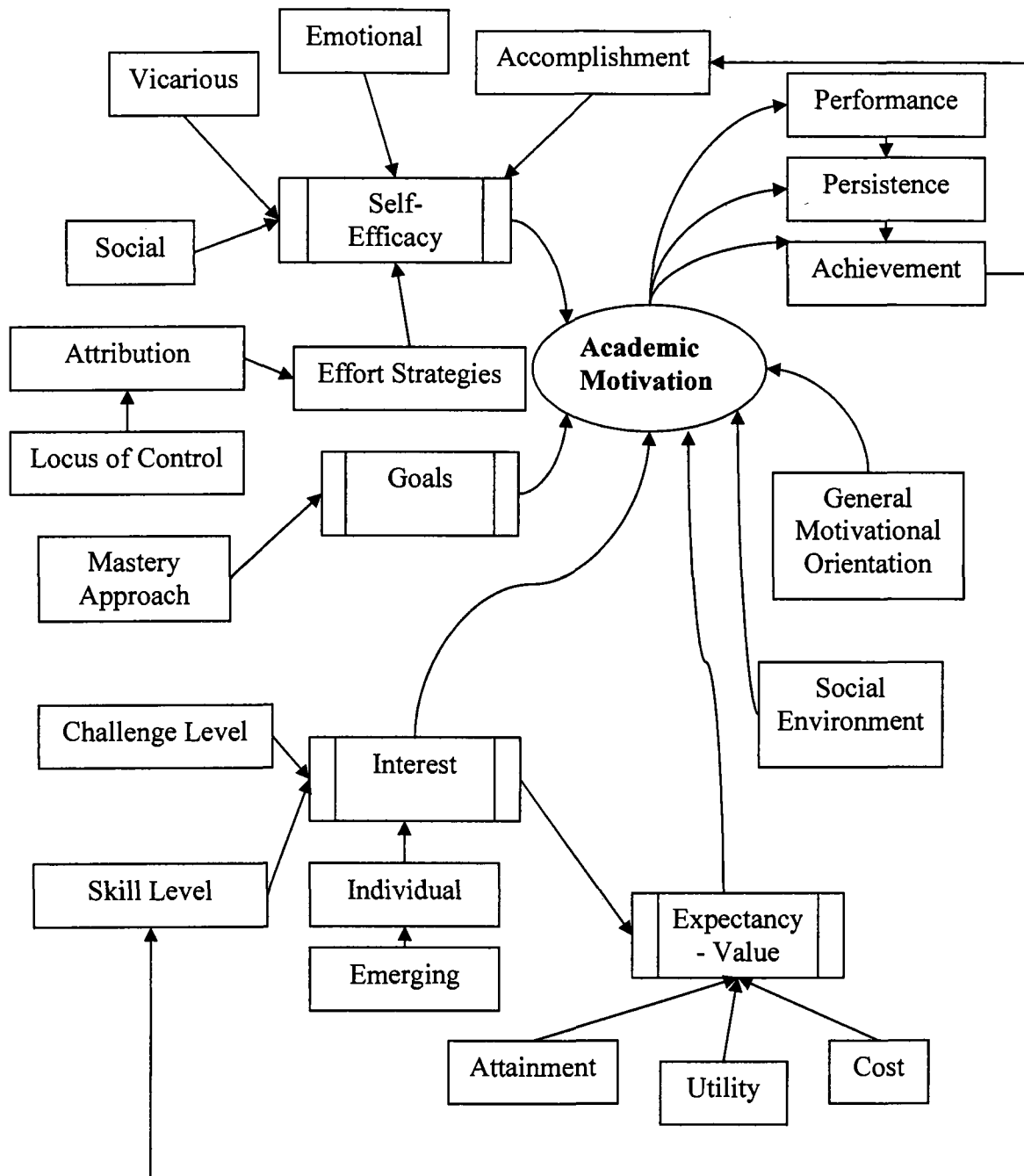


Figure 7. Synthesized model of academic motivation.

Educators have long sought ways to improve the academic motivation of students. Traditional motivational strategies were rooted in the extrinsic motivation model where

students were rewarded with extrinsic motivators such as grades and competitive assessment procedures (Zimmerman & Schunk, 2008). Current research has found instructional practices to be leaning towards the promotion of intrinsic motivation. Intrinsic motivation has been found to positively relate to learners being more self-regulated and feeling more competent at learning. Although there is an emphasis in the literature on active learning strategies for promoting intrinsic motivation, community college professors reported they were not always incorporating these strategies into their classrooms. For example, 31% said that they spent 50-100% of their class time lecturing (Community College Survey of Student Engagement, 2008). This illustrates the need for the inclusion of strategies in the model.

The strategies described below are strategies that have been proposed for use in the classroom, however, these same strategies are useful in workshops, psycho-educational groups, and other learning situations. The term educator is used in place of teacher in order to make it clear that these strategies are not confined to the academic classroom. These strategies may be used by teachers, facilitators, advisors, and counselors. It should be noted that these strategies are not intended to be an exhaustive list of every strategy that might enhance motivation. They are intended to be a starting point for a straw model which students participating in the Delphi study will use to describe in their own words what educators can do to enhance students' academic motivation.

Wlodkowski (1999, p. 22) offered the proposition that, "...if something can be learned, it can be learned in a motivating manner." Much of the current educational literature (e.g., see Mackeracher, 2004; Brophy, 2004) draw on Wlodkowski's

motivational theory. He proposed four conditions that substantially enhance motivation to learn. These include: establishing inclusion, developing attitude, enhancing meaning, and engendering competence. The strategies listed below (in italicized print) are derived from Wlodkowski's (1999) and Wlodkowski and Ginsberg's (1995) guidelines for motivating adult learners and for culturally responsive teaching.

Establish Inclusion. *Create an environment where students feel connected to and respected by faculty, staff, and each other* (Wlodkowski, 1999).

Wlodkowski (1999, p. 69) defined inclusion in the following way:

Inclusion is the awareness of learners that they are part of a learning environment in which they and their instructor are respected by and connected to one another...

At the same time there is a mutually accepted, common culture within the learning group and some degree of harmony or community.

This is the type of environment described in self-determination theory as increasing motivation (Deci & Ryan, 2008). The importance of the social environment has been found in numerous studies. Pan, Guo, Alikonis, and Bais (2008) found that social interaction programs increased retention. Freeman, Anderson, and Hensen (2007) found associations between a sense of class belonging and academic self-efficacy, intrinsic motivation, and task value. In a study of underrepresented community college students Hoffman and Wallach (2005) found that as a result of a mentoring program students reported higher internal locus of control, academic performance, and motivation. As illustrated in the synthesized model of academic motivation, the social environment encourages motivation, supports the development of interest, and influences self-efficacy.

Develop Attitude. *Use relevance and choice to create positive feelings toward learning (Wlodkowski & Ginsberg, 1995). Provide experiences that have personal relevance to students. Provide experiences that are relevant to students' cultural background. Allow students to make choices based on their experiences, values, needs, and strengths.*

Wlodkowski (1999) described attitude as a predisposition to respond either positively or negatively to a particular person, idea, event, or object. In order to create a positive predisposition towards learning, instructors should provide relevant experiences and choices. In discussing cultural responsive teaching, Wlodkowski and Ginsberg (1995) noted that the choices should be based on students' experiences, values, needs, and strengths. Wlodkowski proposed that choice leads to interest which leads to motivation. This view is consistent with Hidi and Renninger's (2008) theory of interest development and Schiefele's (1991) theory of the relationship between interest, learning, and motivation.

McKeachie (2002) wrote that most individuals value a sense of control over their environment. He suggested that even small gestures such as offering a choice of assignment topics acknowledge the student's perspective. Deci and Ryan (2008) proposed that choice, accompanied by accountability, supports autonomy, one of the necessary conditions for self-determination. They proposed that self-determination is an essential factor in the enhancement of motivation. Strategies for developing a positive attitude toward learning through relevance and choice enhance interest, locus of control, and value. As illustrated in the synthesized model, these are factors that influence motivation.

Enhance Meaning. *Provide learning experiences that have meaning and value to students (Wlodkowski & Ginsberg, 1995). Afford students the opportunity to gain deeper understanding of intrinsic, extrinsic, social, prestige, and cultural values that have personal meaning to them. Assign research projects that utilize students' strengths, values, and experiences.*

Wlodkowski (1999) proposed student involvement in learning situations would diminish if they do not find the learning to be meaningful. He suggested making students' goals, interests, and perspectives the context of meaning. Wlodkowski and Ginsberg (1995) proposed that authentic research assignments enhance meaning.

McKeachie (2002) encouraged college and university instructors to foster both the value of their courses as well as the expectancy for success in their courses, stating that students will typically direct their behavior toward activities where both are present. Expectancy-value theories support the premise that both value and expectancy for success are critical elements in motivation (Eccles & Wigfield, 2002). As illustrated in the synthesized model of academic motivation, expectancy-value is an important part of motivation.

Engender Competence. *Provide opportunities for students to gain confidence by applying what they are learning (Wlodkowski, 1999). Teach students strategies such as goal setting, planning, help seeking, and self-monitoring (Bembenutty, 2007).*

Wlodkowski (1999) stated that competence builds confidence. When students have a chance to apply or practice what they are learning, they gain a sense of competence. This sense of competency, or self-efficacy, is a powerful motivator (Bandura, 1997).

Bembenutty (2007) suggested that instructors could boost students' self efficacy by demonstrating confidence in their students' ability to perform designated tasks, modeling the necessary steps of any particular task, providing guided practice in such a way that the students could see how they are progressing on the designated task. The self-efficacy gained in mastering goals contributes to a general motivational orientation of self-confidence. As Pajares (2008) pointed out, self-efficacy is a cyclical process, where the self-efficacy gained from one task provides input when one approaches another task.

Bembenutty (2007) proposed that students' self-efficacy could be raised by teaching students self-regulatory strategies such as goal setting, planning, help seeking, and self-monitoring. Self-efficacy could also be raised through teaching cognitive strategies such as associating prior successful performance with current performance. Extensive research has validated the positive impact of self-regulated learning strategies (Zimmerman & Schunk, 2008). This body of research has shown that self-regulated learners set better learning goals, use more effective learning strategies, establish a more productive learning environment, seek assistance when needed, expend more effort, and persist better. Providing students with strategies for self-regulating their learning helps them to achieve higher academic success and gain confidence in their abilities.

The role of self-efficacy is illustrated in the synthesized model as an important factor influencing motivation. In addition, this factor has a direct influence on other factors, such as interest and value.

The four motivational strategies provide a framework for creating learning experiences which enhance academic motivation. These strategies were derived from the theoretical and empirical literature. They utilize instructional strategies believed to be

influential in increasing self-efficacy, enhancing awareness of interests and goals, and successfully setting and achieving goals. Figure 8 illustrates the influence of motivational strategies on the learning experiences of students.

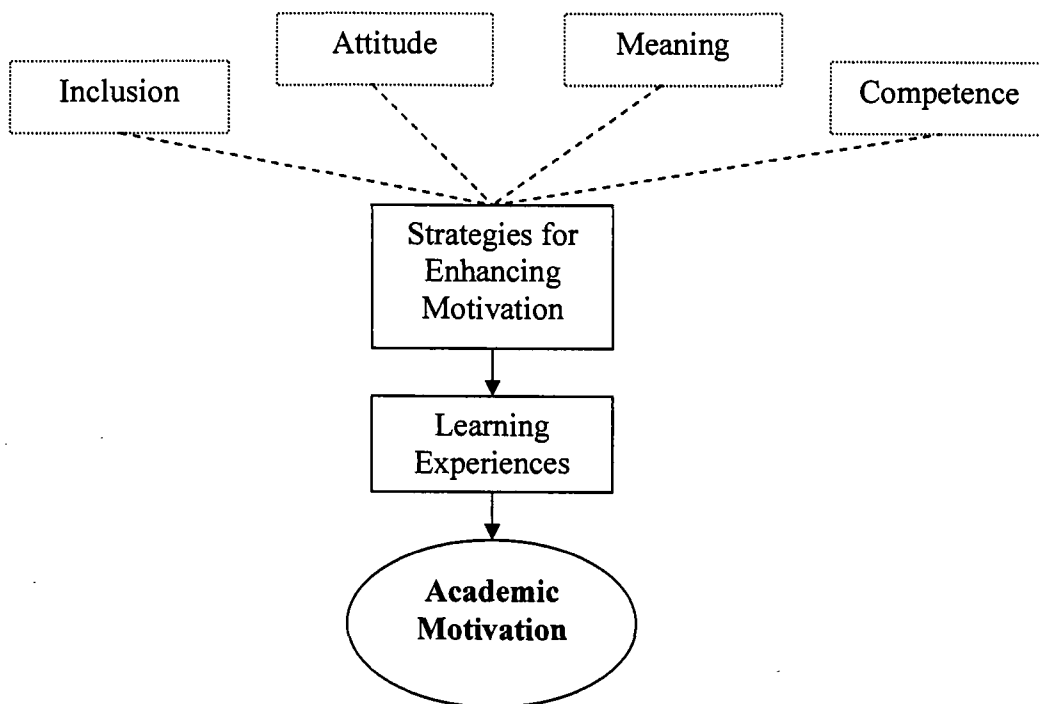


Figure 8. Synthesized model of strategies for enhancing academic motivation.

The synthesized model of academic motivation and the model of strategies for enhancing academic motivation both contribute to the conceptual model of career development to enhance academic motivation. In the next section the career development portion of the conceptual model is described.

Career Development

There is evidence to support Tinto's (1993) argument regarding the importance of career decisions in student retention. Current studies have found commitment to a major to be a significant predictor of grade point average (Graunke & Woosley, 2005; Metz,

2005). Students who believe that college will provide better employment opportunities and better careers are more likely to persist (Peterson & Delmas, 2002). Career decidedness is positively correlated with higher college satisfaction (Lounsbury, Saudargas, Gibson, & Long, 2005). African-American sophomores enrolled in high-demand majors were more likely to persist, while White freshmen who were undecided about their majors were less likely to remain in school (St. John, Hu, Simmons, Carter, & Weber, 2004). These studies illustrate the variety of positive relationships between career development and academic success.

Theories of Career Development

Career development has been conceptualized using a variety of theories. Sharf (2009) divided these into three categories: trait and factor theories, life-span theories, and special focus theories. Gordon (2007) used a similar classification which included: developmental theories, career decision-making theories, trait and factor theories, social learning, and cognitive theories. Herr (2001) noted that in the current global environment, theories which are holistic and comprehensive are gaining attention. In particular, there is an emphasis on theories that emphasize context and cultural diversity. In this study the following theories were chosen for inclusion in the synthesized model of career development: trait and factor, developmental, career decision-making, social-cognitive, and values-based. These studies have application to not only career development but also relate to academic motivation.

Trait and Factor Theories. Parsons, who is considered to be the founder of vocational guidance in America, proposed a model of career development that has formed the basis of practice and research for the past century (Hartung & Blustein, 2002).

Parsons (1909, as cited by Sharf, 2009) believed that the wise choice of a vocation consisted of three factors: an understanding of self, an understanding of the world of work, and reasoning on the relationship between these two sets of factors. His views formed the foundation of what later became known as trait and factor theory (Sharf, 2009).

Holland (1997) described personality types as a component of trait and factor theory. Holland proposed that career choice is a function of the interaction between the individual and the environment. He proposed that individuals tend to choose and flourish in environments that are compatible with their personalities. He proposed six categories of individual personalities and six similar categories of work environments (Sharf, 2009; Holland, 1997). Holland's theory is often called the RAISEC theory, based on the names of the six categories: realistic, artistic, investigative, social, enterprising, and conventional. Holland stated that personality types can be measured by ability and interest scales. Holland's theory has attracted much research. According to Sharf (2009) the theory has produced over 600 studies making it the most widely researched of all career development theories. Examples of recent Holland theory validation studies include the relationship between student personality types and educational environments (Feldman, Smart, & Ethington, 2004) and the prediction of college major persistence when the major fits with the individual's interests (Allen & Robbins, 2008).

Albion and Fogarty (2002) used Holland's theory to create a conceptual model illustrating the relationship between interests, personality, and career decision making. Their model illustrates the relationship between personality types and interest categories. This model also shows the link between extraversion and Holland's social and

enterprising types. Additionally, it shows the link between openness and the artistic and investigative types and the link between conscientiousness and the conventional type. Albion and Fogarty (2002) proposed that interest types would predict decision making status. They noted that Holland had previously found that creative types tended to exhibit high degrees of career indecision. They hypothesized that social and enterprising types were more likely to be competent decision-makers, while artistic, conventional, and realistic types were likely to exhibit more indecision. Investigative types were considered to be unknown. While interest factors did not directly predict career decision status in Albion and Fogarty's (2002) study, conscientiousness, which had been previously been linked to interest types, was a predictor. Career decision-making difficulties were particularly related to a sub-group item, perceived lack of career knowledge. Albion and Fogarty's model was tested on both high school students and adults with the result that both groups had a common pattern of difficulties in making career decisions. Albion and Fogarty's model illustrates the influence of personality type on career decision making, as well as the influence of other factors such as lack of readiness and lack of information (Figure 9).

Trait and factor theories contributed several elements to the synthesized model of career development. These theories added the element of personality type as an influence on career development. They also added lack of information as an influence on career decision-making process. Lack of information is discussed further in the decision-making theories. Trait and factor theories also added the important factor of interest to the model. The interest factor is further developed in social-cognitive career theory.

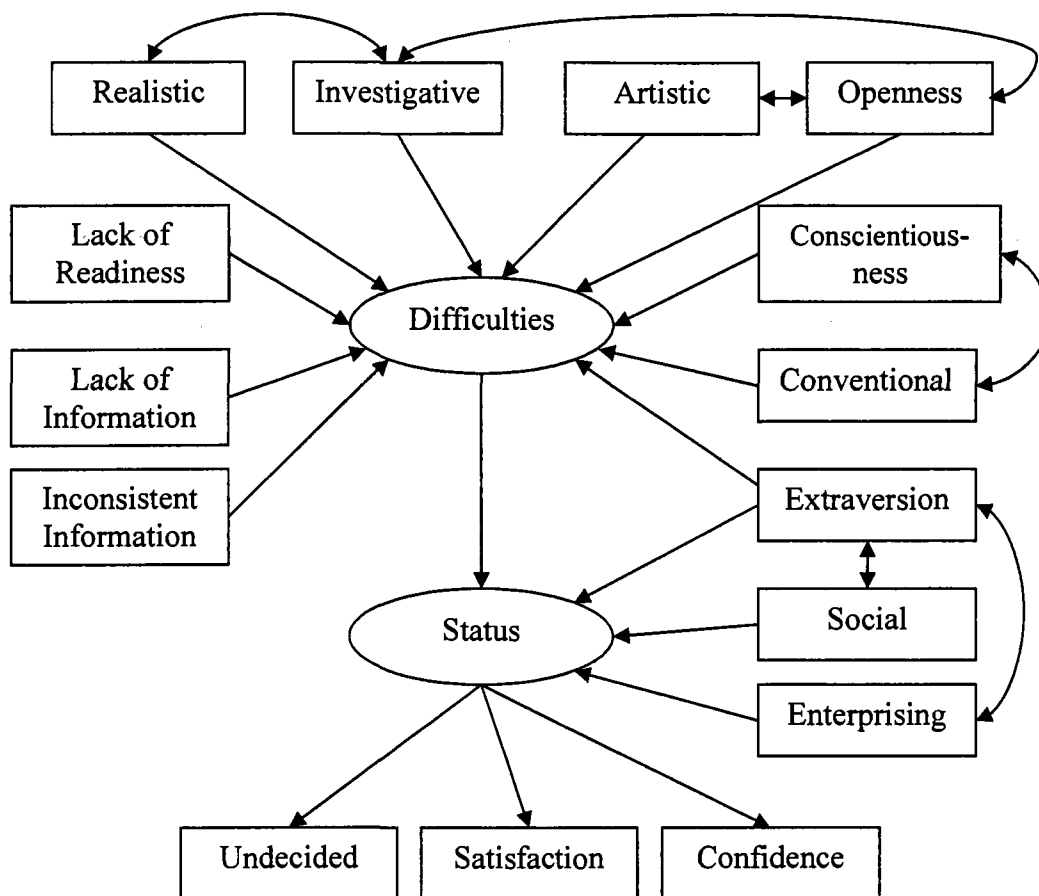


Figure 9. Conceptual model of the career decision-making process. Adapted from Albion and Fogarty (2002).

Developmental Theories. Super's life span theory introduced the concept of career planning as a developmental process (Super, 1953 as cited in Savickas, 2001). Super addressed the difference between the content of career development (what career was chosen) and the process of career development (how and why the decision was made). Super proposed two constructs important to career development: career salience and career maturity. To Super career salience meant the importance of the work role

relative to other life roles. In working with youth who lacked concern about career choices, Super pointed out that young people might find the work role to be peripheral to other roles, such as leisure. Super's other major construct, career maturity, can be described as having the knowledge and skills to make intelligent and realistic career choices (Levinshon, Ohler, Caswell, & Kiewra, 1998). Super conducted a number of longitudinal studies of his theory, invented a number of instruments for measuring career maturity, and collaborated actively with the international career development community (Sverko, 2001).

Super conceptualized his model of career development as a rainbow stretching throughout the individual's lifespan (Sharf, 2009). Around the outer arc of the rainbow are the developmental stages of the lifespan: birth, growth, exploration, establishment, maintenance, and disengagement. The inner arcs represent the life roles of child, student, leisurite, citizen, worker, and homemaker. The model proposes that the roles are overlapping and the strengths of individual roles become more or less important throughout the lifespan. Super contended that individuals could recycle through the various stages at any time. Super's model added to the understanding of career development by placing it within the context of the lifespan of the individual and by offering an explanation for lack of readiness to make career decisions.

Although Super's life span theory was not included as a separate element in the synthesized model, his concepts of career salience and career maturity were key elements in the decision-making theories that follow. These two elements put career decision-making theories into the context of the life span.

Career Decision-Making Theories. The career decidedness model has evolved from a simple dichotomous classification of decided versus undecided to a level model of degree of undecidedness to interactional classification models to multiple type classification models (Kelly & Pulver, 2003). The complexity of the current concept of multiple type classifications can be illustrated by Gordon's (2007) list of 18 studies of unique classifications for undecided students. In this review Tiedeman's (1979) developmental theory of decision making, Marcia's (1966) theory of multiple decision-making statuses, and Betz's (2004) career decision-making self-efficacy theory are discussed. In addition, a taxonomy of career decision-making difficulties is presented.

Tiedeman's career decision-making theory was influenced by developmental career theories, as well as by theories of the stages of psycho-social development (Sharf, 2002). Tiedeman (1979 as cited in Sharf, 2002) proposed that career decision making includes the development of a choice, followed by commitment and then by adjustment to the choice. Tiedeman was particularly concerned with the complexity of the decision-making process, as well as the uniqueness of each individual. Tiedeman's descriptive career decision-making theory details four phases of making a choice: exploration, crystallization, choice, and clarification. Exploration is described as the process of pursuing many different directions. During crystallization the individual moves closer to a decision. During the choice phase, the person makes a choice but may not feel confident about the choice. During clarification, the individual reconsiders the choice. At that point the individual may reject the choice and go back to an earlier stage. Tiedeman's encouragement of career counselors to help clients gain self-awareness of their process of choosing has caused his theory to be labeled career construction theory (Savickas, 2008).

Marcia (1966 as cited in Sharf, 2009) also viewed decision-making as occurring in stages. In Marcia's theory these developmental stages are called statuses. Status is a better descriptor than stage as there is controversy whether these statuses occur in a developmental sequence (Fadjukoff, Pulkkinen, & Kokko, 2005). Marcia's statuses included: diffusion, moratorium, foreclosure, and achievement (Sharf, 2009). Diffusion refers to the status of not having clear ideas about the future and not caring. Moratorium refers to the status of wanting a direction and exploring options. Foreclosure refers to the status of making a decision without exploring options. Achievement is the status of making a decision and making plans for achieving it.

Marcia's (1966) status model has been tested in a number of domains. In addition to career decisions, the model is also used in the domains of lifestyle, relationships, religious beliefs, and political identify (Fadjukoff, Pulkkinen, & Kokko, 2005). It has been applied to research concerning children's exploration (Schmitt-Rodermund & Vondracek, 1998) and identity statuses in middle adulthood (Fadjukoff, Pulkkinen, & Kokko, 2005). Figure 10 shows the relationship between Tiedeman's and Marcia's models (Sharf, 2009).

Another perspective in career-decision making was advanced by Betz who linked career decision making to self-efficacy (Paulsen & Betz, 2004). Career decision-making self-efficacy is defined as the belief that one can successfully complete the tasks necessary to make career decisions. These tasks include accurate self-appraisal, gathering information, goal selection, planning, and problem solving. This concept has been supported by career development research. In a study of college students, Betz and

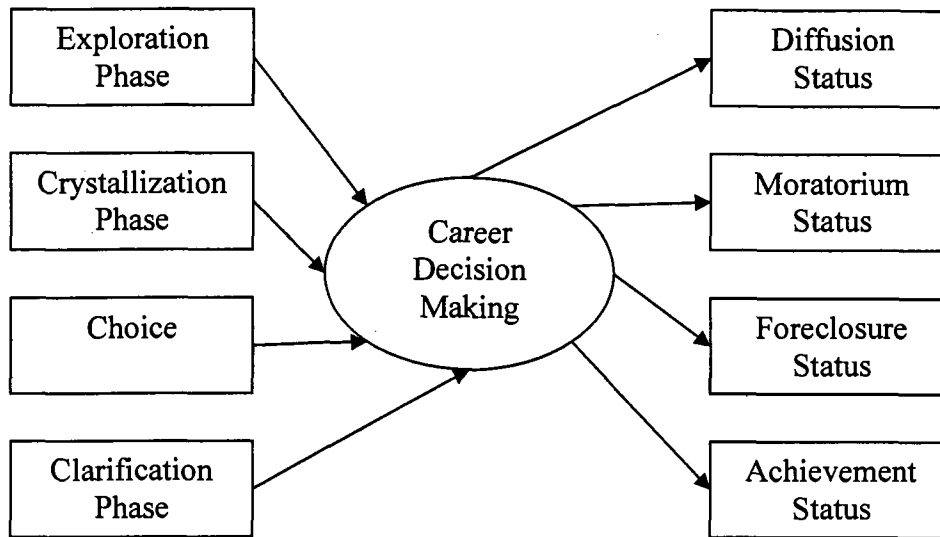


Figure 10. Career decision-making model based on Tiedeman's and Marcia's theories.

Voyten (1997) found self-efficacy beliefs to be the best predictor of career indecision. A study of high school students supported the mediating role of career self-efficacy in the career decision-making process (Mei, Wei, & Newmeyer, 2008). In this study gender differences were found in self-efficacy and interest in the occupational categories defined by Holland. In a study of undergraduates Wolf and Betz (2004) found a relationship between parental and peer attachment bonds and career decision-making self efficacy and indecisiveness.

Cuseo (2005) made an important distinction between undecided and indecisive. He maintained that it was the indecisive student, the one who has problems making any decision at all, who is at risk of leaving school. Simply having not yet made a career decision does not put a student a risk. Students who make premature, unrealistic, or uninformed career decisions are at greater risk for attrition. Cuseo (2005) suggested that

researchers should be more concerned about when and how students make decisions, rather than worrying about whether or not students are decided.

Gati, Krausz, and Osipow (1996) created a useful taxonomy of difficulties in career decision making. The taxonomy was based on the leading career decision-making theories and the descriptions of career decisions difficulties of 2000 career counselees and 10 career counseling psychologists. Their taxonomy divides difficulties into the areas of: prior to beginning the process and during the process. Prior to beginning the process of career decision, problems are attributed to lack of readiness factors. During the process, problems are attributed to lack of information and inconsistent information. The taxonomy is shown in Figure 11.

Career decision-making theories were included as major components in the synthesized career development model. Marcia's (1966) multiple statuses concept provided an excellent explanation of the results of career development. The multiple statuses indicate individuals may leave the career development process by achieving a career choice, or by making a pre-mature choice, or making no choice at all. Cuseo's (2005) concern that no choice may be preferable to a premature choice is maintained in the model. The achievement status is the only outcome leading to positive learning experiences. Betz's concept of self efficacy (Paulsen & Betz, 2004) was incorporated into the model as an element of the integrated social-cognitive model of career development. The taxonomy of career-making difficulties was also included in the synthesized model of career development to illustrate the multiple facets of career decision-making problems.

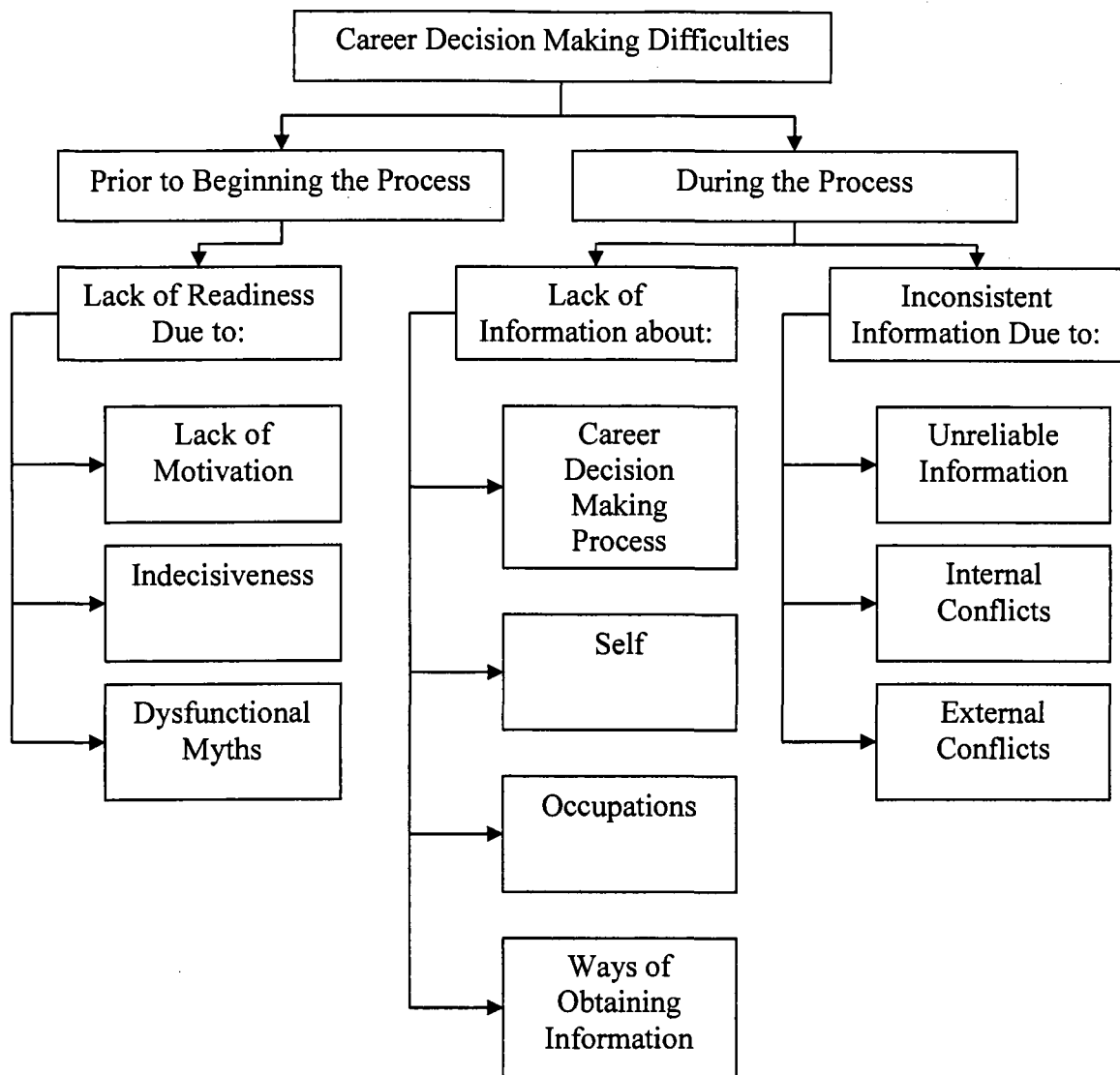


Figure 11. Synthesized taxonomy of decision making difficulties.

Social Cognitive Career Theory. The social cognitive career theory is a comprehensive and dynamic career development theory that incorporates many of the aspects of the previously mentioned theories. Social cognitive career theory proposes that career choice behavior is shaped by self-efficacy, outcome expectancies, and interests (Mei, Wei, & Newmeyer, 2008). Social cognitive career theory also recognizes two other

influences on career-related choice behavior: personal qualities and contextual factors (Lent & Brown, 1996). Personal qualities, such as gender, race, and ethnicity, influence the perceptions individuals receive from the social-cultural environment. For example, girls may be socialized to avoid mathematics and science courses. Contextual factors, both background and proximal, also influence career decisions. These factors include the quality of educational experiences, financial support, social support, and barriers such as discrimination (Lent & Brown, 1996; Mei, Wei, & Newmeyer, 2008).

Social cognitive learning theory proposes that personal qualities and contextual factors influence learning experiences (Lent, Brown, & Hackett, 2000). Learning experiences in turn influence self-efficacy and outcome expectations. The process begins with self-efficacy and outcome expectations leading to interest. In other words, people become interested in activities in which they think they will excel. Interest then leads to choice goals. People will set goals to do to accomplish things in which they have an interest. Goals then influence actions to achieve the goals. Actions influence performance outcomes. In other words, people get better at the things they practice. Performance outcomes affect learning experiences in general. These learning experiences then influence self-efficacy and outcome expectations. Figure 12 illustrates the complex relationships described in the social cognitive theory.

A substantial amount of research has supported the validity of social cognitive career theory (Lent, Brown, & Hackett, 2000). Current examples include support for the links between self-efficacy and interests (Rottinghaus, Larson, & Borgen, 2003). Fouad, Smith, and Zao (2002) found relationships among the four variables of self-efficacy, goals, outcome expectations, and interests. Social cognitive career theory has

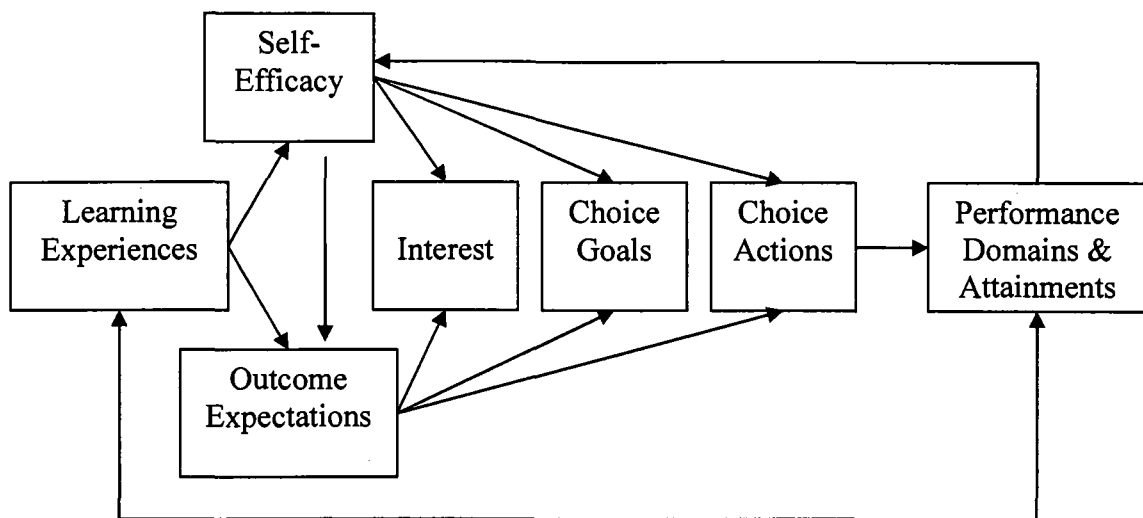


Figure 12. Social cognitive model of career development. Adapted from Lent, Brown, & Hackett (1994).

been used in studies across cultures. An example is a recent study of Korean American college students (Kelly, Gunsalus, & Gunsalus, 2009) which found a relationship between social cognitive factors and career goals. In this study the development of Korean American students' career goals was found to be similar to that of American students.

Because social cognitive career theory is an integrative theory which describes the relationship among learning experiences, self-efficacy, interests, goals, and outcome factors, it was used in its entirety in the synthesized model of career development. Of particular note is the iterative affect of career development achievement upon learning experiences and self-efficacy.

Values-Based Theories. Although values are given a place in the trait-and-factor and developmental theories, values are not given the central role. Brown (2002) argued that values are critical variables in the career development process and should be given a prominent role. He further argued that the career development of ethnic and cultural minorities has not been given adequate attention. To fill these deficiencies in career development theories, Brown (2002) created a values-based theory of occupational choice, satisfaction, and success which focused on the role of values in the career development of ethnic and cultural minorities. He differentiated between people with individualized social values and those with collective social values. He also differentiated between work values and cultural values. Work values are the values received as a result of work. Examples include financial prosperity, altruism, and achievement. Cultural values are defined as those held by certain cultural groups. These values include values regarding human nature, activity (being vs. doing), self-control, and social relationships. In discussing cultural differences, Brown noted that Carter's (1991) research showed there exists considerable overlap between the values held by people from different cultural groups and a significant amount of diversity occurs within groups.

Brown's (2002) theory proposed that highly prioritized work values are the most important determinants of career choice for people with individualism social values. People with collective social values are likely to be influenced by or defer to the wishes of others in their group or their family. He argued that the assumption of independence in the career decision-making process has been detrimental to the counseling of minority clients. Brown (2002) proposed that gender could be a major factor in the career decisions of those who hold collective social values because the decision makers may

hold stereotyped perceptions of occupations as being either male or female occupations. Brown also argued that people with collective values may be deterred by perceptions of discrimination in certain occupations and perceptions concerning available resources for obtaining certain occupations.

Brown (2002) suggested that the process of choosing a career involves three things: the person's estimate of their ability and values, the person's estimate of the skills and abilities required for the occupation, and the person's estimate of the work values that the occupation will satisfy. The ability to accurately make these estimates is critical in determining the success of the individual's career development. For people with collective social values, these estimates may be made by the decision makers. People from some groups may have little information about occupations, particularly if they are relying on information from decision makers who have little exposure. People may also have low estimates of their own abilities. People with low socio-economic status may have lower aspirations due to their perception that they have little control over their lives. Brown's assertions emphasize the importance of understanding the role of values in career development.

Empirical studies support Brown's notion of cultural differences in values. A recent study of college students found the four most important work values to be: intrinsic interest, high salary, contribution to society, and prestige (Duffy & Sedlacek, 2007a). This study found differences between men and women and among socio-economic groups. In a longitudinal study of over 30,000 incoming college students, Duffy and Sedlacek (2007b) explored the differences in work values among cultural groups. They categorized work values into intrinsic values (autonomy and interest),

social values (working with others and contributing to society), extrinsic values (money and job security), and prestige values. They found women valued working with people and contributing to society, while men emphasized making money. White students were more interested in intrinsic values, while African-Americans and Asian-Americans were interested in extrinsic work values. Lowe (2005) found that counselors using a collectivist orientation were perceived by Asian-American students as being more culturally competent. Figure 13 illustrates the multiple value influences on career decisions. Values-based theories provided the last dimension of the synthesized model of career development. As noted by Brown (2002) and others, values play a central role in career development, particularly from the perspective of diverse populations.

Synthesized Model of Career Development

The five career development theories discussed above illustrate the complexity of career development. This complexity is confirmed by Dykeman's (2003) identification of 44 different interventions currently being used to address the career development

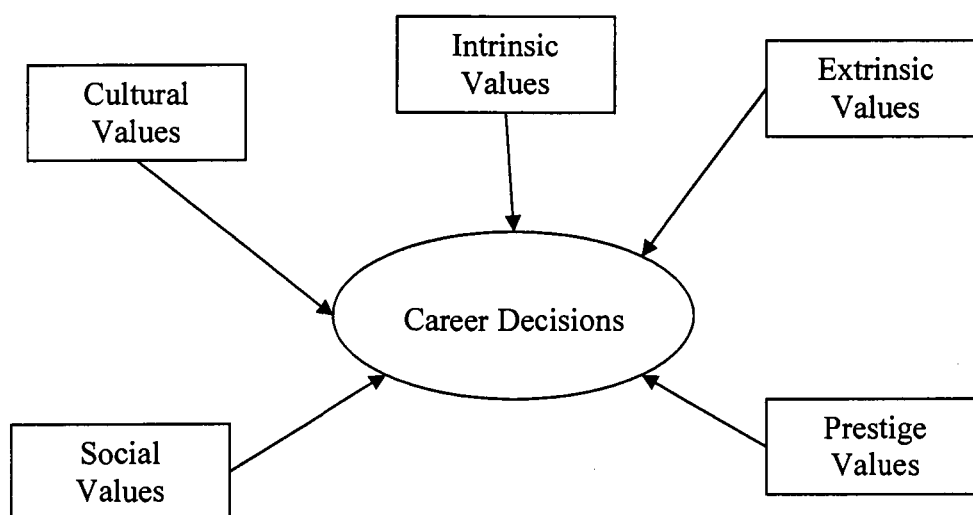


Figure 13. Influence of value on career decisions.

concerns of adolescents. Kahn (2007) and Hershenson (2005) both concluded that the lack of a complete and comprehensive model of career development is because the career development process is too complex and too dependent on interconnected variables. The synthesized model of career development is not meant to be an all-inclusive model, but rather represents a synthesis of themes that arose from the review of five prevalent career development theories.

The synthesized model of career development illustrates many factors that provide input to career development. The first factor, personality type, comes from trait and factor theories. Personality type not only influences the type of career that an individual chooses, but may also influence the type of decision-making process the person goes through. For example, individuals with conventional-type personalities may be more conscientious in their career decision-making.

Developmental theories add the notion that career salience and career maturity vary based on factors such as the life roles one is playing at the time. In other words, the person may not have any interest in choosing a career. Developmental theories also conceptualize the output from the career development process. The individual may get little out of the career development process, leaving the process in the diffusion status. In this status the individual makes no career decision and does not care. The diffusion status loops back into career development difficulties. Or the output from the career development process may result in achievement, the successful choice of a career.

Career decision-making theories add the complex factor of decision-making difficulties to the model. There are three general categories of difficulties. The first category, lack of readiness, includes lack of motivation and indecisiveness. Lack of

motivation relates to developmental theory. For example, the life role of career is not as important as other life roles. Lack of readiness also includes indecisiveness, which refers to the inability to make any decisions. The second category of difficulty includes lack of information concerning the career decision-making process, lack of information about self and occupations, and lack of information about ways of obtaining information. The lack of information topics relate to trait and factor theory. The third category is inconsistent information. All three categories of career difficulties provide important input into career development.

Social-cognitive theory, which incorporates a number of concepts from other theories, provides an overall picture of career development. Learning experiences affect both an individual's self-efficacy and outcome expectations. These in turn affect interests and goals, which affect performance and achievement. The process is circular. As a person is successful, their self efficacy is increased. It is also circular with the career development phase of achievement. A successful career choice is a positive learning experience which begins the social-cognitive loop again.

The last dimension of the model is based on value theories. These theories state that career choices are influenced by extrinsic values, such as making money, as well as intrinsic values, following one's interests. Prestige and social values are also factors. The most critical values are cultural values. The career development model reflects sensitivity to cultural differences. The career development model is shown in Figure 14.

The synthesized career development model borrows from trait and factor theories, developmental theories, career decision-making theories, social cognitive theories, and values-based theories. The model highlights values, interests, goals, and self-efficacy as

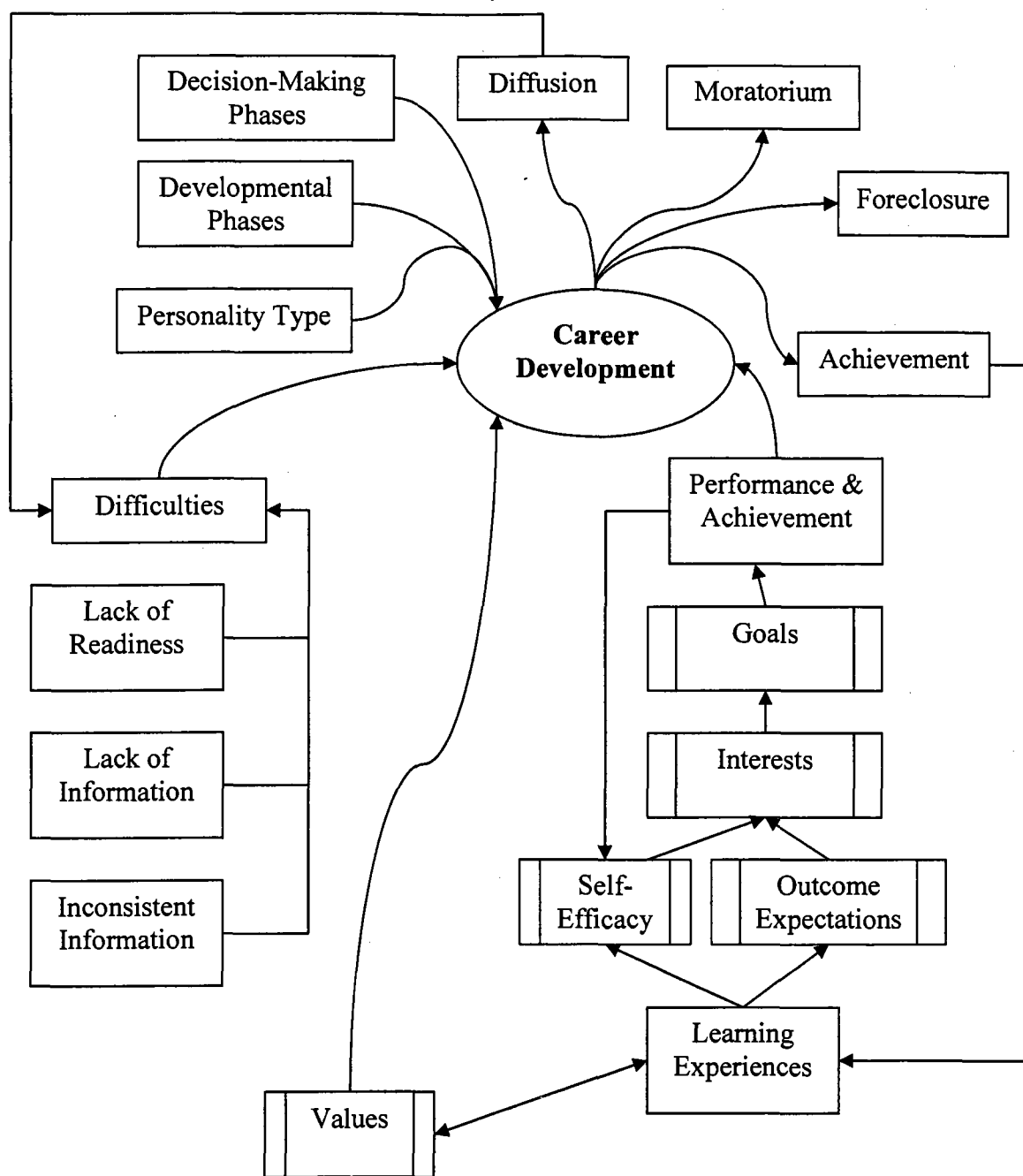


Figure 14. Synthesized model of career development.

key factors influencing career development. It emphasizes the iterative effect of career development showing that the results loop back to influence input factors.

In order to implement a program that addresses the career development needs of community college students it is useful to provide a set of objectives. These objectives were gathered from the career development literature. They address the key factors identified in the model as influencing career development.

Career Development Objectives

The career development objectives discussed below (in italicized print) are based on Gordon's (2007) discussions concerning undecided students. These objectives are not intended to be an exhaustive list. Their purpose was to provide a straw list for students participating in the Delphi study to use as a starting point in identifying what they want out of a career development program. Gordon (2007) proposed six tasks for advising sessions. Two of the tasks, support and follow up, are specific to individual advising sessions. The other four tasks provide a useful widely-applicable framework for career development. These four items include career readiness, information gathering, integration and evaluation, and action planning.

Career Readiness. *Students will evaluate their level of readiness for making a career decision, determine their level of commitment to career development, and identify their decision-making concerns (Gordon, 2007).*

Gordon (2007) proposed the first step in career development is to help students determine why they might be undecided. Career readiness has been identified as significant from a variety of perspectives. Developmental theorists suggest that students may lack career maturity or they may have little interest in the career role compared to other life roles (Levinshon, Ohler, Caswell, & Kiewra, 1998; Savickas, 2001; Sharf, 2009). Career decision-making theorists suggest that students may be in the early stage of

career development, the exploration stage, or they may be in the diffusion status, not having clear ideas about the future and not caring (Sharf, 2009; Savickas, 2008). Career readiness is categorized in decision-making difficulties theories as being due to lack of motivation, indecisiveness, and/or dysfunctional myths (Gati, Krausz, & Osipow, 1996). Identifying problems gives students and those helping them a perspective from which to start.

Information Gathering. *Students will organize a plan for exploring interests, values, occupations, and majors; will participate in experiential learning opportunities such as informational interviews, job shadowing, and externships; and will learn strategies for dealing with the overwhelming amount of career information* (Gordon, 2007).

Trait and factor theorists, such as Parsons and Holland (Hartung & Blustein, 2002; Holland, 1997), emphasized the importance of exploring both personal and workplace interests and values. Values-based theorists, such as Brown (2002), considered the role of values, particularly cultural values, to be an essential component of career development. Career values theories include the categories of social, prestige, intrinsic, and extrinsic values (Duffy & Sedlacek, 2007a). Cultural values theories distinguish between individualized social values and collective social values (Brown, 2002). Assisting students to understand their interests and values will help them make career decisions that are meaningful to them and will motivate them to achieve.

Kahn (2007) noted that simply reading about an occupation does not lead to a great deal of understanding about it. He suggested that experiential learning and exploration can provide more accurate and relevant information to students. Kahn also

acknowledged that career information is constantly changing as the economy changes and new technology is developed. This means that the process of gathering career information will continue throughout the lifetime. This highlights the idea that students should learn how to gather information.

One of the primary causes of career decision-making difficulties is lack of information (Gati, Krausz, & Ospow, 1996). At the same time, students may find that when they begin searching for information concerning careers, the volume of information is overwhelming and confusing (Gordon, 2007). Gordon suggested that students need help in pacing themselves in keeping with their ability to gather and assimilate information. Too much information can make students feel pressured and confused.

Integration and evaluation. Students will integrate and evaluate career information, generate realistic alternatives for themselves, and recognize relationships between their personal strengths and career choices (Gordon, 2007).

Many students find pulling all the information together into a meaningful and manageable form to be difficult (Gordon, 2007). This may be particularly challenging for students with low maturity levels. Gordon (2007) gave the example of a student who is at the dualistic level of reasoning who may be looking for the right and only choice and thus having problems exploring alternatives.

The importance of integrating the information about oneself with information about the world of work is an important feature of trait and factor theory (Hartung & Blustein, 2002). Parsons described reasoning on the relationship between the two types of information to be essential to the wise choice of a vocation. Kahn (2007) emphasized the

need for students to evaluate the congruence between themselves and their goals and career choices because this evaluation will reoccur throughout the lifetime.

Action Plans. *Students will set career goals, will set academic goals to achieve their career goals, and will create action plans for achieving their goals* (Gordon, 2007).

Gordon (2007) considered action plans to be essential. She stated that making a career decision was only the beginning. This objective is supported by the social-cognitive theory of career development which proposes choice goals lead to choice actions which lead to achievement (Lent & Brown, 1996). Goals are also mentioned in discussions of career decision-making. Kahn (2007) and Vianen, De Pater, and Preenen (2009) both referred to the changing workplace and the need for individuals to make multiple career decisions throughout their work life. Kahn (2007) suggested that instead of embracing undecidedness, career counseling should focus on short-term goal setting and flexibility. These observations support Gordon's (2007) proposal that goals and action plans should be an essential component of career development programs.

The four career development objectives provide a framework for the content of a career development program which provides learning experiences that address the major factors in career development. These objectives were derived from the theoretical and empirical literature. They address self-efficacy, enhancing awareness of interests and goals, and successfully setting and achieving goals. Figure 15 depicts the influence of these objectives on the learning experiences of students.

The model created by the synthesis of the literature became the straw model for the Delphi study. In the Delphi study the model provided a starting point for students to design, refine, and validate a conceptual model of career development to

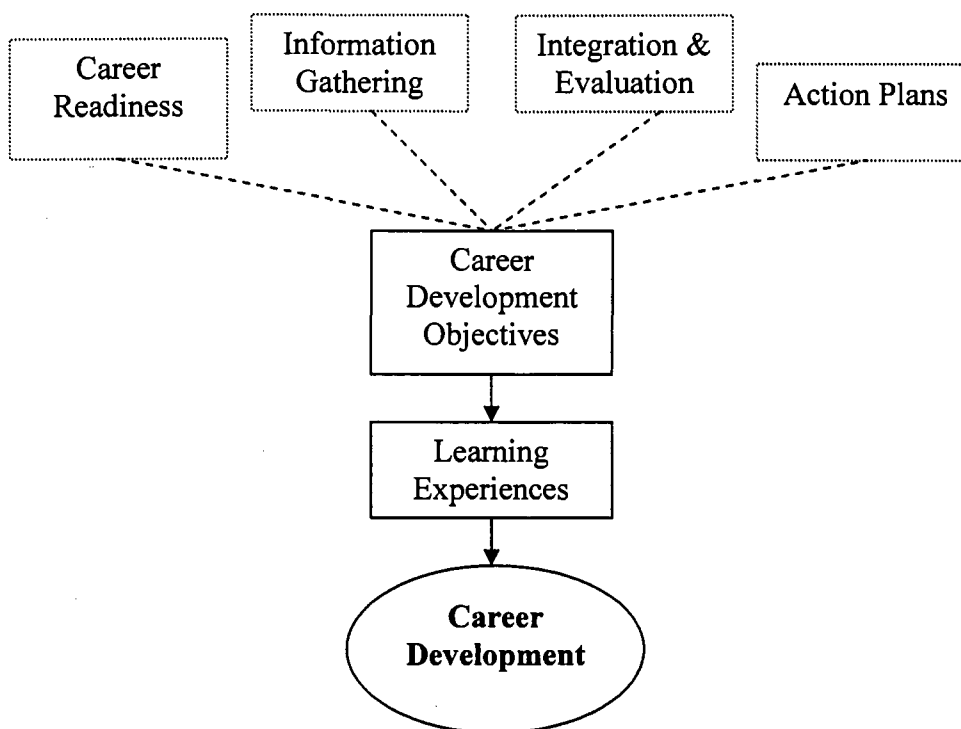


Figure 15. Model of career development objectives.

enhance academic motivation. The straw model, including its illustration and description, is shown in Appendix A.

Straw Conceptual Model

The conceptual model for career development to enhance academic motivation is based on the synthesized career development and academic motivation models. Four common themes emerged from the theoretical literature. Self-efficacy, interests, goals, and values are the factors which were repeatedly mentioned as influencing career development and influencing academic motivation. The overlapping circles in the model

indicate that while there is commonality among the factors influencing both career development and motivation, there are some influences which affect one domain, but not the other. For example, the influence of having a father who is a doctor may influence one's career choice, but have little effect on motivation.

The model proposed that there are factors which provide input into motivation and career development and factors which are the result. Learning experiences are the input factors. These experiences influence self efficacy, interests, goals, and values. Learning experiences include formal classroom experiences, as well as informal and unstructured experiences. The model proposes that the resulting factors of successful career development and high motivation are: performance, persistence, and achievement. The line shown in the illustration of the model connecting the three resulting factors indicates that there is often a causal relationship among the factors (Figure 16). For example, persistence often, but not always, leads to achievement. The line drawn from achievement back to learning experiences illustrates that achievement provides a learning experience which in turn affects future career development endeavors and continued academic motivation.

Educators who wish to help students with their career development and academic motivation provide input into the model through two means: career development objectives and motivational strategies. The combination of these means help students increase their self-efficacy, become aware of their unique interests and values, and set meaningful goals. An illustration of the model is shown in Figure 16.

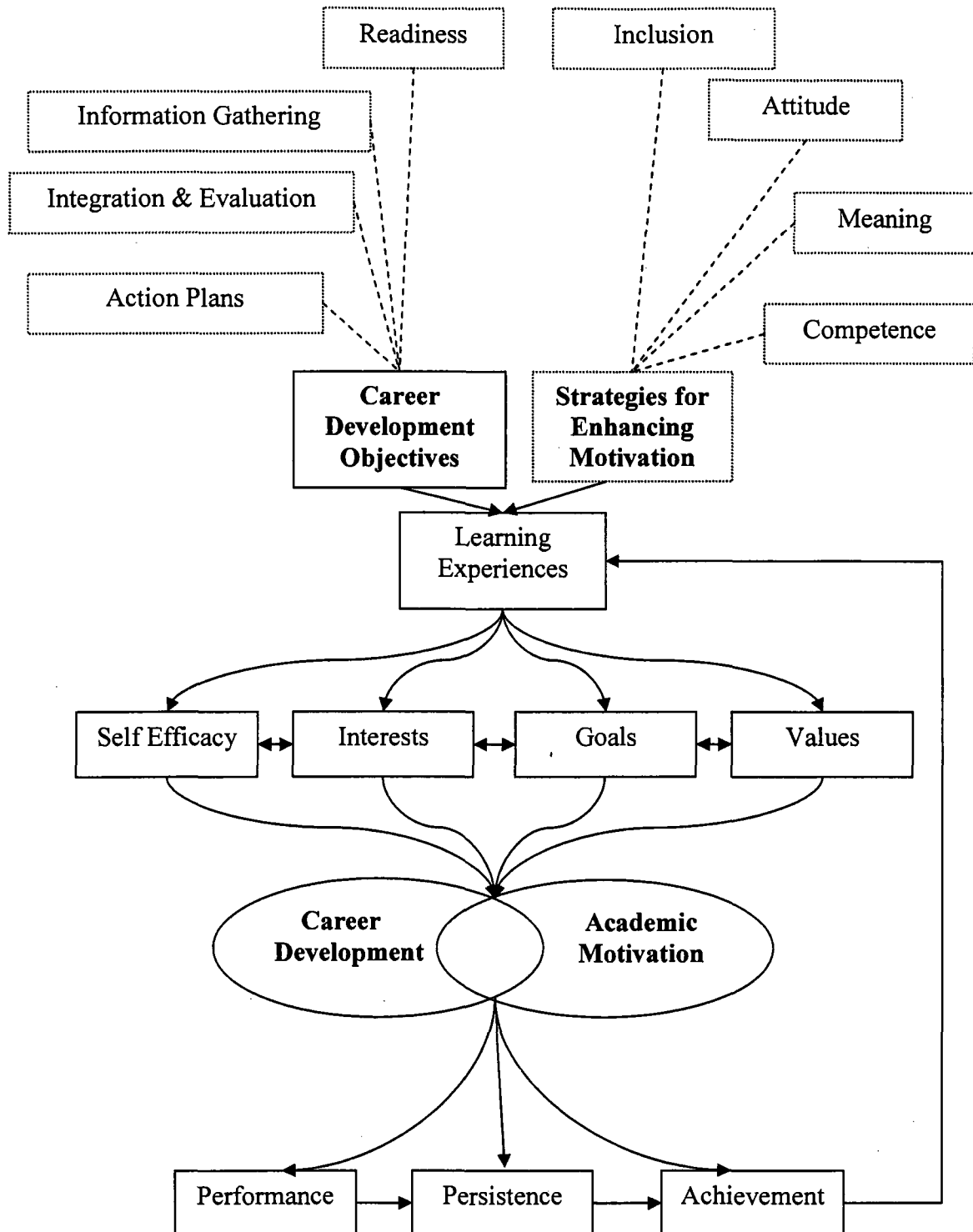


Figure 16. Straw model of career development to enhance academic motivation.

Summary

The straw model for the Delphi study of a conceptual model of career development to enhance academic motivation in community college students was built from the theoretical and research literature. Nine prevalent motivation theories were reviewed. Key factors were chosen from these studies to create a synthesized model of academic motivation. Likewise, five theories of career development were reviewed and synthesized into a model of career development. In addition, motivational strategies and career development objectives were identified by the literature as providing learning experiences that would enhance the model. The motivational models and career development models were synthesized into a simple model of career development to enhance academic motivation. The synthesized model highlighted the four factors which influence both career development and academic motivation: self-efficacy, interest, goals, and values. The following chapter describes the methods and procedures which were utilized to refine and validate the straw model.

CHAPTER III

METHODS AND PROCEDURES

Chapter III describes the methods and procedures used for gathering and analyzing data for this study. This chapter includes a discussion of the research technique, a description of the study population, a discussion of the data collection methodology and instruments, an explanation of the data analysis, and a summary and overview.

The goal of this research was to develop, refine, and validate a conceptual model of career development to enhance academic motivation in community college students. To achieve this end, the study used the Delphi method, hereafter referred to as simply Delphi. Linstone and Turoff (1975) wrote that Delphi is an appropriate method for putting together the structure of a model and is particularly useful when the topic being considered does not lend itself to precise analytical techniques. In his introduction to Delphi, Ziglio (1996, p. 3) described the objective of most Delphi applications as the “reliable and creative exploration of ideas”. Delphi is a means of group communication which gathers the opinions of a knowledgeable group while allowing them anonymity to express their opinions freely (Linstone & Turoff, 1975). Delphi is particularly useful when the participants are dispersed geographically (Ziglio, 1996).

Delphi was an appropriate method for this study for several reasons. This study employed the creative ideas of a knowledgeable group of participants in the development and validation of a model. The model drew from multiple disciplines and employed constructs not easily quantifiable. The participants, who represented both urban and rural

colleges, were geographically spread out. Lastly, the individuals who participated in developing the model were the foremost experts in students' needs, students.

The chances for a group's conversation to be creative and synergistic are improved when the members are united in their efforts to accomplish their task. The use of a straw model provides participants with a common background and a target on which to focus and direct the group efforts (Rotundi & Gustafson, 1996). This study employed a straw model developed from the literature. Scheele (1975) suggested starting with a preliminary design and then using Delphi to refine the model into a better design. Scheele described the preliminary design model as a jumping-off point for Delphi. Once the straw model was built, Delphi was used to systemically collect data from a panel of individuals who had successfully completed community college programs. The data were used to refine and validate the model.

Research Technique

The Delphi technique was developed in the 1950s by the Rand Corporation as a means of obtaining group consensus in forecasting military technology (Linstone & Turoff, 1975). Its usage has since spread across disciplines and around the world (Wilhelm, 2001). Today Delphi studies take place in the United States, Western Europe, Eastern Europe, and the Far East. The pen-and-paper Delphi has evolved into the computer-assisted Delphi. Delphi has gained significant acceptance in the educational community and has been widely used in career and technical education studies (Stitt-Gohdes & Crews, 2004). Examples include Wilhelm's (1999) study of entry-level workplace skills and competencies and Haltinner's (2008) study of secondary marketing education curriculum and instruction.

The original purpose of Delphi was forecasting; hence, the name Delphi from the ancient Greek myth of the Delphi Oracle. It is now used for a variety of purposes in addition to forecasting. Stitt-Gohdes and Crews (2004) categorized these uses as falling into three separate Delphi models: the Trend Model, the Policy Model, and the Structured Model. This study fits within the Structured Model category in which participants individually express relationships and judgments that are used to produce a whole model.

The Delphi process consists of two phases: exploration and evaluation (Ziglio, 1996). During the exploration phase, the subject to be studied is identified and a panel of knowledgeable individuals is recruited to be participants in the study. Open-ended questions are presented to the participants, enabling them to explore the problem in an anonymous brainstorming manner. The exploration phase is labeled Round 1. The exploration phase is followed by the evaluation phase. Evaluation is used to gather the participants' opinions on the topics identified by the exploration session from Round 1 (Murry & Hammons, 1995). In Round 2, information from Round 1 is reported back to the participants and they are asked to respond with their agreement or disagreement on the items. Likert scales are often used in Round 2. The data from Round 2 is analyzed and then sent back to the participants as Round 3. In addition, a statistical description of how the individual's rating compares with the group is included. The participants are asked to review their responses and to revise or justify their scores. Round 3 data are analyzed to determine if consensus has been achieved. If it has not, additional rounds may be initiated.

Delphis conventionally continue until consensus is reached. Although this appears to be a simple decision point, there seems to be little agreement on exactly what

consensus means. The director of each Delphi study establishes the criterion for determining consensus in the study (Clayton, 1997). The criterion for determining consensus has been achieved has been defined in a variety of ways. Powell (2003) found some studies were looking for 100% acceptance of each item to be included in the final result, while other studies set the limit of agreement as low as 55%. Wilhelm (2001) suggested if normal distribution of responses can be assumed, then responses falling outside of an arbitrarily determined degree of variation from the mean, often ± 1 deviation, can be considered outliers. Scheibe, Skutsch, and Schofer (1975) stated that an arbitrarily assigned range was the most common criterion used in Delphi studies. They gave the example of an interquartile range of no larger than two units on a ten-unit scale. Pisel (2001) chose the criterion that if the coefficient of variance was less than or equal to .05, then a strong consensus was considered to be achieved. Once consensus has been achieved the evaluation process is complete. At this point the final report is constructed and a copy is sent to the participants.

Study Population

The value of a Delphi is dependent upon the selective membership of an expert or knowledgeable panel. Important criteria for selecting individuals for membership are their knowledge and practical engagement with the subject under investigation and their willingness to contribute to the exploration of the subject (Silva, 2007). The subject under investigation in this study was the academic motivation of college students. Arguably college students could be considered the most knowledgeable experts of their own motivation. Although the existing motivational literature includes observation studies and anecdotal stories told by teachers, there is not a large body of literature that represents the

voices of students (Daniels & Arapostathis, 2005). Ziglio (1996) pointed out that expert knowledge need not necessarily be accompanied by academic qualifications or degrees. The panel for this study consisted of individuals who had successfully completed community college programs and were currently enrolled in baccalaureate and graduate programs. The students were enrolled in a distance learning system which has sites in three states: Virginia, Arizona, and Washington. Because of the geographic, socio-economic, and cultural diversity represented by these states, the panel of students contributed a wide range of perspectives.

In order to obtain a panel of students, the gatekeeper method was used. In this method, gatekeepers pinpoint specific individuals who have knowledge of the topic being studied (Hasson, Keeney, & McKenna, 2000). For example, a nurse manager might nominate nurses under his or her responsibility. For this study the gatekeepers were 17 Old Dominion University distance learning Site Directors. Site Directors are the advisors for the students attending classes at their sites. Because the distance learning sites operate in partnership with their local community college, many students attending the university are community college graduates. Each Site Director was asked to submit the names of five students who met the following criteria:

- A graduate of a community college,
- Was currently enrolled in and making satisfactory academic progress in a baccalaureate program,
- Was likely to contribute to the study, and
- Was likely to persist.

The nominated students were contacted via electronic letters. The letters described the study and asked the students about their willingness to participate. The students who agreed to participate in the study as members of the panel were asked to provide demographic information. The goal was to obtain a panel of students from a variety of community colleges across the state representing urban and rural communities, as well as a representing a variety of majors and backgrounds.

In this study no attempt was made to limit the pool of experts as a goal of Delphi studies is to identify as many relevant viewpoints as possible (Goldschmidt, 1996). Although some researchers suggest that optimum group sizes in Delphi studies range from 15 to 30 individuals, in their review of the literature Okoli and Pawlowski (2004) found the optimum recommended size to be 10 to 18. Stitt-Gohdes and Crews (2004), in writing about the use of Delphi in career and technical education, suggested that 10 to 15 participants may be adequate for a study that is focused. As a study progresses over a period of months, it is likely that not all participants will persist until the end. Powell (2003) noted that there is little empirical evidence of the effect of the number of participants on the reliability or validity of the process. The criterion for deciding on a sample size is not a statistical one (Wilhelm, 2001). Probability sampling procedures were not relevant to this study as there was no intention of extrapolating the data to the community college student population.

Data Collection Methods and Instruments

This study was approached in phases. These phases included: creating a straw model from the literature, obtaining human subjects permission to proceed, pilot testing the open-ended questionnaire, selecting a panel, submitting questionnaires to the panel,

analyzing the results, and creating the next set of questions. The process of questioning the panel, analyzing the results, and modifying the model continued as the conceptual model was refined and consensus achieved. Figure 17 illustrates these phases.

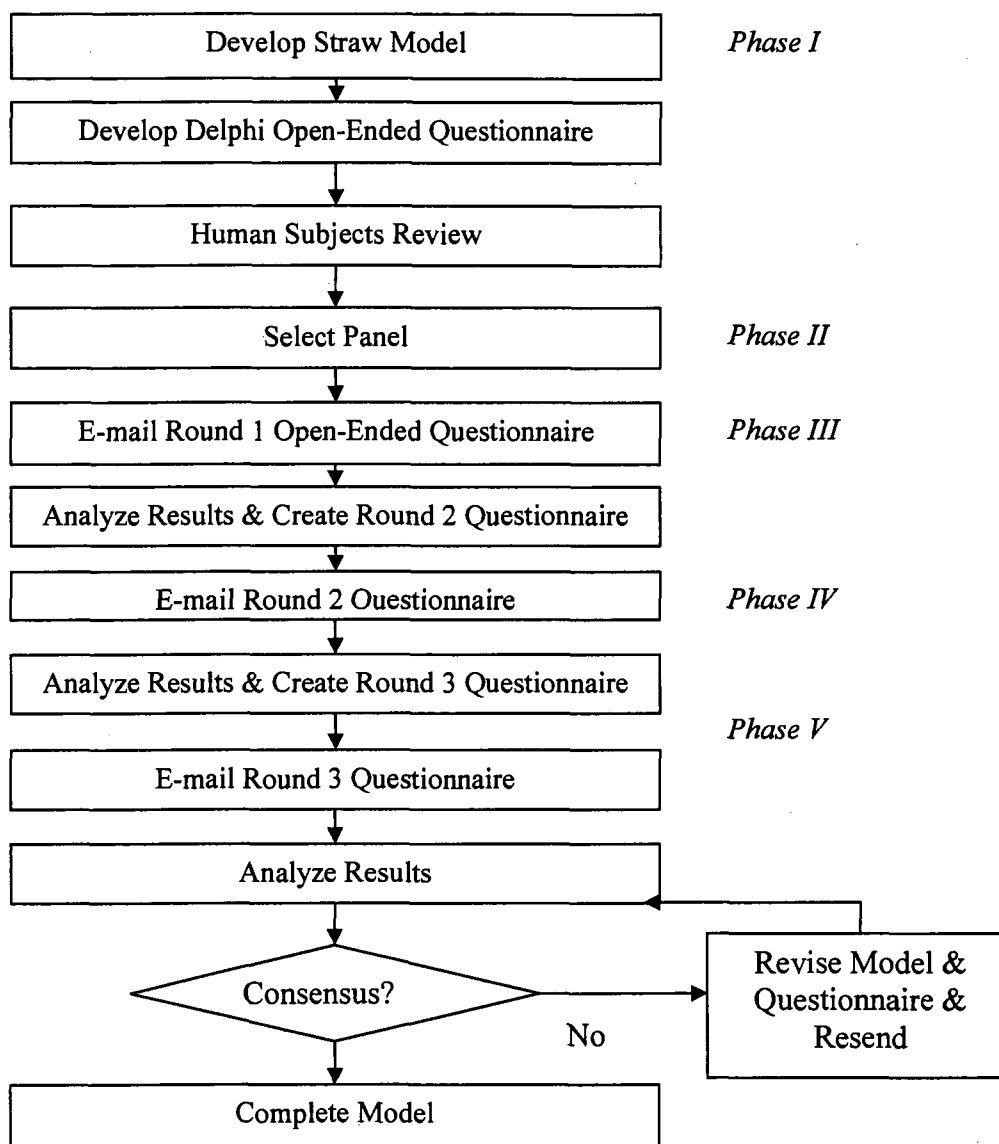


Figure 17. Phases of the study.

During Phase I the researcher developed a straw model based on the research and

theoretical literature from three disciplines: motivational psychology, career counseling, and education. The model included instructional strategies for enhancing academic motivation using career development activities considered in the literature to be effective. See Appendix A for a description of the straw model. The straw model was not intended to be a complete conceptual model, but rather a preliminary model used to stimulate discussion. Along with the model, the researcher created an open-ended questionnaire designed to elicit input from the panel to refine the model. By using the straw model as a starting point and providing input to open-ended questions, the panel members became co-designers of the model. Once Human Subjects approval was received, the pilot test was conducted, and Phase II was initiated.

The purpose of Phase II was to select and secure a panel of experts. In order to obtain students who met the selection criteria, 17 distance learning Site Directors, also known as academic advisors, served as gatekeepers. An electronic letter was sent to the Site Directors describing the study and asking each of them to recommend five students for the study. See Appendix B for a copy of the letter. These students then participated in Phase III.

The cycle of Delphi rounds began in Phase III with Round 1. The purpose of Round 1 was to enable the participants to begin exploring the model of career development to enhance academic motivation. Round 1 began with electronic letters sent to each student giving them detailed instructions concerning how to proceed. The Site Directors were copied on the letters. The letters described the purpose of the study and invited the students to participate. In addition, each participant received an instructions e-mail with a link to the research study site. The website displayed a copy of the straw

model and a 6-minute video explaining the model. Participants also received a set of open-ended and demographic questions. They were asked to return their answers before the end of the semester. A follow-up electronic letter was sent as a reminder to anyone who had not responded. See Appendix C for a copy of these documents. The Site Directors were contacted and asked to provide assistance in gathering the data from the students. At the end of the semester, Round 1 was closed. Round 1 data were analyzed using qualitative analysis techniques (described later in this chapter). The participants' suggestions were added to the straw model and a new questionnaire was created for use in Round 2.

During Phase IV, which represents Round 2 of the Delphi, the model received more refinement. Round 2 began to identify the level of agreement among the participants. Round 2 began with an electronic letter to students thanking them for their participation in Round 1 and stressing the importance of their continued support. See Appendix D. Each participant received a link to the research study website. The site contained a demographic summary of the participants, a summary of the Round 1 responses, and the revised straw model. In addition, each participant received a copy of Questionnaire 2. Participants were asked to review 61 statements describing components of the model. For each statement they were asked to indicate their opinion of the importance of the statement to the model on a four-point Likert scale. A four-point scale with no neutral option was chosen because the use of an even numbered-scale eliminates the problem of a large number of individuals choosing the undecided category (Matell & Jacoby, 1972). In addition, Garland's (1991) study found that it tended to minimize the amount of social desirability bias. A small number of response categories were chosen in

order to minimize the time required to complete the questionnaire. Respondents were not required to include comments, however, they were encouraged to provide feedback. Participants were given one week to return their responses. After five days a follow-up electronic letter was sent to those who had not responded reminding them of the importance of their continued support. Once the responses were received, they were analyzed by calculating the mode, median, and interquartile range of each response. This analysis was used for the basis of the Round 3 questionnaire. Narrative responses were analyzed to determine if any additions should be made to the straw model.

During Phase V the conceptual model was completed. Round 3 was the validation phase of the study. An electronic letter thanked the participants for their continued participation and stressed the importance of their continued support. Participants received their answers from Round 2 along with the group mode, median, and interquartile range for each of the Likert items. They were then asked to reevaluate their answers and consider revising them. For any response that was still outside the interquartile range, participants were asked to explain why they believed the response should be higher or lower. A follow-up e-mail was sent in one week to participants who had not responded. See Appendix E. Round 3 data were analyzed by calculating the mode, median, and interquartile range, as well as the mean, standard deviation, and coefficient of variance for each Likert item. In addition, the narrative responses were compiled and analyzed. In this study the decision rule for including an individual item in the final model was an indication of a median response of important or very important by the panel. It was determined that if at the end of Round 3 there were no items in which the coefficient of

variance was greater than the predetermined limit of .5, no additional Delphi rounds would be needed.

Data Analysis

Data produced by the study required both qualitative and quantitative analysis strategies. During Round 1 of the Delphi study participants were asked five open-ended questions. The data generated by these responses required qualitative analysis. During Rounds 2 and 3 participants responded to Likert items. These data were analyzed using quantitative analysis.

Qualitative Analysis

Data analysis of responses to the open-ended questions from Round 1 utilized elements of grounded theory methodology. Charmaz (2006) described grounded theory methods as containing systematic, yet flexible guidelines for collecting and analyzing qualitative data for the purpose of constructing theories grounded in the data themselves. Taylor (2008) utilized elements of grounded theory methodology in a Delphi study of student affairs. Taylor noted that grounded theory methodology can assist the researcher in becoming sensitive to the nuances that may emerge during data collection.

The grounded theory method of constant comparison was used in the analysis of the qualitative responses received in Round 1. In the constant comparison method four phases are completed: generating categories or open coding, integrating categories and their properties, delimiting categories, and writing the emerging theory (Glaser & Strauss, 1967; Charmaz, 2006). Although this study did not create a conceptual model built on grounded theory, it borrowed from grounded theory techniques in assuring that all qualitative data were analyzed using “systematic” methods (Charmaz, 2006, p. 5).

Grounded theory methodology was employed in a sequential manner. The researcher first examined the narrative answers line by line, noting recurring ideas and defining them as emerging codes or categories (Charmaz, 2006). These codes were conceptual elements which contained properties. Glaser and Strauss (1967) stressed the categories and their properties are to be analytic, not simply labels. They are not representations of the data but are concepts indicated by the data. The second important feature of the categories is that they have to be “sensitizing” (Glaser & Strauss, 1967, p. 38). The categories have to present a meaningful picture of the data. The categories start at a low level of abstraction. As they become compared and contrasted, they become more abstract and integrated. As the analysis continues, the categories are integrated to find common themes. This is where the connections between instructional strategies, career development, and motivation were developed. During the delimiting phase of analysis, duplicate categories were eliminated. Finally an emerging theory was generated and the straw model was revised.

In order to enhance the credibility of qualitative analysis, triangulation is often employed in order to provide diverse ways of looking at the same data (Patton, 2002). This study used analyst triangulation to review the findings of the Round 1 qualitative data. Four education professionals reviewed the data, codes, themes, and emerging theory and proposed alternative views. The assistance of professional educators reduced researcher bias in the analysis of the data.

Quantitative Analysis

Descriptive statistics were employed to analyze the demographic data. Frequency distributions were reported for the following data: gender, age, race/ethnicity, urbanicity

of community college, location of community college, participation in career counseling in high school, and participation in career counseling in college. These statistics were sent to the participants at the beginning of Round 2 as a way to facilitate the camaraderie important for promoting in-depth discussion (Rotundi & Gustafson, 1996). Demographic data were also included in the final report.

During the analysis of Round 2, statistical aggregation of the participants' responses to the Likert items was used to measure consensus for the individual items. The Delphi consensus process requires measures of both central tendency and variability (Wilhelm, 2001). The mean, standard deviation, coefficient of variation, along with the mode, median, and interquartile range (IQR) of each of the answers to the Likert items were entered into a spreadsheet. The mode, median, and IQR were sent to the participants in Round 3 so they could see how their responses differed from the groups' responses.

The analysis of Round 3 included the same statistical aggregation measures as used in the analysis of Round 2. All data were included in the final report. The coefficient of variation was used to determine if consensus had been reached on each individual item. The definition of consensus for this study was a coefficient of variation of less than .5 on every item. The Delphi rounds were concluded when consensus was achieved. Those items with a median score of 3 or 4 (on a 4-point Likert scale) were included in the final model.

Reliability and Validity

Reliability and validity was ensured through the use of several strategies. An important criterion for evaluating survey research is the reliability of the survey items. Test-retest measures are often used to test the reliability of survey instruments. In the

case of a Delphi study, respondents, in Delphi called participants, are expected to revise their responses, so test-retest is not appropriate (Okoli & Pawlowski, 2004). However, pre-testing of the Round 1 questionnaire is appropriate and was used in this study. Okoli and Pawlowski (2004) suggested that construct validity could be enhanced by asking experts to validate the researcher's interpretation and categorizations of the variables. The assistance of four education professionals was used during the qualitative analysis phase to validate codes and common themes. Sufficient rounds were conducted to achieve consensus. These three strategies, pilot testing the instruments, using impartial experts to validate data analysis, and conducting sufficient rounds, ensured the reliability and validity of this study.

Summary

The purpose of this study was to develop, define, and validate a conceptual model for career development that enhances academic motivation in community college students. To achieve this goal a Delphi was conducted to gather data and to build consensus among participants for the model. Delphi was chosen because it enabled participants who are geographically separated to join in co-designing and validating the model. The success of a Delphi depends upon the careful selection of the panel of participants. In this study the gatekeeper method was utilized. University distance learning Site Directors selected students from their campuses based on selection criteria.

Three Delphi rounds were used to develop the model (Round 1), refine it (Round 2), and validate it (Round 3). In the first round the participants' narrative responses were analyzed using the qualitative analysis methodology of grounded theory. During Round 2, participants were asked to evaluate the components of the model by indicating the

importance of each item on a four-point Likert scale. Round 2 responses were analyzed using descriptive statistics for determining central tendency and variation. The group mode, median, and interquartile ranges of each response were sent back to the participants for their review in Round 3. At the conclusion of Round 3 coefficients of variation were used to determine consensus and medians were used to determine which items were kept in the model.

In Chapter IV, the findings of the study are presented. These findings include the narrative responses to the open-ended questions in Round 1 and narrative comments from the other rounds. The findings also include the mode, median, interquartile range, mean, standard deviation, and coefficient of variation of each of the responses from Rounds 2 and 3. The revised straw model and an analysis of the findings are also included. In Chapter V, the study is summarized, conclusions are drawn, recommendations are made, and a conceptual model for career development to enhance academic motivation is presented.

CHAPTER IV

FINDINGS

The goal of this research was to develop, refine, and validate a model of career development to enhance the academic motivation of community college students. A straw model was developed based on the theoretical and research literature. The Delphi method was used to refine and validate the model. Three Delphi rounds were used to collect the opinions of individuals who had successfully completed community college programs.

This chapter presents the findings of the Delphi data collection. It describes the resultant data from each round of study. In addition, it describes how the straw model evolved during the study.

Panel Participants

The value of a Delphi depends on a panel of expert or knowledgeable participants. The participants for this study were students selected by their university Site Director based on selection criteria. Of the 17 Site Directors, 13 responded with five names and one responded with four names, yielding a potential panel of 69 participants. Of the 69, 33 (48%) agreed to participate in the study as members of the panel. As a Delphi continues over a period of months, it is likely that some participants will drop out. In this study 33 participants completed Round 1. Of these 33, 30 (91%) completed Round 2. Of the 30 who completed Round 2, 27 (90%) completed Round 3.

In order to obtain a diversity of views, it was important to obtain a panel representing a variety of backgrounds and majors. There were nine different majors represented on the panel. See Table 2 for a summary.

Table 2

Summary of participants' majors

Major	<i>n</i>
Elementary Education	10
Human Services	8
Communication	4
Occupational and Technical Studies	4
Work and Professional Studies	2
Civil Engineering Technology	2
Electrical Engineering Technology	1
Special Education	1
Accounting	1

The Round 1 questionnaire asked participants to provide demographic information. The demographic data were used to determine if the panel represented a diversity of gender, age, race/ethnicity, and urbanicity. As shown in Table 3, the panel remained consistently diverse throughout the three rounds of the study. However, the one student who was American Indian dropped out after Round 1, leaving the study with only two racial/ethnic groups represented in the final rounds.

Round 1 Results

The purpose of Round 1 was to enable the 33 participants to begin exploring the topic and contribute their ideas concerning what should be included in the model. A

Table 3

Demographic characteristics of participants

Category	Characteristic	Round 1 <i>n</i>	Round 2 <i>n</i>	Round 3 <i>n</i>
Gender	Male	10	10	9
	Female	23	20	18
Age	18 – 24	9	8	8
	25 – 34	8	7	7
	35 and older	16	15	12
Race/ethnicity	White	30	28	25
	Black	2	2	2
	Hispanic	0	0	0
	Asian/Pacific Isl.	0	0	0
	American Indian	1	0	0
College location	Virginia	29	27	24
	Arizona	2	2	2
	Washington	1	0	0
	Other	1	1	1
Urbanicity	Urban	14	13	12
	Rural	19	17	15
Counseling	High School	1.5	1.4	1.5
Sessions	College	3.2	2.8	2.8

website was created for the research study. A copy of the straw model was posted to the website, along with a video describing the model and an informed consent form. Each participant was sent an electronic questionnaire asking five open-ended questions. The questionnaire also offered an opportunity to supply additional comments.

The narrative responses were compiled, sorted, and analyzed using the grounded theory method of qualitative analysis. Using this method, the data were coded and grouped into categories. Within each category several themes arose from the analysis of the data. The output of Round 1 yielded 184 narrative responses. A review of the data in questionnaire order follows.

Question 1

What important aspects of career decision making do you think the model is missing all together? Please explain.

Four general categories arose as a result of the data analysis for this question. Of the 33 participants, eight (24%) mentioned contextual influences. These contextual influences fell into two categories: the influence of others, which was reported by five (15%) of the participants, and the environment, reported by three (9%). The third category, personal qualities, was mentioned by five (15%) of the participants. The fourth category, mentioned by 10 (30%) of the participants, included exposure and/or opportunities. In addition to the four categories mentioned above, 10 (30%) of the participants replied the model needed no additions.

The influence of others was noted in the Question 1 responses of five (15%) of the participants. One participant suggested, "The model should have some area that incorporates the fact that other people can influence your career decision." Another participant described the influences of others in a more personal way, saying, "I personally want to be a Marine Officer when I am done with my four-year degree. Part of what drove me to do that is my dad and my grandfather being Marines." One participant suggested encouraging parents to be more involved, while another was concerned about

the pressure that may be put on students to enter a certain field by friends and/or relatives.

The role of environment, particularly the work environment, was addressed by three (9%) participants. One participant explained it this way, "I do not recall seeing anything mentioned about what is available in the area the student lives in. Career decisions are often based on what career is available. Many community college students do not want to leave the area." Another participant noted students' need for more information about the job market. Another noted that the model did not address how events in the future, particularly the economy, affected career decisions.

Personal qualities were important to five (15%) of the participants. One participant noted that the "human element" was missing from the model. She stated, "You seem to be trying to fit everyone into a model...it just doesn't work that way." Personal qualities such as determination and positive attitude were listed by one participant as important factors. Two participants noted that community colleges attract many older students. One participant felt that the model would not help older students at all, while another responded that although the model seemed to be designed for younger students, it would work for anyone.

Exposure and opportunities arose as the theme in the responses of ten (30%) of the participants. One participant stated, "Students need to be exposed to many things and be open to trying many things." Another participant was more specific, suggesting, "Students would benefit from career exploration." Specific examples provided by two participants included guest speakers, volunteering, and job shadowing. One participant

discussed the importance of early exposure to career development. She expressed her concern this way,

Many students enroll in community college and automatically begin taking the prerequisite courses. They are often not encouraged to be in the process of selecting a field or major that they are interested in. They are often working under the assumption that they don't have to worry about this until they have graduated. Another expressed the same concern saying that the process should begin in high school. Three participants were concerned about social exposures, such as guidance and communication. Of these three, one participant suggested that students should be given exposure to group work. He suggested "learning to use collaboration with fellow students to solve problems" and "increasing social awareness of how to function with fellow workers in the future."

Question 2

Which elements in the model do not make any sense? Why?

Overall the model made sense to 25 (97%) of the participants. Eight (3%) of the participants found areas which they felt needed clarification. These fell into three categories: terminology, content, and location. Under the category of terminology, two of the participants noted that the term "self-efficacy" might be unfamiliar to students. One suggested "self-confidence/self-esteem" as an alternative. The other suggested the term "self-worth". The second category, the model's content, was mentioned by three of the participants. One participant expressed confusion over the strategy of "attitude". Another felt that the career readiness objective was not complete. Another participant questioned whether facilitators/educators could teach the strategies of goal setting,

planning, help-seeking, and self-monitoring strategies to every student. The third category, the location of elements within the model, was mentioned by three participants. One questioned whether performance, persistence, and achievement fed into learning experiences, or if it should be the other way around. One participant suggested that interests, values, goals, and self-efficacy should come before learning experiences in the model. He gave an example: “Most positive learning experiences are gained after we have gained the confidence to decide what career or goal we want to pursue.” Another change in location within the model was expressed by a participant who suggested that the fourth motivation strategy, engendering confidence, was an active component that should be inside of the feedback loop, perhaps under the self-efficacy heading.

Question 3

What could community colleges do that would help students be more academically motivated? How would that help?

The same four categories that arose from the data analysis of Question 1 also arose in response to Question 3. These categories included the influence of others, mentioned by seven (21%) of the participants, the environment, mentioned by one (2%), personal qualities, mentioned by seven (21%), and exposure/opportunities, mentioned by 15 (45%) of the participants. In addition, a fifth category, incentives, was suggested by three (9%) of the participants.

The major theme in the influence of others category was support. Seven participants (21%) had opinions concerning the support of others. One participant expressed it this way, “If students don’t have family support, they need to feel that they are supported by their college counselor and teachers.” Four participants specifically

addressed counselors, saying that counselors “should be more involved with students” and should be “readily available”. One participant suggested that students be required to meet with a career counselor, if there was one available. Another responded, “Students should have to meet with their counselor upon entering the community college and before signing up for classes each semester.” Participants seemed particularly concerned about students taking on heavier academic loads than they could handle. One participant noted, “The counselors need to stay more on top of students, especially those who are struggling in their classes....They can also ensure that students are taking advantage of resources offered through the school.” In addition to the support of counselors, participants also mentioned the support of tutors and academic advisors.

The role of the environment was important to one (3%) of the participants. While the environment theme in response to Question #1 referred to the work environment, the environment theme in response to Question 3 referred to the academic environment. The participant noted that if the perception of the community college as a last choice could be improved, students would be more motivated. He stated, “All too many students feel like they are at community college because they have no other choice. I think if the academic environment seemed more appealing, then students would be better motivated.”

Personal qualities were important to seven (21%) of the respondents. The dominant theme in this category was self-motivation. Six participants were skeptical that the community college could improve student motivation. A typical comment was, “I don’t believe that the community college can motivate a student. I feel that all motivation comes from the student.” One participant questioned whether it was even the community college’s responsibility to motivate students. He suggested, “I don’t think that motivating

students is anyone's job, and is on the student. If a student wants to succeed he/she will, at this point they are adults and don't need to have their hands held..."

In contrast to the seven participants who emphasized self-motivation, three (9%) of the participants suggested extrinsic motivators. These three participants noted positive incentives as influencing motivation. They suggested rewarding high achievers with double buy-back value on books, discounted books, reduced tuition, special parking, and/or recognition during assemblies.

The final category, exposure/opportunities, was important to 15 (45%) of the participants. Six participants discussed specific ways in which the classroom opportunities could increase motivation. One participant explained, "I have found that I am much more motivated when I know where I stand in a class, that is, when I have a clear idea of what I am gaining from working on the class." Another said colleges should "challenge their students such that we have something to work toward." Another wrote that teachers "need to make learning more fun and interesting. Look outside the box! Using technology in the classroom is a big motivator." Three participants specifically wrote about the importance of the connection between the classroom and the world of work. In addition, two commented that job placement programs and internships contributed to academic motivation. Three participants recommended guest speakers covering topics such as careers, overcoming diversity issues, and motivation. Communication was important to three participants. One suggested communicating the academic performance needed for transferring to a bachelor's degree program. One suggested finding a way to show "younger kids that without some education, life can be very difficult." One participant recommended better communication of the availability of

opportunities, such as distance learning, which make education more attainable. This participant noted, “It is easier to get motivated when the goal has fewer barriers.”

Question 4

What other career objectives should be added to the list?

The themes that arose as a result of the data analysis for this question corresponded to the four straw model career objective categories: career readiness, information gathering, integration and evaluation, and action planning. Of the 33 participants, one (3%) made a suggestion which related to the career readiness category. Six (18%) made suggestions which fit into the information gathering category. One (3%) made a suggestion which corresponded to the integration and evaluation category. Seven (21%) of the participants suggested themes which fit into the action plans category. Of the 33 participants, 18 (55%) felt that no additions were needed to the career objectives outlined in the model.

Career readiness was addressed by one (3%) of the participants. This participant felt that there was a need for a stage before career readiness. He noted that there are students who “don’t even know what they want to do with their life”.

Information gathering arose as the theme in the responses of six (18%) of the participants. One participant noted the importance of being willing to try and research many different career avenues. One participant emphasized the use of interest inventories, stating, “The results from such tests could help students to realize exactly what they are good at and what they enjoy.” One participant emphasized the importance of experiential learning opportunities, while three other participants listed specific experiential learning opportunities including talks, workshops, internships, seminars,

advising, mentors, guest speakers, hands-on, field observations, and researching particular companies.

Integration and evaluation was addressed by one (3%) of the participants. This participant noted the importance of social integration and social maturity. She recommended peer assessment and role playing.

Seven (21%) of the participants presented suggestions that corresponded to the action plans category. Four participants emphasized the importance of goal setting. One participant noted that goals should be both short term and long term. Another suggested that a “timeline would be helpful to students.” One participant noted there should be “some form of systematic revision or re-evaluation of career goals so students can amend their goals as they grow and mature as individuals”. Three participants discussed the importance of support, communication, and monitoring. One participant expressed it this way, “Support is a major part of accomplishing your goals. If students don’t have family support, they need to feel that they are supported by their college counselor and teachers.”

Question 5

What other motivational strategies should be added to the list?

The themes that arose as a result of the data analysis for this question corresponded to the four straw model motivational strategies categories of establish inclusion, develop attitude, enhance meaning, and engender competence. Six (18%) of the suggestions concerned the category of establish inclusion. Four (12%) fit into the category of developing attitude. Eight (24%) related to the enhance-meaning category and four (12%) related to the engender-competence category. Eleven (33%) of the

participants felt that no additions were needed to the motivational strategies described in the model.

The category of establish inclusion was addressed by six (18%) of the participants. One participant noted, "Encouragement and expecting success are two additional motivational factors that could influence students to perform academically for themselves." Another participant suggested that "encouragement and recognition" were both motivating. One participant noted that recognizing achievements makes them "a reality for students instead of just a dream." One participant noted the benefits of inclusion, stating that genuine respect from faculty, staff, and other students can inspire students and give them self-confidence. Two participants had specific suggestions for inclusion. One suggested meeting with the counselors before each semester. The other suggested mentors and networking.

Developing a positive attitude toward learning was addressed by four (12%) of the participants. One participant responded, "Show relevance of course material to future life. Many students just don't feel they will ever need to know the material later on in life." Another participant echoed this notion of the future stating, "Looking ahead to the future is a motivation to be." One participant suggested that feedback was important, particularly, "letting people know where they stand." Another participant responded, "We do not motivate by inclusion...and choices...we motivate by enhancement, excitement, and challenge."

Enhancing meaning was important to eight (24%) of the respondents. Two participants mentioned hands-on learning and guest speakers as meaningful learning experiences. Two listed getting a job as important to motivation. One participant

suggested that gaining “respect as a leader and specialist in their certain field” was motivating. Two participants discussed self-awareness. One wrote that most people needed awareness of their own skills and knowledge before they will be fully motivated. She went on to say, “Honest self assessment will allow a student to chart a success plan from where they are to where they want to be.” Another noted that awareness of one’s aptitude and talents is motivating.

Four (12%) of the participants made suggestions for engendering competence. One participant suggested “repetitive skills and curriculum exercises.” He went on to say, “All aspects of learning are easier the second time we hear them. It is better to cover material at least twice and produce success, than to cover it too rapidly for the sake of meeting guidelines set by standards...” Another participant suggested that professors should have realistic expectations for students. If the work load is too overwhelming, then students will “feel as if they will never be able to succeed.” Another wrote that some professors do not focus on students who are struggling, rather they leave them behind. The participant continued, “This style of teaching does not motivate the students. It often makes them feel like giving up. The students should be encouraged to ask questions, stay after class, and meet with the professor during office hours.” One participant noted the importance of objectives, flexibility, and maturity.

Question 6

Comments

Four (12%) of the participants had comments concerning the model. One participant said, “I strongly feel that a career objective is necessary, because some simply do not know what they’re going to do with their life.” Another commented on the need

to make the model flexible enough to respond to the diversity of individuals, adding, “Each child has a distinct personality.” One participant remarked that the survey was geared toward younger students. Another reiterated the importance of hands-on learning. There were 14 responses such as “I hope my answers are useful to you.” Fourteen participants had no additional comments.

Round 1 Summary

Round 1 yielded a total of 184 narrative responses. These responses resulted from the answers of 33 participants to five open-ended questions. Every participant answered all five questions. Of the 33 participants, 19 had additional comments. There was a considerable amount of overlap among the answers to the questions. For example, contextual influences arose as categories in response to both Questions 1 and 3. The exposure and opportunities category which was relevant to Question 5, motivational strategies, was mentioned numerous times in response to Questions 1, 3, and 4. Table 4 presents a summary of the categories and themes which arose as a result of the data analysis of the responses. The table lists the question number, the category, the frequency of responses fitting into the category, the percentage of responses in the category, and the themes within the category.

Table 4

Summary of Round 1 findings

Category	<i>f</i>	%	Themes
Question 1. <i>What important aspects of career decision making do you think the model is missing all together? Please explain.</i>			
1.a. Influence of others	5	15%	Influence of parents and friends

Table 4 (continued)

Category	<i>f</i>	%	Themes
			Parental involvement
			Pressure from others
1.b. Contextual influence (environment)	3	9%	Availability of local job opportunities
			The future and the economy
			Knowledge of job market
1.c. Personal qualities	5	15%	Determination, positive attitude, adaptability
			Not one size fits all – older students
1.d. Exposure/opportunities	10	30%	Career exploration, guest speakers, volunteering, job shadowing
			Earlier emphasis on career decisions
			Collaboration with others
			Giving purpose and meaning to courses
			Open communication
			More guidance
			Role of interests
1.e. Model is fine	10	30%	
Question 2. <i>Which elements in the model do not make any sense? Why?</i>			
2.a. Terminology	2	1%	Self-efficacy is unfamiliar expression
2.b. Content	3	1%	Attitude confusing
			Career readiness objective incomplete
			Can goal setting, planning, help-seeking,

Table 4 (continued)

Category	<i>f</i>	%	Themes
2.c. Location in model	3	1%	self-monitoring be taught? Do performance, persistence, and achievement feed into learning experiences or other way around? Interests, values, goals, and self-efficacy should come before learning experiences Engendering confidence should be inside the loop, under self-efficacy
2.d. Model makes sense	25	97%	
Question 3. <i>What could community colleges do that would help students be more academically motivated? How would that help?</i>			
3.a. Contextual influence (others)	7	21%	Support from counselors, teachers, study groups, tutors, academic advisors, and career counselors Counselors should be readily available and proactive Counseling/advising should be mandatory
3.b. Contextual influence (environment)	1	3%	Perception of community college as a last choice
3.c. Personal qualities	7	21%	Self-motivation cannot be taught
3.d. Incentives	3	9%	Reward achievement with tangible incentives such as discounted books,

Table 4 (continued)

Category	<i>f</i>	%	Themes
3.e. Exposure/opportunities	15	45%	<p>reduced tuition, recognition at assemblies</p> <p>Clear expectations and consequences for students</p> <p>Challenging, fun, and interesting coursework</p> <p>Connection of classroom to world of work</p> <p>Guest speakers on career topics, diversity issues, and motivation</p> <p>Job placement programs and internships</p> <p>Career pathways (that build on each other), career classes, and career days</p> <p>Communicating availability of opportunities such as distance learning</p> <p>Communicating consequences of lack of education</p>

Question 4. *What other career objectives should be added to the list?*

4.a. Career readiness	1	3%	Students not ready to make a decision
4.b. Information gathering	6	18%	<p>Interest inventories</p> <p>More experiential learning – specifically talks, workshops, internships, seminars, advising, mentors, guest speakers, hands-on, field observations, employer research</p>

Table 4 (continued)

Category	<i>f</i>	%	Themes
			Willingness to try and research many career avenues
4.c. Integration	1	3%	Social integration, social maturity
4.d. Action plans	7	21%	Goal setting – long and short term, timeline Support, communication, and monitoring of goals Re-evaluation of career goals as students mature
4.e. No additions needed	18	55%	
<i>Question 5. What other motivational strategies should be added to the list?</i>			
5.a. Establish inclusion	6	18%	Encouragement, expecting success, and recognition Meeting with counselors, faculty, and mentors
5.b. Developing attitude	4	12%	Show relevance of course material to future life Provide feedback Classroom enhancement, excitement, and challenge
5.c. Enhance meaning	8	24%	Hands on experiences, internships, observations, guest speakers

Table 4 (continued)

Category	<i>f</i>	%	Themes
			Connection between college and getting a job
			Respect as a leader in one's chosen field
			Honest self-assessment – awareness of aptitude
5.d. Engender competence	4	12%	Repetition to reinforce learning
			Realistic expectations for students' workloads
			Promote development of objectives, flexibility, maturity
5.e. No additions needed	11	33%	

Revised Straw Model

The straw model of career development to enhance academic motivation was revised based on the results of Round 1 data. The Round 1 recommendations of the panel were reviewed by an impartial panel of four education professionals. Based on the recommendation of the panel participants and the suggestions of the education professionals, 33 additions and modifications were made to the straw model. Two new categories were added to the model. These two categories recognized the importance of personal qualities and contextual influences in career development and academic motivation. The other changes to the model included additions and modifications to the list of career objectives and to the list of motivational strategies.

The additions and modifications were sorted into the order in which they occurred in the model. The personal qualities and contextual influences were first because they represented model principles. These topics were followed by the topics which fit under the heading of career development objectives, followed by the topics which fit under motivational strategies. Table 5 summarizes the additions to the model.

Table 5

Additions and modifications to the straw model

Model Topic	Source	Addition or Modification to Model
Personal Qualities	1c., 3c.	<ul style="list-style-type: none"> • Career development and academic motivation are influenced by personal qualities such as predisposition towards positive attitude, determination, and self-motivation. • Career development and academic motivation are influenced by factors such as age and maturity.
Contextual Influences	1a., 1b., 3a., 3b., 5c.	<ul style="list-style-type: none"> • Career development and academic motivation are influenced by contextual factors such as the influence of, support of, and/or pressure by family/ friends. • Career development and academic motivation are influenced by support from counselors, teachers, tutors, mentors, peers, and academic advisors. • Career development and academic motivation are influenced by contextual factors such as the

Table 5 (continued)

Model Topic	Source	Addition or Modification to Model
Career Readiness	1d., 4a.	<p>availability of local jobs, future job opportunities, the economy, and the perception of college leading to a career.</p> <ul style="list-style-type: none"> • Career development and academic motivation are influenced by contextual factors such as the perception of the college as being a high-quality institution rather than a last choice option.
Information	1d., 3e.,	<ul style="list-style-type: none"> • Students will begin the career development process early.
Gathering	4b., 5c.	<ul style="list-style-type: none"> • Students will recognize when they are not yet ready to make life decisions. • Students will be willing to explore a variety of career avenues. • Students will complete assessments such as interest inventories. • (Rewrite of participation objective to be more inclusive.) Students will participate in experiential learning opportunities including informational interviews, volunteering, job shadowing, internships, talks, workshops, seminars, career classes, career days, advising, mentoring, guest speakers, field

Table 5 (continued)

Model Topic	Source	Addition or Modification to Model
		observations, and employer research.
Action Plans	4d.	<ul style="list-style-type: none"> • Students will explore career pathway opportunities. • (Rewrite of goals statement.) Students will set long-term and short-term career goals. • Students will establish time lines for achieving their goals. • Students will establish a plan for revision and re-evaluation of their goals.
Establish Inclusion	1d., 3a., 3d., 5a.	<ul style="list-style-type: none"> • Educators/institutions will support students by providing encouragement and expecting success. • Educators/institutions will recognize achievement through tangible incentives such as discounted books, reduced tuition, and recognition at assemblies. • Educators/institutions will ensure that counselors are readily available and are proactive in helping students. • Educators/institutions will require students to meet with their counselor or advisor on a regular basis.
Develop Attitude	3e., 5b.	<ul style="list-style-type: none"> • Educators/institutions will demonstrate relevance of course material to future life. • Educators/institutions will provide classroom activities that are exciting, challenging, and fun.

Table 5 (continued)

Model Topic	Source	Addition or Modification to Model
Enhance Meaning	3e., 5c.	<ul style="list-style-type: none"> • Educators/institutions will communicate clear requirements and expectations and will provide feedback.
		<ul style="list-style-type: none"> • Educators/institutions will provide motivational guest speakers.
		<ul style="list-style-type: none"> • Educators/institutions will communicate the availability of opportunities such as distance learning.
		<ul style="list-style-type: none"> • Educators/institutions will provide hands-on learning experiences.
		<ul style="list-style-type: none"> • Educators/institutions will provide job placement services.
Engender Competence	4c., 5c.,	<ul style="list-style-type: none"> • Educators/institutions will communicate the consequences of lack of education.
		<ul style="list-style-type: none"> • Educators/institutions will discuss the relationship between values and motivation using examples such as the value of being respected as a leader in one's chosen field.
		<ul style="list-style-type: none"> • Educators/institutions will use repetitive skills methods for obtaining competence.
Competence	5d.	<ul style="list-style-type: none"> • Educators/institutions will assist students with honest self-assessment.

Table 5 (continued)

Model Topic	Source	Addition or Modification to Model
		<ul style="list-style-type: none"> • Educators/institutions will provide opportunities for students to become aware of their aptitudes and talents. • Educators/institutions will set realistic expectations of students while being cognizant of factors such as student workloads. • Educators/institutions will assist students in enhancing personal qualities such as social maturity and flexibility.

Round 2 Results

The purpose of Round 2 was to begin identifying the level of agreement or disagreement among the members of the panel. The Round 2 questionnaire and a link to the research website were sent to the 33 participants who responded to Round 1. The website displayed the summary of Round 1 responses, the demographic characteristics of the panel, and the revised straw model. The Round 2 questionnaire consisted of 61 statements describing the straw model (see Appendix D). The participants were asked to rate each statement (on a Likert-style scale) as very important, important, not very important, or unimportant to the model.

Of the 33 participants, 30 (91%) responded to the Round 2 questionnaire. All inputs were converted to numeric data and entered into a spreadsheet. The response of very important was converted to a 4, important was converted to a 3, not very important to a 2, and unimportant to a 1. The mode, median, interquartile range, mean, standard deviation, and coefficient of variation were calculated for each Likert-scale response.

The majority (98%) of the items were considered very important or important by the panel. The participants rated 14 (23%) of the 61 items as very important, indicated by median scores of 4 for each of these items. Three items were rated as between very important and important, or median scores between 3 and 4. Forty-three (70%) of the items were rated as important, or median scores of 3. Only one item had a median score of 2, or not very important. The one item considered not very important was Item 44, which stated that institutions should provide motivational speakers. There were no items receiving a median score of 1, or not important.

The coefficient of variation in the responses ranged from .12 to .33. The item with the least amount of variation (.12) was Item 43, which stated that educators should communicate clear requirements and expectations and provide feedback. The item with the most variation (.33) was Item 14. This item stated that career development and motivation are influenced by the perception of the community college as a high-quality institution rather than a last-choice option. The item which received a median score of not very important (Item 44) had a variation of .29. The median score and coefficient of variation for each item is shown in Table 6. In addition, the table shows the mode, interquartile range, mean, and standard deviation of each item.

Table 6

Summary of Round 2 responses

No	Item	Mode	Mdn	IQR		M	SD	Co.
				1	3			Var.
Which factors are important to career decision making?								
1	Students choose a career at which they think they can be successful.	4	4.0	3.0	4.0	3.53	0.61	0.17
2	Students choose a career they think will be interesting to them.	4	4.0	3.0	4.0	3.47	0.63	0.18
3	Students choose a career because it fit with their personal values.	3	3.0	3.0	4.0	3.32	0.59	0.18
4	Students believe that it is important to have a career goal.	3	3.0	3.0	3.0	3.05	0.59	0.19
Which factors influence motivation for academic work?								
5	Students are more motivated in classes in which they think they can be successful.	3	3.0	3.0	4.0	3.21	0.73	0.23
6	Students are more motivated to work in classes that are interesting.	4	4.0	3.0	4.0	3.52	0.57	0.16

Table 6 (continued)

No	Item	Mode	<i>Mdn</i>	IQR		<i>M</i>	<i>SD</i>	Co.
				1	3			Var.
7	Students are more motivated to work when the outcome has value.	3	3.0	3.0	4.0	3.45	0.57	0.17
8	Students do their best when they have set goals.	3	3.0	3.0	4.0	3.41	0.50	0.15
Which additional factors influence career development and academic motivation?								
9	Personal qualities such as predisposition towards positive attitude, determination, and self-motivation.	4	4.0	3.0	4.0	3.66	0.48	0.13
10	Age and maturity.	3	3.0	3.0	4.0	3.33	0.71	0.21
11	Contextual factors such as family/friends' influence, support, expectations, and/or pressure.	3	3.0	3.0	4.0	3.32	0.59	0.18
12	Support from counselors, teachers, tutors, mentors, peers, and academic advisors.	3	3.0	3.0	4.0	3.25	0.73	0.22

Table 6 (continued)

No	Item	Mode	Mdn	IQR		M	SD	Co.
				1	3			Var.
13	The availability of local jobs, future job opportunities, the economy, and the perception of college leading to a career.	3	3.0	3.0	4.0	3.23	0.68	0.21
14	The perception of the community college as a high-quality institution.	2	3.0	2.0	4.0	2.87	0.94	0.33
	What career development objectives should community college students achieve?							
15	Begin the career development process early.	3	3.0	3.0	4.0	3.17	0.83	0.26
16	Evaluate their level of readiness for making career decisions.	3	3.0	3.0	4.0	3.27	0.69	0.21
17	Recognize when they are not yet ready to make life decisions.	3	3.0	3.0	3.0	3.13	0.63	0.20
18	Determine their level of commitment to career development.	3	3.0	3.0	4.0	3.20	0.66	0.21

Table 6 (continued)

No	Item	Mode	<i>Mdn</i>	IQR		<i>M</i>	<i>SD</i>	Co.
				1	3			Var.
19	Identify their decision-making concerns.	3	3.0	3.0	3.0	3.10	0.48	0.16
20	Be willing to explore a variety of career avenues.	3	3.0	3.0	4.0	3.27	0.69	0.21
21	Organize a plan for exploring interests, values, occupations, and majors.	4	4.0	3.0	4.0	3.63	0.49	0.13
22	Complete assessments such as interest inventories.	3	3.0	2.0	3.0	2.90	0.80	0.28
23	Participate in experiential learning opportunities.	4	4.0	3.0	4.0	3.50	0.68	0.19
24	Explore career pathway opportunities.	3	3.0	3.0	3.8	3.17	0.65	0.20
25	Learn strategies for dealing with the overwhelming amount of career information.	3	3.0	3.0	3.0	3.00	0.74	0.25
26	Integrate and evaluate career information.	3	3.0	3.0	3.0	3.10	0.48	0.16
27	Generate realistic alternatives for themselves.	4	3.5	3.0	4.0	3.43	0.63	0.18

Table 6 (continued)

No	Item	Mode	<i>Mdn</i>	IQR		<i>M</i>	<i>SD</i>	Co.
				1	3			Var.
28	Recognize relationships between their personal strengths and career choices.	4	4.0	3.0	4.0	3.53	0.57	0.16
29	Set long-term and short-term career goals.	3	3.0	3.0	4.0	3.33	0.61	0.18
30	Set academic goals to achieve their career goals.	4	3.3	3.0	4.0	3.42	0.62	0.18
31	Establish time lines for achieving their goals.	3	3.0	3.0	3.0	2.93	0.58	0.20
32	Create action plans for achieving their goals.	3	3.0	3.0	4.0	3.27	0.52	0.16
33	Establish a plan for revision and re-evaluation of their goals.	3	3.0	3.0	3.0	3.07	0.52	0.17

Which strategies should community colleges employ to help students be motivated to achieve academic success?

Table 6 (continued)

No	Item	Mode	IQR		<i>M</i>	<i>SD</i>	Co.	
			<i>Mdn</i>	1			3	<i>Var.</i>
34	Create an environment where students feel connected to and respected by faculty, staff, and each other.	4	4.0	3.0	4.0	3.65	0.54	0.15
35	Support students by providing encouragement and expecting success.	4	4.0	3.0	4.0	3.53	0.63	0.18
36	Recognize achievement through tangible incentives.	3	3.0	2.0	3.0	2.85	0.84	0.30
37	Ensure that counselors are readily available and are proactive in helping students.	4	4.0	3.0	4.0	3.53	0.57	0.16
38	Require students to meet with their counselor or advisor on a regular basis.	3	3.0	3.0	4.0	3.10	0.71	0.23
39	Use relevance and choice to create positive feelings toward learning.	3	3.0	3.0	4.0	3.13	0.68	0.22
40	Demonstrate relevance of course material to future life.	3	3.0	3.0	4.0	3.23	0.68	0.21

Table 6 (continued)

No	Item	Mode	<i>Mdn</i>	IQR		<i>M</i>	<i>SD</i>	Co.
				1	3			Var.
41	Provide academic experiences that have personal relevance to students.	3	3.0	3.0	4.0	3.23	0.73	0.23
42	Provide classroom activities that are exciting, challenging, and fun.	4	4.0	3.0	4.0	3.37	0.85	0.25
43	Communicate clear requirements and expectations and provide feedback.	4	4.0	3.3	4.0	3.73	0.45	0.12
44	Provide motivational speakers.	2	2.0	2.0	3.0	2.63	0.76	0.29
45	Communicate the availability of opportunities such as distance learning.	4	4.0	3.0	4.0	3.50	0.57	0.16
46	Provide experiences that are relevant to students' cultural background.	3	3.0	2.0	3.0	2.77	0.82	0.30
47	Allow students to make choices based on their experiences, values, needs, and strengths.	3	3.5	3.0	4.0	3.50	0.51	0.15

Table 6 (continued)

No	Item	Mode	IQR		<i>M</i>	<i>SD</i>	Co.	
			<i>Mdn</i>	1				3
48	Provide learning experiences that have meaning and value to students.	3	3.0	3.0	4.0	3.34	0.55	0.17
49	Provide hands-on learning opportunities.	4	4.0	3.0	4.0	3.57	0.63	0.18
50	Provide job placement services.	3	3.0	3.0	4.0	3.35	0.60	0.18
51	Communicate the consequences of lack of education.	3	3.0	3.0	4.0	3.17	0.75	0.24
52	Afford students the opportunity to gain deeper understanding of values that have personal meaning to them.	3	3.0	3.0	3.0	2.97	0.57	0.19
53	Discuss the relationship between values and motivation.	3	3.0	3.0	3.0	3.07	0.69	0.23
54	Assign research projects that utilize students' strengths, values, and experiences.	3	3.0	3.0	3.0	3.00	0.60	0.20
55	Provide opportunities for students to gain confidence by applying what they are learning.	3	3.0	3.0	4.0	3.33	0.55	0.16

Table 6 (continued)

No	Item	Mode	<i>Mdn</i>	IQR		<i>M</i>	<i>SD</i>	Co.
				1	3			Var.
56	Use repetitive learning methods for obtaining competence.	3	3.0	2.0	3.0	2.73	0.69	0.25
57	Assist students with honest self-assessment.	3	3.0	3.0	3.0	3.20	0.48	0.15
58	Provide opportunities for students to become aware of their aptitudes and talents.	3	3.0	3.0	4.0	3.30	0.70	0.21
59	Set realistic expectations of students while being cognizant of factors such as student workloads/class loads.	3	3.0	3.0	4.0	3.23	0.00	0.24
60	Teach students strategies such as goal setting, planning, help-seeking, and self-monitoring strategies.	3	3.0	3.0	4.0	3.38	0.56	0.17
61	Assist students in enhancing personal qualities such as social maturity and flexibility.	3	3.0	3.0	4.0	3.03	0.81	0.27

In addition to the Likert-scale responses, participants were given the opportunity to include comments on the Round 2 questionnaire. Of the 30 respondents, 17 chose to comment. Two participants commented on the wording of particular questionnaire statements. Two commented favorably on the thoroughness of the questionnaire. The majority of comments concerned goals. Six participants noted the importance of goals. One wrote, "Goals are certainly important, as with anything in life. Help a person realize where they want to go and give them principles to get there!" The environment was important to two participants. One commented, "We are products of our environments. I feel that all of these factors influence a student's academic motivation...especially support from family members." Another environmental comment was, "I think that for this area students are looking for a career that is flexible...[so] they have opportunities to move out of this area." One participant stressed the importance of self-efficacy, while another stressed the importance of interest. Three participants noted the importance of self-motivation. Because all of the areas mentioned in the comments were already addressed in the straw model, the model was not changed based on the comments.

Round 3 Results

The purpose of Round 3 was to validate the model. The Round 3 questionnaire was sent to the 30 participants who responded to Round 2. Participants received their answers from Round 2 along with the group mode, median, and interquartile range for each of the 61 items. The participants were asked to reevaluate their Round 2 answers and provide an explanation for any response remaining outside the interquartile range. Twenty-seven (90%) of the Round 2 participants responded to Round 3. The mode, median, interquartile range, mean, standard deviation, and coefficient of variation were

calculated for each of the Round 3 responses. All items in this round had median scores of 3 or 4. Forty-five (74%) of the items had median scores of important, while 16 (26%) had median scores of very important. The coefficient of variation ranged from .05 to .30. Table 7 presents a summary of the responses to each of the 61 questions.

Table 7

Summary of Round 3 responses

No	Item	Mode	Mdn	IQR		M	SD	Co.
				1	3			Var.
Which factors are important to career decision making?								
1	Students choose a career at which they think they can be successful.	4	4.0	3.0	4.0	3.59	0.57	0.16
2	Students choose a career they think will be interesting to them.	4	4.0	3.0	4.0	3.52	0.58	0.16
3	Students choose a career because it fit with their personal values.	3	3.0	3.0	4.0	3.37	0.56	0.17
4	Students believe that it is important to have a career goal.	3	3.0	3.0	3.0	2.96	0.44	0.15
Which factors influence motivation for academic work?								

Table 7 (continued)

No	Item	Mode	<i>Mdn</i>	IQR		<i>M</i>	<i>SD</i>	Co.
				1	3			Var.
5	Students are more motivated in classes in which they think they can be successful.	3	3.0	3.0	4.0	3.26	0.71	0.22
6	Students are more motivated to work in classes that are interesting.	4	4.0	3.0	4.0	3.56	0.58	0.16
7	Students are more motivated to work when the outcome has value.	3	3.0	3.0	4.0	3.48	0.51	0.15
8	Students do their best when they have set goals.	3	3.0	3.0	4.0	3.41	0.50	0.15
Which additional factors influence career development and academic motivation?								
9	Personal qualities such as predisposition towards positive attitude, determination, and self-motivation.	4	4.0	3.0	4.0	3.70	0.47	0.13
10	Age and maturity.	3	3.0	3.0	4.0	3.37	0.69	0.20

Table 7 (continued)

No	Item	Mode	<i>Mdn</i>	IQR		<i>M</i>	<i>SD</i>	Co.
				1	3			Var.
11	Contextual factors such as family/friends' influence, support, expectations, and/or pressure.	3	3.0	3.0	4.0	3.33	0.55	0.17
12	Support from counselors, teachers, tutors, mentors, peers, and academic advisors.	3	3.0	3.0	4.0	3.30	0.72	0.22
13	The availability of local jobs, future job opportunities, the economy, and the perception of college leading to a career.	3	3.0	3.0	4.0	3.33	0.55	0.17
14	The perception of the community college as a high-quality institution.	2	3.0	2.0	4.0	2.93	0.87	0.30
	What career development objectives should community college students achieve?							
15	Begin the career development process early.	3	3.0	3.0	4.0	3.19	0.79	0.25

Table 7 (continued)

No	Item	Mode	<i>Mdn</i>	IQR		<i>M</i>	<i>SD</i>	Co.
				1	3			Var.
16	Evaluate their level of readiness for making career decisions.	3	3.0	3.0	4.0	3.37	0.56	0.17
17	Recognize when they are not yet ready to make life decisions.	3	3.0	3.0	3.0	3.00	0.48	0.16
18	Determine their level of commitment to career development.	3	3.0	3.0	3.5	3.19	0.62	0.20
19	Identify their decision-making concerns.	3	3.0	3.0	3.0	3.11	0.32	0.10
20	Be willing to explore a variety of career avenues.	3	3.0	3.0	4.0	3.30	0.67	0.20
21	Organize a plan for exploring interests, values, occupations, and majors.	4	4.0	3.0	4.0	3.63	0.49	0.14
22	Complete assessments such as interest inventories.	3	3.0	2.5	3.0	2.89	0.64	0.22
23	Participate in experiential learning opportunities.	4	4.0	3.0	4.0	3.59	0.57	0.16

Table 7 (continued)

No	Item	Mode	<i>Mdn</i>	IQR		<i>M</i>	<i>SD</i>	Co.
				1	3			Var.
24	Explore career pathway opportunities.	3	3.0	3.0	3.0	3.15	0.60	0.19
25	Learn strategies for dealing with the overwhelming amount of career information.	3	3.0	3.0	3.0	2.93	0.47	0.16
26	Integrate and evaluate career information.	3	3.0	3.0	3.0	3.04	0.19	0.06
27	Generate realistic alternatives for themselves.	4	4.0	3.0	4.0	3.48	0.58	0.17
28	Recognize relationships between their personal strengths and career choices.	4	4.0	3.0	4.0	3.56	0.51	0.14
29	Set long-term and short-term career goals.	3	3.0	3.0	4.0	3.33	0.55	0.17
30	Set academic goals to achieve their career goals.	3	3.0	3.0	4.0	3.44	0.51	0.15
31	Establish time lines for achieving their goals.	3	3.0	3.0	3.0	3.04	0.44	0.14
32	Create action plans for achieving their goals.	3	3.0	3.0	4.0	3.30	0.47	0.14

Table 7 (continued)

No	Item	Mode	<i>Mdn</i>	IQR		<i>M</i>	<i>SD</i>	Co.
				1	3			Var.
33	Establish a plan for revision and re-evaluation of their goals.	3	3.0	3.0	3.0	3.04	0.44	0.14
	Which strategies should community colleges employ to help students be motivated to achieve academic success?							
34	Create an environment where students feel connected to and respected by faculty, staff, and each other.	4	4.0	3.0	4.0	3.70	0.47	0.13
35	Support students by providing encouragement and expecting success.	4	4.0	3.0	4.0	3.56	0.58	0.16
36	Recognize achievement through tangible incentives.	3	3.0	2.0	3.0	2.67	0.68	0.25
37	Ensure that counselors are readily available and are proactive in helping students.	4	4.0	3.0	4.0	3.56	0.58	0.16
38	Require students to meet with							

Table 7 (continued)

No	Item	Mode	<i>Mdn</i>	IQR		<i>M</i>	<i>SD</i>	Co.
				1	3			Var.
	their counselor or advisor on a regular basis.	3	3.0	3.0	4.0	3.19	0.62	0.20
39	Use relevance and choice to create positive feelings toward learning.	3	3.0	3.0	4.0	3.26	0.53	0.16
40	Demonstrate relevance of course material to future life.	3	3.0	3.0	4.0	3.30	0.61	0.18
41	Provide academic experiences that have personal relevance to students.	3	3.0	3.0	4.0	3.37	0.63	0.19
42	Provide classroom activities that are exciting, challenging, and fun.	4	4.0	3.0	4.0	3.41	0.75	0.22
43	Communicate clear requirements and expectations and provide feedback.	4	4.0	4.0	4.0	3.96	0.19	0.05
44	Provide motivational speakers.	3	3.0	2.0	3.0	2.56	0.58	0.23
45	Communicate the availability of opportunities such as distance learning.	4	4.0	3.0	4.0	3.56	0.51	0.14

Table 7 (continued)

No	Item	Mode	<i>Mdn</i>	IQR		<i>M</i>	<i>SD</i>	Co.
				1	3			Var.
46	Provide experiences that are relevant to students' cultural background.	3	3.0	2.0	3.0	2.74	0.71	0.26
47	Allow students to make choices based on their experiences, values, needs, and strengths.	4	4.0	3.0	4.0	3.52	0.51	0.14
48	Provide learning experiences that have meaning and value to students.	3	3.0	3.0	4.0	3.33	0.55	0.17
49	Provide hands-on learning opportunities.	4	4.0	3.0	4.0	3.63	0.56	0.16
50	Provide job placement services.	3	3.0	3.0	4.0	3.37	0.56	0.17
51	Communicate the consequences of lack of education.	3	3.0	3.0	4.0	3.26	0.66	0.20
52	Afford students the opportunity to gain deeper understanding of values that have personal meaning to them.	3	3.0	3.0	3.0	2.93	0.38	0.13

Table 7 (continued)

No	Item	Mode	<i>Mdn</i>	IQR		<i>M</i>	<i>SD</i>	Co.
				1	3			Var.
53	Discuss the relationship between values and motivation.	3	3.0	3.0	3.0	2.93	0.47	0.16
54	Assign research projects that utilize students' strengths, values, and experiences.	3	3.0	3.0	3.0	2.93	0.55	0.19
55	Provide opportunities for students to gain confidence by applying what they are learning.	3	3.0	3.0	4.0	3.30	0.54	0.16
56	Use repetitive learning methods for obtaining competence.	3	3.0	2.0	3.0	2.70	0.67	0.25
57	Assist students with honest self-assessment.	3	3.0	3.0	3.5	3.22	0.51	0.16
58	Provide opportunities for students to become aware of their aptitudes and talents.	3	3.0	3.0	4.0	3.41	0.57	0.17
59	Set realistic expectations of students while being cognizant of factors such as student workloads/class loads.	3	3.0	3.0	4.0	3.33	0.73	0.22

Table 7 (continued)

No	Item	Mode	Mdn	IQR		M	SD	Co.
				1	3			Var.
60	Teach students strategies such as goal setting, planning, help-seeking, and self-monitoring strategies.	3	3.0	3.0	4.0	3.41	0.57	0.17
61	Assist students in enhancing personal qualities such as social maturity and flexibility.	3	3.0	3.0	4.0	3.11	0.80	0.26

There were a total of 125 comments from Round 3. Fourteen were comments on items for which the participants had changed their response to within the interquartile range, so no explanation was necessary. Of the 61 survey items, seven items received five or more comments. These included items: 4, 22, 24, 31, 54, 57, and 61.

The majority of comments concerned items where the respondents felt that the rating of important was too low. Item 4, the importance of career goals to motivation, had a median score of important. Two of those who commented felt that it should have a score of very important. One participant who rated career goals as unimportant to motivation noted that "career goals can change". Four of the survey items which received five or more comments (22, 24, 31, and 57) had median scores of important. Participants primarily commented these items should be rated as very important. These items included: 22) Complete assessments such as interest inventories, 24) Explore career

pathways, 31) Establish time lines for achieving goals, and 57) Assist students with honest self assessment. One comment of interest was, "I viewed this [item 24] as unimportant because I don't know what is meant by career pathways."

The item which received the most variety of comments was item 54) Assign research projects that utilize students' strengths, values, and experiences. One participant explained:

I felt this was not very important because I didn't like the wording. I think that research projects should be assigned that encourage students to find and discover their own strengths, values, and experiences.

Another participant commented, "I don't think the need is to focus on their strengths, but to build up their weaknesses." Another participant wrote, "CHALLENGE US! Can't you see we are bored?"

The item which received the most negative comments was item 61) Assist students in enhancing personal qualities such as social maturity and flexibility. One participant explained her answer this way:

I answered "not very important" because I feel that doing all of the above will automatically help students develop self-confidence, the ability to meet their goals and to find the best way to reach their career goals, which would promote social maturity and flexibility.

One participant's comment on personal qualities was, "Students must develop this themselves." Another participant agreed, "While these qualities are very important, they can only come from within, that is be intrinsically motivated." Two participants questioned the role of the college in enhancing personal qualities. One stated, "That is not

a responsibility of the school. For the most part students are 18 years old and are adults and therefore should act like it.” The other wrote, “Anything that is morally based should be and is already discovered and set in people by the time they reach the college level.”

Consensus

In Chapter III strong consensus was defined as a coefficient of variation of .5 or less on each item. Based on coefficients of variation of .3 and less at the end of Round 3 it was determined that a strong consensus had been achieved on all 61 items in the model.

Table 8 summarizes the distribution of coefficients of variation for Round 3.

Table 8

Distribution of coefficients of variation

Range	n	%
0.00 to 0.05	1	1.64
0.06 to 0.10	2	3.28
0.11 to 0.15	14	22.95
0.16 to 0.20	32	52.46
0.21 to 0.25	9	14.74
0.26 to 0.30	3	4.92

The mean value of the 61 coefficients of variation at the end of Round 2 was .20.

The consensus was further consolidated at the end of Round 3 with a mean coefficient of variation of .17. The differences between the Round 1 and Round 2 mode, median, mean,

and standard deviation for each questionnaire item are displayed in Table 9. Because consensus was achieved at the end of Round 3, no further Delphi rounds were needed.

Table 9

Differences between Rounds 2 and 3

No	Item	Mode	<i>Mdn</i>	<i>M</i>	<i>SD</i>
Which factors are important to career decision making?					
1	Students choose a career at which they think they can be successful.	0	0.0	0.06	-0.04
2	Students choose a career they think will be interesting to them.	0	0.0	0.05	-0.05
3	Students choose a career because it fit with their personal values.	0	0.0	0.05	-0.03
4	Students believe that it is important to have a career goal.	0	0.0	-0.09	-0.15
Which factors influence motivation for academic work?					
5	Students are more motivated in classes in which they think they can be successful.	0	0.0	0.05	-0.02
6	Students are more motivated to work in classes that are interesting.	0	0.0	0.04	0.01

Table 9 (continued)

No	Item	Mode	<i>Mdn</i>	<i>M</i>	<i>SD</i>
7	Students are more motivated to work when the outcome has value.	0	0.0	0.03	-0.06
8	Students do their best when they have set goals.	0	0.0	0.00	0.00
Which additional factors influence career development and academic motivation?					
9	Personal qualities such as predisposition towards positive attitude, determination, and self-motivation.	0	0.0	0.04	-0.01
10	Age and maturity.	0	0.0	0.04	-0.02
11	Contextual factors such as family/friends' influence, support, expectations, and/or pressure.	0	0.0	0.01	-0.04
12	Support from counselors, teachers, tutors, mentors, peers, and academic advisors.	0	0.0	0.05	-0.01
13	The availability of local jobs, future job opportunities, the economy, and the perception of college leading to a career.	0	0.0	0.10	-0.13
14	The perception of the community college as a high-quality institution.	0	0.0	0.06	-0.07

Table 9 (continued)

No	Item	Mode	<i>Mdn</i>	<i>M</i>	<i>SD</i>
What career development objectives should community college students achieve?					
15	Begin the career development process early.	0	0.0	0.02	-0.04
16	Evaluate their level of readiness for making career decisions.	0	0.0	0.10	-0.13
17	Recognize when they are not yet ready to make life decisions.	0	0.0	-0.13	-0.15
18	Determine their level of commitment to career development.	0	0.0	-0.01	-0.04
19	Identify their decision-making concerns.	0	0.0	0.01	-0.16
20	Be willing to explore a variety of career avenues.	0	0.0	0.03	-0.02
21	Organize a plan for exploring interests, values, occupations, and majors.	0	0.0	0.00	0.00
22	Complete assessments such as interest inventories.	0	0.0	-0.01	-0.16
23	Participate in experiential learning opportunities.	0	0.0	0.09	-0.11
24	Explore career pathway opportunities.	0	0.0	-0.02	-0.05

Table 9 (continued)

No	Item	Mode	<i>Mdn</i>	<i>M</i>	<i>SD</i>
25	Learn strategies for dealing with the overwhelming amount of career information.	0	0.0	-0.07	-0.27
26	Integrate and evaluate career information.	0	0.0	-0.06	-0.29
27	Generate realistic alternatives for themselves.	0	0.5	0.05	-0.05
28	Recognize relationships between their personal strengths and career choices.	0	0.0	0.03	-0.06
29	Set long-term and short-term career goals.	0	0.0	0.00	-0.06
30	Set academic goals to achieve their career goals.	-1	-0.3	0.02	-0.11
31	Establish time lines for achieving their goals.	0	0.0	0.11	-0.14
32	Create action plans for achieving their goals.	0	0.0	0.03	-0.05
33	Establish a plan for revision and re- evaluation of their goals.	0	0.0	-0.03	-0.08
Which strategies should community colleges employ to help students be motivated to achieve academic success?					
34	Create an environment where students feel connected to and respected by faculty, staff, and each other.	0	0.0	0.05	-0.07
35	Support students by providing encouragement and expecting success.	0	0.0	0.03	-0.05

Table 9 (continued)

No	Item	Mode	<i>Mdn</i>	<i>M</i>	<i>SD</i>
36	Recognize achievement through tangible incentives.	0	0.0	-0.18	-0.16
37	Ensure that counselors are readily available and are proactive in helping students.	0	0.0	0.03	0.01
38	Require students to meet with their counselor or advisor on a regular basis.	0	0.0	0.09	-0.09
39	Use relevance and choice to create positive feelings toward learning.	0	0.0	0.13	-0.15
40	Demonstrate relevance of course material to future life.	0	0.0	0.07	-0.07
41	Provide academic experiences that have personal relevance to students.	0	0.0	0.14	-0.10
42	Provide classroom activities that are exciting, challenging, and fun.	0	0.0	0.04	-0.10
43	Communicate clear requirements and expectations and provide feedback.	0	0.0	0.23	-0.26
44	Provide motivational speakers.	1	1.0	-0.07	-0.18
45	Communicate the availability of opportunities such as distance learning.	0	0.0	0.06	-0.06
46	Provide experiences that are relevant to students' cultural background.	0	0.0	-0.03	-0.11

Table 9 (continued)

No	Item	Mode	<i>Mdn</i>	<i>M</i>	<i>SD</i>
47	Allow students to make choices based on their experiences, values, needs, and strengths.	1	0.5	0.02	0.00
48	Provide learning experiences that have meaning and value to students.	0	0.0	-0.01	0.00
49	Provide hands-on learning opportunities.	0	0.0	0.06	-0.07
50	Provide job placement services.	0	0.0	0.02	-0.04
51	Communicate the consequences of lack of education.	0	0.0	0.09	-0.09
52	Afford students the opportunity to gain deeper understanding of values that have personal meaning to them.	0	0.0	-0.04	-0.19
53	Discuss the relationship between values and motivation.	0	0.0	-0.14	-0.22
54	Assign research projects that utilize students' strengths, values, and experiences.	0	0.0	-0.07	-0.05
55	Provide opportunities for students to gain confidence by applying what they are learning.	0	0.0	-0.03	-0.01
56	Use repetitive learning methods for obtaining competence.	0	0.0	-0.03	-0.02

Table 9 (continued)

No	Item	Mode	<i>Mdn</i>	<i>M</i>	<i>SD</i>
57	Assist students with honest self-assessment.	0	0.0	0.02	0.03
58	Provide opportunities for students to become aware of their aptitudes and talents.	0	0.0	0.11	-0.13
59	Set realistic expectations of students while being cognizant of factors such as student workloads/class loads.	0	0.0	0.10	0.73
60	Teach students strategies such as goal setting, planning, help-seeking, and self-monitoring strategies.	0	0.0	0.03	0.01
61	Assist students in enhancing personal qualities such as social maturity and flexibility.	0	0.0	0.08	-0.01

In Chapter III it was determined that an item in the straw model would only be retained in the final model if it had a median score of 3 or 4 on a 4-point Likert scale. A score of 3 corresponded to an answer of important. A score of 4 corresponded to an answer of very important. Of the 61 items, 45 (74%) of the items were determined to be important and 16 (26%) were determined to be very important. Thus all items from the straw model were included in the final model.

Summary

The purpose of this research was to develop, refine, and validate a conceptual model of career development to enhance academic motivation. The study began with a straw model built from the literature. A panel of university students who had successfully completed community college programs formed the panel of a Delphi study to develop, refine, and validate the model.

In Round 1 of the Delphi study participants were presented with the straw model and asked five open-ended questions concerning the model. The narrative data were analyzed using grounded theory methodology. The qualitative analysis was reviewed by four education professions. As a result of this analysis, 33 additions and modifications were made to the straw model.

In Round 2 the revised straw model was presented to the participants along with a questionnaire containing 61 statements requiring Likert-scale type responses. Round 2 data were analyzed using descriptive statistics to calculate the mode, median, and interquartile range for each item. The statistical data formed the basis for the Round 3 questionnaire.

In Round 3 participants were asked to review any of their responses that were outside of the interquartile range. Participants were asked to modify their response or explain why they chose to remain outside the range. Round 3 responses were analyzed using descriptive statistics. The mode, median, interquartile range, mean, standard deviation, and coefficient of variation were calculated for each item. Because the coefficients of variation were within the range considered to be strong consensus, the

study concluded with Round 3. The median score for each item was used to determine its inclusion in the final model.

This chapter presented the findings of the Delphi study data collection. It described the data analysis for each of the three rounds of the study. Conclusions and recommendations based on the data are included in Chapter V.

CHAPTER V

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

The purpose of this study was to develop, refine, and validate a conceptual model of career development to enhance the academic motivation of community college students. To achieve this end, a straw model was built from the theoretical and empirical research literature. A Delphi study was used to collect data and build consensus for the model. The Delphi study solicited the opinions of students who had successfully completed community college programs. Delphi was an appropriate method for this study as this technique encourages the creative exploration of ideas by allowing the panel to express their opinions anonymously.

Summary

Three research goals were used to guide this study. These goals were 1) identify the components of modern motivation theory that apply to the academic motivation of community college students, 2) identify the key components of career development theory that could be applied to a comprehensive career development program for college students, and 3) synthesize the findings into a conceptual model for a program that supports students' career development using instructional strategies for enhancing motivation. A straw model was created based on the theoretical and empirical research literature identified in the research goals. The model was then refined and validated by 27 students enrolled in baccalaureate and graduate programs who were successful community college completers.

Successful college completion is important to colleges, students, and society. Students who do not complete college are more likely to have lower life long earnings,

less fulfilling work environments, fewer health benefits, shorter life spans, and higher probability of unemployment (Baum & Ma, 2007). In spite of efforts to improve student retention, 45% of students who started two-year colleges in 2003 dropped out without completing a degree or continuing at another college (United States Department of Education, 2009). There is a need for better retention plans.

Lack of career goals and lack of motivation are two factors often cited for low student retention (Tinto, 1993). Career services, which are often part of college retention plans, have mixed success. Career counseling has been found to be an effective retention agent by some (Anderson, 2003; Boyd, Hunt, Hunt, Magoon, & VanBrunt, 1998), while others have found no significant correlation (Polansky, Horan, & Hanish, 1993). The issue is complicated by the underutilization of career services by students who are most in need of them. The Community College Survey of Student Engagement (2008) found while 50% of community college students surveyed identified career counseling services as important, only 6% reported using them often and 51% reported using them rarely or never. While there is some debate concerning the role of career interventions in student retention, there is no debate about the importance of motivation. Intrinsic motivation in particular has been found to be a significant predictor of retention (Lynch, 2006). There are dozens of theories concerning motivation. What is needed is a model which combines career development theory and motivation theory along with instructional strategies in order to improve student retention.

The purpose of this study was to generate a model which would have value to practitioners as a foundation to build strong retention programs. The model was refined and validated by a panel of students who were successful community college completers.

Each member of the panel was enrolled in a baccalaureate or graduate program. The purpose of the study was not to field test the model. The model was limited to only two issues related to retention: career development and motivation. It was designed to complement retention programs which address other issues such as developmental coursework, study skill assistance, and financial aid.

The population of this study consisted of a panel of 27 university students who were successful community college completers. The value of a Delphi study is dependent upon the selective membership of a knowledgeable panel. This study used the gatekeeper method to identify panel members. Fourteen distance learning site directors who act as academic advisors identified a total of 69 university students who were successful community college completers. Of the 69 nominated students, 33 agreed to participate in Round 1 of the study. From this sample, 27 (82%) maintained participation throughout the entire study. The panel represented a diversity of gender, racial/ethnic, and age groups. Both urban and rural community colleges were included. Nine different majors were represented on the panel.

The development, refinement, and validation of the conceptual model of career development to enhance the academic motivation began with the creation of a straw model. A straw model provides a starting point for a Delphi group discussion and encourages the creative exploration of ideas (Rotundi & Gustafon, 1996). The straw model was developed from the theoretical and empirical research literature. Nine motivation theories provided input into the model. These included: self-efficacy, locus of control, self-determination, flow, interest, goal, attribution, expectancy-value, and social cognitive theories. Five career development theories also provided input into the model.

These included: trait and factor, developmental, career decision-making, social cognitive, and values-based. From these theories a conceptual straw model was developed. The model illustrated the importance of four factors which influence both career development and motivation: self efficacy, interests, goals, and values. In order to make the model usable for practitioners, career development objectives and strategies for enhancing motivation found in the literature were also included.

Three Delphi rounds were conducted. The purpose of Round 1 was to enable the participants to begin exploring the model. The purpose of Round 2 was to begin identifying the level of agreement among the participants. Round 3 was the validation phase of the study.

Round 1 began with participants receiving electronic letters giving them instructions, a link to the research website, and a questionnaire. The website contained a copy of the straw model and a video explaining the model. The questionnaire contained six open-ended questions concerning the model. These questions were designed to encourage participants to add to the model. Participants were also asked to provide demographic information. Thirty-three participants completed Round 1.

Round 1 demographic data were analyzed using descriptive statistics, while data obtained from the open-ended questions were analyzed using the grounded theory method of qualitative analysis. The narrative data were coded and grouped into categories. From these categories arose themes of additions to the model. As a result of this analysis, 33 new elements were added to the straw model. The demographic summary and the revised model were sent to the participants for Round 2.

The purpose of Round 2 was to begin identifying the level of agreement among the participants. Electronic letters were sent to the 33 participants who responded to Round 1. The letters included instructions for Round 2 along with a link to the research website. The website contained a summary of the Round 1 responses and the revised straw model. In addition participants received a questionnaire containing 61 statements which related to the model. Participants were asked to rate each statement (on a Likert-style scale) as very important, important, not very important, or unimportant. They were also given the opportunity to include comments. Of the 33 participants who were sent the Round 2 questionnaire, 30 (91%) responded. The qualitative data from the comments were analyzed using grounded theory methodology. The quantitative data for this round were analyzed by calculating the mode, median, and interquartile range of each Likert-scale response. These figures were used in the Round 3 questionnaire.

The purpose of Round 3 was to validate the model. The 30 participants who completed Round 2 received their answers from Round 2 along with the group mode, median, and interquartile range for each of the 61 statements. Participants were asked to reevaluate their Round 2 answers and provide an explanation for any response remaining outside the interquartile range. Of the 30 participants, 27 (90%) responded to Round 3.

The mean coefficient of variation was used to determine that a strong consensus had been reached at the end of Round 3. Only items which had a median score of very important or important were included in the final model. Of the 61 straw model items, strong consensus was achieved to maintain all 61 items.

Conclusions

The purpose of this study was to develop a conceptual model of career development that enhances academic motivation in community college students. To that end a panel of 27 students participated in a Delphi study to develop, refine, and validate such a model. The three-round Delphi process began with a straw model developed from the theoretical and empirical research literature. Three research goals guided the study.

Research Goal 1

Research Goal 1 was to identify the components of modern motivation theory that apply to the academic motivation of community college students. Data from the theoretical and empirical research motivation literature were used to create a straw model. Five principles related to motivation formed the foundation of the model. These principles were: 1) strategies for enhancing academic motivation produce learning experiences; 2) learning experiences contribute to self-efficacy, interests, goals, and values; 3) self-efficacy, interests, goals, and values are influential factors in career development and academic motivation; 4) positive outcomes of career development and academic motivation are performance, persistence, and achievement; and 5) positive outcomes influence future learning. All five principles were retained in the final model. Support from the study participants was particularly strong for the influence of self-efficacy and interest on motivation. Both obtained median and mode scores of very important with 63% of participants considering self-efficacy to be very important and 56% of participants considering interest to be very important.

In addition to the factors identified in the literature, two additional factors were added as a result of the participants' responses to the open-ended questions in Round 1.

These factors concerned the influence of personal qualities and the influence of the environment on motivation. Participants' suggestions included the importance of factors such as a predisposition towards positive attitude, determination, and self-motivation. These factors are supported by the motivational literature. Both locus of control theory (Rotter, 1975) and self-determination theory (Ryan & Deci, 2000) emphasized the importance of internal locus of control and intrinsic motivation. The influence of the environment is also supported by the literature. Self-efficacy theory (Bandura, 1997) and interest theory (Hidi & Renninger, 2006) both highlight the importance of a supportive environment in building self-efficacy and interest. The factors of personal qualities and environment were both retained in the final model. The participants' support of the importance of intrinsic motivation was particularly strong with 70% of participants rating this factor as very important.

Research Goal 2

Research Goal 2 was to identify the key components of career development theory that could be applied to a comprehensive career development program for college students. Data from the theoretical and empirical research career development literature were merged with the motivation data to create a straw model of career development to enhance motivation. The five principles relating to motivation (described above) also related to career development. All five were retained in the final model. The participants gave the strongest support to the importance of interest as a factor in career development. In the final round of the Delphi 37% of participants rated interest as important and 60% rated interest as very important.

The two additional factors relating to motivation (personal qualities and environment) also applied to career development. The influence of personal qualities is supported by the career development literature. Social cognitive theories of career development note the influence of personal qualities, such as gender, race, and ethnicity, upon the perceptions individuals receive from the social-cultural environment (Lent & Brown, 1996). The influence of the environment is also noted in the social cognitive theory of career development. Social cognitive theory includes environmental factors such as financial support, social support, and discrimination (Lent & Brown, 1996; Mei, Wei, & Newmeyer, 2008). Although the literature, particularly social cognitive theory, suggested personal qualities and environment influence learning experiences, the panel participants noted the direct influence of these factors on career development and motivation. Because the purpose of the study was to refine and validate the model from the point of view of students, the conceptual model used the direct relationship suggested by the panel.

Research Goal 3

Research Goal 3 was to synthesize the findings into a conceptual model for a program that supports students' career development using instructional strategies for enhancing motivation. Based on the literature, four categories of career development objectives and four categories of motivational strategies were included in the straw model. In addition, a total of 27 items describing these objectives and strategies were included in the straw model.

The four categories of career development included: career readiness, information gathering, integration and evaluation, and action plans. In response to the Round 1 open-

ended questions, the participants added nine career development objective items to the categories. These items expanded on the career development objectives suggested in the literature. For example, the action planning objective found in the literature was expanded by the students to include both long and short term goals and the establishment of a plan to revise and re-evaluate goals. The area given the most attention by the participants was participation in experiential learning opportunities. In the Round 1 responses there were 16 separate mentions of experiential learning. In Round 3 all but one of the participants rated experiential learning opportunities as important or very important. The participant who rated experiential learning as not very important noted that many community college students are already working. He stated, "These learning opportunities are time consuming and may not be attractive to a large portion of students." This comment is important to the implementation of the conceptual model.

The four categories of motivational strategies included establish inclusion, develop attitude, enhance meaning, and engender competence. In response to the Round 1 open-ended questionnaire, participants added 18 additional items to these categories. These items included ensuring that counselors are readily available and proactive, providing classroom activities that are challenging, and recognizing achievement through tangible incentives. The addition that received the least support was providing motivational speakers. At the end of Round 1 it was the only item which had a median rating of not very important. One of the participants explained her rating this way:

I believe that if all of these factors [included in the model] are covered at the community college level, then motivational speakers are unnecessary. I always

had a difficult time relating to motivational speakers because everyone has their own story and no one has experiences that are *exactly* alike.

At the conclusion of Round 3 the item concerning motivational speakers had a median rating of important, so it was included in the final model. It should be noted in the implementation of the model that although students are very supportive of having guest speakers, they are particular about the content of the presentations.

Conceptual Model

The outcome of the research was a conceptual model of career development to enhance academic motivation. The model was based on the literature and validated through the consensus of the informed opinions of 27 successful community college completers. While there was strong consensus of opinion on each item in the model, this does not imply that there was complete agreement on each item. All 61 items in the model received a median rating of important or very important by the participants. Of the 61 items in the model, 45 (74%) were considered to be important and 16 (26%) were considered to be very important by the participants.

The conceptual model (illustrated in Figure 18) proposes that there are four factors which influence both career development and academic motivation. These factors are self-efficacy, interests, goals, and values. In the illustration of the model the overlapping circles indicate that although these factors influence both career development and motivation, there are some factors which influence one domain, but not the other. The model proposes that learning experiences influence the four common factors. The model also illustrates the influence of two additional factors: personal qualities and contextual influences. The model suggests that career development objectives and

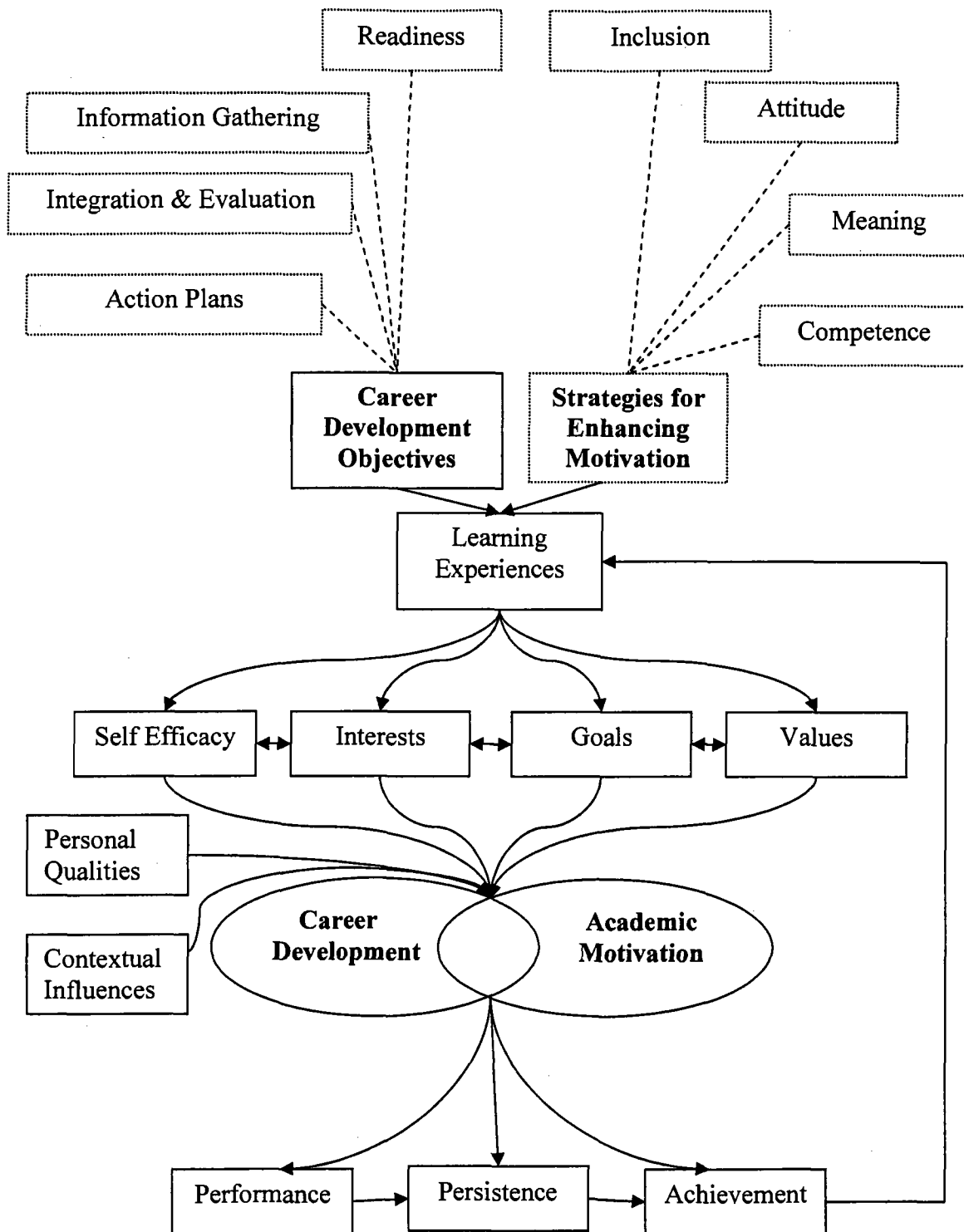


Figure 18. Conceptual model of career development to enhance academic motivation.

motivational strategies provide input into learning experiences. The model illustrates the cyclical nature of learning with the outcomes influencing future learning experiences.

The purpose of the model, an outline of the model principles, the career development objectives, and motivational strategies are described below:

Purpose of the model. The model describes a method of career development that seeks to assist community college students in their career development while enhancing their academic motivation. Objectives and strategies are utilized to produce learning experiences that promote the increased self-efficacy, goal-setting strategies, and clarification of interests and values that are influential in career development and academic motivation.

Model Principles: The model principles describe the relationship among the factors. The model is based on the premise that common factors influence both career development and academic motivation. These common factors are self-efficacy, interests, goals, and values. These four factors are the result of learning experiences. Career development objectives and strategies for enhancing motivation produce these learning experiences. The model also acknowledges the influence of personal qualities and contextual influences on career development and motivation. The positive outcomes of career development and motivation are performance, persistence, and achievement. The model principles include:

- Career development objectives produce learning experiences.
- Strategies for enhancing academic motivation produce learning experiences.
- Learning experiences contribute to self-efficacy, interests, goals, and values.

- Self-efficacy, interests, goals, and values are influential factors in career development.
- Self-efficacy, interests, goals, and values are influential factors in academic motivation.
- Career development and academic motivation are influenced by personal qualities such as predisposition towards positive attitude, determination, and self-motivation.
- Career development and academic motivation are influenced by factors such as age and maturity.
- Career development and academic motivation are influenced by contextual factors such the influence of, support of, expectations of, and/or pressure by family/friends.
- Career development and academic motivation are influenced by support from counselors, teachers, tutors, mentors, peers, and academic advisors.
- Career development and academic motivation are influenced by contextual factors such as the availability of local jobs, future job opportunities, the economy, and the perception of college leading to a career.
- Career development and academic motivation are influenced by contextual factors such as the perception of the community college as a high-quality institution, rather than a last choice option.
- Positive outcomes of career development and academic motivation are performance, persistence, and achievement.
- Positive outcomes influence future learning.

Career Development Objectives: The career development objectives provide a framework for the implementation of the model. The career development objectives address four important aspects of career decision-making: career readiness, information gathering, integration and evaluation, and action planning. The career development objectives that students should achieve are listed below:

- Career Readiness.
 - Begin the career development process early.
 - Evaluate their level of readiness for making a career decision.
 - Recognize when they are not yet ready to make life decisions.
 - Determine their level of commitment to career development.
 - Identify their decision-making concerns.

- Information Gathering.
 - Be willing to explore a variety of career avenues.
 - Organize a plan for exploring interests, values, occupations, and majors.
 - Complete assessments such as interest inventories.
 - Participate in experiential learning opportunities including informational interviews, volunteering, job shadowing, internships, talks, workshops, seminars, career classes, career days, advising, mentoring, guest speakers, field observations, and employer research.
 - Explore career pathway opportunities.

- Learn strategies for dealing with the overwhelming amount of information.
- Integration and Evaluation.
 - Integrate and evaluate career information.
 - Generate realistic alternatives for themselves.
 - Recognize relationships between their personal strengths and career choices.
- Action Plans.
 - Set long-term and short-term career goals.
 - Set academic goals to achieve their career goals.
 - Establish time lines for achieving their goals.
 - Create action plans for achieving their goals.
 - Establish a plan for revision and re-evaluation of their goals.

Motivational Strategies: The model suggests four categories of strategies that educators and institutions could use to enhance motivation. These categories are: establish inclusion, develop positive attitude, enhance meaning, and engender competence. Specific strategies that educators and institutions could use are listed below:

- Establish Inclusion.
 - Establish an environment where students feel connected to and respected by faculty, staff, and each other.
 - Support students by providing encouragement and expecting success.

- Recognize achievement through tangible incentives such as discounted books, reduced tuition, and recognition at assemblies.
 - Ensure that counselors are readily available and are proactive in helping students.
 - Require students to meet with their counselor or advisor on a regular basis.
- Develop Attitude.
 - Use relevance and choice to create a favorable disposition toward learning.
 - Demonstrate relevance of course material to future life.
 - Provide classroom experiences that have personal relevance to students.
 - Provide classroom activities that are exciting, challenging, and fun.
 - Communicate clear requirements and expectations and provide feedback.
 - Provide motivational guest speakers.
 - Communicate the availability of opportunities such as distance learning.
 - Provide experiences that are relevant to students' cultural background.
 - Allow students to make choices based on their experiences, values, needs, and strengths.
 - Enhance Meaning.

- Provide learning experiences that have meaning and value to students.
 - Provide hands-on learning opportunities.
 - Provide job placement services.
 - Communicate the consequences of lack of education.
 - Afford students the opportunity to gain deeper understanding of intrinsic, extrinsic, social, prestige, and cultural values that have personal meaning to them.
 - Discuss the relationship between values and motivation, using examples such as the value of being respected as a leader in one's chosen field.
 - Assign research projects that utilize students' strengths, values, and experiences.
- Engender Competence.
 - Provide opportunities for students to gain confidence (self-efficacy) by applying what they are learning.
 - Use repetitive skills methods for obtaining competence.
 - Assist students with honest self-assessment.
 - Provide opportunities for students to become aware of their aptitudes and talents.
 - Set realistic expectations of students while being cognizant of factors such as student workloads/class loads.

- Teach students goal setting, planning, help-seeking, and self-monitoring strategies.
- Assist students in enhancing personal qualities such as social maturity and flexibility.

Recommendations

Based on the findings of this study and the review of the literature, recommendations for implementation and further research are offered. This study described a conceptual model for career development to enhance the academic motivation of community college students. The model included career development objectives and motivational strategies which would assist practitioners.

The purpose of this model was to serve as a guide to practitioners in the creation of retention programs which address two important factors considered to be important to student success: career development and motivation. The model was designed to be only one part of a comprehensive model of retention. It should be used to complement programs which address other aspects of retention such as study skills and financial issues.

Before implementation the model should be field tested. In particular, the cause and effect relationship between the learning strategies and outcomes should be tested using pretest and posttest assessment. Field testing should be conducted using a population representing racial/ethnic diversity. Because the study participants were 93% white, field testing may find that the strategies included in the model have limited usefulness to minority students.

A staged approach to implementation is suggested. Although the model is designed to be implemented as a college-wide model, it is most appropriate to begin its use in a single classroom as a course in career development. As the model strategies are found to be useful in motivating this population of students, the motivational strategies should be expanded to other courses within the institution. For example, demonstrating the relevance of course material to future life is relevant not only in a career development course, but in every course in the curriculum. Likewise many of the career development strategies that are appropriate to a career class should be implemented throughout the curriculum. For example, experiential learning need not be limited to just the career course or just to career and technical education classes. Likewise, consideration of student career goals and action plans should be relevant to all courses within the curriculum.

Additional research is suggested in two areas. Further research to expand the model to other populations is recommended. In addition, further research concerning the topics of career development and motivation and their relationship is suggested.

Although the model targets community colleges, further research should be undertaken to expand its usefulness to other institutions of higher learning. Career development and motivation are concerns of all institutions, not just community colleges. The usefulness of the model should also be expanded to secondary schools. One of the elements of the model is "begin career development early". Comments from the study participants indicated that students wished that they had received more career assistance before they reached the postsecondary level.

Career development and motivation were both broad topics. Understanding the connection between the two of them and their relationship with retention holds much promise for improving student success. Further research should be undertaken to explore these topics. Since much of the motivation literature was limited to elementary and secondary students, research concerning the academic motivation of community college students deserves particular attention.

Further qualitative research should be undertaken to increase the understanding of student needs. The participants in this study were eager to offer their opinions. They completed the extensive questionnaires during final exam week just before the holiday break. They generously included comments on follow-up questionnaires where comments were optional. It was clear from these participants that students care about the topics of career development and motivation and want their voices to be heard.

REFERENCES

- Asakawa, K. (2004). Flow experience and autotelic personality in Japanese college students: How do they experience challenges in daily life? *Journal of Happiness Studies, 5*(2), 123-154.
- Albion, M.J., & Fogarty, G.J. (2002). Factors influencing career decision-making in adolescents and adults. *Journal of Career Assessment, 10*(1), 91-126.
- Ali, S. R., & Saunders, J. L. (2006). College Expectations of Rural Appalachian Youth: An Exploration of Social Cognitive Career Theory Factors. *Career Development Quarterly, 55*(1), 38.
- Allen, J., & Robbins, S. (2008). Prediction of college major persistence based on vocational interests, academic preparation, and first-year academic performance. *Research in Higher Education, 49*(1), 62-79.
- Anderson, T. (2003). The effect of career counseling and its process on retention. *Dissertation Abstracts International, 63* (09B), 4359. (UMI No. 3065148)
- Ashburn, E., Barlett, T., & Wolverston, B. (2006). 2-year-college students rarely use advisors, survey shows. *Chronicle of Higher Education, 53*(15), A1-A29.
- Austin, J. T., & Vancouver, J. B. (1996). Goal constructs in psychology: Structure, process, and content. *Psychological Bulletin, 120*(3), 338-375.
- Bandura, A. (1997). *Self-efficacy: The exercise of control*. New York: W.H. Freeman.
- Bandura, A., & Locke, E. (2003). Negative self-efficacy and goals revisited. *Journal of Applied Psychology, 88*, 87-99.
- Baum, S., & Ma, J. (2007). *Education pays, the benefits of higher education for individuals and society*. Washington, D.C.: The College Board.

- Bembenutty, H. (2007). Self-regulation of learning and academic delay of gratification: Gender and ethnic differences among college students. *Journal of Advanced Academics, 18*(4), 586-616.
- Betz, N. E. (2004). Contributions of self-efficacy theory to career counseling: A personal perspective. *The Career Development Quarterly, 52*, 340-353.
- Betz, N. E., & Voyten, K. K. (1997). Efficacy and outcome expectations influence career exploration and decidedness. *Career Development Quarterly, 46*(2), 179-189.
- Boyd, V., Hunt, P., Hunt, S., Magoon, T., & VanBrunt, J. (1998). *A low-level career testing and interpretation intervention*. Research Report 18-97. (ERIC Documentation Reproduction Service No. ED414794).
- Brophy, J. (2004). *Motivating students to learn*. Mahwah, NJ: Lawrence Erlbaum Associates, Inc.
- Brown, D. (2002). The role of work and Cultural values in occupational choice, satisfaction, and success: A theoretical statement. *Journal of Counseling & Development, 80*(1), 48.
- Bye, D., Pushkar, D., & Conway, M. (2007). Motivation, interest, and positive affect in traditional and nontraditional undergraduate students. *Adult Education Quarterly, 57*(2), 141-158.
- Carter, R. T. (1991). Cultural values: A review of empirical research and implications for counseling. *Journal of Counseling & Development, 70*(1), 164-173.
- Charmaz, K. (2006). *Constructing grounded theory*. Los Angeles: Sage Publications.
- Clayton, M. J. (1997). Delphi: A technique to harness expert opinion for critical decision making tasks in education. *Educational Psychology, 17*(4), 373.

- Coll, K. M., & Stewart, R. A. (2008). College student retention: Instrument validation and value for partnering between academic and counseling services. *College Student Journal*, 42(1), 41-56.
- Community college survey of student engagement (CCSSE). 2008. *High expectations, high support*. Austin, TX: The University of Texas at Austin, Community College Leadership Program.
- Csikszentmihalyi, M. (1990). *Flow, the psychology of optimal experience*. New York: Harper Collins.
- Cuseo, J. (2005). "Decided", "undecided", and "in transition": Implications for academic advisement, career counseling, and student retention. In R. Feldman (Ed.), *Improving the first year of college: Research and practice* (pp. 27-48). Mahwah, NJ: Lawrence Erlbaum Associates, Inc.
- Daniels, E., & Arapostathis, M. (2005). What do they really want?: Students voices and motivation research. *Urban Education*, 40(1), 34-59.
- Deci, E. L., & Ryan, R. M. (2008). Facilitating optimal motivation and psychological well-being across life's domains. *Canadian Psychology*, 49(1), 14-23.
- Duffy, R. D., & Sedlacek, W. E. (2007a). The work values of first-year college students: Exploring group differences. *Career Development Quarterly*, 55(4), 359-364.
- Duffy, R. D., & Sedlacek, W. E. (2007b). What is most important to students' long-term career choices: Analyzing 10-year trends and group differences. *Journal of Career Development*, 34(2), 149-163.
- Dykeman, C., Wood, C., Ingram, M., Herr, E., & National Research Center for Career and Technical Education, S. (2003, January 1). Career development interventions

- and academic self-efficacy and motivation: A pilot study. (ERIC Document
Reproduction Service No. ED480312)
- Eccles, J. S., & Wigfield, A. (2002). Motivational beliefs, values, and goals. *Annual Review of Psychology*, 53(1), 109-132.
- Fadjukoff, P., Pulkkinen, L., & Kokko, K. (2005). Identity processes in adulthood:
Diverging domains. *Identity*, 5(1), 1-20.
- Faye, C., & Sharpe, D. (2008). Academic motivation in university: The role of basic
psychological needs and identify formation. *Canadian Journal of Behavioral
Science*, 40(4), 189-199.
- Feldman, K., Smart, J., & Ethington, C. (2004). What do college students have to lose?
Exploring the outcomes of differences in person-environment fits. *The Journal of
Higher Education*, 75(5), 528-555.
- Fike, D., & Fike, R. (2008). Predictors of first-year student retention in the community
college. *Community College Review*, 36(2), 68-88.
- Fiske, S. (2008). Core social motivations: Views from the couch, consciousness,
classroom, computers, and collectives. In J. Shah & W. Gardner (Eds.), *Handbook
of motivation science*. New York: Guilford Press.
- Fouad, N. A., Smith, P. L., & Zao, K. E. (2002). Across academic domains: Extensions
of the social-cognitive career model. *Journal of Counseling Psychology*, 49(2),
164-171.
- Freeman, T. M., Anderman, L. H., & Jensen, J. M. (2007). Sense of belonging in college
freshmen at the classroom and campus levels. *Journal of Experimental Education*,
75(3), 203-220.

- Friedman, A. (2006). State standards and digital primary sources: A divergence. *Contemporary Issues in Technology and Teacher Education*, 6(3), 313-327.
- Garland, R. (1991). The mid-point on a rating-scale: Is it desirable? *Marketing Bulletin*, 2, 66-70.
- Gati, I., Krausz, M., & Osipow, S. (1996). A taxonomy of difficulties in career decision making. *Journal of Counseling Psychology*, 43(4), 510-526.
- Ghassemi, E. (2007). The effects of ego-identity status, career decision-making autonomy, and parents' education on career decision making in community college students. *Dissertation Abstracts International*, 68(5-B), 3423. (UMI No. 3263976)
- Glaser, B., & Strauss, A. (1967). *The Discovery of Grounded Theory*. Chicago: Aldine.
- Goldschmidt, P. (1996). A comprehensive study of the ethical, legal and social implications of advances in biochemical and behavioral research and technology. In M. Adler & E. Ziglio (Eds.), *Gazing into the Oracle: The Delphi method and its application to social policy and public health* (pp. 89-132). London, England: Jessica Kingsley Publishers Ltd.
- Gordon, V. N. (2007). *The undecided college student, an academic and career advising challenge* (3rd ed.). Springfield, IL: Charles C. Thomas.
- Graunke, S. S., & Woosley, S. A. (2005). An exploration of the factors that affect the academic success of college sophomores. *College Student Journal*, 39(2), 367-376.

- Hall, N. C., Hladkyj, S., Perry, R. P., & Ruthig, J. C. (2004). The role of attributional retraining and elaborative learning in college students' academic development. *Journal of Social Psychology, 144*(6), 591-612.
- Haltinner, U. (2008). Achieving consensus on secondary marketing education curriculum and instruction --A Delphi study. *Dissertation Abstracts International, 69*(5). (UMI No. 3313443)
- Harper, E. (2007). Making good choices: how autonomy support influences the behavior change and motivation of troubled and troubling youth. *Reclaiming Children and Youth, 16*(3), 23-20.
- Hartung, P. J., & Blustein, D. L. (2002). Reason, intuition, and social justice: Elaborating on Parson's career decision-making model. *Journal of Counseling & Development, 80*(1), 41-47.
- Hasson, F., Keeney, S., & McKenna, H. (2000). Research guidelines for the Delphi survey technique. *Journal of Advanced Nursing, 32*(4), 1008-1015.
- Herr, E. L. (2001). Career development and its practice: A historical perspective. *Career Development Quarterly, 49*(3), 196-211.
- Hershenson, D. B. (2005). Income: A culturally inclusive disability-sensitive framework for organizing career development concepts and interventions. *Career Development Quarterly, 54*, 150-161.
- Hidi, S., & Ainley, M. (2008). Interest and self-regulation: Relationships between two variables that influence learning. In D. Schunck & B. Zimmerman (Eds.), *Motivation and self-regulated learning: Theory, research, and applications* (pp. 77-109). New York: Lawrence Erlbaum Associates.

- Hidi, S., & Renninger, K. A. (2006). The four-phase model of interest development. *Educational Psychologist, 41*(2), 111-127.
- Hoffman, A. J., & Wallach, J. (2005). Effects of mentoring on community college students in transition to university. *Community College Enterprise, 11*(1), 67-78.
- Holland, J. (1997). *Making vocational choices: A theory of vocational personalities and work environments* (3rd ed.). Odessa, FL: Psychological Assessment Resources.
- Hudy, G. T. (2007). An analysis of motivational factors related to academic success and persistence for university students. *Dissertation Abstracts International, 67*(11), 4094. (UMI No. 3240170)
- Hull-Blanks, E., Kurpius, S., Befort, C., Sollenberger, S., Nicpon, M., & Huser, L. (2005). Career goals and retention - Related factors among college freshmen. *Journal of Career Development, 32*(1), 16-30.
- Kadar, R. (2001). A counseling liaison model of academic advising. *Journal of College Counseling, 4*(2), 174-178.
- Kahn, L. W. (2007). The chaos of careers. *Career Planning & Adult Development Journal, 23*(2), 65-72.
- Kelly, K. R., Gunsalus, A. C., & Gunsalus, R. (2009). Social cognitive predictors of the career goals of Korean American students. *The Career Development Quarterly, 58*(1), 14-28.
- Kelly, K. R., & Pulver, C. A. (2003). Refining measurement of career indecision types: A validity study. *Journal of Counseling & Development, 81*(4), 445-454.
- Kiener, M. (2006). Decision making and motivation and its impact on career search behaviors: The role of self-regulation. *College Student Journal, 40*(2), 350-361.

- Kuh, G. D., Cruce, T. M., Shoup, R., Kinzie, J., & Gonyea, R.M. (2008). Unmasking the effects of student engagement on first-year college grades and persistence. *The Journal of Higher Education*, 79(5), 540-563.
- Lent, R. W., & Brown, S. D. (1996). Social cognitive approach to career development: An overview. *Career Development Quarterly*, 44(4), 310-321.
- Lent, R. W., Brown, S. D., Sheu, H.-B., Schmidt, J., Brenner, B. R., Gloster, C. S., et al. (2005). Social cognitive predictors of academic interests and goals in engineering: Utility for women and students at historically Black universities. *Journal of Counseling Psychology*, 52(1), 84-92.
- Levinson, E. M., Ohier, D. L., Caswell, S., & Kiewra, K. (1998). Six Approaches to the Assessment of Career Maturity. *Journal of Counseling & Development*, 76(4), 475-483.
- Linnenbrink, E. A., & Pintrich, P. R. (2002). Achievement goal theory and affect: An asymmetrical bidirectional model. *Educational Psychologist*, 37(2), 69-78.
- Linstone, H., & Turoff, M. (1975). *The Delphi method: techniques and applications*. Reading, MA: Addison-Wesley Publishing Company.
- Locke, E., & Latham, G. (1994). Goal setting theory. In H. O'Neil & M. Drillings (Eds.), *Motivation: Theory and Research*. Hillsdale, N.J.: Lawrence Erlbaum Associates.
- Lounsbury, J. W., Saudargas, R. A., Gibson, L. W., & Leong, F. T. (2005). An investigation of broad and narrow personality traits in relation to general and domain-specific life satisfaction of college students. *Research in Higher Education*, 46(6), 707-729.

- Lowe, S. M. (2005). Integrating collectivist values into career counseling with Asian Americans: A test of cultural responsiveness. *Journal of Multicultural Counseling & Development, 33*(3), 134-145.
- Lynch, D. J. (2006). Motivational factors, learning strategies and resource management as predictors of course grades. *College Student Journal, 40*(2), 423-428.
- Mackeracher, D. (2004). *Making Sense of Adult Learning* (2nd ed.). Toronto: University of Toronto Press.
- Marcia, J.E. (1966). Development and validation of ego-identity status. *Journal of Personality and Social Psychology, 3*(5), 551-558.
- Marks, L. (1998). Deconstructing locus of control. *Journal of Counseling & Development, 76*(3), 251-261.
- Matell, M.S., & Jacoby, J. (1972). Is there an optimal number of alternatives for Likert-scale items? Effects of testing time and scale properties. *Journal of Applied Psychology, 56*(6), 506-509.
- McKeachie, W. J. (2002). *McKeachie's teaching tips: Strategies, research, and theory for college and university teachers*. Boston: Houghton Mifflin Company.
- McInerney, D. (2008). *The motivational roles of cultural differences and cultural identity in self-regulated learning*. In D. Schunck & B. Zimmerman (Eds.), *Motivation and self-regulated learning: Theory, research and applications* (pp. 369-400). New York: Lawrence Erlbaum Associates.
- Mei, T., Wei, P., & Newmeyer, M. D. (2008). Factors influencing high school students' career aspirations. *Professional School Counseling, 11*(5), 285-295.

- Melendez, T. (2002). Effects of a values-based career intervention with undergraduate males. *Dissertation Abstracts International*, 63(11), 5528. (UMI No. 3069829)
- Metz, A. J. (2005). Unique contributions of career-related variables in predicting academic persistence and performance in university 101 college students. *Dissertation Abstracts International*, 66(11). (UMI No. 3196016)
- Murry, J., & Hammons, J. (1995). Delphi: A versatile methodology for conducting qualitative research. *Review of Higher Education*, 18(4), 423-436.
- Moneta, G. B. (2004). The flow model of intrinsic motivation in Chinese: Cultural and personal moderators. *Journal of Happiness Studies*, 5(2), 181-217.
- Nauta, M., Kahn, J., Angell, J., & Cantarelli, E. (2002). Identifying the antecedent in the relation between career interests and self-efficacy: Is it one, the other, or both? *Journal of Counseling Psychology*, 49(3), 290-301.
- Okoli, C., & Pawlowski, S. D. (2004). The Delphi method as a research tool: an example, design considerations and applications. *Information & Management*, 42(1), 15-29.
- Pajares, F. (2008). Motivational role of self-efficacy beliefs in self-regulated learning. In D. Schunck & B. Zimmerman (Eds.), *Motivation and Self-Regulated Learning: Theory, Research, and Practice* (pp. 111-139). New York: Lawrence Erlbaum Associates.
- Pan, W., Guo, S., Alikonis, C., & Bai, H. (2008). Do intervention programs assist students to succeed in college? A multilevel longitudinal study. *College Student Journal*, 42(1), 90-98.
- Parsons, F. (1909). *Choosing a vocation*. Boston: Houghton Mifflin.
- Patton, M. (2002). *Qualitative research & evaluation methods* (3rd ed.). Thousand Oaks,

CA: Sage Publications.

- Paulsen, A. M., & Betz, N. E. (2004). Basic confidence predictors of career decision-making self-efficacy. *Career Development Quarterly*, 52(4), 354-362.
- Paulsen, M., & Feldman, K. (2007). The conditional and interaction effects of epistemological beliefs on the self-regulated learning of college students: Cognitive and behavioral strategies. *Research in Higher Education*, 48(3), 353-401.
- Peterson, S. L., & Delmas, R. C. (2002). Effects of career decision-making self-efficacy and degree utility on student persistence: A path analytic study. *Journal of College Student Retention*, 3(3), 285-299.
- Pisel, K. (2001). The validation of a detailed strategic planning process model for the implementation of distance education in higher education. *Dissertation Abstracts International*, 63(2), 569. (UMI No. 3042704)
- Polansky, J., Horan, J., & Hanish, C. (1993). Experimental construct validity of the outcomes of study skills training and career counseling as treatments for the retention of at-risk students. *Journal of Counseling and Development*, 71(5), 488-492.
- Powell, C. (2003). The Delphi technique: myths and realities. *Journal of Advanced Nursing*, 41(4), 376-382.
- Prospero, M., & Vohra-Gupta, S. (2007). First generation college students: Motivation, integration, and academic achievement. *Community College Journal of Research & Practice*, 31(12), 963-975.

- Radosevich, D., Rota, L., Law, J. B., & Kim, S. K. (2007). The influence of a four-factor goal orientation model on motivational processes and performance. *Journal of Academy of Business and Economics*, 7(2), 114-130.
- Rotter, J. (1975). Some problems and misconceptions related to the construct of internal versus external control of reinforcement. *Journal of Consulting and Clinical Psychology*, 43(1), 56-67.
- Rottinghaus, P. J., Larson, L. M., & Borgen, F. H. (2003). The relation of self-efficacy and interests: A meta-analysis of 60 samples. *Journal of Vocational Behavior*, 62, 221-236.
- Rotundi, A., & Gustafson, D. (1996). Theoretical, methodological, and practical issues arising out of the Delphi method. In M. Adler & E. Ziglio (Eds.), *Gazing into the Oracle: The Delphi method and its application to social policy and public health* (pp. 34-55). London, England: Jessica Kingsley Publishers Ltd.
- Ryan, R., & Deci, E. (2000). Self-determination theory and the facilitation of intrinsic motivation, social development, and well-being. *American Psychologist*, 55, 68-78.
- Ryan, T. E. (2006). Motivating novice students to read their textbooks. *Journal of Instructional Psychology*, 33(2), 136-140.
- Sansone, C. & Harackiewicz, J. (2000). *Intrinsic and extrinsic motivation: The search for optimal motivation and performance*. San Diego: Academic Press.
- Savickas, M. L. (2001). A developmental perspective on vocational behaviour: Career patterns, salience, and themes. *International Journal for Educational and Vocational Guidance*, 1(1), 49-57.

- Savickas, M. L. (2008). David V. Tiedeman: Engineer of career construction. *Career Development Quarterly*, 56(3), 217-224.
- Scheel, M. J., & Gonzalez, J. (2007). An investigation of a model of academic motivation for school counseling. *Professional School Counseling*, 11(1), 49-56.
- Scheele, D. S. (1975). Reality construction as a product of Delphi interaction. In H. Linstone & M. Turoff (Eds.), *The Delphi method: Techniques and applications* (pp. 37-71). Reading, MA: Addison-Wesley Publishing Company.
- Scheibe, M., Skutsch, M., & Schofer, J. (1975). Experiments in Delphi methodology. In H. Linstone & M. Turoff (Eds.), *The Delphi method: Techniques and applications* (pp. 262-287). Reading, MA: Addison-Wesley Publishing Company.
- Schiefele, U. (1991). Interest, learning, and motivation. *Educational Psychologist*, 26(3), 299-323.
- Schmitt-Rodermund, E., & Vondracek, F. W. (1998). Breadth of interests, exploration, and identity development in adolescence. *Journal of Vocational Behavior*, 55, 298-317.
- Schunk, D. (2008). Attributions as motivators of self-regulated learning. In B. Zimmerman & D. Schunck (Eds.), *Motivation and self-regulated learning: Theory, research, and applications* (pp. 245-266). New York: Lawrence Erlbaum Associates.
- Sharf, R. (2002). *Applying career development theory to counseling* (3rd ed.) Pacific Grove, Ca: Brooks/Cole Cengage Learning.
- Sharf, R. (2009). *Applying career development theory to counseling* (5th ed.). Belmont, CA: Brooks/Cole Cengage Learning.

- Sherhoff, D., Csikszentmihalyi, M., Schneider, B., & Sherhoff, E. (2003). Student engagement in high school classrooms from the perspective of flow theory. *School Psychology Quarterly, 18*(2), 158-176.
- Silva, R. (2007). The career development of successful Hispanic administrators in higher education: A Delphi study. *Dissertation Abstracts International, 68*(09). (UMI No. 3281008)
- Stitt-Gohdes, W., & Crews, T. (2004). The Delphi Technique: A research strategy for career and technical education. *Journal of Career and Technical Education, 20*(2), 55-67.
- St. John, E. P., Hu, S., Simmons, A., Carter, D. F., & Weber, J. (2004). What difference does a major make? The influence of college major field on persistence by African American and White students. *Research in Higher Education, 45*(3), 209-232.
- Super, D. E. (1957). *The psychology of careers*. New York: HarperCollins.
- Sverko, B. (2001) Life roles and values in international perspective: Super's contribution through the work importance study. *International Journal for Educational and Vocational Guidance, 1*, 121-130.
- Swanson, J. (2007). Success in the first year: Impact of alternative advising on students at a liberal arts college. *Dissertation Abstracts International, 67*(12A), 4481. (UMI No. 3246327)
- Taylor, M. (2008). Student affairs divisions as learning organizations: Toward a conceptual framework for organizational improvement. *Dissertation Abstracts International, 69*(07). (UMI No. 3322366)

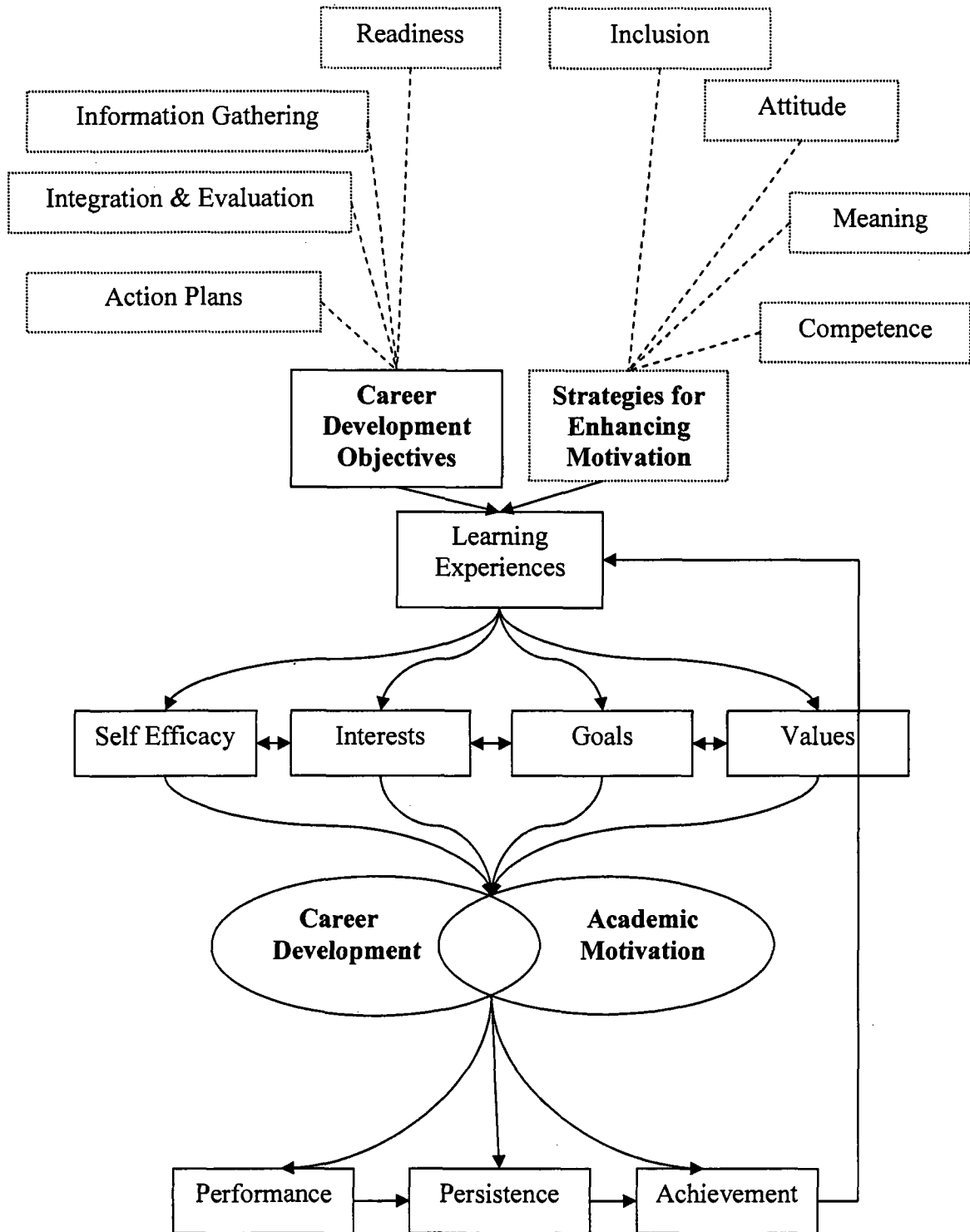
- Tiedeman, D.V. (1979). *Career development: Designing our career machines*. Schenectady, NY: Character Research Press.
- Tinto, V. (1993). *Leaving college*. Chicago: The University of Chicago Press.
- United States Department of Education, National Center for Education Statistics. (2009). *On track to complete? A taxonomy of beginning community college students and their outcomes 3 years after enrolling: 2003-04 through 2006* (Publication No. NCES 2009-152). Retrieved from <http://www.nces.ed.gov/pubsearch/pubsinfo.asp?pubid=2009152>
- Vansteenkiste, M., Simons, J., Lens, W., Sheldon, K. M., & Deci, E. L. (2004). Motivating learning, performance, and persistence: The synergistic effects of intrinsic goal contents and autonomy-supportive contexts. *Journal of Personality and Social Psychology*, 87(2), 246-260.
- van Vianen, A., De Pater, I., & Preenen, P. (2009). Adaptable careers: Maximizing less and exploring more. *Career Development Quarterly*, 57(4), 298-309.
- Whiston, S. (2003). Career counseling: 90 years old yet still healthy and vital. *Career Development Quarterly*, 52, 35-42.
- Weiner, B., Nierenberg, R., & Goldstein, M. (1976). Social learning (locus of control) versus attributional (causal stability) interpretations of expectancy of success. *Journal of Personality*, 44(1), 52-68.
- Wigfield, A. (1994). Expectancy-value theory of achievement motivation: A developmental perspective. *Educational Psychology Review*, 6(1), 49-78.
- Wigfield, A., Hoa, L., & Klauda, S. (2008). The role of achievement values in the regulation of achievement behaviors. In D. Schunck & B. Zimmerman (Eds.),

- Motivation and self-regulated learning: Theory, research, and applications* (pp. 169-195). New York: Lawrence Erlbaum Associates.
- Wilhelm, B. (1999). A Delphi study of entry-level workplace skills, competencies, and proof-of-achievement products. *The Delta Pi Epsilon Journal*, 41(2), 105-122.
- Wilhelm, W. J. (2001). Alchemy of the Oracle: The Delphi technique. *Delta Pi Epsilon Journal*, 43(1), 6-26.
- Wlodkowski, R. (1999). *Enhancing adult motivation to learn*. San Francisco: Jossey-Bass, Inc.
- Wlodkowski, R., & Ginsberg, M. (1995). *Diversity and motivation, Culturally responsive teaching*. San Francisco: Jossey-Bass, Inc.
- Wolfe, J. B., & Betz, N. E. (2004). The relationship of attachment variables to career decision-making self-efficacy and fear of commitment. *Career Development Quarterly*, 52(4), 363-369.
- Ziglio, E. (1996). The Delphi method and its contribution to decision-making. In M. Adler & E. Ziglio (Eds.), *Gazing into the Oracle: The Delphi method and its application to social policy and public health* (pp. 3-33). London, England: Jessica Kingsley Publishers Ltd.
- Zimmerman, B. (2008). Goal setting: A key proactive source of academic self-regulation. In D. Schunck & B. Zimmerman (Eds.), *Motivation and self-regulated learning: Theory, research and applications* (pp. 267-295). New York: Lawrence Erlbaum Associates.
- Zimmerman, B., & Schunck, D. (2008). Motivation, an essential dimension of self-regulated learning. In B. Zimmerman & D. Schunck (Eds.), *Motivation and self-*

regulated learning: Theory, research, and applications (pp. 1-30). New York:
Lawrence Erlbaum Associates.

APPENDIX A
STRAW MODEL

APPENDIX A
STRAW MODEL



Description of the Model

Purpose of the model. The model describes a method of career development that seeks to assist community college students in their career development while enhancing their academic motivation. Objectives and strategies are utilized to produce learning experiences that promote the increased self-efficacy, goal-setting strategies, and clarification of interests and values that are influential in career development and academic motivation.

Model Principles:

- Career development objectives produce learning experiences.
- Strategies for enhancing academic motivation produce learning experiences.
- Learning experiences contribute to self-efficacy, interests, goals, and values.
- Self-efficacy, interests, goals, and values are influential factors in career development.
- Self-efficacy, interests, goals, and values are influential factors in academic motivation.
- Positive outcomes of career development and academic motivation are performance, persistence, and achievement.
- Positive outcomes influence future learning.

Career Development Objectives (Students will:)

- Career Readiness.
 - Evaluate their level of readiness for making a career decision.
 - Determine their level of commitment to career development.
 - Identify their decision-making concerns.
- Information Gathering.
 - Organize a plan for exploring interests, values, occupations, and majors.
 - Participate in experiential learning opportunities such as informational interviews, job shadowing, and externships.
 - Learn strategies for dealing with the overwhelming amount of information.
- Integration and evaluation.
 - Integrate and evaluate career information.
 - Generate realistic alternatives for themselves.
 - Recognize relationships between their personal strengths and career choices.
- Action Plans.
 - Set career goals.
 - Set academic goals to achieve their career goals.
 - Create action plans for achieving their goals.

Motivational Strategies (Educators will:)

- Establish Inclusion. Facilitators/teachers will:

- Establish an environment where students feel connected to and respected by faculty, staff, and each other.
- Develop Attitude.
 - Use relevance and choice to create a favorable disposition toward learning.
 - Provide experiences that have personal relevance to students.
 - Provide experiences that are relevant to students' cultural background.
 - Allow students to make choices based on their experiences, values, needs, and strengths.
- Enhance Meaning.
 - Provide learning experiences that have meaning and value to students.
 - Afford students the opportunity to gain deeper understanding of intrinsic, extrinsic, social, prestige, and cultural values that have personal meaning to them.
 - Assign research projects that utilize students' strengths, values, and experiences.
- Engender Competence.
 - Provide opportunities for students to gain confidence (self-efficacy) by applying what they are learning.
 - Teach students goal setting, planning, help-seeking, and self-monitoring strategies.

APPENDIX B**E-MAIL SOLICITING IDENTIFICATION OF STUDENTS FOR THE PANEL**

APPENDIX B

E-MAIL SOLICITING IDENTIFICATION OF STUDENTS FOR THE PANEL

Subject: Research Study
Date: November 13, 2009
From: Nancy Collins
To: Site Directors

Dear Site Directors,

I am working on a research project to develop a conceptual model of career development to enhance the academic motivation of community college students. This study will constitute my dissertation in partial fulfillment of my degree in Occupational and Technical Studies from Old Dominion University.

The study will use the Delphi technique. Delphi studies allow for participants who are geographically dispersed to interact anonymously to solve a problem or develop a model. Delphi studies generally consist of three rounds of questionnaires. The first round consists of several open-ended questions where participants express their views and opinions. The next two rounds consist of agree/disagree questions designed to reach consensus among the participants. If consensus is not reached at the end of three rounds, additional rounds are sometimes required to clear up specific issues. In this study, all correspondence, questionnaires, and responses will be conducted via e-mail.

The success of a Delphi study is dependent upon the selection of a panel of individuals who are knowledgeable about the topic. Because this study concerns community college success, the most knowledgeable individuals are students who have successfully graduated from a community college and transferred to a baccalaureate program. Because you advise such students, you are in a unique position to identify students who: **graduated from a community college, are currently making satisfactory academic progress, are likely to contribute to the study, and are likely to persist.** I would appreciate your help in selecting five students enrolled at your site who meet the above criteria. The study will be most successful if the panel represents a diversity of background and opinion. Although there is no statistical need for diversity, I would appreciate your selecting a group of individuals who may represent diverse views.

I recognize that time is very valuable to college students. I will make every effort to move the process along as quickly and efficiently as possible. I will also compensate participants for their time by giving them a \$25 VISA gift card at the conclusion of the study. They will also be entered into a drawing for \$500. Only participants who complete all questionnaires will be compensated. I would like to solicit your help in encouraging the participants to complete the questionnaires. The Site Director with most participants at the end will receive a \$50 gift card. In case of a tie, I will give gift cards to all Site

Directors involved in the tie. Please note that all Site Directors are requested to submit no more and no less than five names.

I would appreciate your sending me the names, UINs, and e-mail addresses of five students who meet the selection criteria. I would like the names by next week. I will contact them and will tell them they were recommended by you. I will copy you on the e-mail.

Thank you very much for your time and assistance in this crucial first step of the research. If you would like a copy of the findings of the research, I will be happy to send it to you.

Sincerely,

Nancy Collins
Cell Phone: 757-710-6732

APPENDIX C

**E-MAIL REQUESTING PARTICIPATION IN THE PANEL, ROUND 1 E-MAIL,
ATTACHMENT, AND FOLLOW-UP E-MAIL**

APPENDIX C

E-MAIL REQUESTING PARTICIPATION IN THE PANEL, ROUND 1 E-MAIL, ATTACHMENT, AND FOLLOW-UP E-MAIL

E-mail Requesting Participation

Subject: Participation in a Research Study – I'd like your opinion

Date: November 30, 2009

From: Nancy Collins

To: Participants

You are one of five students recommended by your Site Director to participate in a research project to develop a conceptual model of career development to enhance the academic motivation of community college students. Your participation would be **greatly** appreciated. I really want to hear your opinions about how we can help community college students with their career problems and their motivation.

Because your time is very valuable, you will be compensated with a \$25 VISA gift card for your participation in the study. In addition, your name will be entered into a drawing for \$500. The study will consist of 3 brief questionnaires. The first one is the most time-consuming. It takes about 20 minutes. The others, which you will receive after the first of the year, are briefer. There may be one or two very short follow up questionnaires, if there are any issues not resolved. Only participants who complete all questionnaires will be eligible for the \$500 drawing.

The study will use the Delphi technique. Delphi studies allow for participants who are geographically dispersed to interact anonymously to solve a problem or develop a model. Delphi studies generally consist of three rounds of questionnaires. The first round consists of several open-ended questions where participants express their views and opinions. The next two rounds consist of agree/disagree questions designed to reach consensus among the participants. If consensus is not reached at the end of three rounds, additional rounds are sometimes required to clear up specific issues. In this study, all correspondence, questionnaires, and responses will be conducted via e-mail.

You will receive another e-mail, Directions for the Study, which contains instructions and an attachment. If you are willing to participate, please respond to the Directions e-mail.

Thank you very much for your time and assistance in this research. If you would like a copy of the findings of the research, I will be happy to send it to you. If you have any questions, you may respond to this e-mail or call me at 757-710-6732 (cell).

Sincerely,

Nancy Collins

Round 1 E-mail

Subject: Directions for the Study
Date: November 30, 2009
From: Nancy Collins
To: Participants
Attachments: Questionnaire1.doc

This e-mail and its attachment are Round 1 of the Delphi Study to develop, refine, and validate a conceptual model of career development to enhance the academic motivation of community college students.

Before completing the attached questionnaire, please go to the web site: <http://mysite.verizon.net/vzeyfi65> to receive instructions. You will then key your answers into the Questionnaire1 document and return it to me as an e-mail attachment.

This round is the most detailed of the Delphi rounds, but it is the most important. I really need your response before the holiday break. Also, I would like to get your gift card to you before the holiday break.

Thank you in advance for your assistance. If you have any questions or problems, feel free to e-mail me or call me.

Thank you,

Nancy Collins

Informed Consent for Participation in a Research Study
A Conceptual Model of Career Development to Enhance Academic Motivation

Description of the Study

The purpose of this study is to develop, refine, and validate a conceptual model for career development that enhances academic motivation in community college students. Career indecision and lack of motivation are commonly cited reasons for students leaving school. This study will propose a conceptual model which includes instructional strategies that might be helpful in addressing both career development and motivation.

Risks and Benefits

There are no known risks associated with this study. You may at any time refuse to answer any question.

The benefit of participating in this study is that you will be contributing to the knowledge base which may help colleges find better ways to help you and other college students to be successful in college. You will receive a \$25.00 gift card for participating in the study. You will also be entered into a drawing for \$500. You must participate in every round of the study to be entered into the drawing.

Confidentiality

The names of individual participants will be kept confidential in all written records. All data will be stored on a password-protected computer. A back up copy will be stored in a locked file cabinet. All results will be reported in a way that will prevent individual participants from being identified. All data instruments will be destroyed after the completion of the research. The results of this study may be used in reports, presentations, and publications, but you will not be identified.

Withdrawal Privilege

It is OK for you to say NO. Even if you say YES now, you are free to say NO later, and walk away or withdraw from the study – at any time.

Investigator's Statement

I certify that I have explained to this subject the nature and purpose of this research, including benefits, risks, costs, and any experimental procedures. I have described the rights and protections afforded to human subjects and have done nothing to pressure, coerce, or falsely entice this subject into participating. I am aware of my obligations under state and federal laws, and promise compliance.

Researcher's Signature: Nancy Collins

Participants will signify their acceptance by checking the Informed Consent box in Questionnaire1.doc.

Round 1 Questionnaire

The purpose of this round is to enable the participants to develop a list of strategies that support career development while also enhancing motivation. Please review the attached straw model before you begin. As you are answering the questions, keep in mind your own community college experiences. Think of the questions in terms of what worked well for you, what did not work well, or what you wish you had received from the community college. Please feel free to make your answers as long or short as you would like.

1. What important aspects of career decision making do you think the model is missing all together? Please explain.

2. Which elements in the model don't make any sense? Why?

3. What could community colleges do that would help students be more academically motivated? How would that help?

4. What other career objectives should be added to the list?

5. What other motivational strategies should be added to the list?

6. Other comments:

I would appreciate your answering a few demographic questions:

Gender: Male Female

Age:

Race/Ethnicity:

White Black Hispanic Asian/Pacific Islander American Indian

From which community college did you graduate?

Where is it located?

What was your associate's degree in?

What are you majoring in now?

How many times did you meet with your high school guidance counselor to discuss career plans?

How many times did you meet with your college counselor to discuss career plans?

Phone number (if I may call you):

Informed Consent: I have read the Informed Consent document and am satisfied that I understand it. Yes No

Round 1 Follow-up E-mail

Subject: Research Study Follow-up
Date: December 8, 2009
From: Nancy Collins
To: Participants
Attachments: Questionnaire1.doc

On November 30th I sent you an e-mail requesting your participation in a research project to develop, refine, and validate a conceptual model of career development to enhance the academic motivation of community college students. I also sent you an e-mail with a questionnaire as an attachment.

Your input is essential to my research. I would really appreciate your participation. I fully appreciate how valuable your time is. If you complete the first questionnaire, you will be compensated with a \$25 VISA gift card. In addition, your name will be entered into a drawing for \$500. The study will consist of 3 brief questionnaires. The first one is the most time-consuming. It takes about 20 minutes. The others, which you will receive after the first of the year, are briefer. There may be one or two very short follow up questionnaires, if there are any issues not resolved. Only participants who complete all questionnaires will be eligible for the \$500 drawing.

I have attached a copy of the questionnaire for your convenience in responding. Before completing the attached questionnaire, please go to the web site: <http://mysite.verizon.net/vzeyfi65> to receive instructions. You will then key your answers into the Questionnaire1 document and return it to me as an e-mail attachment. I need your response before the end of the semester.

Thank you very much for your time and assistance. If you have any questions or problems, feel free to e-mail me or call me at 757-710-6732.

Thank you,

Nancy Collins

APPENDIX D

ROUND 2 E-MAIL, ATTACHMENT, AND FOLLOW-UP E-MAIL

APPENDIX D**ROUND 2 E-MAIL, ATTACHMENT, AND FOLLOW-UP E-MAIL****Round 2 E-mail**

Subject: Round 2 of Research Study

Date: January 11, 2009

From: Nancy Collins

To: Participants

Attachments: Questionnaire2.doc

I appreciate your continued help with my research study. I understand how valuable your time is. This round will take much less time than the previous one. All participants who complete the study will be entered into a drawing for \$500. There are currently 33 participants, so your odds of winning are quite good.

This e-mail and its attachments are Round 2 of the study to develop, refine, and validate a conceptual model of career development to enhance academic motivation. In Round 1 you were asked to give your opinions about a straw model. All responses were grouped and redundancies reduced by an impartial panel of four education experts. These responses were used to revise the original straw model and to produce questionnaire 2.

You will want to review the website before you fill out the questionnaire:

<http://mysite.verizon.net/vzeyfi65/>.

Attached you will find Questionnaire2.doc. Simply check the box which indicates your opinion of the level of importance of each statement. Feel free to add any comments that you would like. Please return Questionnaire2.doc to me by January 17th.

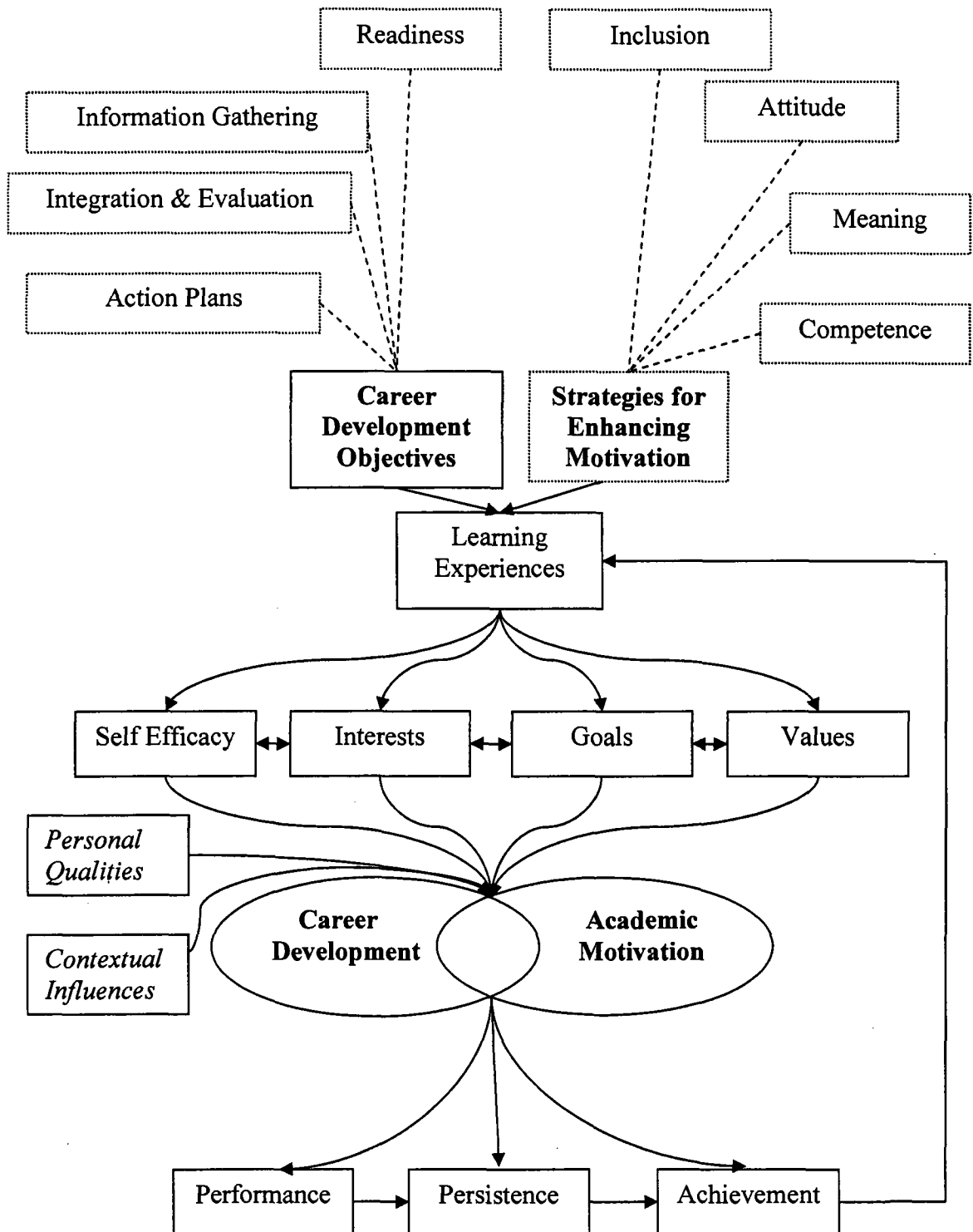
Thank you for your continued support in this research study. Your individual role is really invaluable. If you have any questions, you may respond to this e-mail or call me at 757-710-6732.

Sincerely,

Nancy Collins

Straw Model Two

STRAW MODEL



Description of the Model

Purpose of the model. The model describes a method of career development that seeks to assist community college students in their career development while enhancing their academic motivation. Objectives and strategies are utilized to produce learning experiences that promote the increased self-efficacy, goal-setting strategies, and clarification of interests and values that are influential in career development and academic motivation.

Model Principles:

- Career development objectives produce learning experiences.
- Strategies for enhancing academic motivation produce learning experiences.
- Learning experiences contribute to self-efficacy, interests, goals, and values.
- Self-efficacy, interests, goals, and values are influential factors in career development.
- Self-efficacy, interests, goals, and values are influential factors in academic motivation.
- *Career development and academic motivation are influenced by personal qualities such predisposition towards positive attitude, determination, and self-motivation.*
- *Career development and academic motivation are influenced by factors such as age and maturity.*
- *Career development and academic motivation are influenced by contextual factors such the influence of, support of, expectations of, and/or pressure by family/friends.*
- *Career development and academic motivation are influenced by support from counselors, teachers, tutors, mentors, peers, and academic advisors.*
- *Career development and academic motivation are influenced by contextual factors such as the availability of local jobs, future job opportunities, the economy, and the perception of college leading to a career.*
- *Career development and academic motivation are influenced by contextual factors such as the perception of the community college as a high-quality institution, rather than a last choice option.*
- Positive outcomes of career development and academic motivation are performance, persistence, and achievement.
- Positive outcomes influence future learning.

Career Development Objectives (Students will:)

- Career Readiness.
 - *Begin the career development process early.*
 - *Evaluate their level of readiness for making a career decision.*
 - *Recognize when they are not yet ready to make life decisions.*
 - *Determine their level of commitment to career development.*
 - *Identify their decision-making concerns.*
- Information Gathering.
 - *Be willing to explore a variety of career avenues.*

- Organize a plan for exploring interests, values, occupations, and majors.
- *Complete assessments such as interest inventories.*
- *Participate in experiential learning opportunities including informational interviews, volunteering, job shadowing, internships, talks, workshops, seminars, career classes, career days, advising, mentoring, guest speakers, field observations, and employer research.*
- *Explore career pathway opportunities.*
- Learn strategies for dealing with the overwhelming amount of information.
- Integration and evaluation.
 - Integrate and evaluate career information.
 - Generate realistic alternatives for themselves.
 - Recognize relationships between their personal strengths and career choices.
- Action Plans.
 - *Set long-term and short-term career goals.*
 - Set academic goals to achieve their career goals.
 - *Establish time lines for achieving their goals.*
 - Create action plans for achieving their goals.
 - *Establish a plan for revision and re-evaluation of their goals.*

Motivational Strategies (Educators/institutions will:)

- Establish Inclusion. Educators/institutions will:
 - Establish an environment where students feel connected to and respected by faculty, staff, and each other.
 - *Support students by providing encouragement and expecting success.*
 - *Recognize achievement through tangible incentives such as discounted books, reduced tuition, and recognition at assemblies.*
 - *Ensure that counselors are readily available and are proactive in helping students.*
 - *Require students to meet with their counselor or advisor on a regular basis.*
- Develop Attitude.
 - Use relevance and choice to create a favorable disposition toward learning.
 - *Demonstrate relevance of course material to future life.*
 - Provide classroom experiences that have personal relevance to students.
 - *Provide classroom activities that are exciting, challenging, and fun.*
 - *Communicate clear requirements and expectations and provide feedback.*
 - *Provide motivational guest speakers.*

- *Communicate the availability of opportunities such as distance learning.*
- Provide experiences that are relevant to students' cultural background.
- Allow students to make choices based on their experiences, values, needs, and strengths.
- Enhance Meaning.
 - Provide learning experiences that have meaning and value to students.
 - *Provide hands-on learning opportunities.*
 - *Provide job placement services.*
 - *Communicate the consequences of lack of education.*
 - Afford students the opportunity to gain deeper understanding of intrinsic, extrinsic, social, prestige, and cultural values that have personal meaning to them.
 - *Discuss the relationship between values and motivation, using examples such as the value of being respected as a leader in one's chosen field.*
 - Assign research projects that utilize students' strengths, values, and experiences.
- Engender Competence.
 - Provide opportunities for students to gain confidence (self-efficacy) by applying what they are learning.
 - *Use repetitive skills methods for obtaining competence.*
 - *Assist students with honest self-assessment.*
 - *Provide opportunities for students to become aware of their aptitudes and talents.*
 - *Set realistic expectations of students while being cognizant of factors such as student workloads/class loads.*
 - Teach students goal setting, planning, help-seeking, and self-monitoring strategies.
 - *Assist students in enhancing personal qualities such as social maturity and flexibility.*

Round 2 Questionnaire

For each of the statement below please indicate the level of importance of the item. The group consensus, based on the responses, will be used to determine which items should be kept in the model and which should be eliminated. Feel free to add any comments you would like.

Which factors are important to community college students when they are making career decisions?

1. Students choose a career at which they think they can be successful.

Very Important Important Not Very Important Unimportant

2. Students choose a career they think will be interesting to them.

Very Important Important Not Very Important Unimportant

3. Students choose a career because it fit with their personal values (such as prestige, money, helping others).

Very Important Important Not Very Important Unimportant

4. Students believe that it is important to have a career goal.

Very Important Important Not Very Important Unimportant

Comments:

Which factors are important influences in students' motivation for academic work?

5. Students are more motivated in classes in which they think they can be successful.

Very Important Important Not Very Important Unimportant

6. Students are more motivated to work in classes that are interesting.

Very Important Important Not Very Important Unimportant

7. Students are more motivated to work when the outcome has value (for example, will help me with my career).

Very Important Important Not Very Important Unimportant

8. Students do their best when they have set goals.

Very Important Important Not Very Important Unimportant

Comments:

Which additional factors influence students' career development and academic motivation?

9. Personal qualities such as predisposition towards positive attitude, determination, and self-motivation.

Very Important Important Not Very Important Unimportant

10. Age and maturity.

Very Important Important Not Very Important Unimportant

11. Contextual factors such as family/friends' influence, support, expectations, and/or pressure.

Very Important Important Not Very Important Unimportant

12. Support from counselors, teachers, tutors, mentors, peers, and academic advisors.

Very Important Important Not Very Important Unimportant

13. The availability of local jobs, future job opportunities, the economy, and the perception of college leading to a career.

Very Important Important Not Very Important Unimportant

14. The perception of the community college as a high-quality institution rather than a last-choice option.

Very Important Important Not Very Important Unimportant

Comments:

What career development objectives should community college students achieve?

15. Begin the career development process early.

Very Important Important Not Very Important Unimportant

16. Evaluate their level of readiness for making career decisions.

Very Important Important Not Very Important Unimportant

17. Recognize when they are not yet ready to make life decisions.

Very Important Important Not Very Important Unimportant

18. Determine their level of commitment to career development.

Very Important Important Not Very Important Unimportant

19. Identify their decision-making concerns.

Very Important Important Not Very Important Unimportant

20. Be willing to explore a variety of career avenues.

Very Important Important Not Very Important Unimportant

21. Organize a plan for exploring interests, values, occupations, and majors.

Very Important Important Not Very Important Unimportant

22. Complete assessments such as interest inventories.

Very Important Important Not Very Important Unimportant

23. Participate in experiential learning opportunities including informational interviews, volunteering, job shadowing, internships, talks, workshops, seminars, career classes, career days, advising, mentoring, guest speakers, field observations, and employer research.

Very Important Important Not Very Important Unimportant

24. Explore career pathway opportunities.

Very Important Important Not Very Important Unimportant

25. Learn strategies for dealing with the overwhelming amount of career information.

Very Important Important Not Very Important Unimportant

26. Integrate and evaluate career information.

Very Important Important Not Very Important Unimportant

27. Generate realistic alternatives for themselves.

Very Important Important Not Very Important Unimportant

28. Recognize relationships between their personal strengths and career choices.

Very Important Important Not Very Important Unimportant

29. Set long-term and short-term career goals.

Very Important Important Not Very Important Unimportant

30. Set academic goals to achieve their career goals.

Very Important Important Not Very Important Unimportant

31. Establish time lines for achieving their goals.

Very Important Important Not Very Important Unimportant

32. Create action plans for achieving their goals.

Very Important Important Not Very Important Unimportant

33. Establish a plan for revision and re-evaluation of their goals.

Very Important Important Not Very Important Unimportant

Comments:

Which strategies should community colleges employ to help students be motivated to achieve academic success?

34. Create an environment where students feel connected to and respected by faculty, staff, and each other.

Very Important Important Not Very Important Unimportant

35. Support students by providing encouragement and expecting success.

Very Important Important Not Very Important Unimportant

36. Recognize achievement through tangible incentives such as discounted books, reduced tuition, and recognition at assemblies.

Very Important Important Not Very Important Unimportant

37. Ensure that counselors are readily available and are proactive in helping students.

Very Important Important Not Very Important Unimportant

38. Require students to meet with their counselor or advisor on a regular basis.

Very Important Important Not Very Important Unimportant

39. Use relevance and choice to create positive feelings toward learning.

Very Important Important Not Very Important Unimportant

40. Demonstrate relevance of course material to future life.

Very Important Important Not Very Important Unimportant

41. Provide academic experiences that have personal relevance to students.

Very Important Important Not Very Important Unimportant

42. Provide classroom activities that are exciting, challenging, and fun.

Very Important Important Not Very Important Unimportant

43. Communicate clear requirements and expectations and provide feedback.

Very Important Important Not Very Important Unimportant

44. Provide motivational speakers.

Very Important Important Not Very Important Unimportant

45. Communicate the availability of opportunities such as distance learning.

Very Important Important Not Very Important Unimportant

46. Provide experiences that are relevant to students' cultural background.

Very Important Important Not Very Important Unimportant

47. Allow students to make choices based on their experiences, values, needs, and strengths.

Very Important Important Not Very Important Unimportant

48. Provide learning experiences that have meaning and value to students.

Very Important Important Not Very Important Unimportant

49. Provide hands-on learning opportunities.

Very Important Important Not Very Important Unimportant

50. Provide job placement services.

Very Important Important Not Very Important Unimportant

51. Communicate the consequences of lack of education.

Very Important Important Not Very Important Unimportant

52. Afford students the opportunity to gain deeper understanding of intrinsic, extrinsic, social, prestige, and cultural values that have personal meaning to them.

Very Important Important Not Very Important Unimportant

53. Discuss the relationship between values and motivation, using examples such as the value of being respected as a leader in one's chosen field.

Very Important Important Not Very Important Unimportant

54. Assign research projects that utilize students' strengths, values, and experiences.

Very Important Important Not Very Important Unimportant

55. Provide opportunities for students to gain confidence (self-efficacy) by applying what they are learning.

Very Important Important Not Very Important Unimportant

56. Use repetitive learning methods for obtaining competence.

Very Important Important Not Very Important Unimportant

57. Assist students with honest self-assessment.

Very Important Important Not Very Important Unimportant

58. Provide opportunities for students to become aware of their aptitudes and talents.

Very Important Important Not Very Important Unimportant

59. Set realistic expectations of students while being cognizant of factors such as student workloads/class loads.

Very Important Important Not Very Important Unimportant

60. Teach students strategies such as goal setting, planning, help-seeking, and self-monitoring strategies.

Very Important Important Not Very Important Unimportant

61. Assist students in enhancing personal qualities such as social maturity and flexibility.

Very Important Important Not Very Important Unimportant

Comments:

Round 2 Follow-up E-mail

Subject: Round 2 Follow-up
Date: January 14, 2010
From: Nancy Collins
To: Participants
Attachments: Questionnaire2.doc

A few days ago I sent you an e-mail asking you for your continued assistance with my research study. I referred you to the study website: <http://mysite.verizon.net/vzeyfi65/> and attached a questionnaire.

I hope you will find some time this week to complete Questionnaire 2. It won't take you very much time - probably 10 minutes at the most. You must complete it in order to participate in the drawing for \$500. So far 16 people have sent back their questionnaires.

Thank you very much for your time and assistance. If you have any questions or problems, feel free to e-mail me or call me at 757-710-6732.

Thank you,

Nancy Collins

APPENDIX E

ROUND 3 E-MAIL, ATTACHMENT, AND FOLLOW-UP E-MAIL

APPENDIX E**ROUND 3 E-MAIL, ATTACHMENT, AND FOLLOW-UP E-MAIL****Round 3 E-mail**

Subject: Round 3 of Research Study – Just a Few Questions

Date: January 20, 2010

From: Nancy Collins

To: Participants

Attachments: Questionnaire3.doc

This e-mail and its attachment are Round 3 of the study to develop, refine, and validate a conceptual model of career development to enhance academic motivation. The purpose of this round is to validate the model.

In Round 1 you provided input into the straw model. Based on your input, the straw model was revised. In Round 2 you were asked to identify your level of agreement with each of the items in the revised straw model. In Round 3 you are asked to compare your Round 2 answers with the answers of the other participants.

Please note that this questionnaire does not require you to respond to every question. You will only respond to the ones that are in shaded boxes. These are ones where your answer differed from the answers of the other participants.

Depending on the version of Word that you are using and the length of your comments, the page breaks in the questionnaire may be off. Do not worry. All you need to do is tab from question to question.

Thank you for your continued support in this research study. Your individual role is really invaluable. Remember you must complete this questionnaire in order to be eligible for the \$500 drawing. There are currently 30 participants in the study. This will probably be the last round.

If you have any questions, you may respond to this e-mail or call me at 757-710-6732. Please return your questionnaire to me by Tuesday, January 26.

Sincerely,

Nancy Collins

Sample Round 3 Questionnaire

Instructions: The responses to the Round 2 questionnaire were converted to numeric values: Very Important = 4, Important = 3, Not Very Important = 2, Unimportant = 1. When participants checked two boxes for one sentence, the average was used. For example, if you checked BOTH Very Important and Important, it was converted to 3.5 (the average of 4 and 3).

When responding to this questionnaire, please use the numeric values. **YOU WILL ONLY RESPOND TO THE ONES WITH SHADED BOXES.**

For each answer you will see your response from Round 2, the mode (most common response given), the median (the middlemost point in the responses), and the inter-quartile range (the middle range of where most responses fell). **If your response was within the inter-quartile range, you will see NOT NEEDED, which means you do not need to respond to that question.** If it was outside of the range, you are asked to consider if you would like to revise your response. If your revised response is still outside the inter-quartile range, then please explain why you chose your answer. Remember: (4=Very Important 3=Important 2=Not Very Important 1=Unimportant)

Which factors are important to community college students when they are making career decisions?

1. Students choose a career at which they think they can be successful.

Your Response	Mode	Median	Interquartile Range	Revised Response
2	4	4	3 - 4	

(4=Very Important 3=Important 2=Not Very Important 1=Unimportant)

If revised response is still outside of inter-quartile range, please explain why you chose your answer:

2. Students choose a career they think will be interesting to them.

Your Response	Mode	Median	Interquartile Range	Revised Response
4	4	4	3 - 4	NOT NEEDED

3. Students choose a career because it fit with their personal values (such as prestige, money, helping others).

Your Response	Mode	Median	Interquartile Range	Revised Response
4	3	3	3 - 4	NOT NEEDED

4. Students believe that it is important to have a career goal.

Your Response	Mode	Median	Interquartile Range	Revised Response
3	3	3	3 - 3	NOT NEEDED

Which factors are important influences in students' motivation for academic work?

5. Students are more motivated in classes in which they think they can be successful.

Your Response	Mode	Median	Interquartile Range	Revised Response
1	3	3	3 - 4	

(4=Very Important 3=Important 2=Not Very Important 1=Unimportant)

If revised response is still outside of inter-quartile range, please explain why you chose your answer:

6. Students are more motivated to work in classes that are interesting.

Your Response	Mode	Median	Interquartile Range	Revised Response
3	4	4	3 - 4	NOT NEEDED

7. Students are more motivated to work when the outcome has value (for example, will help me with my career).

Your Response	Mode	Median	Interquartile Range	Revised Response
3	3	3	3 - 4	NOT NEEDED

8. Students do their best when they have set goals.

Your Response	Mode	Median	Interquartile Range	Revised Response
3	3	3	3 - 4	NOT NEEDED

Which additional factors influence students' career development and academic motivation?

9. Personal qualities such as predisposition towards positive attitude, determination, and self-motivation.

Your Response	Mode	Median	Interquartile Range	Revised Response
3	4	4	3 - 4	NOT NEEDED

10. Age and maturity.

Your Response	Mode	Median	Interquartile Range	Revised Response
1	3	3	3 - 4	

(4=Very Important 3=Important 2=Not Very Important 1=Unimportant)

If revised response is still outside of inter-quartile range, please explain why you chose your answer:

11. Contextual factors such as family/friends' influence, support, expectations, and/or pressure.

Your Response	Mode	Median	Interquartile Range	Revised Response
2	3	3	3 - 4	

(4=Very Important 3=Important 2=Not Very Important 1=Unimportant)

If revised response is still outside of inter-quartile range, please explain why you chose your answer:

12. Support from counselors, teachers, tutors, mentors, peers, and academic advisors.

Your Response	Mode	Median	Interquartile Range	Revised Response
4	3	3	3 - 4	NOT NEEDED

13. The availability of local jobs, future job opportunities, the economy, and the perception of college leading to a career.

Your Response	Mode	Median	Interquartile Range	Revised Response
4	3	3	3 - 4	NOT NEEDED

14. The perception of the community college as a high-quality institution rather than a last-choice option.

Your Response	Mode	Median	Interquartile Range	Revised Response
2	2	3	2 - 4	NOT NEEDED

What career development objectives should community college students achieve?

15. Begin the career development process early.

Your Response	Mode	Median	Interquartile Range	Revised Response
1	3	3	3 - 4	

(4=Very Important 3=Important 2=Not Very Important 1=Unimportant)

If revised response is still outside of inter-quartile range, please explain why you chose your answer:

16. Evaluate their level of readiness for making career decisions.

Your Response	Mode	Median	Interquartile Range	Revised Response
4	3	3	3 - 4	NOT NEEDED

17. Recognize when they are not yet ready to make life decisions.

Your Response	Mode	Median	Interquartile Range	Revised Response
3	3	3	3 - 3	NOT NEEDED

18. Determine their level of commitment to career development.

Your Response	Mode	Median	Interquartile Range	Revised Response
3	3	3	3 - 4	NOT NEEDED

19. Identify their decision-making concerns.

Your Response	Mode	Median	Interquartile Range	Revised Response
3	3	3	3 - 3	NOT NEEDED

20. Be willing to explore a variety of career avenues.

Your Response	Mode	Median	Interquartile Range	Revised Response
4	3	3	3 - 4	NOT NEEDED

21. Organize a plan for exploring interests, values, occupations, and majors.

Your Response	Mode	Median	Interquartile Range	Revised Response
4	4	4	3 - 4	NOT NEEDED

22. Complete assessments such as interest inventories.

Your Response	Mode	Median	Interquartile Range	Revised Response
1	3	3	2 - 3	

(4=Very Important 3=Important 2=Not Very Important 1=Unimportant)

If revised response is still outside of inter-quartile range, please explain why you chose your answer:

23. Participate in experiential learning opportunities including informational interviews, volunteering, job shadowing, internships, talks, workshops, seminars, career classes, career days, advising, mentoring, guest speakers, field observations, and employer research.

Your Response	Mode	Median	Interquartile Range	Revised Response
4	4	4	3 - 4	NOT NEEDED

24. Explore career pathway opportunities.

Your Response	Mode	Median	Interquartile Range	Revised Response
4	3	3	3 - 3.75	

(4=Very Important 3=Important 2=Not Very Important 1=Unimportant)

If revised response is still outside of inter-quartile range, please explain why you chose your answer:

25. Learn strategies for dealing with the overwhelming amount of career information.

Your Response	Mode	Median	Interquartile Range	Revised Response
4	3	3	3 - 3	

(4=Very Important 3=Important 2=Not Very Important 1=Unimportant)

If revised response is still outside of inter-quartile range, please explain why you chose your answer:

26. Integrate and evaluate career information.

Your Response	Mode	Median	Interquartile Range	Revised Response
4	3	3	3 - 3	

(4=Very Important 3=Important 2=Not Very Important 1=Unimportant)

If revised response is still outside of inter-quartile range, please explain why you chose your answer:

27. Generate realistic alternatives for themselves.

Your Response	Mode	Median	Interquartile Range	Revised Response
4	4	3.5	3 - 4	NOT NEEDED

28. Recognize relationships between their personal strengths and career choices.

Your Response	Mode	Median	Interquartile Range	Revised Response
3	4	4	3 - 4	NOT NEEDED

29. Set long-term and short-term career goals.

Your Response	Mode	Median	Interquartile Range	Revised Response
3	3	3	3 - 4	NOT NEEDED

30. Set academic goals to achieve their career goals.

Your Response	Mode	Median	Interquartile Range	Revised Response
3	4	3.25	3 - 4	NOT NEEDED

31. Establish time lines for achieving their goals.

Your Response	Mode	Median	Interquartile Range	Revised Response
3	3	3	3 - 3	NOT NEEDED

32. Create action plans for achieving their goals.

Your Response	Mode	Median	Interquartile Range	Revised Response
3	3	3	3 - 4	NOT NEEDED

33. Establish a plan for revision and re-evaluation of their goals.

Your Response	Mode	Median	Interquartile Range	Revised Response
3	3	3	3 - 3	NOT NEEDED

Which strategies should community colleges employ to help students be motivated to achieve academic success?

34. Create an environment where students feel connected to and respected by faculty, staff, and each other.

Your Response	Mode	Median	Interquartile Range	Revised Response
4	4	4	3 - 4	NOT NEEDED

35. Support students by providing encouragement and expecting success.

Your Response	Mode	Median	Interquartile Range	Revised Response
2	4	4	3 - 4	

(4=Very Important 3=Important 2=Not Very Important 1=Unimportant)

If revised response is still outside of inter-quartile range, please explain why you chose your answer:

36. Recognize achievement through tangible incentives such as discounted books, reduced tuition, and recognition at assemblies.

Your Response	Mode	Median	Interquartile Range	Revised Response
3	3	3	2 - 3	NOT NEEDED

37. Ensure that counselors are readily available and are proactive in helping students.

Your Response	Mode	Median	Interquartile Range	Revised Response
4	4	4	3 - 4	NOT NEEDED

38. Require students to meet with their counselor or advisor on a regular basis.

Your Response	Mode	Median	Interquartile Range	Revised Response
3	3	3	3 - 4	NOT NEEDED

39. Use relevance and choice to create positive feelings toward learning.

Your Response	Mode	Median	Interquartile Range	Revised Response
3	3	3	3 - 4	NOT NEEDED

40. Demonstrate relevance of course material to future life.

Your Response	Mode	Median	Interquartile Range	Revised Response
2	3	3	3 - 4	

(4=Very Important 3=Important 2=Not Very Important 1=Unimportant)

If revised response is still outside of inter-quartile range, please explain why you chose your answer:

--

41. Provide academic experiences that have personal relevance to students.

Your Response	Mode	Median	Interquartile Range	Revised Response
4	3	3	3 - 4	NOT NEEDED

42. Provide classroom activities that are exciting, challenging, and fun.

Your Response	Mode	Median	Interquartile Range	Revised Response
4	4	4	3 - 4	NOT NEEDED

43. Communicate clear requirements and expectations and provide feedback.

Your Response	Mode	Median	Interquartile Range	Revised Response
4	4	4	3.25 - 4	NOT NEEDED

44. Provide motivational speakers.

Your Response	Mode	Median	Interquartile Range	Revised Response
3	2	2	2 - 3	NOT NEEDED

45. Communicate the availability of opportunities such as distance learning.

Your Response	Mode	Median	Interquartile Range	Revised Response
4	4	4	3 - 4	NOT NEEDED

46. Provide experiences that are relevant to students' cultural background.

Your Response	Mode	Median	Interquartile Range	Revised Response
2	3	3	2 - 3	NOT NEEDED

47. Allow students to make choices based on their experiences, values, needs, and strengths.

Your Response	Mode	Median	Interquartile Range	Revised Response
4	3	3.5	3 - 4	NOT NEEDED

48. Provide learning experiences that have meaning and value to students.

Your Response	Mode	Median	Interquartile Range	Revised Response
3	3	3	3 - 4	NOT NEEDED

49. Provide hands-on learning opportunities.

Your Response	Mode	Median	Interquartile Range	Revised Response
3	4	4	3 - 4	NOT NEEDED

50. Provide job placement services.

Your Response	Mode	Median	Interquartile Range	Revised Response
4	3	3	3 - 4	NOT NEEDED

51. Communicate the consequences of lack of education.

Your Response	Mode	Median	Interquartile Range	Revised Response
3	3	3	3 - 4	NOT NEEDED

52. Afford students the opportunity to gain deeper understanding of intrinsic, extrinsic, social, prestige, and cultural values that have personal meaning to them.

Your Response	Mode	Median	Interquartile Range	Revised Response
3	3	3	3 - 3	NOT NEEDED

53. Discuss the relationship between values and motivation, using examples such as the value of being respected as a leader in one's chosen field.

Your Response	Mode	Median	Interquartile Range	Revised Response
3	3	3	3 - 3	NOT NEEDED

54. Assign research projects that utilize students' strengths, values, and experiences.

Your Response	Mode	Median	Interquartile Range	Revised Response
2	3	3	3 - 3	

(4=Very Important 3=Important 2=Not Very Important 1=Unimportant)

If revised response is still outside of inter-quartile range, please explain why you chose your answer:

55. Provide opportunities for students to gain confidence (self-efficacy) by applying what they are learning.

Your Response	Mode	Median	Interquartile Range	Revised Response
3	3	3	3 - 4	NOT NEEDED

56. Use repetitive learning methods for obtaining competence.

Your Response	Mode	Median	Interquartile Range	Revised Response
3	3	3	2 - 3	NOT NEEDED

57. Assist students with honest self-assessment.

Your Response	Mode	Median	Interquartile Range	Revised Response
4	3	3	3 - 3	

(4=Very Important 3=Important 2=Not Very Important 1=Unimportant)

If revised response is still outside of inter-quartile range, please explain why you chose your answer:

58. Provide opportunities for students to become aware of their aptitudes and talents.

Your Response	Mode	Median	Interquartile Range	Revised Response
4	3	3	3 - 4	NOT NEEDED

59. Set realistic expectations of students while being cognizant of factors such as student workloads/class loads.

Your Response	Mode	Median	Interquartile Range	Revised Response
3	3	3	3 - 4	NOT NEEDED

60. Teach students strategies such as goal setting, planning, help-seeking, and self-monitoring strategies.

Your Response	Mode	Median	Interquartile Range	Revised Response
3	3	3	3 - 4	NOT NEEDED

61. Assist students in enhancing personal qualities such as social maturity and flexibility.

Your Response	Mode	Median	Interquartile Range	Revised Response
3	3	3	3 - 4	NOT NEEDED

Round 3 Follow-up E-mail

Subject: Round 3 Follow-up
Date: January 24, 2009
From: Nancy Collins
To: Participants
Attachments: Questionnaire3.doc

Last week I sent you the third round of the Delphi study of a conceptual model of career development to enhance academic motivation. As of yet I have not received your response.

Your input is essential to my research. I have attached another copy of the questionnaire for your convenience. I hope you will find time in the next couple of days to complete the questionnaire. It won't take you very much time – you only have to answer a few questions. Remember, you must complete it in order to participate in the drawing for \$500.

Thank you very much for your time and assistance. If you have any questions or problems, feel free to e-mail me or call me at 757-710-6732.

Thank you,

Nancy Collins

VITA

Nancy Creighton Collins
20178 Deep Creek Road
Onancock, VA 23417
757.787.9513

Education:

Ph.D. Education, Concentration in Occupational and Technical Studies, Old Dominion University, Norfolk, VA, May 2010

M.S. Counseling, Old Dominion University, Norfolk, VA, May 2005

M.A. Urban Education, Concentration in Computer Science, Norfolk State University, Norfolk, VA, May 1997

B.S. Interior Design, University of Connecticut, Storrs, CT, May 1972

Professional Experience:

Distance Learning Site Director, Old Dominion University, Melfa, VA, 2004-Present

Adjunct Professor, Student Development, Eastern Shore Community College, Melfa, VA, 2005-Present

Department Chair, Computer and Information Science, ECPI College of Technology, Virginia Beach, VA 1989-2004

Association Memberships:

National Career Development Association

National Academic Advising Association

Recent Professional Presentations:

The Three E's of Academic Advising: Early, Easy, and Effective. Virginia Community College System New Horizons Conference, Roanoke, VA, April, 2009

Publication:

Motivation and Self-Regulated Learning: Theory, Research, and Applications, A book review. Published in *The Journal of Higher Education*, August, 2009